



# 2014 2015

COLLEGE CATALOG

HENRY  
FORD  
COLLEGE  
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This catalog is for information purposes only and may be modified by the College from time to time. This catalog in no way constitutes a contract. Information in this catalog is accurate as of August 27, 2014, and every care has been taken to ensure its accuracy; however, the College cannot be responsible for errors and reserves the right to change policies in effect at the time of publication. The catalog was compiled and edited by the offices of the Vice President of Academic Affairs, Enrollment Services/Registrar and Marketing and Communications.

Please see the HFC website at <https://www.hfcc.edu> for the most current information about programs and courses.

# About Henry Ford College



## History

Henry Ford College (HFC) is a public two-year college located in Dearborn, Michigan. The College, established in 1938, is accredited by North Central Association of Colleges and Schools (NCACS) and the Michigan Commission on College Accreditation (MCCA). The school was originally named Fordson Junior College when it opened its doors in 1938. Later, the College adopted the name Dearborn Junior College in 1946. It became Henry Ford Community College in 1952, named after the Henry Ford Trade School when it closed and its assets were transferred to the Dearborn Public Schools Board of Education. In May 2014, the College was renamed Henry Ford College.

Since its founding in 1938, HFC has been the gateway to higher education for thousands of students seeking affordable, high-quality post-secondary education.

HFC is a comprehensive public community college serving about 18,000 students each fall and winter semester in southeast Michigan. HFC is dedicated to preparing students for a rapidly changing world and workplace by offering more than 100 associate's degree career and university transfer programs. HFC offers high-quality, innovative programs to meet the educational and training needs of the region. Students prepare to transfer to a university or prepare to go directly to work. HFC also specializes in customized workforce development training for business and industry. Since its founding in 1938, HFC has been the gateway to higher education for thousands of students who seek affordable, high-quality post-secondary education. To learn more about HFC, please visit us at <https://www.hfcc.edu>, or call 800-585-HFCC (4322).

HFC offers classes on two campuses situated in Dearborn. HFC's Main Campus is located on the southwest corner of Ford Road and Evergreen, north of the University of Michigan-Dearborn campus. The East Campus is home to HFC's Michigan Technical Education Center (M-TEC) and the state-of-the-art Nursing building. East Campus is located on Schaefer Road, just north of Rotunda.

In May 2013, Dr. Stan Jensen assumed the presidency of HFC, which marked the start of the College's 75th year. Under his leadership, he steered the College out of a \$16 million budget deficit through various cost-savings measures, passed a millage, and re-focused efforts at the College on student success initiatives.

## Mission, Vision, and Values

### Mission

HFC transforms lives and builds better futures by providing outstanding education. As a student-centered, evidence-based college, our success is measured by the success of our students. We empower learners through the development of independent, critical and creative thinking; and we foster diversity, tolerance, understanding, and acceptance to prepare students to succeed in a global society. We anticipate and respond to the needs of our stakeholders, exceed their expectations and serve the public good.

### Vision

First Choice... Best Choice...

### Values

#### We have a PASSION for...

- ...teaching and learning;
- ...exploring diverse perspectives and ideas;
- ...creating a student-centered environment;
- ...transforming lives through continuous learning; and
- ...excellence in all that we do.

#### We demonstrate INTEGRITY through...

- ...accountability;
- ...responsible stewardship;
- ...ethical conduct;
- ...honest dialogue; and
- ...sustainable practices.

#### We promote INGENUITY by...

- ...being agile, flexible, and responsive;
- ...rewarding discovery, creativity, and innovation;
- ...collecting, evaluating, and acting on evidence;
- ...thinking critically; and
- ...continuously reimagining the future.

#### We show RESPECT for one another when we...

- ...collaborate and rely on teamwork;
- ...celebrate diversity and inclusiveness;
- ...maintain transparent practices;
- ...show compassion and empathy; and
- ...are engaged and committed to our shared work.

## HFC Board of Trustees and Officers

### Board of Trustees

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Term Expires: 12/31/2014

**James Schoolmaster**

Vice Chair

Term Expires: 12/31/2014

**Aimee Schoelles**

Secretary

Term Expires: 12/31/2018

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Term Expires: 12/31/2016

**Mary Lane**

Trustee

Term Expires: 12/31/2018

Any communication with the Board of Trustees can be directed to Kathy Dimitriou in the Office of the President at 313-845-9650 or [kdimitriou@hfcc.edu](mailto:kdimitriou@hfcc.edu).

### Officers

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**Stanley Jensen, M.Div., PhD, M.Q.T.**

President

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313-845-9650

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Vice President of Financial Services and Auxiliary Services

AS-422 Administrative Services and Conference Center

313-845-9605

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AS-424 Administrative Services and Conference Center

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AS-326 Administrative Services and Conference Center

313-845-6454

**A. Reginald Best, Jr., M.A.**

Vice President of Development

AS-420 Administrative Services and Conference Center

313-845-9620

**Eileen K. Husband, J.D.**

Vice President of Legal Services

AS-321 Administrative Services and Conference Center

313-845-6427

# About Henry Ford College



## Accreditation

HFC is accredited by the Higher Learning Commission, a commission of the North Central Association of Colleges and Schools and the Michigan Commission on College Accreditation. The College is a member of the Michigan Community College Association and the American Association of Community Colleges. Approval by the recognized accreditation agencies assures that the students who work in the institution will be recognized by other reputable colleges and universities.

In addition to all HFC programs receiving the highest level of accreditation, many of the College's first-rate programs are accredited by the premier professional organizations in their field.

### Automotive Technology Programs Accredited

The Automotive Technology Program is certified by the National Institute for Automotive Service Excellence (ASE) and the National Automotive Technicians Education Foundation (NATEF) Board. The Automotive Service (ASSET) Program is fully certified by the National Institute for Automotive Service Excellence (ACE) and the National Automotive Technicians Education Foundation (NATEF) Board and is fully accredited in all Ford Motor Company STST credentialing areas.

### Culinary Arts Programs Accredited

The Culinary Arts Program is fully accredited through the American Culinary Federation. American Culinary Federation Educational Foundation (ACF), 180 Center Place Way, St. Augustine, FL 32095. Phone: 904-824-4468, 800-624-9458.

### Medical Assistant Program Accredited

The Medical Assistant Certificate Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), upon the recommendation of the Medical Assisting Education Review Board (MAERB). Commission on Accreditation of Allied Health Education Programs, 1361 Park Street, Clearwater, FL 33756. Phone: 727-210-2350.

Medical Assisting Education Review Board, 20 N. Waker Drive, Suite 1575, Chicago, IL 60606. Phone: 800-228-2262

### Nursing Program Accredited

The associate's degree in Applied Science Nursing Program is approved by the Michigan Board of Nursing and accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road, NE, Suite 850, Atlanta, GA 30326. Phone: 404-975-5000.

### Ophthalmic Technician Accredited

The Ophthalmic Technician Program is fully accredited through the Commission on Accreditation of Ophthalmic Medical Programs (CoA-OMP), 2025 Woodlane Drive, St. Paul, MN 55125. Phone: 651-731-7245

### Paralegal Program Approved

The Paralegal Program is approved by American Bar Association - Standing Committee on Paralegals, 321 N. Clark Street, 19th Floor, Chicago, IL 60654-7598.

### Paramedic Program Accredited

The Paramedic Program has earned the highest level of approval through the Michigan Department of Community Health, EMS and Trauma Systems Section, 525 W. Ottawa St, Lansing, MI 48909. Phone: 517-241-4917.

### Pharmacy Technician Program Accredited

The Pharmacy Technician Program is fully accredited through the American Society of Health System Pharmacists, 7272 Wisconsin Avenue, Bethesda, MD 20614. Phone: 301-657-3000

### Physical Therapist Assistant Program Accredited

The Physical Therapist Assistant Program is fully accredited through the Commission on Accreditation in Physical Therapy Education (CAPTE), 1111 N. Fairfax St., Alexandria, VA 22314. Phone: 703-706-3245.

### Radiographer Program Accredited

The Radiographer Program is accredited through the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 N. Worker Dr, Suite 2850, Chicago, IL 60606-3182. Phone: 312-704-5300.

### Respiratory Therapist Program Accredited

The Respiratory Therapist Program is accredited by the Commission on Accreditation for Respiratory Care (CoARC), 1248 Harwood Rd, Bedford, TX 76021-4244. Phone: 817-283-2835.

### Surgical Technologist Program Accredited

The Surgical Technologist Program is accredited through the Commission on Accreditation of Allied Health Education Programs (CAAHEP) 1361 Park Street, Clearwater, FL 33756. Phone: 727-210-2350, upon the recommendation of the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting (ARC-STSA), 6 West Dry Creek Circle, Suite 210, Littleton, CO 80120-8031. Phone: 303-694-9262.

# About Henry Ford College

## HFC Guarantees

**No Class Cancellations:** HFC guarantees that classes will not be cancelled for students who have registered and paid their tuition.

**HFC's Tuition Freeze Guarantee:** HFC's tuition freeze guarantees any tuition increase levied by the College after a student's initial semester of enrollment will be refunded to the student upon graduation.

To learn more information about HFC Guarantees, please visit <https://www.hfcc.edu/about-us/guarantee>.

## HFC Foundation

The HFC Foundation was established in 1982 as a tax-exempt organization for the explicit purpose of raising funds in support of the College's mission of providing affordable and accessible educational opportunities to area students and residents. The Foundation is led by a voluntary Board of Directors comprised of area business, labor and community leaders who share a passion for quality education for all.

The mission of the HFC Foundation is to create awareness and generate support for the College by building sustainable relationships with such constituencies as business, civic and community leaders; alumni; corporate educational partners and philanthropic foundations; and individuals of influence and affluence to encourage investment in and advocacy for the College. Through its efforts, the Foundation promotes awareness and enthusiasm for HFC throughout the community.

The Office of Development serves as the gateway for all philanthropic activities for the Foundation and College. Under the guidance of the Foundation's Board of Directors and with the day-to-day direction of the vice president of Development, the Development Office oversees fund raising initiatives in the areas of major and planned gifts, annual giving, special events, and gift acceptance and donor acknowledgment.

As a 501 (c)(3) organization, contributions to the Foundation are tax deductible to the extent provided by law.

For additional information, please visit <https://foundation.hfcc.edu> or call 313-845-9620.

## Corporate Training

Established in 1986 as the College's economic development unit, the Corporate Training Office expands workforce skills, retrain employees in new work fields or new technologies, and supports economic development through the provision of educational services to business and industry. The division responds to business and industry requests by designing learner-centered educational offerings that are affordable, flexible, and customer-specific. These work-based educational programs are financed by contract with the employer or through private or public sources.

Training is offered in credit or non-credit forms, or through seminars granting continuing educational units (CEUs). Work and learning skills assessment and the development of multi-agency learner support systems are some of the comprehensive services available through Corporate Training. Classes are taught at either College or company facilities. The use of work specific tools and equipment is encouraged in training and education projects. Corporate Training also co-manages an advanced CAD/CAM/CAE training facility.

Employers may contact the Corporate Training Office at 313-845-9656.

## Michigan Technical Education Center at HFC

As part of the 1998 Michigan Skilled Worker Initiative, the Michigan Economic Development Corporation (MEDC) funded the construction of 18 Michigan Technical Education Centers (M-TECs) around the state. The centers specialize in training programs in high-wage, high-skill, and high-demand occupations. Center sites were determined through a competitive selection process.

A visionary program utilizing the latest in technology and training, the M-TEC at HFC is a 30,000-square-foot specialized facility built entirely with a \$5 million state grant for training, retraining and updating job skills of Ford Motor Company employees, as well as employees of other Michigan companies and the general public. M-TEC targets advanced manufacturing, health care, information technology, education, and the green economy. For additional information, please visit <https://mtec.hfcc.edu> or call 313-317-6600.

# About Henry Ford College

## Community

When it comes to cultural enrichment, the best choices are at HFC. HFC students can attend or participate in the many exceptional art exhibitions, plays, concerts, and dance performances on campus, or become involved in the College's diverse student clubs and organizations. And the surrounding community offers even greater educational and leisure opportunities.

On campus, students may choose from clubs that match their hobbies, cultural heritage, religious, or social interests. Through these activities, hundreds of HFC students promote education, discussion, cultural awareness and service opportunities every year. Among the many clubs at HFC are the African-American Association, Community Service Club, Future Teachers Association, Math Club, Philosophy Club, Phi Theta Kappa, Science Association, Society of Manufacturing Engineers, Student Nurses Association, and Women Tech Club.

The Council of American Cultures sponsors tours, films, guest speakers, and presentations on culture, religion, and political systems from all over the world.

HFC also features the award-winning student radio station WH-FR-FM 89.3 and The Mirror News student newspaper, both of which promote cultural events and provide endless opportunities for students to become part of a thriving campus community.

The Student Bulletin offers HFC students even more information about local and campus events, as well as volunteer opportunities for activities like the annual Dr. Martin Luther King, Jr. Community Service Day.

HFC students can enjoy the cultural opportunities in the nearby city of Dearborn, one of the area's most diverse communities. Check out the ensemble of social and dining establishments, or visit The Henry Ford, featuring the world-renowned Henry Ford Museum and Greenfield Village.

Just minutes away, Dearborn's Ford Community and Performing Arts Center offers an eclectic range of events, including classic rock, pop, symphony, dance, and theatrical performances. It also offers activities for every preference, including an indoor aquatics area, outdoor fishing pond, jogging track, baseball and soccer fields, café, and cultural arts exhibits.

The choices for cultural enrichment are almost limitless when students drive a short distance to the City of Detroit and the surrounding areas.

## Graduation Requirements for Associate's Degrees

### Degree Programs

HFC awards the following degrees:

- Associate's Degree in Applied Science – area of concentration;
- Associate's Degree in Arts;
- Associate's Degree in General Studies; and
- Associate's Degree in Science.

To earn an associate's degree at HFC, students must complete the following general requirements:

- General Education Requirements; and
- Specific Degree Requirements.

To improve programs, HFC may occasionally change the requirements for a degree. If degree requirements have changed, students may elect to:

- Graduate under the current program/degree requirements (year of graduation); OR
- Graduate under previous degree/program requirements within three years of any degree/program change.

Associate's degree recipients may graduate with honors from HFC:

- Students with a cumulative grade point average of 3.90-4.00 graduate SUMMA CUM LAUDE;
- Students with a cumulative grade point average of 3.70-3.89 graduate MAGNA CUM LAUDE; and/or
- Students with a cumulative grade point average of 3.50-3.69 graduate CUM LAUDE.

### General Requirements for an Associate's Degree

An associate's degree will be awarded to all students who have completed an approved program, provided the following conditions have been fulfilled:

- Earn a minimum of 60 semester hours of credit with a 2.00 cumulative grade point average (GPA) or higher.
- Complete General Education and Degree Specific Graduation Requirements.
- Complete all required and elective courses for the Program of Study. Go to WebAdvisor and select Program Evaluation to find this information.
- Developmental courses do NOT meet General Education, Specific Degree Requirements, or Program Requirements nor count towards the minimum requirement of 60 semester hours.
- Complete a minimum of 20 semester hours of credit at HFC.
- The balance of credit may be transferred in from other sources (usually accredited colleges). Students must work with the HFC University Transfer, Advising, and Career Counseling Office and/or the Admissions, Registration, and Records Office to establish an official record of transfer credit at the College.
- A maximum of 40 semester hours of credit from any HFC associate's degree may be applied toward meeting the requirements of another degree. In other words, to earn a second associate's degree at HFC an additional 20 semester hours of credit must be earned and all second degree requirements must be met. The same rule applies for all subsequent degrees.
- A student holding a bachelor's degree from a regionally accredited college or university will be given transfer credit equivalencies that meet the following General Education requirements: ENG 131 and ENG 132/ENG 135, which meet the Information Literacy and Written Communication outcomes; American Society, Events, Institutions and Cultures outcome; and Wellness outcome.

All financial obligations to the College have been met.



## General Education Outcomes

All associate's degrees at HFC require students to complete General Education Requirements. General Education is defined as courses and/or learning experiences that enable students to attain the knowledge and skills needed by every college graduate.

The College defines General Education competence as meeting the needs of the external communities in which its graduates must function. To accomplish that, HFC has established relationships with employers, alumni, and four-year universities, and communicated the College general education requirements to these partners.

HFC's General Education Outcomes reflect those expectations. All students are required to meet the General Education Outcomes for graduation:

### American Society, Events, Institutions and Cultures

All graduates will be able to demonstrate an understanding of American society with an emphasis on:

- Major ideas and events that have influenced American society; or
- Social and political institutions that shape American society; or
- Diverse populations and cultures that compose American society.

Students must complete at least one of the following courses:

- ENG 235: American Literature Before 1900;
- ENG 236: American Autobiography;
- ENG 237: American Literature Since 1900;
- CRJ 131: Introduction to Law Enforcement and Criminal Justice;
- HIST 151: American History I;
- HIST 152: American History II;
- POLS 131: Introduction to American Government and Political Science;
- SOC 131: Introduction to Sociology; or
- SSC 131: A Survey of the Social Sciences.

### Computer Literacy Outcome

All graduates will be able to utilize a computer and its software to accomplish practical tasks, including word processing and Internet usage.

Students must complete at least one of the following courses:

- ART 275: Advanced Projects;
- BCA 140: Software Applications;
- CIS 100: Introduction to Information Technology;
- CIS 221: Instructional Technology for Elementary Teachers;
- CIS 223: Instructional Technology for Secondary Teachers;
- HCS 131: Computers in Health Care;
- MFMT 103: Industrial Computer Application;
- TAFD-115: Computer Applications for Skilled Trades; or
- CLT 100: Computer Literacy Test.

### Critical Thinking

All graduates will be able to utilize critical thinking and problem solving skills in addressing a problem or situation described verbally, graphically, symbolically, or numerically.

Students must complete at least one non-activity based course numbered 100 or higher.

### Information Literacy and Written Communication

All graduates will be able to:

- Identify, locate, evaluate, and effectively use information to solve problems; and
- Demonstrate proficiency in reading and writing in Standard English at the college level.

Students must pass either sequence:

- ENG 131: Introduction to College Writing and ENG 132: College Writing and Research; or
- ENG 131: Introduction to College Writing and ENG 135: Business and Technical Writing and Research.

Important notes on courses that meet General Education requirements:

To receive an associate's degree from the College, students must earn a passing grade in at least one of the courses (or pairs of courses) listed for each General Education Outcome.

Courses required in the curriculum for particular programs may also fulfill General Education Requirements. Students should carefully compare the course requirements for their program with General Education Requirements to ensure that they enroll in the most efficient manner possible.

Particular programs may recommend that students take specific courses meeting General Education Requirements for the purpose of transfer to other colleges and/or universities. Students should check the transfer requirements for the college and/or university they plan to attend to ensure they enroll for the appropriate required courses.

See the HFC University Transfer, Advising, and Career Counseling Center for information on transfer requirements.

## Associate's in Arts Degree

### General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome. Complete at least one of the following courses:

ENG 235: American Literature Before 1900;  
 ENG 236: American Autobiography;  
 ENG 237: American Literature Since 1900;  
 CRJ 131: Introduction to Law Enforcement and Criminal Justice;  
 HIST 151: American History I;  
 HIST 152: American History II;  
 POLS 131: Introduction to American Government and Political Science;  
 SOC 131: Introduction to Sociology; or  
 SSC 131: A Survey of the Social Sciences.

Computer Literacy Outcome. Complete at least one of the following courses:

ART 275: Advanced Projects;  
 BCA 140: Software Applications;  
 CIS 100: Introduction to Information Technology;  
 CIS 221: Instructional Technology for Elementary Teachers;  
 CIS 223: Instructional Technology for Secondary Teachers;  
 HCS 131: Computers in Health Care;  
 MFMT 103: Industrial Computer Application; or  
 TAFD-115: Computer Applications for Skilled Trades.

Critical Thinking Outcome. Complete at least one non-activity based course numbered 100 or higher.

Information Literacy and Written Communication Outcome. Take either sequence of English courses:

ENG 131: Introduction to College Writing and ENG 132: College Writing and Research OR  
 ENG 131: Introduction to College Writing and ENG 135: Business and Technical Writing and Research.

### Degree-Specific Requirements

Complete one course from the Wellness Group:

COUN 114: Stress Management – A Personal Approach;  
 HPE 140: Lifetime Wellness;  
 HPE 142: Advanced First Aid;  
 HPE 153: Nutrition;  
 HPE 260: Nutrition, Health, and Physical Education for the Classroom Teacher;  
 HPEA 117: Strength Training and Physical Conditioning;  
 HPEA 217: Strength Training and Physical Conditioning II;  
 HPEA 126: Aerobic Dance; or  
 HPEA 155: Relaxation Techniques for Stress Management.

Complete eight Humanities credits from courses in any of the following areas:

Art;  
 Dance;  
 English (exception ENG 131, ENG 132, ENG 135);  
 Foreign Language;  
 Honors;  
 Humanities;  
 Interior Design;  
 Journalism;  
 Music;  
 Philosophy;  
 Speech;  
 Telecommunication;  
 Theater; and  
 World Religion.

Complete eight Science and Mathematics credits from courses in any of the following areas:

Astronomy;  
 Atmospheric Studies;  
 Biology;  
 Chemistry;  
 Geology;  
 Geospatial Technologies;  
 Mathematics;  
 Physical Science;  
 Physics; and  
 Science.

Complete eight Social Science credits from courses in any of the following areas:

Anthropology;  
 Criminal Justice;  
 Economics;  
 Geography;  
 History;  
 Political Science;  
 Psychology;  
 Social Science; and  
 Sociology.

## Associate's in Applied Science Degree

### General Education Requirements

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Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome. Complete at least one of the following courses:

ENG 235: American Literature Before 1900;  
ENG 236: American Autobiography;  
ENG 237: American Literature Since 1900;  
CRJ 131: Introduction to Law Enforcement and Criminal Justice;  
HIST 151: American History I;  
HIST 152: American History II;  
POLS 131: Introduction to American Government and Political Science;  
SOC 131: Introduction to Sociology; and  
SSC 131: A Survey of the Social Sciences.

Computer Literacy Outcome. Complete at least one of the following courses:

ART 275: Advanced Projects;  
BCA 140: Software Applications;  
CIS 100: Introduction to Information Technology;  
CIS 221: Instructional Technology for Elementary Teachers;  
CIS 223: Instructional Technology for Secondary Teachers;  
HCS 131: Computers in Health Care;  
MFMT 103: Industrial Computer Application; and  
TAFD-115: Computer Applications for Skilled Trades.

Critical Thinking Outcome. Complete at least one non-activity based course numbered 100 or higher.

Information Literacy and Written Communication Outcome. Take either sequence of English courses:

ENG 131: Introduction to College Writing and ENG 132: College Writing and Research OR  
ENG 131: Introduction to College Writing and ENG 135: Business and Technical Writing and Research.

### Degree-Specific Requirements

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Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

## Associate's in Business Degree

### General Education Requirements

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Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome. Complete at least one of the following courses:

ENG 235: American Literature Before 1900;  
ENG 236: American Autobiography;  
ENG 237: American Literature Since 1900;  
CRJ 131: Introduction to Law Enforcement and Criminal Justice;  
HIST 151: American History I;  
HIST 152: American History II;  
POLS 131: Introduction to American Government and Political Science;  
SOC 131: Introduction to Sociology; and  
SSC 131: A Survey of the Social Sciences.

Computer Literacy Outcome. Complete at least one of the following courses:

ART 275: Advanced Projects;  
BCA 140: Software Applications;  
CIS 100: Introduction to Information Technology;  
CIS 221: Instructional Technology for Elementary Teachers;  
CIS 223: Instructional Technology for Secondary Teachers;  
HCS 131: Computers in Health Care;  
MFMT 103: Industrial Computer Application;  
TAFD-115: Computer Applications for Skilled Trades; or  
CLT 100: Computer Literacy Test.

Critical Thinking Outcome. Complete at least one non-activity based course numbered 100 or higher.

Information Literacy and Written Communication Outcome. Take either sequence of English courses:

ENG 131: Introduction to College Writing and ENG 132: College Writing and Research OR  
ENG 131: Introduction to College Writing and ENG 135: Business and Technical Writing and Research.

### Degree-Specific Requirements

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Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

## Associate's in General Studies Degree

### General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome. Complete at least one of the following courses:

ENG 235: American Literature Before 1900;  
 ENG 236: American Autobiography;  
 ENG 237: American Literature Since 1900;  
 CRJ 131: Introduction to Law Enforcement and Criminal Justice;  
 HIST 151: American History I;  
 HIST 152: American History II;  
 POLS 131: Introduction to American Government and Political Science;  
 SOC 131: Introduction to Sociology; or  
 SSC 131: A Survey of the Social Sciences.

Computer Literacy Outcome. Complete at least one of the following courses:

ART 275: Advanced Projects;  
 BCA 140: Software Applications;  
 CIS 100: Introduction to Information Technology;  
 CIS 221: Instructional Technology for Elementary Teachers;  
 CIS 223: Instructional Technology for Secondary Teachers;  
 HCS 131: Computers in Health Care;  
 MFMT 103: Industrial Computer Application;  
 TAFD-115: Computer Applications for Skilled Trades; or  
 CLT 100: Computer Literacy Test.

Critical Thinking Outcome. Complete at least one non-activity based course numbered 100 or higher.

Information Literacy and Written Communication Outcome. Take either sequence of English courses:

ENG 131: Introduction to College Writing and ENG 132: College Writing and Research OR  
 ENG 131: Introduction to College Writing and ENG 135: Business and Technical Writing and Research

### Degree-Specific Requirements

Complete one course from the Wellness Group in any of the following areas:

COUN 114: Stress Management – A Personal Approach;  
 HPE 140: Lifetime Wellness;  
 HPE 142: Advanced First Aid;  
 HPE 153: Nutrition;  
 HPE 260: Nutrition, Health, and Physical Education for the Classroom Teacher;  
 HPEA 117: Strength Training and Physical Conditioning;  
 HPEA 217: Strength Training and Physical Conditioning II;  
 HPEA 126: Aerobic Dance; or  
 HPEA 155: Relaxation Techniques for Stress Management.

Complete one course from Humanities in any of the following areas:

Art;  
 Dance;  
 English (exception ENG 131, ENG 132, ENG 135);  
 Foreign Language;  
 Honors;  
 Humanities;  
 Interior Design;  
 Journalism;  
 Music;  
 Philosophy;  
 Speech;  
 Telecommunication;  
 Theater; or  
 World Religion.

Complete one Science and Mathematics course from any of the following areas:

Astronomy;  
 Atmospheric Studies;  
 Biology;  
 Chemistry;  
 Geology;  
 Geospatial Technologies;  
 Mathematics;  
 Physical Science;  
 Physics; or  
 Science.

Complete one career education course from any of the following areas:

Business and Computer Technology (BAC, BBA, BCO, BLW, BMA, BCA, BEC, BFN, CIS, CNT, HOSP, MGT, PLGL)

Health Sciences (AH, HCS, EMT, HIT, MOA, NSG, NCS, PHT, PTA, RAD, RTH, SRG)

Industrial Technology (ACT, AUTO, DRAF, ELEC, ENT, MFMT, ICO, REEN, TAE, TAEL, TAFD, TAFP, TAGD, TAIM, TAJR, TAMA, TAMJ, TAMN, TAMT, TAPI, TAPP, TASM)

## Associate's in Science Degree

### General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome. Complete at least one of the following courses:

ENG 235: American Literature Before 1900;  
ENG 236: American Autobiography;  
ENG 237: American Literature Since 1900;  
CRJ 131: Introduction to Law Enforcement and Criminal Justice;  
HIST 151: American History I;  
HIST 152: American History II;  
POLS 131: Introduction to American Government and Political Science;  
SOC 131: Introduction to Sociology; or  
SSC 131: A Survey of the Social Sciences.

Computer Literacy Outcome. Complete at least one of the following courses:

ART 275: Advanced Projects;  
BCA 140: Software Applications;  
CIS 100: Introduction to Information Technology;  
CIS 221: Instructional Technology for Elementary Teachers;  
CIS 223: Instructional Technology for Secondary Teachers;  
HCS 131: Computers in Health Care;  
MFMT 103: Industrial Computer Application;  
TAFD-115: Computer Applications for Skilled Trades; or  
CLT 100: Computer Literacy Test.

Critical Thinking Outcome. Complete at least one non-activity based course numbered 100 or higher.

Information Literacy and Written Communication Outcome. Take either sequence of English courses:

ENG 131: Introduction to College Writing and ENG 132: College Writing and Research OR  
ENG 131: Introduction to College Writing and ENG 135: Business and Technical Writing and Research.

### Degree-Specific Requirements

Complete six Humanities credits from courses in any of the following areas:

Art;  
Dance;  
English (exception ENG 131, ENG 132, ENG 135);  
Foreign Language;  
Honors;  
Humanities;  
Interior Design;  
Journalism;  
Music;  
Philosophy;  
Speech;  
Telecommunication;  
Theater; and  
World Religion.

Complete 24 Science and Mathematics credits from courses in any of the following areas, including two laboratory science courses:

Astronomy;  
Atmospheric Studies;  
Biology;  
Chemistry;  
Geology;  
Mathematics;  
Physical Science;  
Physics; and  
Science.

Complete six Social Science credits from courses in any of the following areas:

Anthropology;  
Criminal Justice;  
Economics;  
Geography;  
History;  
Political Science;  
Psychology;  
Social Science; and  
Sociology.

## Graduation Requirements for Certificates of Achievement

Programs leading to a Certificate of Achievement are available. These programs are highly specialized and intended to provide skills that will increase students' opportunities for employment or promotion. There are 3 types of certificates: Basic, Complex, and Advanced.

### Level 1: Basic Skills Certificate

The learning domain must be limited to a single technology or skill area, and the certification candidate should be able to:

- Accomplish basic tasks in the domain without assistance;
- Solve common problems within the domain without assistance;
- Assist in more advanced tasks; and
- Describe the technical structure of the domain.

At HFC, the following academic conditions apply to a Level 1 Certificate:

- The certificate includes a maximum of 18 credit hours;
- 25 percent of coursework may be transferred from another institution with written approval of the appropriate Associate Dean; and
- A cumulative GPA of 2.0 is required of all certificate coursework.

### Level 2: Complex Skills Certificate

The learning domain must encompass either multiple technologies/skill areas or a complex single technology. The certification candidate should be able to:

- Serve as a resource for others;
- Solve moderately complex problems without assistance; and
- Perform advanced tasks within the domain. The certificate includes a maximum of 18 credit hours.

At HFC, the following academic conditions would apply to a Level 2 Certificate:

- The certificate includes a maximum of 18 credit hours;
- 25 percent of coursework may be transferred from another institution with written approval of the appropriate associate dean; and
- A cumulative GPA of 2.0 is required of all certificate coursework.

work.

### Level 3: Advanced Skills Certificate

The learning domain must encompass multiple technologies or skill areas. The certification candidate should be able to:

- Troubleshoot complex problems;
- Confidently traverse the scope of the domain, from the most basic material to complex issues involving interfaces outside the domain;
- Present "significant experience"; and
- Complete a hands-on assessment/lab exam/project.

At HFC, the following academic conditions would apply to a Level 3 Certificate:

- Certificate candidate would be required to have a related associate's degree or higher, or a minimum of 2 years of recent, verifiable work;
- Certificate includes 5-30 credit hours;
- 25 percent of coursework may be transferred from another institution with written approval of the appropriate associate dean; and
- A cumulative GPA of 2.0 is required of all certificate coursework.

To receive a certificate, all financial obligations to the College must be met.

## Continuing Education Units

Continuing Education Units (CEU) are awarded in recognition of completion of certain non-credit courses and programs. CEU credits do not apply to certificate or degree requirements. Information regarding CEU credits is available from the Workforce and Professional Development Division at HFC's M-TEC. For additional information, please visit <https://mtcc.hfcc.edu>.

## English Language Institute

Established in 2001, the English Language Institute (ELI) offers instruction in American English language and culture. The ELI serves a diverse population: international students and members of the community, those seeking academic degrees and those simply wanting to improve their English. At the ELI, enthusiastic and dedicated instructors help students meet their English language goals.

Intensive English classes are offered during the day and evening in writing, grammar, reading, speaking, listening, and study skills. Additional classes in advanced grammar, pronunciation/conversation, and Test of English as a Foreign Language (TOEFL) preparation are also offered. For additional information, please visit <https://eli.hfcc.edu>.

## Cooperative Education

Cooperative Education (Co-op) is an academic partnership in which the College and the employer join to provide the student with a method of learning which integrates work experience and classroom instruction. Students are employed in practical, paid positions directly related to their educational and career goals. Through the integration of academic study and work experience, students enhance their academic knowledge, personal development, and professional preparation. For complete information on programs that offer co-op opportunities, please visit <http://coop.hfcc.edu>.

## Career and Technical Education High School

### Articulation Agreements

Secondary articulation agreements link secondary and post secondary education programs to help ensure students a seamless transition to college. Students who successfully complete a Career Technical Education (CTE) program at one of our partner high schools are eligible to apply for free college credits within three years of their graduation date. The free college credit is placed onto the student's HFC transcript as transferred credit. For additional information, please visit <https://www.hfcc.edu/admissions/secondary-partnerships> or call 313-317-6509.

### Dual Enrollment

HFC is a participant in the Dual Enrollment Program, which allows public high school students to take college courses that are paid for by the student's school district or charter school. This program allows eligible students the opportunity to receive college credit while still in high school. Students must submit a special Dual Enrollment Application for each semester in which they plan to enroll in both HFC courses and courses in high school. The application must be signed by the student's high school counselor or principal and parent, unless the student can demonstrate emancipated legal status. Dual Enrollment students desiring placement in Mathematics, Chemistry or English courses are required to take appropriate placement tests. For additional information, please visit <https://www.hfcc.edu/admissions/steps-dual-enrollment> or contact an enrollment specialist at 800-585-HFCC (4322).

### Advancement Plus

HFC offers the Advancement Plus Program to all students who are identified by their high school counselors or principals as having above-average academic status. This program provides a parallel route for high school students to enhance their present curriculum, enrich their academic experience, and earn college credit while attending high school. The Advancement Plus Program is intended for enrollment in college-level courses numbered 100 and above. Tuition and fees for an Advancement Plus student are paid by the student's parent/guardian.

In each case, the counselor or principal, in cooperation with the student, will develop the student's program of study. To qualify for the Advancement Plus Program, a student must complete the Advancement Plus application, available at the high school or in the link below, and obtain the required signatures. Home-schooled students must obtain approval of HFC's associate dean of Counseling. Advancement Plus students desiring placement in Mathematics, Chemistry or English are required to take the appropriate placement tests.

For additional information, please visit <https://www.hfcc.edu/admissions/steps-advancement-plus> or call 313-845-9611.

## Collegiate Academy

HFC and the Dearborn Public Schools have teamed to offer students a chance to earn both a high school diploma and an associate's degree in only five years at no cost to parents or students through the Henry Ford Collegiate Academy (HFCA). This program began in the fall of 2013.

Students attending Dearborn High School, Edsel Ford High School and Fordson High School may enter the HFCA at their respective high schools at the beginning of their junior year based on the scores they have achieved on the PLAN test taken in the spring of their sophomore year. Students must have attended a high school in the Dearborn Public Schools during their sophomore year to participate in the HFCA. They will take their high school classes at their home high school and their college classes at HFC.

Students may still participate in all high school activities as participants in the HFCA (music, athletics, theater, clubs, commencement ceremonies, honors night, prom, homecoming and all other pertinent high school activities). In addition, students receive access to all of the programs and offerings of a true college experience at HFC. When taking classes at HFC, students will be part of the College's student success program and receive support and encouragement to transfer to a four-year college or university upon completion of their associate's degree.

The Dearborn Public Schools covers the cost of all classes at HFC, all fees associated with classes and/or enrollment, as well as the cost of books. There is no cost to parents or students to participate in the HFCA. The students and parents are responsible for transportation to and from HFC, however.

For further information about the HFCA, please visit <http://dearbornschools.org/programs/284-collegiate-academy>.



## Henry Ford Early College

Henry Ford Early College (HFEC) is a partnership between the College, the Dearborn Public Schools and Henry Ford Health System (HFHS). Launched in 2007, HFEC is one of six “middle college” high schools established in 2006 and funded by state grants. HFEC’s purpose is to prevent students from dropping out of school and prepare them for employment opportunities in health careers. This is a five-year program that students begin at the 9th grade level and complete as a fifth-year senior.

The successful HFEC student will earn a high school diploma and either a health career college certificate through an associate’s degree in a health-related field or up to two years of transferable college credits. As an early college and member of the Middle College National Consortium (MCNC), HFEC focuses on a small school learning setting, real-world learning experiences, and service learning in an academically challenging environment.

During the 9th and 10th grades, students are enrolled in high school classes with an emphasis on math and science. They are gradually introduced to dual enrollment college classes, and their schedules in their 12th and 13th years are almost exclusively HFC coursework and clinical rotations at the HFHS. Upon graduation, qualified students are eligible for employment within the HFHS.

To learn more about the HFEC, please visit <http://www.henryford.com/body.cfm?id=50627>.

## High School/GED Applicants

Proof of meeting the admission requirements must be provided to the College prior to admission. Proof can be met by providing one of the following:

- An official, final high school transcript that shows proof of graduation with a diploma from a regionally accredited or a state-approved high school;
- An official, final GED scores report or transcript from an official GED testing center showing passing of the GED; or
- An official transcript from a regionally accredited college or university showing proof of a college degree.

## Home School Applicants

Home school graduates will require the following to apply and enroll at HFC:

A parent or guardian certifying that the applicant has completed his or her high school education. This can be accomplished by the parent or guardian providing a signed statement that the student has completed high school or providing a high school transcript showing a diploma from the home school; AND Official ACT scores showing the applicant has met or exceeded the ACT College Readiness Benchmarks in English and math: English of 18 or higher and math of 22 or higher.

## Advanced Placement

Advanced Placement is a program available to selected students in area high schools that provides the opportunity to accelerate their educational program by taking, in their senior year of high school, one or more subjects taught on a college level. These subjects cover material of a college course and provide students an opportunity to advance their college education before they complete high school. The College Entrance Examination Board gives Advanced Placement Examinations that cover advanced work in May of each year. Information regarding these examinations and dates is available through the student’s high school. The divisions and departments of HFC determine what advanced placement courses will receive college credit at HFC, as well as the minimum score required. For additional information, please visit <https://www.hfcc.edu/admissions/advanced-placement>.

## International Applicants

HFC welcomes all International student applicants who are prepared to study in the United States. For general information about becoming a student in the United States, please visit the Student and Exchange Visitor’s program website, Study in the States at <http://www.ice.gov/sevis>. For detailed information on becoming a student at HFC, visit <https://www.hfcc.edu/international/future-student-f1visa>. For information on the steps for applying to HFC, visit <https://www.hfcc.edu/admissions/steps-international>.

## Guest Students

A guest student is one who currently attends another college or university and wishes to take one or more courses at HFC. The guest student must submit an authorized guest application from his or her home institution. Students enrolled at another college/university can take classes at HFC as Guest Students and then return to their current college/university, transferring their credits there from HFC. Guest Students may take any class as long as they meet the class prerequisites. For additional information on becoming a guest student, please visit <https://www.hfcc.edu/admissions/steps-guest>.

## Official Evaluation of Credits from Previous Institutions

HFC welcomes transfer students from institutions of higher education and the United States military. The College always tries to award direct equivalent credit. When direct equivalences are unavailable, elective credit is usually awarded. Students may transfer in a maximum of 40 semester credit hours. Students with a bachelor's degree receive a General Education waiver.

General requirements to receive transfer credit at HFC are:

- An "official" transcript mailed directly from the student's previous college to HFC; military personnel should forward their DD295, DD214, or DANTES transcripts to HFC;
- Transfer credit must be from a regionally accredited college or university;
- The course must be considered college level;
- Only grades of 2.0 ("C") or higher are transferable; and
- The American Council on Education (ACE) credit recommendation will be used for all military training.

Official transcripts are sent directly from the student's previous college to HFC. After receipt of the student's official college transcript, The Registrar's Office will evaluate the course work and post credit equivalents as transfer credit on the student's HFC transcripts. Students must request that their previous college send an official copy of their transcript to:

Transcript Evaluation  
Henry Ford College  
5101 Evergreen Road  
Dearborn, MI 48128

Transfer equivalent credit may also be awarded for some AP and CLEP tests.

For additional information on transferring college credits to HFC, please visit <https://www.hfcc.edu/admissions/transfer-in-agreements>.

## College Level Examination Program (CLEP)

The College Level Examination Program (CLEP) tests allow students to receive college credit for college level subject knowledge they have acquired outside of the classroom. The CLEP tests are transferable. Students should check with the college or university of their choice to obtain the transfer institution's score requirements. For a list of CLEP exams and HFC course equivalencies, please visit the CLEP website at <http://clep.collegeboard.org>.

## Senior Citizens

Dearborn Public School District residents who meet course prerequisites and who are age 60 and older are eligible to take courses at the College tuition-free. Senior citizens must pay uniform fees and specified course fees. Interested individuals should visit the Welcome Center or call 313-845-6403 to express their interest in the program.

## University Center

In 2014, HFC established a University Center on HFC's main campus. This Center is located on the third floor of the HFC Welcome Center. By utilizing this center, students have the opportunity to complete their first years of college at HFC and save money, then work toward their bachelor's degree on campus at a high-quality four-year institution. HFC expects to enter into partnership agreements with three to five Michigan-based universities in an effort to offer students greater opportunities for upper-level undergraduate and graduate programs at the university level.

## Orientation

New students are strongly encouraged to participate in HFC's Orientation Program. Orientation provides new students with important information how to get started HFC and includes presentations on academic success strategies, student support resources, and selecting, registering and paying for classes. For additional information on HFC's Orientation Program, please visit <https://www.hfcc.edu/orientation>.

## Admissions Process and Requirements: 7 Steps

### Step 1: Apply

For admission, complete an application: <https://www.hfcc.edu/apply>.  
For financial aid, complete the FAFSA: <https://www.hfcc.edu/finaid>.

### Step 2: Request Admission Documents

Students must have their high school or GED Center send the student's official, final transcript to HFC via fax: 313-845-9891 or email: [enroll@hfcc.edu](mailto:enroll@hfcc.edu).  
High school transcripts can also be requested electronically at <http://www.parchment.com>.

### Step 3: Attend Orientation

Schedule an orientation at <https://www.hfcc.edu/orientation>.

### Step 4: Participate in Course Placement

For more information, visit <https://www.hfcc.edu/courseplacement>.

### Step 5: Meet with an Academic Advisor

For more information, visit <https://www.hfcc.edu/advising>.

### Step 6: Register for Classes

For more information, visit <https://www.hfcc.edu/webadvisor>.

### Step 7: Pay for Classes

#### Payment Options

For more information on paying for classes, visit <https://www.hfcc.edu/tuition>;  
Financial Aid (Loans and Grants): <https://www.hfcc.edu/finaid>; and  
HFC Scholarships: <https://www.hfcc.edu/scholarships>.

## Paying for College

HFC, in cooperation with federal and state agencies as well as private sources, makes available to students various combinations of grants, loans, on-campus employment and scholarships.

The Financial Aid Office awards financial assistance to students on the basis of financial need as determined through their Free Application for Federal Student (FAFSA). Financial need is the difference between the cost of education and the amount of money an applicant and the family can provide from their income and assets. The student must complete the FAFSA to apply for the following types of aid:

- Federal Pell Grant
- Federal Work Study
- William D. Ford Federal Direct Subsidized and Unsubsidized Loans
- Federal Direct Plus Loan Program
- Michigan Competitive Scholarship
- Michigan Rehabilitation

Students must submit their FAFSA online at <https://fafsa.ed.gov>. Students may use the computer stations located in the self-service area of the Welcome Center for that purpose. In order for HFC to receive a student's FAFSA electronically, the student must enter the HFC school code (002270) when prompted.

Students are encouraged to apply early. When the FAFSA is received, some student files are selected for verification. All required documentation must be submitted before financial aid eligibility can be determined.

In order to be eligible for federal financial aid, the student must have graduated from an accredited high school, completed an approved home-school program or earned their GED. Students must provide the official transcript or GED scores to the Office of Admissions.

Once a student has a complete file, their financial aid award will be determined. All financial aid awards are viewable via WebAdvisor. In addition, students are encouraged to read the HFC Financial Aid Facts Booklet for specific information regarding their award as well as other financial aid policies.

#### Federal Programs Based on Financial Need

(All programs are subject to change without notice.)

#### Federal Pell Grant

The Federal Pell Grant makes grants available to students. These grants are considered to be the floor of financial aid packages. Students will be awarded any Pell Grant for which they qualify for first and then other awards will follow (i.e. loans or work study).

#### Federal Supplemental Educational Opportunity Grants

Federal Supplemental Educational Opportunity Grants assist students with the greatest financial need.

# Enrollment

## Federal Work Study

Federal Work Study enables students with financial need to earn a substantial part of their educational costs through working either on or off campus in offices and laboratories.

## William D. Ford Federal Direct Subsidized Loans

William D. Ford Federal Direct Subsidized Loans are available to students attending on or at least a half-time basis (6 credit hours). No interest accumulates on the loan until the student stops attending on at least a half-time basis. There is a time limit for which a student may receive loan interest subsidy. More information regarding the length of time a student may receive loan interest subsidy may be found on our website.

## William D. Ford Federal Direct Unsubsidized Loans

William D. Ford Federal Direct Unsubsidized Loans are available to all students attending at least half-time who are not eligible for a subsidized loan or who have limited eligibility for a subsidized loan.

## Federal Direct Plus Loans

Federal Direct Plus Loans are for parent borrowers. This loan has a fixed interest rate. The interest accrues while the student is in school.

## State of Michigan Programs

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### Michigan Competitive Scholarship

The Michigan Competitive Scholarship program provides financial assistance for students demonstrating both financial need and high academic potential. Students should take the ACT test while they are in high school. Based on the results of this examination and financial need, as determined by the Free Application for Federal Student Aid (FAFSA), students may receive scholarships for their tuition and fees.

### Michigan Rehabilitation Services

Michigan Rehabilitation Services provides assistance for the vocational training of individuals with physical or mental disabilities. Emphasis is placed on serving the severely disabled applicant. Financial assistance for training programs is based on the student's financial need. The applicant should contact the nearest Michigan Rehabilitation Service Office.

### Michigan Tuition Incentive Program (TIP)

TIP is for students from families who have (or have had) Medicaid coverage for 24 months within 36 consecutive months since they were in sixth grade. Students should contact the Michigan Department of Social Services for more information before graduating high school or receiving the GED. Information can be obtained by calling 888-447-2687 or visiting [www.michigan.gov/ssg](http://www.michigan.gov/ssg).

## Indian Tuition Waiver

The Indian Tuition Waiver is available to those who are one quarter North American Indian. The student must provide proof of blood quantum and Michigan residency.

For information on scholarships available to HFC students, please visit <https://www.hfcc.edu/tuition-and-payment/scholarships>, or call 313-845-9620.

## Assessment Center and Course Placement

The Assessment Center is located on the main floor of the Welcome Center. New students must participate in course placement testing before registering for classes. The tests are designed to assess the student's skills in math, reading, and writing, the results of which determine the appropriate course load and proper starting point for math and English classes. Students who have recently taken the ACT exam may be exempt from course placement testing, depending upon the score received. For additional information on course placement at HFC, visit <https://www.hfcc.edu/admissions/assessment-center>.

## Academic Advising

The Academic Advising team at HFC assists students in achieving academic success. We aim to provide accurate information and support to ensure that academic goals are met by:

- Ensuring students have an advisor who will serve as a resource from which they can draw advice, information and accurate referrals on policies, procedures, regulations and requirements;
- Providing students with accurate and comprehensive academic advice designed to help them meet their educational goals;
- Teaching students the appropriate steps to self-advocacy;
- Encouraging students to establish positive relationships with faculty, staff, and other employees at HFC;
- Promoting student involvement in on-campus, co-curricular experiences that will help develop interpersonal and leadership abilities;
- Promoting student involvement in off-campus, experiential-learning opportunities to help explore and clarify career options; and
- Actively encouraging student retention, academic achievement and program completion.

New students are assigned to advisors located in the Welcome Center. Current/returning students are assigned to advisors in the Counseling Center. For additional information, please visit <https://www.hfcc.edu/campus-life/counseling>.

# Registration & Classes

## Registering for Classes

Students register for classes using WebAdvisor. If a student no longer desires to attend classes, the student is responsible for dropping themselves from the course(s). It is important to note that there are times when no refund is available for the dropping of classes. Late registration is allowed beginning on the first day of class through the end of add/drop. Developmental courses (those under 100 level) are not eligible for late registration. For additional information, please visit <https://www.hfcc.edu/registration-and-records>.

## Auditing Courses

A student who wishes to attend a course regularly but does not wish to receive a grade or credit may take the course as an audit. A record will be kept of the course audited. After enrolling in the course, the student must apply for audit status at the Office of the Registrar before the class starts. Change of status from audit to credit or from credit to audit is not permitted after the class starts. Students are assessed regular tuition for the course. A student will receive a mark of audit only if the audit status is specified on the final class. For additional information, please visit <https://www.hfcc.edu/registration-and-records>.

## Class Load

Full-time student status is defined as 12 to 17 semester hours of credit. The average full-time student usually carries 15 hours of credit. Student are limited to 18 hours unless special permission is granted by the executive director of Enrollment Services/Registration or the vice president of Academic Affairs. Students are expected to carry at least a 3.0 average with a minimum of 12 hours already completed at HFC in order to petition to carry more than 18 semester hours.

Students in most academic courses are expected to spend the equivalent of two hours of preparation for each hour of class.

Students who are on college parallel programs should choose their college courses carefully, preferably in consultation with a counselor. This will aid in avoiding the loss of credits during the transfer process. Transfer equivalency sheets are available in the University Transfer, Advising and Career Counseling Center for most programs offered at Michigan colleges.

## Residency Regulations

For tuition purposes, a resident student is one who has resided continuously in the Dearborn Public School District for at least six months immediately preceding the first day of classes, with the following exceptions:

The legal residence of an unmarried minor is that of the parent or legal guardian regardless of where the student may be living; or

An international student on any status other than permanent immigrant is not a resident regardless of where the student may be living.

The College will not retroactively grant residency nor will tuition adjustments be permitted for previously attended semesters.

Residency must be validated each term.

Students may be asked for two items of documentation to prove residency before completing each enrollment and may be asked for further documentation at any time while in attendance. Students should see an enrollment associate at the Welcome Center to drop off residency documentation.

Acceptable items of documentation are the following:

Valid MI driver's license or MI ID card.

And one of the following documents:

- Current Automobile Registration (with street address);
- Current Auto Insurance Certification (with street address);
- Current Voter's Registration (front and back);
- Current Lease Agreement (with signatures and dates); or
- Previous Year's Paid Tax Receipt (with name and address).

If a student has been mistakenly enrolled as a resident, the student will be required to pay all tuition that should have been computed according to non-resident status. Any student fraudulently enrolling as a resident is also subject to any of the following:

- A late payment penalty;
- Suspension from classes; and/or
- Permanent dismissal.

# Registration & Classes

## Tuition and Fees

### Registration Fee

The registration fee is mandatory/non-refundable: \$46. This fee is intended to offset partially the cost of registration.

### Infrastructure Fee

The infrastructure fee is \$25. This supports the maintenance and improvement of HFC's facilities.

### Employer On-Site Course Fee

The employer on-site course fee is \$268.

### Tuition per Credit Hour

Dearborn School District: \$87.

Out of District: \$149.25.

Out-of-State and International Students: \$154.25.

### Service Fee per Credit Hour

The service fee per credit hour is \$15.

### Technology Investment Fee per Credit Hour

The technology investment fee per credit hour is \$2.

### Excess Contact Hour and Course Fees

HFC assesses course fees to cover the cost of consumable classroom supplies. These fees vary by course. HFC assesses an excess contact hour fee for any course in which the contact hours exceed the standard contact hour. This is assessed at the rate of \$65 per excess contact hour.

Tuition and fees are subject to change, without notice, by action of the HFC Board of Trustees. For the most updated information on tuition and fees, please visit <https://www.hfcc.edu/tuition-and-payment>.

## Payment Terms

To ensure enrollment in registered classes, payment must be made by the due date listed in the Enrollment Services Important Dates section of the Academic Calendar <https://www.hfcc.edu/calendar>. HFC accepts cash, checks, MasterCard, VISA, and Discover for tuition and fee payments. Company vouchers are required for Sponsor Billing. Students must bring these vouchers to the Cashiers Office. Checks returned to the College will result in a charge of \$25 for each check returned and may result in the College dropping the student from classes.

## Payment Policies

Previous balances must be paid in full before registering for the new term.

Tuition and fees for the new term are due by the dates listed in the Enrollment Services Important Dates section of the Academic Calendar at <https://www.hfcc.edu/calendar>.

Students have three payment options:

Sign up for the EZ Pay Program via WebAdvisor "EZPay" tab. The program requires a percentage of tuition down payment with the balance paid in monthly installments. The sooner you apply the smaller the down payment.

Pay by cash, check, or credit card at the Cashiers Office in the Welcome Center.

Pay by credit card through WebAdvisor "View Account and Make a Payment."

## Past Due Account Balances

Past Due Account Balances are subject to collection fee charges and credit bureau reporting. Collection fee charges are 20 percent of the past due account balance. These charges are used to pay the collection agency to collect the debt. In addition, students with past due account balances will not be eligible for future registration.

## Financial Aid Refund Checks

Students who avail themselves of Financial Aid will receive a refund check for any aid remaining after the payment of tuition and fees. Financial Aid check refund dates are available on the Enrollment Services Important Dates section of the Academic Calendar at <https://www.hfcc.edu/calendar>.

## Student ID Cards

Student ID cards are free to all students through the Campus Safety Office. A Student ID card is required to purchase books, use the gym, attend athletic events and borrow materials from the library. For information on how to obtain a Student ID card, please visit <https://www.hfcc.edu/campus-safety/student-id>.

# Registration & Classes

## College Store

The College Store is HFC's primary source for all course-related materials. In addition to textbooks, the College Store provides the academic community with a wide selection of high quality goods and services including computer software, supplies, clothing and miscellaneous items. The College Store is owned and operated by HFC. Any excess revenue goes directly back to HFC to support other campus activities.

The College Store accepts cash, personal checks, VISA, MasterCard, and Discover, as well as HFC Gift Cards and financial aid. Students using financial aid, loans or scholarships for College Store purchases must present a current class schedule or award letter and picture ID for each purchase. Orders are also accepted online at <http://collegestore.hfcc.edu>.

Textbooks for courses used at HFC may be sold back to the College for up to 50 percent of the current new book price through the Book Buy Back program. Even if certain textbooks are not in demand at HFC, the book buyer may offer a price based on national demand. Book Buy Back is held only during the week of final exams for the fall and winter semesters; spring and summer semester buy back dates vary. The College Store does not purchase books from students at any other time. Due to overstocks and edition/title changes, not all textbooks can be bought back. Workbooks are not eligible for the Book Buy Back program.

## College Store Return Procedure

Should it be necessary to make an adjustment, the following conditions must be met:

Students must have their cash register receipts. Refunds for purchases made with credit cards are issued a charge credit. Refunds for purchases made with a personal check may require a 10-day waiting period.

Regardless of the date purchased, students have until the last day of the first week of classes to make a return on new or used textbooks. Refunds for new textbooks are issued only if they are in perfect condition, and free from any writing, stains, markings, or damage to the cover of binding.

Textbook sales are final after the end of the first week of classes.

Textbooks from classes dropped after the first week of classes are not eligible for return.

For additional information, please visit <http://collegestore.hfcc.edu>.

## Dean's List

Students who earn 12 credits or more in a semester and maintain at least a 3.50 grade-point average will earn inclusion on the semester's Dean's List. After completion of 12 credits at HFC, students attending part-time are eligible for the Dean's List if they complete at least six credits and maintain a 3.5 GPA. Note: All course work must be 100 level or above. Dean's lists are published for fall and winter semesters only.

## HFC Transcript of Credit

The Registration and Records Office at HFC maintains the official, permanent academic record of every student who attends. This record is known as a transcript and is updated as grades are received. HFC transcripts include all student credit coursework completed at the College and any transfer credit issued. There are two types of academic college transcripts: official and student copy. An official transcript is a transcript sent directly from HFC to an external agent such as another college or an employer. An official transcript is not sent to the student. An official transcript is printed on secure paper. The student copy is generated by the student using WebAdvisor and is considered unofficial.

In most instances, academic institutions and employers who require former or current students to personally provide a transcript with an admission form or employment application will accept a student copy. An official transcript probably will be required after admission or employment.

If a student requires a copy of their transcript for personal use (student copy), they must log into their WebAdvisor account, click on "Transcript," and print. This is a student copy of the transcript.

If a student needs a copy of their transcript sent to another institution (Official Copy), they must log into their WebAdvisor account and click on "Transcript Request." Please allow up to two business days for processing and additional time for delivery.

To check the status of an official transcript request, log into WebAdvisor and click "Transcript Request Status." The date provided is when the transcript was processed and mailed.

## Tuition Appeal Policy

During the course of their studies, extenuating circumstances may prevent students from completing classes in which they enroll. In these cases, students may appeal to the College to have the balance of their tuition owed for that semester removed from their account. Students are allowed one appeal during their academic career at HFC. Appeals must be submitted within 10 business days after the end of the semester. Appeals postmarked or submitted after the deadline in which an appeal is allowable will automatically be denied with no exceptions given. Only courses with the letter grade of “W” or “DR” will be considered. For complete information on the Tuition Appeal process, visit <https://www.hfcc.edu/current-students/student-policies>.

Federal financial aid recipients who drop classes during a semester in which they have received loans, grants or scholarships may be required to return the aid to the Federal government. This may include all or a portion of the financial aid that was disbursed. Students considering a tuition appeal are encouraged to contact the Financial Aid Office to determine the impact of an approved tuition appeal decision.



## Student Activities

Student activities complement formal classroom instruction and enhance the overall educational experience by helping students develop leadership skills, communication skills, organizational techniques, as well as an increased understanding of self and others. The Student Activities Office (SAO) staff assists students by:

Providing guidance and oversight on student club formation, event planning, fund-raising ideas, and the promotion of events; Planning and implementation of special events and activities at the College designed to provide socialization, educational information, and promote involvement at HFC; and Identifying opportunities for student volunteerism, both on-campus and in the community, including the coordination of an annual day of community service, education and reflection to commemorate the birthday of Dr. Martin Luther King, Jr.

For additional information, including a complete listing of student clubs, please visit <https://www.hfcc.edu/campus-life/clubs>.

## Student Newspaper

The Mirror News, the student-run newspaper, is published by the students of HFC every three weeks during the fall and winter semesters. Content is created, edited, and designed by the Mirror News staff, all of whom are HFC students. The Mirror News publishes articles on all aspects of the HFC community from classes to cultural events, as well as creative works and editorials. For additional information, please visit <http://mirrornews.hfcc.edu>.

## Athletics

HFC competes in the Michigan Community College Athletic Association (MCCAA) and Region XII of the National Junior College Athletic Association (NJCAA). Our student athletes compete in five sports: Baseball, Men's Basketball, Women's Basketball, Golf, and Softball. For additional information, please visit <http://athletics.hfcc.edu>.

## Performances and Exhibitions

HFC offers a wide variety of opportunities for students studying the fine arts. One of these offerings include co-curricular activities, which are designed to enhance the college experience by allowing students to explore and develop their talents beyond the classroom. For additional information, including Performing Arts auditions and announcements, please visit <https://hss.hfcc.edu>.

## Art

The Sisson Art Gallery, located in the MacKenzie Fine Arts Center on the main campus, is home to several exhibitions throughout the year. The gallery showcases the work of HFC's most talented student artists, painters, graphic designers, sculptors and interior designers. In addition to student and HFC faculty art, the gallery showcases thought-provoking works by professional artists from around the country. For more information, contact 313-845-9755.

## Dance

HFC's dance students are afforded opportunities to perform in concerts and theatre productions staged by the dance, theater and music departments. In addition to classes in tap, modern dance and jazz, HFC students may audition for The Full Circle Dance Company, which provides intensive training and performance opportunities. For additional information, please visit <http://dance.hfcc.edu>.

## Music

HFC is home to several outstanding vocal and instrumental groups. In addition to performing at local concerts and venues, many of the ensembles have opportunities to participate in concert tours across the United States, Canada and Europe. For additional information, please visit <https://hss.hfcc.edu/music-ensembles>.

## Theatre

HFC's Theater program offers students opportunities, from acting, directing and writing to behind-the-scenes technical production, including 3-D virtual imaging and special effects. The department stages a variety of plays throughout the year, including children's theater productions, musicals, classic dramas and original works by students and faculty. For additional information, please visit <http://theatre.hfcc.edu>.

## Student Life

### Skylight Café and Fifty-One O One Restaurant

HFC's Skylight Café offers a wide variety of dining options for breakfast, lunch, dinner or a snack between classes. Options include: daily specials and entrees, soup and salad bar, made-to-order sandwich station, pizza, fresh fruit, chips, soft drinks, desserts, and more. Halal options are also available. For additional information on the Skylight Café, including hours of operation, please visit <https://www.hfcc.edu/campus-life/campus-dining>.

HFC's Fifty-One O One Restaurant is a full-service dining establishment operated by the students and staff of the HFC Culinary Arts program. The menu includes appetizers, specialty salads and sandwiches, entrees from around the world and a wide selection of desserts. For additional information on Fifty-One O One Restaurant, including hours of operation, please visit <http://5101.hfcc.edu>.

HFC also provides vending machine services in most campus buildings for snacks and beverages.

### WHFR-FM 98.3 Radio Station

WHFR 89.3 FM is HFC's award-winning independent, non-commercial broadcast and Internet radio station. WHFR broadcasts locally at 89.3 on the FM radio dial and worldwide at [www.whfr.fm](http://www.whfr.fm) on the web. The station operates with a student and volunteer staff of about 60 people, directly supervised by HFC Telecommunication faculty.

WHFR provides programming every day of the year. With 270 watts of broadcast power, WHFR reaches an area where 200,000 people live and work, including Dearborn and west Detroit, nearby west and downriver suburbs, as well as Windsor, Ontario, Canada. Listeners can also hear the station via live-stream through WHFR's interactive website anywhere in the world.

WHFR provides real-world telecommunication lab experience for HFC students, serves the needs of Dearborn and the surrounding communities, and assists with HFC college relations. An eight week course, WHFR Staff Training (TCM 189), is offered to students and members of the community who wish to join the volunteer WHFR staff. The course is offered both for credit to enrolled students or as non-credit for community members through HFC's M-TEC area.

The station studios are located on HFC's main campus. For additional information about WHFR, please visit <https://www.hfcc.edu/campus-life/whfr>.

### Voter Registration

HFC provides on campus voter registration and conducts vote registration drives. Forms are available at the Student Activities Office, Welcome Center, Office of Financial Aid, and the Registrar's Office. Mailing of completed voter registration forms to respective city election clerks is available free of charge to HFC students.

### Democracy Commitment

The Democracy Education Program at HFC exposes all students to an education in democracy. Through curricular and co-curricular initiatives, the program aims to impact learning in such a way that the students carry the following throughout their lives:

- Skill development that teaches how to build a stronger civil and more inclusive society;
- Intrinsic analysis; and
- Tolerance and understanding of diversity.

As a partner of the National Democracy Commitment (NDC), HFC works to actualize the NDC's goal of preparing informed, engaged graduates to revitalize and strengthen our democracy.

To obtain complete information and contact names for the above initiatives, contact the Office of the Vice President for Student Affairs at 313-845-9610.

### Honors Program/Phi Theta Kappa

The Henry Ford II Honors Program offers a challenging and demanding academic program in which students and faculty form a learning community. Students are expected to excel academically as they develop their skills in composition, speech, independent research, and critical thinking. Henry Ford II Honors Program faculty members challenge students to explore their intellectual interests and potential. Students also work closely with assigned faculty mentors to gain admission to four-year transfer institutions of their choice, and identify and apply for transfer scholarships. For information on admission requirements, please visit <https://www.hfcc.edu/programs/honors-program>.

# Academic Support

## Learning Lab

The Learning Lab serves students, faculty, and the college community by researching, developing, and providing supplemental resources and services to help students succeed in their classes. Services include: tutoring, test preparation, audio-visual study aides, and computer-assisted learning. For additional information, please visit <http://learnlab.hfcc.edu>.

## Library

With more than 100,000 items, including books, periodicals, and databases, the Fred K. Eshleman Library is staffed by expert reference librarians ready to assist students. A library card is required for check-out and is issued free to students. Amenities include individual study carrels, group-study rooms, and a fully-equipped media center with PCs for student use for access to the Internet, email, and a wide variety of software. Only currently registered students may use the Media Center, and a library card is required. For additional information, please visit <http://library.hfcc.edu> or call 313-845-9606.

## Tutoring Center

Located within the Learning Lab, HFC's Tutoring Center offers three levels of tutoring: faculty tutors, peer tutors, and volunteers. All tutors are well-qualified to assist students in succeeding at HFC. Tutors are available to assist students in English, Math, Science, World Languages and Career and Technical Education courses. For additional information, please visit <http://learnlab.hfcc.edu/tutor>.

## Personal Support

### Assisted Learning Services

Assisted Learning Services (ALS) provides accommodations to students with disabilities through a number of support services. Students who have a documented disability may be eligible for support services. These services include:

- Special testing conditions;
- Textbooks on tape/CD ROM;
- Adaptive equipment;
- Reader/writer services for the classroom;
- Note-takers for the classroom; and
- American Sign Language interpreters for the classroom.

To receive any accommodation, students must make an appointment with the ALS counselor and provide documentation about the disability. For additional information, visit <https://www.hfcc.edu/assisted-learning>.

### Career Services

The Career Services Office partners with prospective employers to provide job search assistance to current HFC students and graduates. Services include on-campus recruiting events and career fairs, critiques of student's job search documents, and potential referrals to employers. For additional information, visit <http://careers.hfcc.edu>.

### Child Development Center

The Child Development Center provides state-licensed, quality child care for children of HFC students, staff and the community. Child care is available Monday through Friday, with evening hours Monday through Thursday. The center hours provide for all-day or part-time child care. Children must be between two years, nine months to 12 years old and toilet trained, and have had a physical exam with complete up-to-date immunizations. Current fees and other information are available at <https://www.hfcc.edu/childcare> or call 313-317-6527.

### Student Outreach and Support

Student Outreach and Support (SOS) programs and services are designed to help students maximize their opportunities at HFC and achieve their educational goals. SOS offers guidance, personal support seminars, and special events. "Back-to-School" appointments and career counseling are available for prospective students who have concerns about entering or reentering college. Emergency funding is available to help qualified students address emergencies that could prevent them from finishing classes. For additional information, please <https://www.hfcc.edu/campus-life/sos>.

### University Transfer, Advising, and Career Counseling Center

The University Transfer, Advising, and Career Counseling Center provides a variety of services to help students along their educational pathways:

University Transfer assistance to help students with the selection of courses taught at HFC which will transfer to other educational institutions (four-year colleges and universities) using Transfer Guides, Course Equivalency Lists, and Curriculum Guides and Articulation Agreements.

Career and Personal Counseling services assist students in the lifelong process of choosing, planning, and preparing for appropriate careers. Personal counseling is available to help students address issues of test anxiety, self-defeating behaviors, stress/anxiety reduction, coping with change, depression, anger management, parenting skills, and assistance and support during career/life transitions.

All of our counselors are State of Michigan Licensed Professional Counselors (LPC) or Limited Licensed Professional Counselors (LLPC) and many have additional National Board of Certified Counseling certifications in counseling (NCC) and career counseling (NCCC). For additional information, please visit <https://www.hfcc.edu/campus-life/counseling>.

### Veteran's Services

Services for military veterans include personal counseling; assistance in filing for V.A. educational benefits; and information regarding a wide range of veteran benefits, such as, disability compensation, vocational rehabilitation, tutorial assistance, benefits for dependents of veterans, and general information relating to current and pending veteran legislation. For additional information, please visit <https://www.hfcc.edu/veterans>.

## Academic Forgiveness

HFC realizes that students may experience academic difficulties for a multitude of reasons. Therefore, because education is a continuous and life-long process, the College has established a program of Academic Forgiveness that will provide a second opportunity to former students who have experienced academic deficiencies.

The purpose of academic forgiveness at HFC is to allow a student who has not performed well academically to have a maximum of twelve hours of “E” grades removed from the grade point average.

To apply for academic forgiveness, a currently enrolled student must file an application in the Office of the Registrar and abide by the following guidelines:

- Five or more years must elapse between the academic forgiveness and the last failing grade for which forgiveness is requested. The student must have earned at HFC at least six credit hours in courses numbered 100 or above and must have a cumulative 2.00 GPA or higher since the failing grades were received.
- Forgiven grades, to a maximum of twelve credit hours, will no longer be calculated into the student’s GPA.
- Forgiven grades will remain on the transcript and a special notation will be added explaining academic forgiveness.
- Academic forgiveness can be granted only once to any student.
- Academic forgiveness, when granted, applies to HFC courses.
- There is no guarantee, expressed or implied, that the academic forgiveness will be recognized by any other college or university.

## Academic Integrity

HFC considers academic dishonesty to be a serious offense. It is the policy of the College that determination of and appropriate action in respect to academic dishonesty by a student shall be a matter of individual judgment by the instructor. The instructor may administer a penalty up to and including failure in the particular course. It is the professional obligation of the faculty to enforce academic integrity in their courses. Instructors (or their designees) reserve the right to require picture identification for test taking, graded papers or projects, or other appropriate purposes. A student cannot drop a class if failing for reasons of academic dishonesty.

Academic dishonesty is any activity intended to improve a student’s grade fraudulently.\* It includes, but is not limited to, the following:

- Unauthorized acquisition of tests or alteration of grades (such as the stealing of tests, test keys, or grade books from faculty offices or elsewhere, or the purchasing of tests or grade books);
- Unauthorized use of notes, books, or other prohibited materials during an examination;
- Open cheating on an examination (such as copying from another student’s paper);
- Permitting another person to take a test in the student’s place or receiving unauthorized assistance with any work for which academic credit is received;

- Providing unauthorized assistance with any work for which academic credit is received;
- Revision of graded work in an attempt to receive additional credit fraudulently;
- Plagiarism (using another person’s work without acknowledgment);
- Use of cell and video phones to cheat; and
- Any other conduct intended to obtain academic credit fraudulently or dishonestly.

If an instructor fails a student in a course for academic dishonesty, the instructor must immediately notify in writing the student and the registrar of the infraction, retaining copies of both notifications.

The registrar maintains a record of all such violations. If a student fails two classes as a result of academic dishonesty, he or she is dismissed from the College for two academic years. In addition, a notation of the reason for academic dismissal is placed on the student’s transcript. The notation may be expunged at the discretion of the appropriate vice president if the student petitions for its removal after at least two years have elapsed since the disciplinary action.

If a student believes that the accusation is false, he or she may appeal through the Student Complaint Procedure. If the appeal reaches the Student Complaint Board, the Board may consider only whether the charge is justified. The Board may not set aside or change the penalty given by the instructor unless the charge of academic dishonesty is set aside.

\*Any action that violates the Student Conduct Policy and Due Process Procedure is also subject to review under that policy.

## Alcohol and Illegal Drugs

### 1. Policy

HFC is governed by The Drug Free Work Place Act of 1988 and the Drug Free Schools and Communities Act amendments of 1991. Students and campus visitors may not unlawfully manufacture, consume, possess, sell, distribute, transfer or be under the influence of alcohol, illicit drugs or controlled substances on College property.

A. The term “drug” includes:

- controlled substances, as defined in 21 USC 802, which cannot be legally obtained;
- legally obtainable controlled substances which were not legally obtained, including:
  - prescribed drugs when prescription is no longer valid (e.g., use of medication after a course of treatment is completed);
  - prescribed drugs used contrary to the prescription; and
  - prescribed drugs issued to another person.

B. The term “property” includes:

all buildings, land owned, leased, or used by the College and motor vehicles operated by students, including personal motor vehicles, when used in connection with work performed for or on behalf of the university.

C. Students must also comply with

laws, regulations and ordinances established by the state and local municipalities, and will be held accountable by law enforcement representatives of those entities for any illegal activity. It is the responsibility of all campus members to be aware of these laws.

## 2. Preventative Strategies

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A. The College provides the following wellness information and support to reduce the harmful consequences of alcohol and other drug use:

Education awareness activities;  
Fostering a health conscious environment;  
Prohibiting the use and possession of alcohol and drugs; and  
Providing referral for treatment.  
Developing, enforcing policies that prohibit alcohol and drug use.

## 3. Health Risks from Alcohol and Drug Use

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A. Alcohol and drug use increases the risk of health-related and social problems.

B. Below are some of the health risks associated with certain drugs and alcohol:

Alcohol can cause short term effects such as loss of concentration and judgment; slowed reflexes; disorientation leading to higher risk of accidents and problem behavior; long term effects include risk of liver and heart damage, malnutrition, cancer and other illnesses; can be highly addictive to some persons.

Amphetamines can cause short term effects such as rushed, careless behavior and pushing beyond your physical capacity, leading to exhaustion; tolerance increases rapidly; long term effects include physical and psychological dependence and withdrawal can result in depression and suicide; continued high doses can cause heart problems, infections, malnutrition and death.

Cannabis can cause short term effects such as slow reflexes; increase in forgetfulness; alters judgment of space and distance; aggravate preexisting heart and/or mental health problems; long term health effects include permanent damage to lungs, reproductive organs and brain function; can interfere with physical, psychological, social development of young users.

Cocaine (crack) can cause short term effects such as impaired judgment; increased breathing, heart rate, heart palpitations; anxiety, restlessness, hostility, paranoia, confusion; long term effects may include damage to respiratory and immune systems; malnutrition, seizures and loss of brain function; highly addictive.

Designer Drugs/Synthetic Cannabinoids (bath salts, K2, spice) can cause short term effects such as elevated heart rate, blood pressure and chest pain; hallucinations, seizures, violent behavior and paranoia; may lead to lack of appetite, vomiting and tremor; long-term use may result in kidney/liver failure, increased risk of suicide and death.

Hallucinogens (PCP, LSD, ecstasy, dextromethorphan) can cause extreme distortions of what is seen and heard; induces sudden changes in behavior, loss of concentration and memory; increases risk of birth defects in user's children; overdose can cause psychosis, convulsions, coma and death. Frequent and long-term use can cause permanent loss of mental function. Inhalants (nitrous oxide, amyl nitrate, butyl nitrite, chlorohydrocarbons, hydrocarbons) can cause short term effects such as nausea, dizziness, fatigue, slurred speech, hallucinations or delusions; may lead to rapid and irregular heart rhythms, heart failure and death; long-term use may result in loss of feeling, hearing and vision; can result in permanent damage to the brain, heart, lungs, liver and kidneys.

Opiates/narcotics (heroin, morphine, opium, codeine, oxycodone, china white) can cause physical and psychological dependence; overdose can cause coma, convulsions, respiratory arrest and death; long term use leads to malnutrition, infection and hepatitis; sharing needles is a leading cause of the spread of HIV and hepatitis; highly addictive, tolerance increases rapidly. Sedatives can cause reduced reaction time and confusion; overdose can cause coma, respiratory arrest, convulsions and death; withdrawal can be dangerous; in combination with other controlled substances can quickly cause coma and death; long terms use can produce physical and psychological dependence; tolerance can increase rapidly.

Tobacco (cigarettes, cigars, chewing tobacco) can cause diseases of the cardiovascular system, in particular smoking being a major risk factor for a myocardial infarction (heart attack) diseases of the respiratory tract such as chronic obstructive pulmonary disease (COPD) and emphysema, and cancer, particularly lung cancer and cancers of the larynx and mouth; nicotine is highly addictive.

For an extensive list of health-related risks please visit The National Institute on Drug Abuse at <http://www.drugabuse.gov>.

## 4. Counseling and Treatment

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A. If you need assistance with drug or alcohol related problems, the College offers assistance through the Counseling Office at <https://www.hfcc.edu/campus-life/counseling> or by phone at 313 845 9611.

## 5. Student Organizations

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A. Student Organizations must adopt an alcohol and drug use policy that is consistent with this policy and complies with federal, state and local law.

## 6. Sanctions for Policy Violations

A. Violations of this policy are covered by the Student Conduct Policy and Due Process Procedures <https://www.hfcc.edu/current-students/student-policies>

### Athletic Aid Disclosure

The Athletics Department keeps the following information on student-athletes:

- the number of students, categorized by race and gender;
- the number of students by race and gender who receive athletically-related aid;
- the completion/graduation rate and drop-out rate; and
- the completion/graduation and transfer rates for students receiving athletically-related aid.

The department also has information on the amount of revenues derived from, and expenses made on behalf of, intercollegiate athletics activities.

### Attendance

Students are expected to attend all the sessions of the classes for which they are enrolled. Penalties may be imposed, at the discretion of the individual instructor, whenever (1) HFC recognizes consistent attendance is critical to student academic success and/or (2) class participation is required. Students are responsible for checking the individual instructor's attendance expectations at the start of the semester. Students who do not attend any courses will have their attendance reported as "Never Attended," which will directly result in Financial Aid Funds not being available.

Lack of attendance may affect the student's final grade.

Absences in connection with participation in authorized college activities must be considered in the total picture of absences for all purposes, and students are expected to contact their instructor in advance of a planned absence. The College provides free HawkMail for communicating with instructors. It is the responsibility of the student to make up work missed due to an absence.

Students are required to be present at the final examination. In case of absence, it is the student's responsibility to contact the instructor in regard to makeup.

Students may be required to produce documentation to support the absence.

HFC complies with Federal and State law regarding absences protected by law.

### Campus Attire

Students are expected to use good judgment, good taste, and decency with regard to their selection of dress.

### Commencement

HFC holds one Commencement ceremony annually in May for the corresponding academic year. The 2015 ceremony recognizes graduates who have received their associate's degree from the 2014-15 academic year; this encompasses fall 2014, winter 2015, and spring/summer 2015. For additional information, please visit <https://www.hfcc.edu/registration-and-records/commencement>.

### Computer Systems Use Policy

HFC's computers, peripherals, software, networks, supplies, e-mail systems, and Internet connections ("HFC's Systems") are intended to carry out the legitimate operational functions of HFC and not for purposes unrelated to college business. It is not the intent or purpose of this policy to dampen or restrict freedom of inquiry or freedom of criticism.

HFC prohibits the removal, relocation, or alteration of equipment or software without written authorization.

It is the policy of HFC to prohibit the use of HFC's Systems for purposes of:

- Harassment of persons or organizations on or off campus for any reason;
- Sending or receiving material of a profane, pornographic, or threatening nature;
- Sabotage, misuse, or abuse of equipment, software, or data on or off campus, including unauthorized alteration of HFC's Systems and computer files through the willful or negligent introduction of viruses or by mechanical or electronic tampering;
- Unauthorized production or reproduction of programs, or multiple copies of material in any form for the purpose of resale or redistribution in violation of the intellectual property rights of HFCC or any other person;
- Plagiarizing, altering, or tampering with the work of others;
- Gaming, solicitation, or any activity deemed illegal or contrary to HFC policies;
- Theft of intellectual or other property, including copyright infringement;
- Intentionally preventing an electronic communication from being received by the intended recipient without authorization from the originating sender; and/or
- Intentionally causing an electronic communication to be viewable or heard by persons other than the named recipient without authorization from the originating sender, or the named recipient, except where the recipient of electronic communications reports a violation of this policy.

It is the desire of HFC to ensure that HFC Systems are put to the best and most efficient use. HFC therefore requires that:

Students, faculty, and staff receive appropriate training in hardware, software, and networks use, or demonstrate acceptable levels of proficiency prior to access;  
Students, faculty, and staff be mindful of the time spent (as in “surfing the net” or “chatting”) on HFC’s Systems, or material consumed (such as having large or vague searches printed);  
Students, faculty, and staff exercise reasonable care in protecting their log-on names and passwords, and not permit unauthorized persons to access HFC’s Systems; and  
Students, faculty, and staff should not use HFC’s Systems to store messages and files because it would place an undue burden on limited system resources.

Users of HFC’s Systems are reminded that e-mail is like any other form of written communication. It is subject to the same legal restrictions and potential liabilities as a paper document. E-mail may be subpoenaed, and is subject to the “Freedom of Information Act.” In view of this, HFC’s Systems should not be considered appropriate for transmission of confidential or proprietary information. From the standpoint of the creator of a message, the message should be viewed as “business correspondence” or as an academic paper which has a likelihood of becoming a published document. HFC does not monitor or permanently store messages. However, unlike a written document that can entirely be erased or destroyed by the writer, user deletion of messages renders electronic space in the system available for other messages but does not immediately erase the messages from the system. Therefore, users of HFC’s Systems should not expect privacy. Nevertheless, it is incumbent upon all users of HFC’s Systems to treat misdirected e-mail communications with reasonable care to avoid undue disclosure of the messages of others.

Penalties for violation of this policy will vary depending on the nature and degree of the specific violation. Penalties range from reprimand through expulsion for students or termination for employees in accordance with the provisions of any College Collective Bargaining Agreement, to the extent such Agreement applies to the employees. If violations of law are involved, users may incur civil liability to HFC or third parties, and may also be subject to prosecution.

## Dropping/Adding Courses

Changes in a student’s class schedule may be made in the Office of Registration and Records after the student has officially enrolled in any course. Membership in a class does not cease until the student has officially dropped the class.

Schedule adjustments may be made during the add and drop period up until the 10 percent date without academic penalty. The student’s transcript will not record any such changes made before the 10 percent date. A student may officially drop a class without academic penalty until 60 percent of the class is completed. A “W” will be recorded on the student’s transcript. If a student stops attending a class without officially withdrawing from the class, the instructor may record either an E or DR grade.

Students considering withdrawing from classes during the semester are encouraged to first consult with a College counselor and/or Financial Aid if appropriate.

A student cannot drop a class if failing for reasons of academic dishonesty.

## Equal Opportunity Policy

HFC is an equal opportunity institution, firmly committed to a learning environment of mutual respect, free of discrimination and harassment. HFC prohibits discrimination and harassment based upon an individual’s race, color, national origin, age, marital status, sex, sexual orientation, gender identity, gender expression, disability, relation, height, weight, or veteran status and any other characteristic or category protected by law. HFC also prohibits retaliation against students who report or participate in an investigation of a report of discrimination and/or harassment.

For additional information on how to address a concern or complaint of discrimination, and/or harassment, visit <https://www.hfcc.edu/about-us/title-ix>.



## Grading System

Academic grades are posted to the student's transcript at the end of each semester. College faculty are responsible for submitting final grades for all enrolled students within 48 hours after the end of the semester. Students may access their grades via WebAdvisor at <https://my.hfcc.edu/WebAdvisor>.

HFC uses the following grades to evaluate academic achievement. The grades shown here are with their value in honor points per semester hour of credit.

A (4) = Superior achievement as demonstrated by the ability to master materials of the course.

B (3) = Highly satisfactory work in the required areas of the course.

C (2) = Proficiency in most of the course requirements.

D (1) = Some proficiency in the course requirements, accompanied by unacceptable deficiencies. The student is neither fully qualified to take an advanced course nor to continue the sequence.

E (0) = Course requirements not met.

I (0) = Incomplete.

DR (0) = Instructor-given drop.

W (0) = Student initiated drop.

S (0) = Satisfactory completion of course requirements. The College considers this to be the equivalent of a C grade or better.

U (0) = Unsatisfactory completion of course requirements.

R (0) = Repeated course.

AU (0) = Audit.

NG (0) = No grade reported.

NA (0) = Student never attended course.

TR (0) = Transfer credit (credit hours transfer only)

## Incomplete Work

A student may receive an "Incomplete" grade if some part of the course work remains unfinished, provided that the student's standing in the course has been satisfactory. A student who receives an Incomplete grade must make up all class work by the mid-semester date of the following semester. If the work is not made up, the incomplete grade will be changed to a DR. A student performing unsatisfactorily in a course may have a final mark of "E" recorded if some part of the coursework remains unfinished.

## Parking Regulations

Parking at HFC is free; students and visitors do not need parking passes. However, employees must obtain a parking permit from the Office of Campus Safety before access to the employee parking lots is authorized. The circle drive entrance (Flag Pole) is for handicap pickup or drop off only. All other pickups or drop offs are to be made in student lots.

Both state law and local ordinance authorize enforcement of parking regulations on campus with the same authority as public roadways. Accordingly, vehicles are only allowed to park in areas designated as parking spaces. Vehicles may not park on the grass, sidewalks, along curbs, in yellow hash marked areas, or in any other area not marked or designated as a parking space. Vehicles are not allowed on campus past 11 p.m. without authorization from the Office of Campus Safety.

Campus Safety personnel have the authority to issue Uniform Law Citations to parking violators. Vehicles parked contrary to regulations will be ticketed and may be towed away at the owner's expense. Uniform Law Citations may be paid or contested through the 19th District Court in Dearborn. Fines and procedures including the address and phone number of the court are located on the back of the ticket. In addition to Uniform Law Citations, an orange warning sticker may be placed on the offender's vehicle window. The orange sticker is only a warning that the vehicle is parked illegally and is subject to ticketing and impounding. No action is required by the driver except to move the vehicle before it is issued a ticket or is towed. Chronic offenders will receive a Uniform Law Citation and will be towed at the owner's expense.

## Repeated Courses

Students may transfer in courses completed at other colleges for which they originally received a grade of DR from HFC. When transferring courses from other institutions, the original HFC grade remains on the student's transcript.

Financial aid may only be used once to pay for repeated courses in which a student has previously earned credit. Financial Aid may be used multiple times for courses that need to be repeated due to credit having not been earned.

If it has been determined that a student has successfully completed a course and has repeated that course, any additional attempts at that same course are ineligible for financial aid funding. The credits for that course will not be counted toward the hours of enrollment for the semester.

The above information reflects the information a student must know related to repeating courses and the impact to his/her financial aid. In addition to the above, HFC has a separate policy for all students regarding how many times a student is permitted to repeat a class.

## Smoke-Free Campus

All of HFC is a smoke-free environment.

Smoking is prohibited in all College buildings, facilities, grounds and College-owned vehicles, as they are considered property of the College.

Smoking in College facilities will be permitted for controlled research, educational, theatrical, or religious ceremonial purposes, with prior approval of the Dean or Director responsible for the facility.

Smoking in privately-owned vehicles and on sidewalks adjacent to public thoroughfares is not prohibited.

The sale of tobacco products is prohibited in all College buildings, facilities and grounds.

Assistance with smoking cessation is available through the HFC Counseling website at <https://www.hfcc.edu/campus-life/counseling> or an appointment can be made by phone at 313-845-9611.

## Student Conduct Policy and Due Process Procedure

### Preamble

HFC is a comprehensive community college that is dedicated to maintaining a teaching-learning environment that fosters critical thinking, creativity, personal integrity and self-esteem. The College values the diversity of its educational community and of the communities HFC serves. The purpose of this document is to define a collegiate standard of behavior and to explain the actions to be taken if a student fails to adhere to those standards. Questions regarding this policy and procedure should be directed to the vice president of Student Affairs. A complete version of this policy may be found by visiting <https://www.hfcc.edu/current-students/student-policies>.

### Rights and Responsibilities

Students have the rights and accept the responsibilities of participating in an educational environment when they enroll at HFC. Each student is expected to respect the rights of others and to help create an environment where diversity of people and ideas are valued. A collegiate community should be free from intimidation, discrimination and harassment, as well as safe from violence. Students are also expected to know and obey federal and state laws and local ordinances, as well as to follow College policies.

Students at HFC have the same rights under the constitutions of our nation and state as other citizens. These rights include freedom of expression, press, religion, and assembly. Freedom of expression, for example, includes the expression of reasoned dissent and voicing of unpopular views. Along with every freedom goes the responsibility of according the same right to others. All students have the right to be treated fairly, and to have access to College policies. Students will receive appropriate due process should they be accused of behavior that is in violation of laws or College policy.

### I. General

A. The purpose of this policy, Student Conduct Policy and Due Process Procedure, is to help protect the safety and well-being of the campus community and to assist the College in providing an environment that supports the educational process. The responsibility for maintaining such an environment is shared by all members of the College community.

B. This policy addresses non-academic behavior, such as criminal behavior, and disorderly or disruptive conduct. Academic behavior, such as cheating, is addressed in official student publications, such as the Student Handbook, and the Faculty Handbook.

C. This policy may be amended with the approval of the College Organization. The Due Process Procedure may be amended with the approval of the Senate, the vice president/dean of Student Affairs and the president of the College.

D. The College Board of Trustees, acting through a delegation of authority to the president (or his/her designee), retains the ultimate right to make and enforce rules relating to student conduct and discipline.

E. Whenever, in this policy or in the Due Process Procedure, written notice to the student is required, such written notice is deemed accomplished by mailing the document in question to the address the student has on file with the College's Registrar. It is the responsibility of the student to ensure that the address on file with the College's Registrar is current. Written notice can also be accomplished by providing the document in question to the student by hand delivery.

### II. Student Code of Conduct

A. Students at HFC are expected to comply with state, federal and local laws and ordinances, to show respect for the personal rights of others and the educational mission of the College, and to maintain standards of personal integrity.

B. The following are examples of behavior or situations that violate these standards. This list is illustrative and is not exhaustive, and it is not to be read as a limitation of the College's right to discipline for infractions which are not listed:

- Interference with normal College or College-sponsored activities, including, but not limited to, interference with teaching, College administration, and College Board meetings;
- Failure to comply with Campus Safety and other College personnel;
- Violation of legal standards of decency;
- Discriminating against or harassing an individual or group in any College-related activity, opportunity, or organization on the basis of race, color, ethnicity, gender, religion, sexual orientation, creed, national origin, ancestry, age, disability, height, weight, or marital status, or retaliating against any such individual or group for having complained about such behavior;
- Disrupting a class, a class-related activity, or a College-sponsored or related event;
- Physical assault;
- Stalking;
- Threats of injury or harm;

Arson;  
Theft;  
Gambling;  
Damage to College, student, faculty, or employee property;  
Computer or technology abuse or tampering;  
Possession of firearms or dangerous weapons by persons who are not sworn federal, state, or local law enforcement officers who are required to carry weapons during the course of their employment. (Such individuals are required to notify the Campus Safety Office of this requirement prior to bringing such weapons on campus);  
Falsifying, altering or providing false, inaccurate or incomplete information on any College application, form or document; or providing false, inaccurate or incomplete verbal information which is to be used with regard to any College application, form, document or transaction;  
Possession, use, manufacture, sale or being under the influence of alcohol or any controlled substance without a physician's prescription, or possessing drug paraphernalia while on campus; and/or  
Any other actions deemed unsuitable for a College campus.

## Student Right to Know and Campus Security Act

HFC publishes annually a report which provides information about safety procedures on campus, data on instances of crime on campus, the student code of conduct, and directions for reporting emergencies. Complete information is available at <https://www.hfcc.edu/campus-safety>.

## HFC Privacy Practices

HFC Privacy Practices apply to employees and students and satisfy the following government laws, acts, and guidelines:

Carl D. Perkins Vocational and Technical Education Act - Source: Section 113 and the Workforce Investment Act of 1998, Section 122;  
Family Education Rights and Privacy Act (FERPA) of 1974 - Source: Federal Register, Vol. 53, No. 69, April 11, 1988;  
Health Insurance Portability and Accountability Act of 1996 (HIPAA);  
Michigan Social Security Privacy Act – Source: Michigan Act 454 of 2004;  
Solomon Amendment – Source: Federal law 10 USC Sec. 983;  
Freedom of Information Act (FOIA), 5 U.S.C. 552; and  
Bullard-Plawecki Employee Right To Know Act 397 of 1978.

HFC holds the privacy of its staff and students of paramount importance. The College's goal is to provide its members with the highest level of service, confidentiality, and security.

HFC Privacy Practices cover all personally identifiable information collected and stored by the College.

## Access to Student Educational Records (FERPA)

Pursuant to the Family Educational Rights and Privacy Act of 1974 (FERPA), as amended, any person who is or has been in attendance at HFC shall have the right to inspect and review any and all educational records directly related to that person after a request for access to such records has been made in accordance with the approved College procedure for such access. Requests to review general college educational records are to be made at the Admissions, Registration, and Records Office. Requests for information regarding records maintained by a department should be made to the departmental director. Educational records are those records that are directly related to a student and maintained by an education agency or by a party acting for the agency or Revised August, 2014 Page 2 institution. The term does not include records of instructional, supervisory, and administrative personnel and educational personnel ancillary to those persons that are kept in the sole possession of the maker of the record, and are not accessible or revealed to any other person except a temporary substitute for the maker of the record. The term also does not include law enforcement records, records relating to individuals employed by the College, records related to treatment provided by a health professional, records that contain information about an individual after that person is no longer a student, i.e., alumni records.

Specifically, the student has the right to:

- Inspect all of his or her education records maintained by HFC;
- Prevent the disclosure of personally identifiable information to third parties unless exempted by the Act. With respect to College officials; information from your records will be made available only if the College official has a legitimate educational interest consistent with their official functions for the College. Persons outside the College—including your parents and/or spouse—will be given information from your records only (1) when you authorize it in writing, or (2) in connection with your application for or receipt of financial aid, or (3) in connection with studies conducted for the purpose of accreditation, development and validation of predictive tests, administration of student aid programs, or improve of instruction, or (4) when disclosure is required in a health or safety emergency or by federal or state law or by subpoena. If information from your record is subpoenaed, a reasonable attempt to notify you will be made as quickly as possible. In addition, the results of a disciplinary hearing conducted by the institution against the alleged perpetrator of a crime of violence will be made available to the alleged victim of that crime;
- Request an amendment to any educational record if the student believes it is inaccurate or misleading;
- Request a hearing, to present evidence that a record should be amended, if the student believes they have been improperly

denied access to their records, student records contain information that is inaccurate or misleading, or information from the student record has been improperly released to third parties; The right to file a complaint to federal officials if the student believes that there has been a violation of the rights afforded to the student under the Family Educational Rights and Privacy Act of 1974. The complaint must be submitted in writing within 180 days of the alleged violation to:

U.S. Department of Education

The Family Policy Compliance Office

600 Independent Avenue SW

Washington, D.C. 20202-4605

Phone: 202-260-3887

Obtain from the Admissions, Registration, and Records Office a copy of the HFC policy regarding FERPA.

## Access to Student Financial Records

Financial records includes: historical, current or future income, debt, assets, banking, payment, funding requests or related information of an employee or student. The access of such information is limited to appropriate governmental, financial aid, financial services, human resource and/or direct supervisory personnel.

All financial information and documents will be kept in a secure environment.

Employees with access to such information will be held to the highest degree of confidentiality.

Documents that are no longer being used will be shredded or otherwise destroyed prior to disposal.

No employee, student or other individual is allowed to access or use financial records without written consent from the affected individual or through expressed consent of the institution based on that individual's job responsibilities.

The College will not keep permanent record of credit card information.

## Academic Probation and Dismissal Policy

A student is placed on academic probation when their cumulative GPA falls below the following levels:

1.50 GPA for 5-11 credit hours attempted;

1.75 GPA for 12-19 credit hours attempted;

1.85 GPA for 20-28 credit hours attempted; and

2.00 GPA for 29 or more credit hours attempted – student is then subject to academic dismissal.

Once listed on academic probation, a hold is placed on the student's record. This prevents the student from registering for classes until the student meets with a counselor to develop strategies and an academic plan that will move the student from the standing of probation to "good standing." Once the student meets with the counselor, the hold will be removed.

Based on their assessment of each student's needs, counselors may require enrollment in specific developmental courses before releasing students to register. Students may appeal such counselors' decisions, in writing, to the Scholastic Review Board.

Returning probationary students who have not enrolled for one or more semesters are permitted to register only after meeting with a counselor.

Students on probation who have attempted more than 28 hours are dismissed from the College for one full semester (fall or winter) unless they maintain a per semester grade-point average of 2.0 or above. Students on probation who are placed on academic dismissal, if currently attending classes, are permitted to complete the semester but cannot pre-enroll for the following semester. Dismissals may be appealed, in writing, to the Scholastic Review Board. Students are notified in writing of appeal procedures.

Students' appeal letters may be directed to the Scholastic Review Board in care of the Office of the Registrar. Students who are not on academic probation but whose cumulative grade-point average is below 2.0 are sent a letter encouraging them to see a counselor.

## Access to Student Employment Records

Personnel Files (Operations, Policy 3000)

HFC complies with the Bullard-Plawecki Employee Right to Know Act 397 of 1978: <http://www.legislature.mi.gov/documents/mcl/pdf/mcl-Act-397-of-1978.pdf>.

It is necessary for the orderly operation of the College to prepare a personnel information system for the retention of appropriate papers bearing upon an employee's duties and responsibilities to the College and College's responsibilities to the employee.

The Board of Trustees requires that sufficient records exist to ensure an employee's qualifications for the job held, compliance with federal, state, and local benefit programs, conformance with College rules, and evidence of completed evaluation. Such records will be kept in compliance with laws of the State of Michigan.

The Board delegates the maintenance of an employee personnel information system to the Director of Human Resources.

A single central file shall be maintained, and subsidiary records shall be maintained for ease in data gathering only. These records shall be maintained or destroyed consistent with the federal and state laws.

A copying cost may be charged for each copy given to the employee upon his/her written request at the rate determined by the president.

In accordance with Michigan law, the employee shall have access to his/her file upon request.

Personnel records shall not be available to board members except as necessary to conduct disciplinary hearings and shall be available to school administrators as may be required in the performance of their job.

Personnel wishing to review their own records shall:

- A. Request access in writing;
- B. Review the record in the presence of the administrator designated to maintain said records or designee;
- C. Make no alteration or addition to the record nor remove any material there from.

## Access to Student Health Records: Health Insurance Portability and Accountability Act of 1996 (HIPAA)

### Health Insurance Portability and Accountability Act of 1996 (HIPAA)

Student Health Records provided to the College are protected from disclosure under FERPA: <http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html>.

### Access to Student Health Records

Health records of students who are employed by the College and are participants in the College's group health plan are governed by the Health Insurance Portability and Accountability Act of 1996 (HIPAA). For further information, please see Notice of Privacy Practices for the use and Disclosure of Private Health Insurance Information. See <https://hr.hfcc.edu/policies> for "2013 Notice of Privacy Practices."

Student Health Records provided to the College are protected from disclosure under FERPA: <http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html>.

## Personal Information

All requests for information by HFC are made with the goal of providing better service or in complying with governmentally regulated requests.

HFC will not give or sell any of personal information to any outside agency or company for any use outside of official College business, with the exception of Solomon Act requests (see below), and such use will not be in violation of other provisions of this policy.

HFC internal practices help protect privacy by limiting employee access to personal information.

The College keeps the most recently supplied email address as part of student and employee personal files. It is used like a postal address and is maintained to accommodate student requests to keep them informed of pertinent information via email.

## Social Security Number Privacy

Students applying and registering for credit courses and employees applying to work at the College are required to supply their social security numbers. International students are required to supply the College with their International Student Identification (ISIN) or comparable unique identification number issued by the U.S.

Uses include, but are not limited to:

- Employee (includes student employees and vendors) tax reporting;
- Benefits provision;
- Student Federal Financial Aid;
- Specific reporting functions as required by the State and Federal government;
- Veteran's certification;
- GED testing;
- Reporting to the National Student Clearinghouse used for attendance verifications, degree reporting, and loan tracking; and/or Debt Collectors attempting to collect funding owed the College only.

HFC, to the extent practicable, ensures the confidentiality of social security numbers and limits who accesses information or documents containing social security numbers.

Only employees with a "need to know" shall have access to student and employee social security numbers. Employees involved include but are not limited to members of Human Resources, Admissions, Financial Aid, Financial Services, Institutional Assessment and Registration.

HFC does not print social security numbers anywhere except when required by regulations or by necessity for or use by a need to know person as identified above.

All students and employees are issued a unique HFC (HANK) ID number which limits the need to use social security numbers to identify students or employees. Students and employees may voluntarily identify themselves by their social security number, however. HFC prefers the use of the HANK ID number.

Should any document containing a social security number need to be disposed of, the document will be shredded or otherwise destroyed prior to disposal.

HFC prohibits the unlawful disclosure of social security numbers, and any employee found to have violated this rule will be subject to discipline up to and including discharge.

## Perkins Act

To improve the instruction offered at HFC and to meet the requirements of the Carl D. Perkins Vocational and Technical Education Act, Section 113 and the Workforce Investment Act of 1998, Section 122, HFC will use student social security numbers to compile summary reports. In no event will a student's personal information ever be released.

Section 113 of the Carl D. Perkins and Technical Education Act, 20 USC 2323, and section 122 of the Workforce Investment Act of 1998, 29 USC 2842, requires HFC and the State of Michigan to assess the effectiveness of vocational and technical education programs aimed at training, placement and retention of student in employment. Although these laws require that performance reports be compiled based on wage record information, neither law requires students to give their social security numbers to the College.

HFC plans to use student social security numbers to gain access to individual wage record and compile required WIA and Perkins Act reports. These reports will assist the College to improve vocational and technical education programs. By improving programs, the College will be better able to serve both employers and employees. Student wage record information is confidentially maintained, based on social security number, by the State of Michigan.

Neither the College nor the State of Michigan will disclose student SSN or wage record data to any unauthorized person or entity unless legally permitted to do so. Any personally identifying wage record data will be destroyed by the College as soon as all required statistical analyses has been performed, or when the information is no longer needed, whichever date comes first.

## Solomon Amendment

HFC complies with the Federal Solomon Amendment Act of 1996 (as amended) 10 U.S.C. 983, 32 CFR 2161.1 et seq that requires public education institutions to release student names, addresses, telephone number, age (year of birth), level of education, academic major, place of birth, most recent education institution attended and degrees received to the United States military upon request.

## HFC Online and Employee Systems

### My HFC WebAdvisor and Online Forms

When using My HFC WebAdvisor or filling out online forms at HFC, students will be asked to provide personal information such as name, address, telephone number, HANK ID Number, etc. Each WebAdvisor function and online form has different mandatory fields. These mandatory fields are the minimum information needed to complete a transaction. If students are uncomfortable providing any of this information over the Internet, the College understands. The alternative method of service is to come to the campus for help.

### HFC's Secure Internet Site

My HFC WebAdvisor and all online forms are designed to give students and employees control over the privacy of their information. HFC offers the industry standard security measures available through Internet browsers called Secure Sockets Layer (SSL) encryption.

For positive identification, My HFC WebAdvisor and all online forms web site are registered with site identification authorities to enable Internet browsers to confirm the HFC Web Server's identity before any transmission is sent. With this technology, the identity of the HFC site is automatically confirmed behind the Revised August, 2014 Page 8 scenes prior to the transmission of any form. In addition, if data does not properly reach HFC, the Internet browser will notify the sender (prior to sending any personal information) that the potential receiving site looks suspicious and should be avoided.

Date encryption is built into security enabled Internet browsers. The information you send us is via WebAdvisor is encrypted, making it extremely difficult to read even if it is wrongly intercepted. All browsers released in the past several years are security enabled. This included Microsoft Internet Explorer, Mozilla Firefox, Google Chrome, and Safari. Browsers hosted on tablets and smart phones also adhere to published security standards.

### Cookies

At one time HFC chose to use cookies to track usage of the College web site to improve services. Due to the misuse of cookies by some Internet sites, HFC has chosen to discontinue this practice. If students or community members find any page on HFC's web site offering a cookie, please contact the IT Services Department at [abuse@hfc.net](mailto:abuse@hfc.net).

## Student Complaint Policy

Henry Ford College is firmly committed to a learning environment of mutual respect, free of discrimination and harassment. Discrimination and harassment based upon an individual's race, color, national origin, age, marital status, sex, sexual orientation, gender identity, gender expression, disability, religion, height, weight, or veteran status and any other characteristic or category protected by law is prohibited.

During their course of study at HFC, students may encounter problems requiring review by academic and administrative personnel. It is the policy of HFC to provide an equitable system for the speedy and amicable resolution of problems between students and College faculty and administrators.

Complaints against faculty may include issues such as final course grades, classroom assignments, and various services. Complaints against administrators may include matters such as policies, regulations, and services.

Due process is dependent upon timeliness. A formal complaint which is not initiated by the end of the semester succeeding the semester in which the issue arose will be dismissed. Once the formal complaint process is initiated, the four stages of the complaint process should be completed within twenty academic working days for each stage (spring and summer terms and regularly scheduled College recesses may be exempt depending upon the availability of the persons involved). These guidelines apply to all student complaints covered by this policy.

Certain types of complaints require the student to file grievances with specialized decision-making bodies. The College publishes these and makes them available to students. However, such specialized policies and procedures shall not be interpreted so as to deny a student due process under the Student Complaint Policy. Also, this policy shall not be construed or applied so as to restrict academic freedom. The complete text of this policy may be found at <https://www.hfcc.edu/current-students/student-policies>.

# 21st Century Technical Communications – Business Concentration

Certificate of Achievement

## 21st Century Technical Communications - Business Concentration

Certificate of Achievement

Program Code: TECCOMBUS.CA

### Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Jacqueline Lawson • (313) 845-6395 • jdlawson@hfcc.edu • Liberal  
Arts • Room: L-327

### Program Information

#### Description

Examines general aspects of information and communication technology with a focus on principles of business, marketing, sales, and customer relations. Course work provides a broad foundation in networking, cabling, telephony, and skills needed for effective customer service, successful sales, and resolution of customer needs. Courses in the certificate program can be applied toward an associate's degree at the College.

## Degree Specific Requirements

### Required Core Courses

CIS-100: Introduction to Information Technology  
CNT-103: Network Infrastructure  
CNT-106: IT Essentials  
BBA-131: Introduction to Business  
BBA-133: Business Behavior and Communication  
BBA-153: Customer Service  
BBA-170: Contemporary Selling  
BBA-159: Contact Center/Help Desk Practicum  
BBA-252: Principles of Marketing  
MGT-240: Creative Problem Solving

Minimum Credit Hours: ..... 30.0

Updated August 2013

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

30.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.



# 21st Century Technical Communications – Infrastructure Concentration

Certificate of Achievement



## 21st Century Technical Communications - Infrastructure Concentration

Certificate of Achievement

Program Code: TECCOMINF.CA

### Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Jacqueline Lawson • (313) 845-6395 • jdlawson@hfcc.edu • Liberal  
Arts • Room: L-327

### Program Information

#### Description

Provides a broad foundation of knowledge in information and communication technology with a focus on infrastructure and installation project management. Course work covers networking, cabling, telephony, and of skills needed for effective customer service, successful sales, and resolution of customer needs. Courses in the certificate program can be applied toward an associate's degree at the College.

## Degree Specific Requirements

### Required Core Courses

BBA-133: Business Behavior and Communication  
BBA-153: Customer Service  
BBA-170: Contemporary Selling  
BCA-165: Microsoft Project Software for Business Solutions  
CIS-100: Introduction to Information Technology  
CNT-103: Network Infrastructure  
CNT-106: IT Essentials  
ELEC-103: Basic Electricity  
ENT-124: Construction Blueprint Reading  
ENT-269: Energy Technology Project Management  
MGT-240: Creative Problem Solving

Minimum Credit Hours: ..... 31.0

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

31.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# 21st Century Technical Communications – Technical Concentration

Certificate of Achievement

## 21st Century Technical Communications - Technical Concentration

Certificate of Achievement

Program Code: TECCOMTEC.CA

### Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Jacqueline Lawson • (313) 845-6395 • jdlawson@hfcc.edu • Liberal  
Arts • Room: L-327

### Program Information

#### Description

Designed for those interested in future careers in information and communication technology with a focus on networking concepts, router and switch configurations, remote networks, Virtual Local Area Networks (VLANs) and Wide Area Networks (WANs). Core course work provides a broad foundation of knowledge in networking, cabling, and telephony and of skills needed for effective customer service, successful sales, and resolution of customer needs.

## Degree Specific Requirements

### Required Core Courses

BBA-133: Business Behavior and Communication

BBA-153: Customer Service

BBA-170: Contemporary Selling

CNT-103: Network Infrastructure

CNT-106: IT Essentials

CNT-110: CCNA: Networking I

CNT-120: CCNA: Networking II

CNT-210: CCNA: Networking III

CNT-220: CCNA: Networking IV

Minimum Credit Hours: ..... 31.0

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

31.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Registry / Certification / Licensure Exam Information

Students who complete this certificate have the knowledge and skills to take the CISCO Certified Network Associate (CCNA) exam.

# Accounting

## Associate in Business



### Accounting

Associate in Business

Program Code: ACCTG.AB

### Contact

Business and Computer Technology Division • (313) 845-9804 • business@hfcc.edu • Technology Bldg • Room: T-211

Patricia Little • (313) 317-1723 • plittle@hfcc.edu • Technology Bldg • Room: T-211H

### Program Information

#### Description

Explores accounting theory and practice, and how accounting interrelates with other important business operations such as payroll, budget, and finance.

### Learning Outcomes

- Prepare financial statements according to Generally Accepted Accounting Principles (GAAP)
- Evaluate business decisions given the legal and economic framework in which business functions
- Analyze financial statements
- Prepare final reports summarizing planning and control activities
- Demonstrate effective written, verbal and nonverbal communication in the business environment
- Demonstrate industry-standard computer skills

### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

### General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

### Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

**Required Core Courses**

- BAC-131: Introduction to Financial Accounting
- BAC-132: Introduction to Managerial Accounting
- BAC-231: Asset Accounting
- Complete one of the following courses:
- BAC-141: Computerized Accounting—Quickbooks Or
- BAC-146: Computerized Accounting—Peachtree
- Complete two the following courses:
- BAC-234: Equity Accounting Or
- BAC-235: Tax Accounting Or
- BAC-262: Cost Accounting

Minimum Credit Hours: ..... 20.0

**Required Support Courses**

- BBA-131: Introduction to Business
- BEC-151: Principles of Macroeconomics
- BEC-152: Principles of Microeconomics
- BLW-253: Business Law and the Legal Environment
- CIS-100: Introduction to Information Technology
- MATH-115: College Algebra or higher numbered MATH course\*
- SPC-131: Fundamentals of Speaking

Minimum Credit Hours: ..... 25.0

\*The following courses may not be used to fulfill the requirement: MATH 121, MATH 221, and MATH 225.

**Elective Courses**

Take elective credits to meet the minimum number of credit hours needed to receive an associates degree.

Minimum Credit Hours: ..... 6.0

**Minimum Number Of Credits To Graduate**

60.0 (Including Options/Electives)

**Program Requirements**

**Requirements are Subject to Change**

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

**Transfer Information**

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, counseling@hfcc.edu, Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Davenport University
- Eastern Michigan University
- Lawrence Technological University
- Siena Heights University
- University of Detroit Mercy
- University of Michigan - Dearborn
- Walsh College
- Wayne State University

# Administrative and Information Management

Associate in Business



## Administrative and Information Management

Associate in Business

Program Code: ADMIS.AB

## Contact

Business and Computer Technology Division • (313) 845-9804 • business@hfcc.edu • Technology Bldg • Room: T-211

Diana Baran • (313) 317-1583 • dbaran@hfcc.edu • Liberal Arts • Room: L-303

## Program Information

### Description

Provides highly sought after credentials needed by administrative professionals in today's competitive work environment. The mastery of information management, the advancements in computer technology, and the need for support of all business units within an organization have transformed the office setting. The AIM program opens a career path for students interested in the administrative/management-support field and provides individuals already in the profession with the opportunity to upgrade their skills.

While working toward the AIM degree, students may choose to earn certificates in Computer Software Applications, Office Administration or Office Skills Fundamentals. After earning 12 credits, students whose declared major is AIM are eligible to apply for the Frederick P. and Violet Sharpe Scholarship. Students should call the Foundation Office at (313) 845-9620 for more information.

## Learning Outcomes

- Compose effective written communication for a business environment
- Demonstrate effective non-verbal and verbal communication skills for a business environment
- Employ effective organizational skills in a business environment
- Practice proper business etiquette and business protocol
- Employ effective problem-solving skills
- Employ effective supervisory skills
- Work effectively in teams with diverse populations
- Use word-processing software at an advanced level for Microsoft Office
- Use spreadsheet software at an advanced level for Microsoft Office
- Use database software at an advanced level for Microsoft Office
- Use presentation software at an advanced level for Microsoft Office
- Perform financial recordkeeping

Identify, locate, evaluate, and effectively use information to solve problems

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: The following course is required in this program and satisfies this General Education Outcome for this program. Students who change their program will need to confirm in advance that they are completing all required courses for their specific program of study, including additional General Education courses:

CIS-100: Introduction to Information Technology

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Administrative and Information Management

Associate in Business

## Degree-Specific Requirements

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Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

### Required Core Courses

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- BAC-110: Practical Accounting
- BBA-110: Business Language Skills
- BBA-131: Introduction to Business
- BBA-133: Business Behavior and Communication
- BBA-231: Business Office Communications
- BBA-235: Office Administration Practicum
- BCA-125: Introduction to the Internet and Web Pages
- BCA-143: Word Processing
- BCA-145: Spreadsheets
- BCA-147: Database Applications
- BCA-152: Presentation Software
- MGT-230: Principles of Management
- MGT-231: Supervision and Teambuilding
- MGT-240: Creative Problem Solving
- Complete one of the following courses:
- BCO-190: Co-op in Business Or
- BCO-290: Co-op in Business

Minimum Credit Hours: ..... 48.0

### Required Support Courses

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- SPC-131: Fundamentals of Speaking

Complete one of the following courses:

- BMA-110: Business Math Or
- MATH-115: College Algebra or higher level MATH course.\*

Minimum Credit Hours: ..... 6.0

\*The following courses do not meet the requirements for this program: MATH 121, MATH 221, and MATH 225.

### Elective Courses

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Minimum Credit Hours: ..... 0.0

### Minimum Number Of Credits To Graduate

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63.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

### Career Opportunities

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Graduates of the AIM program will be prepared for career opportunities such as executive assistant, administrative assistant, office manager, office supervisor, and administrative professional.

# Advanced Machine Tool Technology / CNC Certificate

Certificate of Achievement



## Advanced Machine Tool Technology / CNC Certificate

Certificate of Achievement

Program Code: CNCAD.CA

### Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Guy Pizzino • (313) 845-6331 • gpizzino@hfcc.edu • Technology Bldg • Room: T-117B

### Program Information

#### Description

Provides students with the opportunity to improve and build on their current skills and knowledge of CNC. Students enrolled in the program will receive training on the latest equipment used in the modern business environment, and will develop substantial skills in the use and application of CNC equipment. The attainment of the Advanced CNC Certificate in Manufacturing Productivity Systems offers evidence to employers that the individual has reached an advanced level of proficiency.

## Degree Specific Requirements

### Required Core Courses

- MTT-100: Machine Tool Processes I
- MTT-130: Quality Control Gaging and Inspection
- MTT-140: Introduction to CNC
- MTT-145: CNC Operations
- MTT-146: Introduction to Machine Tool Probing
- MTT-147: Basic Macro Programming for CNC
- MTT-148: Advanced CNC Probing
- MTT-150: Statistical Process Control (SPC) In Manufacturing
- MTT-275: Advanced CNC Operations

Minimum Credit Hours: ..... 24.0

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

24.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Career Opportunities

The courses required for this certificate are all accepted towards an associate degree to improve a student's employability. The certificate can be used as a building block toward an Associate's Degree in Science. Individuals who are already employed may find that the certificate increases the opportunity for promotion.

# Advanced Pathways

## Certificate of Achievement

### Advanced Pathways

Certificate of Achievement

Program Code: ADPATH.O01.CTAE...

### Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Joseph Skupin • jskupin@hfcc.edu • Room: J-172

### Program Information

#### Description

Develops the basic foundation skills necessary to pass employer-delivered selection tests and prepare students for employment in skilled trades.

#### Admission Requirements / Eligibility

Satisfactory scores on Reading and Math Course Placement are required for entry into this program.

### Degree Specific Requirements

#### Required Core Courses

- TAMA-110: Industrial Applications of Basic Mathematical Principles
- TAFD-115: Computer Applications for the Skilled Trades
- TAFD-150: Applied Technology
- TADV-100: Basic Print Reading
- TAMA-120: Industrial Applications of Algebraic Principles
- TAFD-120: Industrial Safety Awareness
- TADV-060: Basic Skills for the Skilled Trades

Minimum Credit Hours: ..... 18.0

#### Required Support Courses

#### Elective Courses

#### Minimum Number Of Credits To Graduate

18.0 (Including Options/Electives)

### Program Requirements

#### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.



# Anthropology

Area of Study



## Anthropology

Area of Study

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

## Program Information

### Description

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Anthropology is the study of humankind - its origins, evolution, and diverse cultures. ANTH 131 serves as the basic introduction to the world of anthropology. Although it is recommended that students take this course before those at a higher level, it is not required. Many students, especially

science majors, prefer to take ANTH 152 directly, thereby fulfilling an important foreign culture requirement at many four-year institutions. ANTH 153 is an introduction to archaeology class. All anthropology courses are transferable. Anthropology courses at the 100-level or above fulfill the graduation requirement for Associate of Arts degrees, Social Sciences.

## Degree Specific Requirements

### Required Core Courses

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ANTH-131: Introduction to Anthropology  
ANTH-152: Middle Eastern Peoples and Cultures  
ANTH-152: Middle Eastern Peoples and Cultures

### Required Support Courses

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### Elective Courses

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## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Arab Cultural Studies

Associate in Arts

## Arab Cultural Studies

Associate in Arts

Program Code: ARABCULTURALAA

## Contact

Communications Division • (313) 845-9624 • english@hfcc.edu • Liberal Arts • Room: L-201

Michael Daher • (313) 845-6457 • mdaher@hfcc.edu • Liberal Arts • Room: L-243

## Program Information

### Description

Provides students with a rigorous academic foundation on which to continue advanced study at major colleges and universities specializing in Arabic language, literature and cultures. The comprehensive curriculum not only offers the opportunity to develop specific skills, as in translation and foreign language, but also cultivates an informed perspective essential to the practice of public diplomacy within local, national and international contexts. This program takes a multi-disciplinary approach to the study of Arabic, Arab Americans and Middle Eastern cultures.

## Learning Outcomes

- Demonstrate a capacity to communicate orally and in writing in Arabic
- Compare and contrast ethical principles and religious ceremonies within Muslim and Christian traditions
- Identify the geographical boundaries and features of the Arab world
- Describe the cultural achievements of the Arab world
- Identify major historical eras in the Arab world
- Evaluate the causes and consequences of political conflicts in the Arab world

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Arab Cultural Studies

Associate in Arts



## Degree-Specific Requirements

Complete one course from the Wellness Group:

- COUN-114: Stress Management - A Personal Approach
- HPE-140: Lifetime Wellness
- HPE-142: Advanced First Aid
- HPE-153: Nutrition
- HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher
- HPEA-117: Strength Training and Physical Conditioning / HPEA-217: Strength Training and Physical Conditioning II
- HPEA-126: Aerobic Dance
- HPEA-155: Relaxation Techniques for Stress Management

Complete 8 Humanities credits from courses in:

Art, Dance, English (except ENG-131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 8 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 8 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

- ANTH-152: Middle Eastern Peoples and Cultures
- ARA-131: Elementary Arabic I
- ARA-132: Elementary Arabic II
- ART-224: Art of Islam
- HIST-112: Medieval-Early Modern World History
- HIST-225: The Modern Middle East
- WR-232: Western Religions: Judaism, Christianity, and Islam
- ENG-131: Introduction to College Writing
- ENG-132: College Writing and Research

Minimum Credit Hours: .....29.0

## Required Support Courses

Complete one of the following courses:

- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology

Minimum Credit Hours: .....3.0

## Elective Courses

These courses are suggestions for electives:

- ANTH-131: Introduction to Anthropology
- ARA-231: Second-Year Arabic III
- ARA-232: Second-Year Arabic IV
- GEOG-132: World Regional Geography
- POLS-200: Introduction to Peace and Conflict Studies
- SCI-131: Revolutions in Science
- SWC-131: Science in Western Culture
- WR-131: Religious Traditions in the World
- ART-221: Medieval Art
- ART-227: History of Arab Art and Architecture

Minimum Credit Hours: .....18.0

Complete as many electives credits as necessary to meet the minimum number of credit hours to receive your associate degree.

## Minimum Number Of Credits To Graduate

60.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Michigan State University
- University of Michigan - Ann Arbor
- University of Michigan - Dearborn
- Wayne State University

# Arab Cultural Studies

Associate in Arts

## Career Opportunities

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Some occupations of Bachelors and Graduate-level Arab Culture majors are:

- Teacher
- Journalist
- Translator
- Researcher
- Community Organizer
- Attorney
- Homeland Security Professional
- Foreign Service Officer

Students may wish to transfer to out-state universities to continue their studies of Arab Culture at institutions such as:

- New York University, New York, NY
- Georgetown University, Washington, D.C.
- University of Chicago, Chicago, IL
- University of Utah, Salt Lake City, UT

# Architecture/Construction Technology

Associate in Applied Science

## Architecture/Construction Technology

Associate in Applied Science

Program Code: ARCON.AAS...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Chad Richert • (313) 317-1515 • crichert@hfcc.edu • Technology Bldg • Room: T-115C

## Program Information

### Description

Teaches architectural CAD/drafting and building construction methods and materials. This includes both residential and commercial building types. Laboratory classes provide students with experience in the areas of residential and commercial construction materials, computer-aided drafting and design, cost estimating, construction methods, presentation techniques, residential construction practices and use of surveying equipment. Students learn the principles and skills of the architectural profession supported by an understanding of building construction through “hands-on” activities designed to provide students with a practical “skill-based” education.

## Learning Outcomes

Demonstrate employability skills (attendance, written communication, verbal communication, teamwork) in the fields of Architecture and/or Construction

Demonstrate the professional practice of Architecture and Construction

Prepare a series of commercial construction documents utilizing current industry software and accepted architectural standards and techniques

Prepare a series of residential construction documents utilizing current industry software and accepted architectural standards and techniques

Develop a series of design presentation drawings utilizing traditional and computerized techniques

Select the appropriate construction materials and systems in residential and commercial projects

Demonstrate knowledge of sustainable materials and energy efficient systems in residential and commercial projects

Apply basic construction methods and procedures as they relate to a residential construction project

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements.

Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

# Architecture/Construction Technology

## Associate in Applied Science

### Required Core Courses

ACT-101: Fundamentals of Architecture  
 ACT-116: Basic Architectural CAD  
 ACT-124: Construction Systems 1  
 ACT-128: Visual Communications 1  
 ACT-136: Intermediate Architectural CAD  
 ACT-150: Residential Detailing  
 ACT-175: Environmental Building Systems  
 ACT-211: Commercial Construction Systems  
 ACT-222: Sustainable Residential Design  
 ACT-224: Construction Systems 2  
 ACT-233: Commercial Detailing  
 ACT-246: Construction Estimating  
 ACT-260: Commercial Design Development

Complete one of the following courses:

ACT-190: Co-op in Architecture Construction Technology  
 ACT-290: Co-op in Architecture Construction Technology

Complete one of the following courses:

ACT-104: Community Construction Applications  
 ACT-108: Deconstruction  
 ACT-109: Residential Energy Efficiency and Sustainability  
 ACT-205: Advanced Architectural CAD  
 ACT-228: Visual Communications 2

Minimum Credit Hours: ..... 52.0

### Required Support Courses

Complete one of the following MATH courses:

MATH-103: Technical Mathematics  
 MATH-112: Trigonometry  
 MATH-115: College Algebra

Minimum Credit Hours: ..... 3.0

### Elective Courses

Minimum Credit Hours: ..... 2.0

Complete as many electives credits as necessary to meet the minimum number of credit hours to receive your associate degree.

### Minimum Number Of Credits To Graduate

66.0 (Including Options/Electives)

### Program Requirements

#### Additional Program Requirements

Students seeking an ACT associate degree are required to participate in Co-op for at least one semester. This experience has proven to be invaluable as students “try on” the career they’ve chosen and earn while they learn. Pay rates generally are compatible with entry-level positions (Average 2008 rate = approx \$11.44/hour) and a high percentage of students are asked to continue their employment after their initial Co-op semester.

#### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor’s degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, counseling@hfcc.edu, Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Eastern Michigan University
- Ferris State University
- Lawrence Technological University
- University of Detroit Mercy
- University of Michigan - Ann Arbor

### Career Opportunities

- Appraiser
- Architectural CAD Technician
- Architectural Illustrator
- Building and Construction Technician
- Building Code Inspector
- Building Materials Sales Rep
- Builder
- Construction Estimator
- Civil Engineer Tech
- Facilities Management Technician
- Materials Testing Lab Technician
- Structural Steel Detailer

# Art Foundations

Associate in Arts

## Art Foundations

Associate in Arts

Program Code: ARTFD.AA...

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Martin Anderson • (313) 845-6488 • mander@hfcc.edu • Fine Arts Bldg • Room: F-131

## Program Information

### Description

Offers a wide selection of courses for those interested in exploring introductory aspects of the fine arts, such as drawing, photography, painting, 3-D design, and ceramics. Students receiving an Art Foundation degree must participate in an on campus student exhibition.

### Learning Outcomes

Communicate aesthetic concepts in a variety of media employing fundamental techniques, color theory, shading and texture

Describe and demonstrate artistic visual communication skills conveying aesthetic concepts through perspective drawing and sketching employing various rendering techniques and media

Create 3-D sculptural forms using an assortment of materials employing quality craftsmanship skills and the elements and principles of design

Illustrate through visual compositions (including portraits) fundamental figurative drawing skills and visualization methods, synthesizing gesture, line, value, proportion and movement of the human anatomy through direct observation in an assortment of media

Identify basic style changes within specific time periods, and discuss their impact and relationship to civilization. Discuss how techniques were developed using art concepts and the impact of major historical, cultural, political, philosophical, social and economic events had upon significant artistic movements from Pre-historic Art through the 21st Century

Analyze, present and critique student original work and existing works employing the appropriate art/design vocabulary of compositional theory and the principles and elements of design

Demonstrate standard art methodologies and processes in the creation of art objects through mixing clay, pinching porcelain, low and high fire pottery glazing and pottery wheel basics

Demonstrate standard art methodologies and processes in the creation of art objects through mixing paint, appropriate use of drawing bench, canvas prep and stretching and palette materials and organization

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Art Foundations

Associate in Arts

## Degree-Specific Requirements

Complete one course from the Wellness Group:

- COUN-114: Stress Management - A Personal Approach
- HPE-140: Lifetime Wellness
- HPE-142: Advanced First Aid
- HPE-153: Nutrition
- HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher
- HPEA-117: Strength Training and Physical Conditioning / HPEA-217: Strength Training and Physical Conditioning II
- HPEA-126: Aerobic Dance
- HPEA-155: Relaxation Techniques for Stress Management

Complete 8 Humanities credits from courses in:

- Art, Dance, English (except ENG-131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 8 Science and Mathematics credits from courses in:

- Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 8 Social Science credits from courses in:

- Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

- ART-101: Two-Dimensional Design
- ART-102: Drawing I
- ART-105: Three-Dimensional Design
- ART-112: Drawing II
- ART-113: Life Drawing I
- ART-116: Painting I
- ART-121 : Art History Survey I (Ancient to Medieval)
- ART-122: Art History Survey II
- ART-141: Ceramics I
- Complete 9 credit hours of ART electives.\*

Minimum Credit Hours: ..... 36.0

\*Art elective courses include: Life Drawing, Art History, Ceramics, Graphic Design, Interior Design, Painting, Digital Photography, and 3-D Design. Students should consult with the full time art faculty for assistance in selecting these classes.

## Required Support Courses

### Elective Courses

Minimum Credit Hours: ..... 0.0

### Minimum Number Of Credits To Graduate

60.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, counseling@hfcc.edu, Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Wayne State University
- Eastern Michigan University
- University of Michigan - Dearborn
- College for Creative Studies



# Astronomy

Area of Study



## Astronomy

Area of Study

## Contact

Math and Science Division • (313) 845-9631 • math@hfcc.edu • Health Careers Education Ctr • Room: H-122

Michael LoPresto • (313) 845-9722 • lopresto@hfcc.edu • Bldg ID Retired 12/23/2014 • Room: S-106B

## Program Information

### Description

HFC offers three courses in astronomy: ASTR 131, ASTR 133, and ASTR 231. ASTR 131 and ASTR 133 are ideal for the student with little or no prior scientific or mathematical experience who wishes to explore astronomy or science in general, as well as for students preparing to be secondary school science teachers. They also provide a good introductory survey for students planning advanced study of astronomy. ASTR 231 serves as a more in-depth introduction to astronomy and can be used as a general education alternative to ASTR 131. ASTR 133 can be taken as the lab-component for either ASTR 131 or ASTR 231. Students interested in majoring in astronomy at a four-year school should take ASTR 231, as well as PHYS 231 and PHYS 232.

## Degree Specific Requirements

### Required Core Courses

ASTR-131: Descriptive Astronomy  
ASTR-133: Introductory Astronomy Laboratory  
ASTR-231: General Astronomy

### Required Support Courses

### Elective Courses

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Automotive Service (ASSET)

Associate in Applied Science

## Automotive Service (ASSET)

Associate in Applied Science

Program Code: ASSET.AAS...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Kristopher Young • (313) 845-6324 • ksyoung@hfcc.edu • Technology Bldg • Room: T-162C

## Program Information

### Description

Prepare individuals for service and repair positions in automobile dealerships and independent garages. Program courses provide students with the job competencies and skills required for entry-level employment. In addition to completing core, support, and General Education credits, students are required to participate in cooperative education at local automobile repair facilities.

## Learning Outcomes

Develop knowledge of the career opportunities in the Automotive Service Industry

Develop the requisite entry level skills and knowledge for employment in the Automotive Service industry

Demonstrate the utilization of safety hazards standards/precautions as associated with the Automotive Service industry, and develop and demonstrate the necessary skills to work safely in auto labs and service shop environments

Demonstrate the characteristics and standards of professionalism that contribute to an effective job performance in a manner that include behavior, appearance and punctuality

Demonstrate effective communication skills both in the written and verbal forms to communicate difficult and technical information to others, including fellow students, instructors and/or customers

Apply the learned theories of automotive technology to specific situations to reach conclusion resulting in the proper diagnosis and repair through the use of interpreted data, and previous experiences, and to identify root causes

Demonstrate the utilization of technology reflective to the task to effectively retrieve information to solve complex problems through critical analysis to ensuring adequate preparations for the advancements that take place in the Automotive Service industry

## Accreditation

The Automotive Service (ASSET) program is fully certified by the National Institute for Automotive

Service Excellence (ASE), the National Automotive Technicians Education Foundation (NATEF)

Board and is fully accredited in all Ford Motor Company STST credentialing areas. NATEF, 101

Blue Seal Drive, S.E., Suite 101, Leesburg, VA 20175. Phone: 703-669-6650, www.natef.org.

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

# Automotive Service (ASSET)

Associate in Applied Science



Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

## Required Core Courses

- AUTO-102: Related Technical Automotive
- AUTO-105: Internal Combustion Engines
- AUTO-108: Basic Automotive Electricity
- AUTO-110: Automotive Electrical Systems
- AUTO-120: Automotive Fuel Management Systems
- AUTO-131: Automotive Ignition Systems
- AUTO-132: Computer Ignition Systems
- AUTO-140: Automotive Transmissions Systems
- AUTO-142: Electronically Controlled Transmission/Transaxles
- AUTO-145: Manual Transmissions and Transaxles
- AUTO-150: Automotive Diagnosis and Engine Evaluation
- AUTO-160: Automotive Chassis Units
- AUTO-162: Antilock Brake Systems
- AUTO-165: Electronic Steering and Suspension
- AUTO-191: Automotive Service Co-op
- AUTO-192: Automotive Service Co-op
- AUTO-224: Automotive Air Conditioning
- AUTO-231: Diesel Engine Performance and Diagnosis
- AUTO-237: Computerized Engine/Vehicle Emission Control
- AUTO-291: Automotive Service Co-op
- AUTO-292: Automotive Service Co-op

Minimum Credit Hours: ..... 54.0

## Required Support Courses

- AUSV-135: Shop Mathematics
- CIS-100: Introduction to Information Technology
- ENG-131: Introduction to College Writing
- ENG-135: Business and Technical Writing and Research
- MGT-231: Supervision and Teambuilding
- POLS-131: Introduction to American Government and Political Science

Minimum Credit Hours: ..... 17.0

## Elective Courses

## Minimum Number Of Credits To Graduate

71.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Davenport University
- Eastern Michigan University
- Ferris State University
- Lawrence Technological University
- Siena Heights University
- University of Michigan - Dearborn

## Career Opportunities

- Service Technician
- Service Manager

# Automotive Service Management – Business Concentration

Associate in Business

## Automotive Service Management — Business Concentration

Associate in Business

Program Code: AUTOSERVMGMT.AB

### Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Corinne Asher • (313) 845-9867 • casher@hfcc.edu • Liberal Arts •  
Room: L-325

### Program Information

#### Description

Provides students with a solid background for a career in the automotive service field. Covers both management skills and automotive service knowledge including effective communication with customers, co-workers, and service technicians; and technologies used in modern automobiles. Students may elect to earn either an Associate in Applied Science degree or an Associate in Business degree.

#### Learning Outcomes

- Interpret basic financial statements
- Apply management theory to effectively supervise the human resources of an organization
- Evaluate management decisions given an organization's relationship to the external business environment
- Creatively solve common problems in managing an organization
- Demonstrate effective non-verbal and verbal communication skills for a business environment
- Demonstrate effective written communication for a business environment
- Employ computer applications to perform business activities
- Develop the requisite entry level skills and knowledge for employment in the automotive Service industry
- Demonstrate the utilization of safety hazards standards/precautions as associated with the Automotive service industry and develop and demonstrate the necessary skills to work safely in auto labs and service shop environments
- Demonstrate the characteristics and standards of professionalism that contribute to an effective job performance in a manner that include behavior, appearance and punctuality
- Demonstrate effective communication skills both in the written and verbal forms to communicate difficult and technical information to others, including fellow students, instructors and/or customers

#### Accreditation

The Automotive Technology program is certified by the National Institute for Automotive Service

Excellence (ASE) and the National Automotive Technicians Education Foundation (NATEF) Board.

#### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

#### General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

# Automotive Service Management – Business Concentration

Associate in Business



Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

### Required Core Courses

- BBA-131: Introduction to Business
- BBA-133: Business Behavior and Communication
- BBA-153: Customer Service
- CIS-100: Introduction to Information Technology
- BMA-110: Business Math
- MGT-230: Principles of Management
- MGT-231: Supervision and Teambuilding
- MGT-240: Creative Problem Solving
- BCO-190: Co-op in Business
- Complete one of the following courses:
  - BAC-110: Practical Accounting Or
  - BAC-131: Introduction to Financial Accounting

Minimum Credit Hours: ..... 30.0

### Required Support Courses

- AUTO-101: Automotive Fundamentals
- AUTO-105: Internal Combustion Engines
- AUTO-110: Automotive Electrical Systems
- AUTO-120: Automotive Fuel Management Systems
- AUTO-131: Automotive Ignition Systems
- AUTO-140: Automotive Transmissions Systems
- AUTO-150: Automotive Diagnosis and Engine Evaluation
- AUTO-160: Automotive Chassis Units
- AUTO-225: Automotive Air Conditioning
- AUTO-230: Automotive Diesel Principles
- AUTO-190: Co-op in Automotive Technology

Minimum Credit Hours: ..... 26.0

### Elective Courses

Minimum Credit Hours: ..... 0.0

### Minimum Number Of Credits To Graduate

65.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

### Career Opportunities

Graduates may find employment as service managers of automotive dealerships, managers of aftermarket automotive repair and parts chain stores, assistant service managers, service advisors, service writers, or service consultants.

# Automotive Service Management — Technical Concentration

Associate in Applied Science

## Automotive Service Management — Technical Concentration

Associate in Applied Science

Program Code: AUTOSERV MGM.AAS...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

David Tillman • (313) 845-6424 • dstillman@hfcc.edu • Technology Bldg • Room: T-162M

## Program Information

### Description

Focuses on skills and knowledge necessary for success in automotive service management, including effective communication with customers, co-workers, and service technicians and a strong understanding of the technologies used in modern automobiles. The Automotive Service Industry is a growing enterprise with many variations on the service business theme. These businesses require management personnel who possess both strong automotive service knowledge and strong business management skills. Students may elect, by the selection of specific courses, either the Associate in Applied Science degree or the Associate in Business degree. Students may choose to take automotive classes, business classes, or both simultaneously.

## Learning Outcomes

Develop the requisite entry level skills and knowledge for employment in the automotive Service industry

Demonstrate the utilization of safety hazards standards/precautions as associated with the Automotive service industry and develop and demonstrate the necessary skills to work safely in auto labs and service shop environments

Demonstrate the characteristics and standards of professionalism that contribute to an effective job performance in a manner that include behavior, appearance and punctuality

Demonstrate effective communication skills both in the written and verbal forms to communicate difficult and technical information to others, including fellow students, instructors and/or customers

Apply management theory to effectively supervise the human resources of an organization

Evaluate management decisions given an organization's relationship to the external business environment

Creatively solve common problems in managing an organization

Employ computer applications to perform business activities

## Accreditation

The Automotive Technology program is certified by the National Institute for Automotive Service

Excellence (ASE) and the National Automotive Technicians Education Foundation (NATEF) Board.

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

# Automotive Service Management — Technical Concentration

Associate in Applied Science



## General Education Requirements

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Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

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Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

### Required Core Courses

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- AUTO-101: Automotive Fundamentals
- AUTO-105: Internal Combustion Engines
- AUTO-110: Automotive Electrical Systems
- AUTO-120: Automotive Fuel Management Systems
- AUTO-131: Automotive Ignition Systems
- AUTO-140: Automotive Transmissions Systems
- AUTO-150: Automotive Diagnosis and Engine Evaluation
- AUTO-160: Automotive Chassis Units
- AUTO-225: Automotive Air Conditioning
- AUTO-230: Automotive Diesel Principles
- AUTO-260: Alternative Automotive Propulsion Systems
- AUTO-190: Co-op in Automotive Technology

Minimum Credit Hours: .....26.0

### Required Support Courses

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- BBA-131: Introduction to Business
- BBA-133: Business Behavior and Communication
- BBA-153: Customer Service
- BMA-110: Business Math
- CIS-100: Introduction to Information Technology
- MGT-230: Principles of Management
- MGT-231: Supervision and Teambuilding
- BCO-190: Co-op in Business
- Complete one of the following courses:
- BAC-110: Practical Accounting
- BAC-131: Introduction to Financial Accounting

Minimum Credit Hours: .....27.0

### Elective Courses

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### Minimum Number Of Credits To Graduate

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65.0 (Including Options/Electives)

# Automotive Service Management — Technical Concentration

Associate in Applied Science

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Davenport University
- Eastern Michigan University
- Ferris State University
- Lawrence Technological University
- Siena Heights University
- University of Michigan - Dearborn

### Career Opportunities

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Graduates may find employment as service managers of automotive dealerships or as managers of aftermarket automotive repair and parts chain stores. Graduates will also have the practical and technical skills necessary to secure positions as an assistant service manager, service advisor, service writer, or service consultant.

- Diagnostic Technician
- Dynamometer Technician
- Parts Manager
- Product Test Technician
- Service Manager
- Service Technician



# Automotive Technology

Associate in Applied Science



## Automotive Technology

Associate in Applied Science

Program Code: AUTOT.AAS...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

David Tillman • (313) 845-6424 • dstillman@hfcc.edu • Technology Bldg • Room: T-162M

## Program Information

### Description

Provides an in-depth study of the multiple systems found on today's vehicles, including electrical, fuel, ignition, power, and drivetrain. This program is designed to provide a thorough exposure to the technical aspects of the automobile, and to develop manual and critical thinking skills related to diagnostics, servicing, and testing. Courses provide a broad mechanics background enabling the individual to qualify for employment in numerous fields in the automotive technology related industries.

Laboratory classes within this degree provide students with hands-on and demonstrated experience to strengthen their understanding of the theory learned in classroom study. The laboratories are equipped with some of the latest equipment being used to service modern automobiles. Included in laboratories are representative types of engines, chassis, transmissions, rear axles, and testing equipment being used today.

## Learning Outcomes

Develop knowledge of the career opportunities in the automotive Service Industry

Develop the requisite entry level skills and knowledge for employment in the automotive Service industry

Demonstrate the utilization of safety hazards standards/precautions as associated with the Automotive service industry and develop and demonstrate the necessary skills to work safely in auto labs and service shop environments

Demonstrate the characteristics and standards of professionalism that contribute to an effective job performance in a manner that include behavior, appearance and punctuality

Demonstrate effective communication skills both in the written and verbal forms to communicate difficult and technical information to others, including fellow students, instructors and/or customers

Apply the learned theories of automotive technology to specific situations to reach conclusion resulting in the proper diagnosis and repair through the use of interpreted data, previous experiences and to identify root causes

Demonstrate the utilization of technology reflective to the task to effectively retrieve information to solve complex problems through critical analysis to ensuring adequate preparations for the advancements that take place in the automotive technology industry

## Accreditation

The Automotive Technology program is certified by the National Institute for Automotive Service

Excellence (ASE) and the National Automotive Technicians Education Foundation (NATEF) Board.

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

# Automotive Technology

Associate in Applied Science

## General Education Requirements

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Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

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Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

## Required Core Courses

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- AUTO-101: Automotive Fundamentals
  - AUTO-105: Internal Combustion Engines
  - AUTO-110: Automotive Electrical Systems
  - AUTO-120: Automotive Fuel Management Systems
  - AUTO-131: Automotive Ignition Systems
  - AUTO-140: Automotive Transmissions Systems
  - AUTO-150: Automotive Diagnosis and Engine Evaluation
  - AUTO-160: Automotive Chassis Units
  - AUTO-215: Automotive Engine Dynamometer
  - AUTO-225: Automotive Air Conditioning
  - AUTO-230: Automotive Diesel Principles
  - AUTO-260: Alternative Automotive Propulsion Systems
- Complete one of the following courses:
- AUTO-293: Automotive Technology-Service Experience Laboratory I
  - AUTO-294: Automotive Technology-Service Experience Laboratory II

## Required Support Courses

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- AUTO-142: Electronically Controlled Transmission/Transaxles

Complete 10.0 credit hours from the following courses

- MATH-100: Basic Technical Mathematics
- MATH-103: Technical Mathematics
- MATH-110: Intermediate Algebra
- MATH-112: Trigonometry
- MATH-175: Precalculus
- PHYS-120: Technical Physics I
- PHYS-121: Technical Physics II
- PHYS-131: General Physics I
- PHYS-132: General Physics II

Complete one of the following courses

- POLS-131: Introduction to American Government and Political Science Or
- SSC-131: Survey of the Social Sciences

Complete the following courses

- CIS-100: Introduction to Information Technology or passing score on the Computer Literacy Exam
- ENG-131: Introduction to College Writing
- ENG-135: Business and Technical Writing and Research

# Automotive Technology

Associate in Applied Science

## Elective Courses

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Complete 14.0 credit hours from the following courses

- AUTO-142: Electronically Controlled Transmission/Transaxles
- AUTO-145: Manual Transmissions and Transaxles
- AUTO-162: Antilock Brake Systems
- AUTO-165: Electronic Steering and Suspension
- AUTO-167: Brake Clinic
- AUTO-181: Technical Automotive Welding
- AUTO-187: Automotive Engine Tune-up
- AUTO-190: Co-op in Automotive Technology
- AUTO-217: Automotive Alignment Clinic
- AUTO-227: Automotive Air Conditioning Clinic
- AUTO-231: Diesel Engine Performance and Diagnosis
- AUTO-237: Computerized Engine/Vehicle Emission Control
- AUTO-247: Automotive Emission Controls
- AUTO-267: Small Engines
- AUTO-287: Advanced Automotive Tune-up
- AUTO-290: Co-op in Automotive Technology

## Minimum Number Of Credits To Graduate

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69.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Davenport University
- Eastern Michigan University
- Lawrence Technological University
- Siena Heights University
- University of Michigan - Dearborn
- Wayne State University

## Career Opportunities

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- Diagnostic Technician
- Dynamometer Technician
- Parts Manager
- Product Test Technician
- Service Manager
- Service Technician

# Automotive Technology

Certificate of Achievement

## Automotive Technology

Certificate of Achievement

Program Code: AUTOT.CMLT...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

David Tillman • (313) 845-6424 • dstillman@hfcc.edu • Technology Bldg • Room: T-162M

## Program Information

### Description

Teaches the various systems found on today's vehicles, including electrical, fuel, ignition, power, and drive train. Courses within this program provide a broad background qualifying the individual for employment in numerous fields allied to the automobile industry and provides actual experience to strengthen understanding of the theory learned in the classroom. Laboratory classrooms are equipped with some of the latest equipment being used to service modern automobiles, including representative types of engines, chassis, transmissions, rear axles, and considerable testing equipment being used today. This program can be completed individually or applied to the associate degree in Automotive Technology. Because the Certificate of Achievement transfers into the two-year degree program, it is highly recommended that students complete certificate requirements prior to degree requirements.

### Accreditation

The Automotive Technology program is certified by the National Institute for Automotive Service

Excellence (ASE) and the National Automotive Technicians Education Foundation (NATEF) Board.

## Degree Specific Requirements

### Required Core Courses

AUTO-101: Automotive Fundamentals  
AUTO-105: Internal Combustion Engines  
AUTO-110: Automotive Electrical Systems  
AUTO-120: Automotive Fuel Management Systems  
AUTO-131: Automotive Ignition Systems  
AUTO-140: Automotive Transmissions Systems  
AUTO-142: Electronically Controlled Transmission/Transaxles  
AUTO-150: Automotive Diagnosis and Engine Evaluation  
AUTO-160: Automotive Chassis Units  
AUTO-167: Brake Clinic  
AUTO-181: Technical Automotive Welding  
AUTO-187: Automotive Engine Tune-up  
AUTO-215: Automotive Engine Dynamometer  
AUTO-217: Automotive Alignment Clinic  
AUTO-225: Automotive Air Conditioning  
AUTO-227: Automotive Air Conditioning Clinic  
AUTO-230: Automotive Diesel Principles  
AUTO-237: Computerized Engine/Vehicle Emission Control  
AUTO-287: Advanced Automotive Tune-up

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

44.0 (Including Options/Electives)

# Automotive Technology

## Certificate of Achievement

### Program Requirements

#### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

Davenport University  
Eastern Michigan University  
Lawrence Technological University  
Siena Heights University  
University of Michigan - Dearborn  
Wayne State University

#### Career Opportunities

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- Dynamometer Technician
- Parts Manager
- Product Test Technician
- Service Manager
- Service Technician

# Automotive Technology — Auto Air Conditioning, Brakes, Alignment

Certificate of Achievement

## Automotive Technology — Auto Air Conditioning, Brakes, Alignment

Certificate of Achievement

Program Code: AUTOACBRAL.CSGL...

### Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

David Tillman • (313) 845-6424 • dstillman@hfcc.edu • Technology Bldg • Room: T-162M

### Program Information

#### Description

Upon successful completion of the required courses, the student will, upon application, receive a Certificate of Achievement. These courses can be applied to the Associate in Applied Science degree in Automotive Technology. Mini-Certificates of Achievement/Automotive Technology

#### Accreditation

The Automotive Technology program is certified by the National Institute for Automotive Service

Excellence (ASE) and the National Automotive Technicians Education Foundation (NATEF) Board.

## Degree Specific Requirements

### Required Core Courses

AUTO-167: Brake Clinic  
AUTO-217: Automotive Alignment Clinic  
AUTO-227: Automotive Air Conditioning Clinic

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

6.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Automotive Technology — Dynamometer Technician

Certificate of Achievement



## Automotive Technology — Dynamometer Technician

Certificate of Achievement

Program Code: DYNATECH.CMLT...

### Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

David Tillman • (313) 845-6424 • dstillman@hfcc.edu • Technology Bldg • Room: T-162M

### Program Information

#### Description

Provides students with knowledge and experience to achieve job entry level skills in those courses relating directly to the set-up, operation, and data acquisition system commonly employed in automotive chassis and engine dynamometers. Because the Certificate of Achievement transfers into the two-year degree program, it is highly recommended that students complete certificate requirements prior to degree requirements.

#### Accreditation

The Automotive Technology program is certified by the National Institute for Automotive Service

Excellence (ASE) and the National Automotive Technicians Education Foundation (NATEF) Board.

## Degree Specific Requirements

### Required Core Courses

- AUTO-105: Internal Combustion Engines
- AUTO-110: Automotive Electrical Systems
- AUTO-120: Automotive Fuel Management Systems
- AUTO-131: Automotive Ignition Systems
- AUTO-150: Automotive Diagnosis and Engine Evaluation
- AUTO-187: Automotive Engine Tune-up
- AUTO-215: Automotive Engine Dynamometer
- AUTO-230: Automotive Diesel Principles
- AUTO-237: Computerized Engine/Vehicle Emission Control

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

20.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

Lawrence Technological University  
Wayne State University

### Career Opportunities

- Data Evaluation Specialist
- Dynamometer Technician
- Engineering Technician
- Test Driver

# Baking and Pastry

## Certificate of Achievement

### Baking and Pastry

Certificate of Achievement

Program Code: CULBK.CMLT...

### Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Eric Gackenbach • (313) 317-1572 • epgackenbach@hfcc.edu • Bldg  
ID Retired 12/23/2014 • Room: C-163E

### Program Information

#### Description

Let your creativity shine while learning the various facets of the baking and pastry fields.

Courses in the Baking and Pastry Certificate Program may be applied toward an Associate in Applied Science Degree in Culinary Arts and/or an Associate in Applied Science Degree in Hotel/Restaurant Management.

#### Accreditation

The Associate in Applied Science in Culinary Arts at HFCC is fully accredited by the Accrediting Commission of the American Culinary Federation Educational Foundation.

#### Admission Requirements / Eligibility

A score of 43 or above on the ASSET reading test, or 82 or above on the COMPASS test, or satisfactory completion of ENG 081.

### Degree Specific Requirements

#### Required Core Courses

HOSP-105: Applied Food Service Sanitation  
HOSP-121: Introduction to Baking and Cooking \*  
HOSP-124: Introduction to Professional Cooking - Lab \*  
HOSP-125: Introduction to Professional Baking - Lab \*  
HOSP-140: Advanced Food Preparation  
HOSP-231: Advanced Baking and Pastry  
HOSP-245: Hotel and Restaurant Desserts  
HOSP-255: Professional Cake Decorating

\*HOSP 121 (2 Cr Hrs), HOSP 124 (3 Cr Hrs), and HOSP 125 (3 Cr Hrs) must be taken concurrently.

Official chef's uniform required to be purchased prior to beginning class for culinary lab courses. Visit the Hospitality Department in C-163 in the Culinary Arts & Student Center building, or online at <https://culinary.hfcc.edu/> for uniform ordering information.

#### Required Support Courses

#### Elective Courses

#### Minimum Number Of Credits To Graduate

30.0 (Including Options/Electives)

### Program Requirements

#### Additional Program Requirements

Chef's uniform required for culinary lab courses.

#### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.



# Basic Machine Tool Technology / CNC Certificate

Certificate of Achievement



## Basic Machine Tool Technology / CNC Certificate

Certificate of Achievement

Program Code: CNCBA.CA

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Guy Pizzino • (313) 845-6331 • gpizzino@hfcc.edu • Technology Bldg • Room: T-117B

## Program Information

### Description

Provides students with the opportunity to obtain basic Computer Numerical Control (CNC) knowledge and skills. Students enrolled in the program will receive training on the latest equipment used in the modern business environment, and will develop basic skills in the use and application of CNC equipment. The attainment of the Basic CNC Certificate in Manufacturing Productivity Systems offers evidence to employers that the individual has reached the basic level of proficiency.

## Degree Specific Requirements

### Required Core Courses

- MTT-100: Machine Tool Processes I
- MTT-130: Quality Control Gaging and Inspection
- MTT-140: Introduction to CNC
- MTT-145: CNC Operations
- MTT-146: Introduction to Machine Tool Probing
- MTT-147: Basic Macro Programming for CNC
- MTT-148: Advanced CNC Probing

Minimum Credit Hours: ..... 17.0

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

16.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Career Opportunities

The courses required for this certificate are all accepted towards an associate degree to improve a student's employability. The certificate can be used as a building block toward an Associate in Applied Science degree. Individuals who are already employed may find that the certificate increases the opportunity for promotion.

# Biology — Pre-Professional

Associate in Science

## Biology — Pre-Professional

Associate in Science

Program Code: BIOLG.AS..

## Contact

Math and Science Division • (313) 845-9631 • math@hfcc.edu •  
Health Careers Education Ctr • Room: H-122

Linda Brandt • (313) 845-9729 • lbrandt@hfcc.edu • Bldg ID Retired  
12/23/2014 • Room: S-114J

## Program Information

### Description

Prepares students to transfer to a 4-year institution to complete a bachelor's degree in the life sciences. It was designed in collaboration with several university biology departments to ensure maximum transferability into the various programs they offer.

## Learning Outcomes

- Design and carry out a scientific experiment/ investigation
- Practice safe laboratory techniques
- Interpret figures displaying biological concepts
- Create and interpret graphs using real data, including outliers, and relating the graphs to the original questions and hypotheses
- Differentiate between patterns of data showing correlation versus cause and effect
- Convey scientific explanations using proper written and verbal English
- Compare and contrast scientific processes with opinion and belief systems
- Demonstrate a knowledge base in chemistry
- Apply biological and chemical concepts and principles in the analysis of complex biological processes
- Describe processes vital to the maintenance of life ranging from cells and individual organisms to ecosystems and the biosphere

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Biology — Pre-Professional

Associate in Science



## Degree-Specific Requirements

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Complete 6 Humanities credits from courses in:

Art, Dance, English (except ENG 131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 24 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 6 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

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BIO-150: Biology: Organisms, Genes, and Ecology

BIO-152: Cells and Molecular Biology

CHEM-141: Principles of General and Inorganic Chemistry I

CHEM-142: Principles of General and Inorganic Chemistry II

Complete 10 credit hours from the following courses:

BIO-130: Evolution and Behavior

BIO-131: Introduction to Biology

BIO-138: Environmental Science Lecture

BIO-139: Environmental Science Laboratory

BIO-143: Zoology

BIO-233: Anatomy and Physiology I

BIO-234: Anatomy and Physiology II

BIO-251: Microbiology

CHEM-241: Organic Chemistry I

CHEM-242: Organic Chemistry II

CHEM-243: Microscale Organic Chemistry Laboratory I

CHEM-244: Microscale Organic Chemistry Laboratory II

MATH-153: Calculus for Business, Life Science, and Social Sciences

MATH-175: Precalculus

MATH-180: Calculus I

PHYS-131: General Physics I

PHYS-132: General Physics II

PHYS-231: Engineering Physics I

PHYS-232: Engineering Physics II

Minimum Credit Hours: ..... 28.0

## Required Support Courses

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ENG-131: Introduction to College Writing

Minimum Credit Hours: ..... 6.0

## Elective Courses

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Minimum Credit Hours: ..... 14.0

Complete as many electives credits as necessary to meet the minimum number of credit hours to receive your associate degree.

## Minimum Number Of Credits To Graduate

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60.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

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Students must consult with a Pre-Professional Biology advisor to plan an appropriate course of study for the area of biological sciences and the college or university to which they intend to transfer.

Courses numbered below 100 will not count toward the minimum 60 hours required for graduation with an Associate in Science in Pre-Professional Biology.

The minimum requirement for earning the AS in Pre-Professional Biology is 60 credit hours. However, most universities and colleges will accept additional coursework from HFC and apply it toward BS degree requirements. We encourage students to take advantage of this and to complete as many courses as they can transfer at HFC.

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Biology — Pre-Professional

Associate in Science

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

University of Michigan - Ann Arbor

University of Michigan - Dearborn

Wayne State University

## Career Opportunities

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This degree is designed for students who want to enter careers in areas such as:

Human Health and Medicine

Genetic Counseling

Forensic Biology

Veterinary Medicine

Biotechnology

Genetic Engineering

Marine Biology

Natural Resources and Conservation

Microbiology

Secondary Education

# Biotechnology

## Associate in Applied Science

### Biotechnology

Associate in Applied Science

Program Code: BIOTECH.AAS...

### Contact

Math and Science Division • (313) 845-9631 • math@hfcc.edu •  
Health Careers Education Ctr • Room: H-122

Jolie Stepaniak • (313) 845-9646 • jastepaniak@hfcc.edu • Bldg ID  
Retired 12/23/2014 • Room: S-114C

### Program Information

#### Description

An intensive program which prepares students for positions as biotechnology technicians in molecular biology-based industries and institutions. Coursework integrates authentic work-based experiences, training in modern instrumentation and new technologies, and rigorous scientific content.

#### Learning Outcomes

- Perform the functions of entry-level biotechnology technicians in molecular biology laboratories
- Demonstrate proficiency with current standard biotechnology laboratory techniques
- Demonstrate proficiency in preparing, dispensing, and appropriately labelling laboratory solutions/reagents, and in maintaining solution/reagent integrity
- Demonstrate proficiency in using, calibrating, and maintaining standard laboratory equipment; perform method validation
- Perform basic laboratory measurements, calculations, and statistical analyses of data
- Demonstrate the appropriate use of computers for data acquisition, analysis, reporting, recordkeeping, communication, and instrument control
- Follow, analyze, and revise laboratory protocols and standard operating procedures (SOPs)
- Communicate professionally both orally and in writing
- Demonstrate biotechnology laboratory workplace skills, including safety skills, scientific accountability and ethical behavior, appropriate workplace behavior
- Demonstrate appropriate use of standard forms of laboratory documentation
- Solve problems in biotechnology by determining the appropriate application of standard biotechnology techniques and equipment
- Apply the scientific method to the design and execution of experiments and the analysis and interpretation of experimental data

#### Admission Requirements / Eligibility

Students must apply for entry into the Associate in Applied Science degree program in Biotechnology. Applications to the program are available in the Science Office (S-115). All of the following prerequisites must be completed at the time the application is submitted:

1. College transcripts with an overall grade point average (GPA) of 2.5 or higher (with a minimum of 16 credits).
2. Math Proficiency - Completion of Math 141 (or equivalent) with a grade of C or better.
3. English Proficiency - Completion of ENG 131 (or equivalent) with a grade of C or better.
4. Chemistry prerequisite - Completion of CHEM 141 (or equivalent) with a grade of C or better.
5. Biology prerequisite - Completion of BIO 152 (or equivalent) with a grade of C or better.

Contact the Program Director for more information. Admission to the Biotechnology program is not required for enrollment in any biotechnology core course except BIO 263.

Students are required to pass a Drug Screen prior to beginning the internship experience (BIO 263). The cost for this test is in addition to the basic tuition and fee schedule. For questions regarding this policy, contract the Program Director.

#### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

**General Education Requirements**

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Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome:

Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and Research and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and Research and ENG-135: Business and Technical Writing and Research

**Degree-Specific Requirements**

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Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

**Required Core Courses**

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- BIO-152: Cells and Molecular Biology
- BIO-251: Microbiology
- BIO-261: Nucleic Acids
- BIO-262: Proteins
- BIO-263: Biotechnology Internship
- CHEM-141: Principles of General and Inorganic Chemistry I
- CHEM-151: Chemical Instrumentation and Laboratory Techniques
- SCI-160: Science Laboratory Workplace Skills

Minimum Credit Hours: ..... 31.0

**Required Support Courses**

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- BCA-140: Software Applications
- MATH-141: Introduction to Statistics
- PHIL-137: Topics in Philosophy Topics: Science, Technology, and Society

Minimum Credit Hours: ..... 10.0

**Elective Courses**

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These courses are suggestions for electives:

- CHEM-142: Principles of General and Inorganic Chemistry II
- CHEM-241: Organic Chemistry I
- CRJ-234: Criminalistics: Criminal Investigation Laboratory Techniques
- PHYS-133: Principles of Physics

Minimum Credit Hours: ..... 10.0

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree.

**Minimum Number Of Credits To Graduate**

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60.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Occupational Exposure / Risk

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Applicants considering a career in biotechnology should be aware that, during their course of study and in subsequent employment in the field, they may work in situations where exposure to infectious agents is possible. Proper education and strict adherence to well established infection-control guidelines can reduce the risk to a minimum.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

### Career Opportunities

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Students who have earned an associate's degree or certificate in Biotechnology can obtain an entry-level job as a Biotechnology Technician in an:

- Industrial laboratory (e.g., Pharmaceutical company)
- Forensic laboratory (e.g., Police crime laboratory)
- Research laboratory (e.g., University research laboratory)
- Government laboratory (e.g., USDA laboratory)

This is not a medical technology program, and so is not designed to prepare students to work in clinical laboratories.

Biotechnology is a growing field, so the number of positions available for Biotechnology Technicians is expected to increase. Starting salary for students completing an associate degree is estimated to be \$12-14/hour (based on information from regional biotech employers).

## Biotechnology

Certificate of Achievement

Program Code: BIOTECH.CA

## Contact

Math and Science Division • (313) 845-9631 • math@hfcc.edu •  
Health Careers Education Ctr • Room: H-122

Jolie Stepaniak • (313) 845-9646 • jastepaniak@hfcc.edu • Bldg ID  
Retired 12/23/2014 • Room: S-114C

## Program Information

### Description

Trains students for positions as biotechnology technicians in the region's molecular biology-based industries and institutions in an intensive one-year program. Henry Ford College's Biotechnology program is unique in that its curriculum is a direct outgrowth of the technical and workplace competencies identified by Southeastern Michigan's biotechnology employers for technicians.

HFC's Biotechnology program integrates authentic work-based experiences, training in modern instrumentation and new technologies, and rigorous science content to produce adaptable technicians that support the changing workplace. Although this program centers on skills identified by regional

biotechnology employers, the skills gained by students in this program will prepare them for employment in biotechnology-based industries in other regions of the country and the world. Additionally, skills gained by students in this program will prepare them for advanced training in biotechnology-related fields.

The Biotechnology Certificate will be offered only to students who already possess an associate's degree (or higher) and who seek specific coursework to prepare for jobs in biotechnology-related industries and institutions.

### Admission Requirements / Eligibility

Students must apply for entry into the Advanced Skills Certificate program in Biotechnology. Applications to the program are available in the Science Office (S-115). All of the following prerequisites must be completed at the time the application is submitted:

1. College transcripts with conference of an associates degree or higher with an overall grade point average (GPA) of 2.5 or higher.
2. English Proficiency - Completion of ENG 131 (or equivalent) with a grade of C or better.
3. Chemistry prerequisite - Completion of CHEM 141 (or equivalent) with a grade of C or better.
4. Biology prerequisite - Completion of BIO 152 (or equivalent) with a grade of C or better.

Contact the Program Director for more information.

### Degree Specific Requirements

#### Required Core Courses

- BIO-251: Microbiology
- BIO-261: Nucleic Acids
- BIO-262: Proteins
- CHEM-151: Chemical Instrumentation and Laboratory Techniques
- SCI-160: Science Laboratory Workplace Skills

#### Required Support Courses

#### Elective Courses

#### Minimum Number Of Credits To Graduate

21.0 (Including Options/Electives)



# Biotechnology

## Certificate of Achievement

### Program Requirements

#### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Other Information

#### Occupational Exposure / Risk

---

Applicants considering a career in Biotechnology should be aware that, during their course of study and in subsequent employment in the field, they may work in situations where exposure to infectious agents is possible. Proper education and strict adherence to well established infection-control guidelines can reduce the risk to a minimum.

#### Career Opportunities

---

Students who have earned an associate's degree or certificate in Biotechnology can obtain an entry-level job as a Biotechnology Technician in:

- Industry (e.g., Pharmaceutical company)
- Forensics (e.g., Police crime laboratory)
- Research and development (e.g., University research laboratory)
- Government (e.g., USDA laboratory)

This is not a medical technology program, and so is not designed to prepare students to work in clinical laboratories.

Biotechnology is a growing field, so the number of positions available for Biotechnology Technicians is expected to increase. Starting salary for students completing a Biotechnology Certificate is estimated to be \$12-14/hour (based on information from regional biotech employers).

# Bookkeeping

Certificate of Achievement

## Bookkeeping

Certificate of Achievement

Program Code: BOOK.CA

## Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Patricia Little • (313) 317-1723 • plittle@hfcc.edu • Technology Bldg  
• Room: T-211H

## Program Information

### Description

Prepare students to work as a bookkeeper in a small- to medium-sized business. Students are trained to use a double-entry accounting system to perform basic accounting functions such as journalizing and posting business transactions; preparing adjusting entries, a ten-column worksheet, and basic financial statements; journalizing and posting adjusting entries, and posting the closing trial balance. Students are trained in computerized accounting software (QuickBooks or Peachtree) and in the Microsoft Office Suite, with advanced training in Microsoft Excel (spreadsheet software). Courses in business math applications, written business communication, and business office protocol are also part of the program.

This certificate program prepares students to take a series of exams administered by the American Institute of Professional Bookkeepers (AIPB) to become an AIPB Certified Bookkeeper. Students desiring this designation must make arrangements with the AIPB to take the exams.

## Degree Specific Requirements

### Required Core Courses

BAC-110: Practical Accounting  
BAC-112: Bookkeeping  
BBA-133: Business Behavior and Communication  
BBA-110: Business Language Skills  
BBA-231: Business Office Communications  
CIS-100: Introduction to Information Technology  
BCA-145: Spreadsheets  
BMA-110: Business Math  
Complete one of the following courses:  
BAC-141: Computerized Accounting—Quickbooks Or  
BAC-146: Computerized Accounting—Peachtree

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

28.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Building Construction Trades

Associate in Applied Science



## Building Construction Trades

Associate in Applied Science

Program Code: BLDCT.AAS...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Joseph Skupin • jskupin@hfcc.edu • Room: J-172

## Program Information

### Description

Designed for building and construction trades journey-persons who have completed a formal apprenticeship program registered with the Bureau of Apprenticeship and Training, U.S. Department of Labor or a bona-fide program recognized by HFC. Formal classroom-related instruction associated with the sponsored apprenticeship program will be evaluated and up to 40 hours of college credit may be granted for equivalent courses available through the College. Students seeking the degree must then complete an additional 20 credits at HFC including the general education requirements of the College. One typical area of concentration taken by students is Construction Management.

### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

### General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

### Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

### Required Core Courses

Complete a minimum of 40 credit hours of Core and General Education Courses - see note below.\*

\*Coursework is selected by the student based on his or her personal or career goals and the result of academic assessment tests, transcript evaluations, and career planning session with the TAE apprentice coordinator. It is also suggested that students seek the recommendation of a sponsoring Trade Council.

### Required Support Courses

COUN-120: Career Exploration

### Elective Courses

### Minimum Number Of Credits To Graduate

60.0 (Including Options/Electives)

# Building Construction Trades

Associate in Applied Science

## Program Requirements

### Additional Program Requirements

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Evidence of successful completion of the apprenticeship program and documentation of the related instruction, including individual course title, course descriptions, number of contact hours earned for each course, dates of completion for each course, and grade earned (if applicable) must be presented. Approval by a designee of the Trade and Apprenticeship Education Department is required.

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

### Career Opportunities

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- Carpenter
- Masonry Technician
- Construction Supervision
- General Contractor
- Plumber
- Construction Estimator
- Residential and Commercial Electrician

# Business Administration

Associate in Business

## Business Administration

Associate in Business

Program Code: BUSAD.AB

## Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Jared Boyd • (313) 845-9697 • jpboyd@hfcc.edu • Liberal Arts •  
Room: L-329

## Program Information

### Description

An associate's degree in Business Administration provides students with fundamental knowledge in business studies. This program is designed to afford students with the ability to transfer to specific four-year bachelor degree programs with the maximum number of credits possible. The core courses in the Business Administration program consist of courses that are often required by four-year institutions to enter their business programs.

## Learning Outcomes

Explain how activities involved in operating a business connect with one another

Analyze financial conditions utilizing principles of accounting  
Develop Business Strategies

Analyze how economic forces and government policies affect business alternatives as well as social outcomes

Evaluate business decisions based on their legal consequences

Evaluate the opportunities and threats resulting from current business trends

Model appropriate and effective verbal and nonverbal communication with employers, employees, team members, business partners, and customers

Apply algebraic concepts to solve business related problems and conduct business research

Employ computer software application programs such as word processing, spreadsheets, and data base to perform ordinary business activities

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Business Administration

Associate in Business

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

### Required Core Courses

- BBA-131: Introduction to Business
- BAC-131: Introduction to Financial Accounting
- BAC-132: Introduction to Managerial Accounting
- CIS-100: Introduction to Information Technology
- BEC-151: Principles of Macroeconomics
- BEC-152: Principles of Microeconomics
- BLW-253: Business Law and the Legal Environment

Minimum Credit Hours: .....25.0

### Required Support Courses

- SPC-131: Fundamentals of Speaking
- MATH-115: College Algebra or higher level MATH course.\*

Minimum Credit Hours: .....8.0

\*These courses may not be used to meet the requirements for this program: MATH 121, MATH 221, and MATH 225.

### Elective Courses

Take elective credits to meet the minimum number of credit hours needed to receive an associates degree.

Minimum Credit Hours: .....18.0

### Minimum Number Of Credits To Graduate

60.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Davenport University
- Eastern Michigan University
- Northwood University
- University of Detroit Mercy
- University of Michigan - Dearborn
- Walsh College
- Wayne State University

# CAD - CAM Technician

Associate in Applied Science

## CAD - CAM Technician

Associate in Applied Science

Program Code: CADCAMTECH.AAS...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Roger Weekes • (313) 317-1582 • rweekes@hfcc.edu • Technology Bldg • Room: T-164B

## Program Information

### Description

This program offers the opportunity to develop the skills in both Computer Aided Design and Computer-Aided Manufacturing/CNC. This multi-disciplinary program between Drafting/CAD and Machine Tool Technology departments is based in both CAD and CNC technologies. Together these areas help students develop a foundation and experience that leads to better designed and manufactured products. Utilizing both disciplines, students will gain a deeper appreciation for the resources and complexities that exist in each area independently, and as they work together in industry. The skills and experience needed by entry level and experienced CAD-CAM Technicians can be developed and refined in this program.

## Learning Outcomes

- Utilized drafting principles to read and comprehend a part drawing
- Applied and layout dimensions on a part drawing for manufacturing
- Create a part design using 3D CAD software program
- Create orthographic views of a part design utilizing 3D CAD software program
- Create section views of a part
- Create complete complex parts on computer controlled machining centers
- Create complete complex parts on computer controlled turning centers
- Synthesize information using numerical control software to complete three-dimensional parts on computer controlled milling and turning centers

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education

Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

# CAD - CAM Technician

Associate in Applied Science

## Required Core Courses

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DRAF-120: Introduction to CAD  
 DRAF-123: Introduction to CATIA V5  
 DRAF-125: CATIA V5 Level II  
 DRAF-127: CATIA V5 Level III  
 DRAF-142: Industrial Detailing  
 DRAF-230: Jigs, Fixtures, and Tools  
 DRAF-260: Advanced CAD Applications Solid Modeling  
 MTT-100: Machine Tool Processes I  
 MTT-140: Introduction to CNC  
 MTT-145: CNC Operations  
 MTT-146: Introduction to Machine Tool Probing  
 MTT-147: Basic Macro Programming for CNC  
 MTT-148: Advanced CNC Probing  
 MTT-160: Computer Assisted N/C Programming  
 MTT-170: Advanced Computer Assisted N/C Programming

## Required Support Courses

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Complete one of the following MATH options:

MATH-100: Basic Technical Mathematics And  
 MATH-103: Technical Mathematics  
 OR  
 MATH-110: Intermediate Algebra And  
 MATH-112: Trigonometry  
 OR  
 MATH-175: Precalculus

Complete one of the following courses:

PHYS-120: Technical Physics I Or  
 PHYS-131: General Physics I

Complete the following course

ENG-131: Introduction to College Writing  
 Complete one of the following courses  
 ENG-132: College Writing and Research Or  
 ENG-135: Business and Technical Writing and Research

Complete one of the following courses

HIST-151: American History I Or  
 POLS-131: Introduction to American Government and Political  
 Science Or  
 SOC-131: Introduction to Sociology

## Complete the following course

CIS-100: Introduction to Information Technology

## Elective Courses

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## Minimum Number Of Credits To Graduate

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62.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Registry / Certification / Licensure Exam Information

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CATIA V5 Certification and Haas CNC Certification.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, counseling@hfcc.edu, Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Central Michigan University  
 Davenport University  
 Eastern Michigan University  
 Ferris State University  
 Lawrence Technological University  
 Siena Heights University  
 University of Michigan - Dearborn  
 Wayne State University

## Career Opportunities

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CAD Operator  
 Engineering Technician  
 CAD/CAM Technician  
 Designer  
 Drafter  
 Process Engineer  
 CNC Set-up Technician  
 CNC Operator  
 Sales & Service Technician  
 Quality Lab Technician



# CAD Technology - Industrial Drafting - SolidWorks

Certificate of Achievement



## CAD Technology - Industrial Drafting - SolidWorks

Certificate of Achievement

### Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Roger Weekes • (313) 317-1582 • rweekes@hfcc.edu • Technology Bldg • Room: T-164B

### Program Information

#### Description

Enables designers, engineers, and students with previous CAD background to become proficient in this powerful and versatile design software. Application modules will include Sketcher, Part, Drawing, and Assembly. SolidWorks software is used by automotive tier one and tier two suppliers, appliance and furniture manufacturers, consumer products manufacturers, and medical equipment manufacturers.

### Degree Specific Requirements

#### Required Core Courses

DRAF-122: SolidWorks Level I - Introduction  
DRAF-124: SolidWorks Level II - Advanced  
DRAF-126: SolidWorks Level III - Applications

#### Required Support Courses

#### Elective Courses

#### Minimum Number Of Credits To Graduate

6.0 (Including Options/Electives)

### Program Requirements

#### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

#### Career Opportunities

\*CAD Drafter  
\*Designer  
\*Detailer  
\*SolidWorks Designer

# CAD Technology - Industrial Drafting - UG NX

Certificate of Achievement

## CAD Technology - Industrial Drafting - UG NX

Certificate of Achievement

### Contact

Industrial Technology Division • (313) 845-9656 • [technology@hfcc.edu](mailto:technology@hfcc.edu) • Technology Bldg • Room: T-172

Roger Weekes • (313) 317-1582 • [rrweekes@hfcc.edu](mailto:rrweekes@hfcc.edu) • Technology Bldg • Room: T-164B

### Program Information

#### Description

Enables designers, engineers, and students with previous CAD background to become proficient in the use of the powerful and versatile UG NX design software, which is increasing in the automotive and aircraft industries. Coursework includes the most commonly used environments such as sketcher, part design, drafting, assembly, and surfacing. UG NX is Product Lifecycle Management (PLM) software.

## Degree Specific Requirements

### Required Core Courses

DRAF-131: UG NX Level I - Introduction  
DRAF-132: UG NX Level II - Intermediate  
DRAF-133: UG NX Level III - Advanced  
DRAF-134: UG NX Level IV - Applications

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

8.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Career Opportunities

\*CAD Drafter  
\*Designer  
\*Detailer  
\*UG NX Designer

# CAD Technology — Industrial Drafting

Associate in Applied Science

## CAD Technology — Industrial Drafting

Associate in Applied Science

Program Code: DFCAD.AAS...

### Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Roger Weekes • (313) 317-1582 • rweekes@hfcc.edu • Technology Bldg • Room: T-164B

### Program Information

#### Description

Provides experience with CAD programs and applications. Begins with manual drafting and progresses to CAD design, detailing, and problem solving. Includes exposure to a wide variety of drafting specialities such as: layout and detailing in product design, machine element drafting, fixture design, and die design. Utilizes current design software.

#### Learning Outcomes

Develop knowledge of career opportunities and demonstrate the requisite entry level CAD and Industrial Drafting skills for the Manufacturing Industry

Utilized drafting principles to read and comprehend a part drawing

Applied and layout dimensions on a part drawing for manufacturing

Create a part design using 3D CAD software program

Create orthographic views of a part design utilizing 3D CAD software program

Create section views of a part

Project an auxiliary view from an inclined surface

Apply sketching techniques to sketch objects orthographically and pictorially

#### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

#### General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

#### Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

# CAD Technology — Industrial Drafting

Associate in Applied Science

## Required Core Courses

- DRAF-110: Introduction to Industrial Drafting
- DRAF-120: Introduction to CAD
- DRAF-130: Technical Descriptive Geometry
- DRAF-142: Industrial Detailing
- DRAF-210: Die Design
- DRAF-220: Machine Element Drafting
- DRAF-230: Jigs, Fixtures, and Tools
- DRAF-240: Product Drawing
- DRAF-255: Advanced Techniques
- DRAF-260: Advanced CAD Applications Solid Modeling

Minimum Credit Hours: ..... 32.0

## Required Support Courses

- MTT-100: Machine Tool Processes I

Complete one of the following MATH Options:

- MATH-100: Basic Technical Mathematics and
- MATH-103: Technical Mathematics
- OR
- MATH-110: Intermediate Algebra and
- MATH-112: Trigonometry
- OR
- MATH-175: Precalculus
- OR
- MATH-180: Calculus I

Complete one of the following courses:

- PHYS-120: Technical Physics I
- PHYS-131: General Physics I

Minimum Credit Hours: ..... 15.0

## Elective Courses

Complete 6-8 credit hours from the following elective courses:

- DRAF-123: Introduction to CATIA V5
- DRAF-125: CATIA V5 Level II
- DRAF-127: CATIA V5 Level III
- CIS-100: Introduction to Information Technology
- ELEC-103: Basic Electricity
- ELEC-120: Basic Hydraulics
- ICO-191: Co-op in Industrial Technology

Minimum Credit Hours: ..... 6.0

## Minimum Number Of Credits To Graduate

62.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Central Michigan University
- Davenport University
- Eastern Michigan University
- Ferris State University
- Lawrence Technological University
- Siena Heights University
- University of Michigan - Dearborn
- Wayne State University

## Career Opportunities

- \*CAD Drafter
- \*CAD Manager
- \*Design Engineer
- \*Designer
- \*Detailer
- \*Mechanical Engineer
- \*SolidWorks Designer
- \*UGNX Designer

# CAD Technology — Industrial Drafting - CATIA

Certificate of Achievement



## CAD Technology — Industrial Drafting - CATIA

Certificate of Achievement

Program Code: CATIA.CSGL...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Roger Weekes • (313) 317-1582 • rweekes@hfcc.edu • Technology Bldg • Room: T-164B

## Program Information

### Description

Enable designers, engineers, and students with previous CAD background to become knowledgeable and proficient in this powerful and versatile software. CATIA V5 is increasing in the automotive and supplier industry. Classes will take you through some of the most commonly used Work Benches: Sketcher, Part, Drafting, Assembly, and Generative Shape Design (surfacing).

## Degree Specific Requirements

### Required Core Courses

DRAF-123: Introduction to CATIA V5  
DRAF-125: CATIA V5 Level II  
DRAF-127: CATIA V5 Level III

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

6.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Career Opportunities

\*CAD Drafter  
\*CATIA Designer  
\*Designer  
\*Design Engineer  
\*Detailer

## Ceramics

Associate in Arts

Program Code: CERAM.AA...

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Steven Glazer • (313) 845-6485 • sglazer@hfcc.edu • Fine Arts Bldg • Room: F-147

## Program Information

### Description

Offers a wide selection of courses for both the first-time potter and those interested in operating a home pottery studio. Includes design and production techniques, hand-building and wheel-construction methods, glaze making, ceramic sculpture, kiln firing, and kiln construction.

### Learning Outcomes

Create ceramic objects through clay manipulation using the following techniques: pinch, coil, slab, press molding, throwing, underglazing and glazing

Evaluate student's own personal style of working and select the preferred clay and glaze combinations, and firing temperatures, to achieve the desired aesthetic

Assess economics of setting up a ceramics studio and /or business including effective business practices, marketing and display of one's work, pricing and audience selection

Identify and contrast different clay types, glaze types and firing processes

Identify where one's work fits into the context of historical and contemporary ceramic trends

Utilize current art terminology

Evaluate your own work using the visual elements and principles of design

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Ceramics

Associate in Arts



## Degree-Specific Requirements

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Complete one course from the Wellness Group:

- COUN-114: Stress Management - A Personal Approach
- HPE-140: Lifetime Wellness
- HPE-142: Advanced First Aid
- HPE-153: Nutrition
- HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher
- HPEA-117: Strength Training and Physical Conditioning / HPEA-217: Strength Training and Physical Conditioning II
- HPEA-126: Aerobic Dance
- HPEA-155: Relaxation Techniques for Stress Management

Complete 8 Humanities credits from courses in:

Art, Dance, English (except ENG-131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 8 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 8 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

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- ART-101: Two-Dimensional Design
- ART-102: Drawing I
- ART-105: Three-Dimensional Design
- ART-112: Drawing II
- ART-116: Painting I
- ART-141: Ceramics 1
- ART-142: Ceramics 2
- ART 150: Introduction to Digital Photography
- ART-242: Ceramics 3

Complete 6 additional credit hours of ART courses. ART 2953 (3 credits) is recommended.

Minimum Credit Hours: ..... 33.0

## Required Support Courses

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- BBA-131: Introduction to Business

Minimum Credit Hours: ..... 4.0

## Elective Courses

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## Minimum Number Of Credits To Graduate

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61.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

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All students are required to participate in the graduating student exit exhibition prior to graduating.

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Wayne State University
- Eastern Michigan University

# Chemistry — Pre-Professional

Associate in Science

## Chemistry — Pre-Professional

Associate in Science

Program Code: CHEMS.AS...

## Contact

Math and Science Division • (313) 845-9631 • math@hfcc.edu •  
Health Careers Education Ctr • Room: H-122

Laura Yeakel • (313) 845-9721 • lyeakel@hfcc.edu • Bldg ID Retired  
12/23/2014 • Room: S-016E

## Program Information

### Description

Prepares students to transfer to a 4-year institution to pursue an American Chemical society approved chemistry major. It was designed in collaboration with several university chemistry departments to ensure maximum transferability into the various programs they offer.

## Learning Outcomes

Demonstrate basic knowledge of general chemistry and organic chemistry typified in the ACS Guidelines for Chemistry in Two Year College Programs (a document generated by the American Chemical Society)

Conduct an experiment: analyze and interpret results, orally or in written format, either individually or in a team setting while displaying courtesy and professionalism in behavior and attitude

Present experimental results, orally or in written format, either individually or in a team setting

Demonstrate proficiency in lab techniques including proper use and care of standard lab equipment

Demonstrate basic knowledge of safe and environmentally sound lab procedures

Discriminate between lab procedures with differing environmental/safety impacts to select the better

Evaluate chemical literature in both traditional library resources and electronic media

Design a chemical synthesis

Evaluate the cost effectiveness of a chemical synthesis

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research



# Chemistry — Pre-Professional

Associate in Science



## Degree-Specific Requirements

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Complete 6 Humanities credits from courses in:

Art, Dance, English (except ENG 131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 24 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 6 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

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CHEM-141: Principles of General and Inorganic Chemistry I

CHEM-142: Principles of General and Inorganic Chemistry II

CHEM-241: Organic Chemistry I

CHEM-242: Organic Chemistry II

CHEM-243: Microscale Organic Chemistry Laboratory I

Complete 25 credit hours from the following courses:

CHEM 244, MATH 180, MATH 183, MATH 280, PHYS 231, PHYS 232, BIO 152, and/or BIO 150.

Minimum Credit Hours: ..... 45.0

A student must see a chemistry department advisor before registering for CHEM 243.

## Required Support Courses

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ENG-131: Introduction to College Writing

ENG-132: College Writing and Research

Complete one of the following courses:

CRJ-131: Introduction to Law Enforcement and Criminal Justice

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

Minimum Credit Hours: ..... 9.0

## Elective Courses

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Students should select the majority of electives from the Required Core Course list above to maximize progress towards a bachelor's degree. Choose courses appropriate to your intended four-year institution. Consult transfer guides available in the University Transfer, Advising, and Career Counseling Center.

The study of a foreign language is often recommended for those intending to pursue a bachelor's degree in chemistry or at the graduate level. French or German are commonly suggested.

## Minimum Number Of Credits To Graduate

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63.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

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Students must consult with a Pre-Professional Chemistry advisor to plan an appropriate course of study for the college or university to which they intend to transfer.

No courses numbered below 100 will count toward the minimum hours required for the Associate in Science degree in Pre-Professional Chemistry. Many universities and colleges will accept additional coursework from HFC, above the minimum number of credits to graduate, towards their Bachelor of Science degree requirements. We encourage students to take advantage of this and to complete as many courses as they can transfer at HFCC.

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Chemistry — Pre-Professional

Associate in Science

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

University of Michigan - Dearborn

## Career Opportunities

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A degree in chemistry has been a route for students to enter satisfying careers in areas including (but not limited to):

- Professional Chemistry
- Human Health and Medicine
- Pharmacy and Pharmaceuticals
- Materials Science
- Environmental Science and Management
- Veterinary Medicine
- Education
- Forensic Science

# Child Development

Associate in Arts

## Child Development

Associate in Arts

Program Code: CHILD.AA...

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Tracie Varitek • (313) 845-6393 • tlvartitek@hfcc.edu • Learning Technology Center • Room: A-202

## Program Information

### Description

Designed for students seeking teacher certification with a concentration in Early Childhood Education. The program focuses on teaching young children, pre-kindergarten through grade 3. Students often continue studies at the university level; however, upon completion of the program students are eligible for work in various education and child care professions. Graduates wishing to pursue a bachelor's degree may transfer most if not all of the coursework toward that degree.

## Learning Outcomes

- Apply current educational theories and practices to a classroom setting
- Analyze children's literature for its use in the elementary or middle school classroom
- Apply knowledge of the physical, emotional, intellectual, and social development theories of the learner in a school setting
- Apply knowledge of the exceptionalities, learning environments, and laws as they relate to special education programs
- Develop lesson plans implementing educational software for grades P - 8
- Analyze elementary and middle school mathematics at the level necessary for teaching
- Construct scientific knowledge using inquiry-based techniques
- Follow appropriate health, physical education, nutrition, and safety practices for K-8 classrooms

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Child Development

Associate in Arts

## Degree-Specific Requirements

Complete one course from the Wellness Group:

- COUN-114: Stress Management - A Personal Approach
- HPE-140: Lifetime Wellness
- HPE-142: Advanced First Aid
- HPE-153: Nutrition
- HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher
- HPEA-117: Strength Training and Physical Conditioning / HPEA-217: Strength Training and Physical Conditioning II
- HPEA-126: Aerobic Dance
- HPEA-155: Relaxation Techniques for Stress Management

Complete 8 Humanities credits from courses in:

- Art, Dance, English (except ENG-131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 8 Science and Mathematics credits from courses in:

- Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 8 Social Science credits from courses in:

- Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

- CHD-201: Child Development: Introduction to Creative Child Care
- CHD-202: Child Development CDA Portfolio/Assessment Preparation
- EDU-201: Introduction to Education
- EDU-202: Introduction to Education Practicum
- CIS-221: Instructional Technology for Elementary Teachers
- ENG-246: Introduction to Children's Literature
- MATH-121: Mathematics for Elementary Teachers I
- MATH-221: Mathematics for Elementary Teachers II
- PSY-152: Child Psychology
- PSY-256: Educational Psychology

Minimum Credit Hours: .....28.0

## Required Support Courses

- ENG-131: Introduction to College Writing
- ENG-132: College Writing and Research
- HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher
- POLS-131: Introduction to American Government and Political Science
- PSY-131: Introductory Psychology

Minimum Credit Hours: .....15.0

## Elective Courses

Minimum Credit Hours: .....10.0

Complete as many electives credits as necessary to meet the minimum number of credit hours to receive your associate degree.

## Minimum Number Of Credits To Graduate

60.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

People working in child development centers must provide evidence of a current physical exam, current TB test, and a Department of Social Services (FIA) clearance.

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Child Development

Associate in Arts

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Davenport University
- University of Michigan - Dearborn
- Madonna University
- Eastern Michigan University
- Wayne State University
- Marygrove College

## Career Opportunities

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- Children's institution attendants
- School child care attendants
- Nursery school attendants, or child monitors in private homes.

# Child Development

## Certificate of Achievement

### Child Development

Certificate of Achievement

Program Code: CHILD.CMULT...

### Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Marlene White • (313) 845-6311 • mwhite34@hfcc.edu • Liberal Arts • Room: L-301A

### Program Information

#### Description

Provides students with the competencies needed for the Child Development Associate (CDA) credential. The CDA program was created by the Administration for Children, Youth, and Families to upgrade the quality of child care programs. Currently, the Council for Early Childhood Professional Recognition administers the CDA Credential. This credential is awarded to any individual who demonstrates proficiency in the Competency Goals set by the Council. The proficiency can be developed through coursework and regular work in a childcare setting. Students who wish to complete the Associate in Arts in Child Development may apply these credits toward the associate degree. However, CHD 201 and CHD 202 may not apply toward a Bachelor's degree in Elementary Education.

### Degree Specific Requirements

#### Required Core Courses

CHD-201: Child Development: Introduction to Creative Child Care

CHD-202: Child Development CDA Portfolio/Assessment Preparation

HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher

PSY-131: Introductory Psychology

PSY-152: Child Psychology

#### Required Support Courses

#### Elective Courses

#### Minimum Number Of Credits To Graduate

15.0 (Including Options/Electives)

### Program Requirements

#### Additional Program Requirements

People working in child development centers must provide evidence of a current physical exam, current TB test, and a Department of Social Services (FIA) clearance.

#### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Other Information

#### Registry / Certification / Licensure Exam Information

Information on the national Child Development Associate (CDA) certificate can be found at [www.cdacouncil.org](http://www.cdacouncil.org). The preparation for this credential is addressed in CHD 201 and CHD 202.

#### Career Opportunities

Completion of this program and successful completion of the CDA credentialing process would provide the credentials for working as a lead teacher or program director in some child development settings.

# Children and Families

Associate in Arts

## Children and Families

Associate in Arts

Program Code: CHILDFAM.AA...

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Marlene White • (313) 845-6311 • mwhite34@hfcc.edu • Liberal Arts • Room: L-301A

## Program Information

### Description

Designed for students who wish to complete an associate degree with the goal of working in early childhood settings such as home care and day care centers, Head Start, the Great Start Readiness Program (GSRP), and public school per-kindergarten programs. It may be used as a terminal degree or a degree transferable to universities with four-year programs in Children and Families.

HFC has an articulation agreement with Madonna University. Students completing the Associate in Arts in Children and Families degree may continue their studies at Madonna University with no loss of credit hours.

## Learning Outcomes

Analyze age appropriate children's literature for its use in early childhood classrooms

Apply knowledge and understanding of effective strategies, tools, and use of hardware for teaching in the early childhood classroom, through the appropriate uses of technology

Use developmental knowledge and skills in early childhood to create an environment that supports each child's health, physical, nutritional and safety needs

Use present knowledge of child development to create a safe, healthy, and developmentally appropriate learning environment that are culturally respectful and inclusive

Create environments that are supportive of the child's individual characteristics and developmental needs as supported by theoretical perspectives and current research

Apply knowledge about the importance and complex characteristics of children's families and communities

Create respectful, reciprocal relationships that support and empower families, and involve all families in their children's development and learning

Use systemic observations, documentation, and other effective assessment strategies in partnership with families and other professionals to positively influence children's development

Apply knowledge of children's social, emotional, physical and cognitive changes from birth-five to teaching

Analyze age appropriate children's literature for its use in the early childhood classroom with infants, toddlers and preschool children

Evaluate books for children birth-five for criteria such as color, pictures, words, language, bias, theme, storyline, racial stereotypes, and cultural diversity

Design and conduct investigations using appropriate scientific methods and techniques by developing critical thinking skills to generate answers to questions that can be investigated empirically

Explain proper protocol to be followed for maintaining safety in the classroom

Apply developmentally appropriate practices to teaching and learning

Apply ethical guidelines and professional standards related to early childhood practices

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

# Children and Families

Associate in Arts

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Complete one course from the Wellness Group:

- COUN-114: Stress Management - A Personal Approach
- HPE-140: Lifetime Wellness
- HPE-142: Advanced First Aid
- HPE-153: Nutrition
- HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher
- HPEA-117: Strength Training and Physical Conditioning / HPEA-217: Strength Training and Physical Conditioning II
- HPEA-126: Aerobic Dance
- HPEA-155: Relaxation Techniques for Stress Management

Complete 8 Humanities credits from courses in:

- Art, Dance, English (except ENG-131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 8 Science and Mathematics credits from courses in:

- Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 8 Social Science credits from courses in:

- Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

- CHD-201: Child Development: Introduction to Creative Child Care
- CHD-205: Infant/Toddler Care and Development
- CHD-231: Inquiry-Based Preschool Curriculum
- CHD-232: Observation and Assessment in Early Childhood Education
- CHD-233: Observation and Assessment in Early Childhood Education Practicum
- CHD-241: Developmentally-Appropriate Practices in Child Care Center Administration

Minimum Credit Hours: ..... 16.0

## Required Support Courses

- CIS-221: Instructional Technology for Elementary Teachers
- ENG-131: Introduction to College Writing
- ENG-132: College Writing and Research
- ENG-246: Introduction to Children's Literature
- HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher
- PSY-131: Introductory Psychology
- PSY-152: Child Psychology
- PSY-256: Educational Psychology

Complete one of the following courses:

- ART 121, ART 122, ART 123, ART 135, ART 224, HUM 101, MUS 130, MUS 132, MUS 133, MUS 232

Complete one of the following courses:

- ENG 231, ENG 232, ENG 233, ENG 235, ENG 236, ENG 237, ENG 239, ENG 241, ENG 243, ENG 248, WR 130, WR 131, WR 232, WR 233, and/or WR 240.

Complete one of the following

- HIST 151, POLS 131, and/or SOC 131.

Complete 8 credit hours from the following courses:

- MATH 121, SCI 210, SCI 212, SCI 213, ASTR 131, ASTR 131 and ASTR 133, BIO 130, BIO 131, BIO 138, BIO 139, BIO 141, BIO 143, BIO 150, BIO 152, BIO 233 and BIO 234, BIO 251, CHEM 131, CHEM 132, CHEM 141, CHEM 142, CHEM 241, CHEM 242, CHEM 243, CHEM 244, GEOL 131, PSCI 131, PSCI 133, PHYS 120, PHYS 121, PHYS 131, PHYS 132, and/or PHYS 133.

Minimum Credit Hours: ..... 41.0



# Children and Families

Associate in Arts



## Elective Courses

---

Minimum Credit Hours: ..... 3.0

Complete as many Electives credits as necessary to meet the minimum number of credit hours to receive your associate degree.

## Minimum Number Of Credits To Graduate

---

60.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

---

People working in child development centers must provide evidence of a current physical exam, current TB test, and a Department of Social Services (FIA) clearance. An ICHAT (Internet Criminal History Access Tool) may be required by some placement facilities.

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Registry / Certification / Licensure Exam Information

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Students completing 120 clock hours in CHD classes may apply for the CDA certificate through the Council for Professional Recognition.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Madonna University
- University of Michigan - Dearborn
- Wayne State University
- Eastern Michigan University

## Career Opportunities

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- Home group care professional
- Lead teacher
- Teacher assistant
- Program director
- In-home care provider/owner

# CNC (Computer Numerical Control)/ Manufacturing Productivity Systems

Associate in Applied Science

## CNC (Computer Numerical Control)/ Manufacturing Productivity Systems

Associate in Applied Science

Program Code: MFENG.AAS...

### Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

### Program Information

#### Description

Designed for students interested in adapting ideas to working models or generally refining an engineer's concepts. Through hands-on experience, the student acquires skills that are essential in industrial processes, blueprint reading, layout and inspection. Most students work part-time in their fields of endeavor while completing their degree requirements. All of these programs strongly emphasize the safe and skillful use of tool-room machines. Core courses are individualized to fit the student's personal goals.

### Learning Outcomes

Develop knowledge of career opportunities and demonstrate the requisite entry level machining and measurement skills for the Manufacturing Industry

Practice safe work habits in an industrial manufacturing environment

Create a basic or complex part on non-computerized industry standard machining and turning equipment

Create complete complex parts on computer controlled machining centers

Create complete complex parts on computer controlled turning centers

Utilize quality control concepts to identify root cause part discrepancies

Utilize appropriate technology to solve complex problems through critical analysis in the machining environment

Synthesize information using numerical control software to complete three-dimensional parts on computer controlled milling and turning centers

### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

### General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

### Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

# CNC (Computer Numerical Control)/ Manufacturing Productivity Systems

Associate in Applied Science



## Required Core Courses

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- MPS-100: Manufacturing Processes I
- MPS-110: Manufacturing Processes II
- MPS-120: Practical Problems in Machine Tools I
- MPS-125: Practical Problems in Machine Tools II
- MPS-130: Quality Control Gaging and Inspection
- MPS-140: Introduction to CNC
- MPS-145: CNC Operations
- MPS-150: Statistical Process Control in Manufacturing
- MPS-210: Non-Traditional Machining

Minimum Credit Hours: .....42.0

## Required Support Courses

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- DRAF-110: Introduction to Industrial Drafting
- PHYS-120: Technical Physics I

Complete 6 credit hours from the following courses:

- AUTO 101, DRAF 120, DRAF 130, ELEC 103, ELEC 106, ELEC 120 and/or MPS 160.

Complete one of the following MATH options:

- MATH-100: Basic Technical Mathematics And
- MATH-103: Technical Mathematics

OR

- MATH-103: Technical Mathematics And

- MATH-112: Trigonometry

OR

Complete one of the following MATH courses:

- MATH 175, MATH 180, MATH 183, MATH 280

Minimum Credit Hours: ..... 18.0

## Elective Courses

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### Minimum Number Of Credits To Graduate

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69.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Registry / Certification / Licensure Exam Information

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Optional HAAS Technical Education Council Level 1 and 2 Certification.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Davenport University
- Eastern Michigan University
- Ferris State University
- Lawrence Technological University
- Siena Heights University
- University of Michigan - Dearborn

## Career Opportunities

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- Automation and Control Technician
- Engineering Technician
- Quality Controller
- CNC Programmer
- Laboratory Technician
- CNC Set-Up Technician
- Tool Analyst
- Pre-production Planner
- Plastic R & D Technician
- Machine/Toolmaker
- Sales & Service Engineer
- Process Engineer
- Test Technician

# Community Leadership

Associate in Arts

## Community Leadership

Associate in Arts

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Kim Schopmeyer • (313) 845-6443 • kschop@hfcc.edu • Liberal Arts • Room: L-244

## Program Information

### Description

Prepares students interested in making a positive impact on individuals and society through meaningful work and careers in fields such as community and economic development, community organizing, and policy advocacy. Through this degree program, students learn the skills and develop their talents to become agents of positive, social change in various aspects of their careers and communities.

### Admission Requirements / Eligibility

Eligible for ENG 093

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

### General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

### Degree-Specific Requirements

Complete one course from the Wellness Group:

COUN-114: Stress Management - A Personal Approach

HPE-140: Lifetime Wellness

HPE-142: Advanced First Aid

HPE-153: Nutrition

HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher

HPEA-117: Strength Training and Physical Conditioning /

HPEA-217: Strength Training and Physical Conditioning II

HPEA-126: Aerobic Dance

HPEA-155: Relaxation Techniques for Stress Management

Complete 8 Humanities credits from courses in:

Art, Dance, English (except ENG-131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

# Community Leadership

Associate in Arts



Complete 8 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 8 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

POLS-101: American Government: Democratic Participation and Civic Engagement

POLS-155: State and Local Government

SOC-131: Introduction to Sociology

SOC-251: Ethnic and Racial Diversity in Society

Complete one of the following

POLS-100: Introduction to Community Leadership

SOC-100: Introduction to Community Leadership POLS-100 & SOC-100 are cross listed

Complete one of the following

POLS-102: Foundations of Community Leadership POLS-102 & SOC-102 are cross listed

SOC-102: Foundations of Community Leadership

Complete one of the following

POLS-295: Community Leadership Internship

SOC-295: Community Leadership Internship POLS-295 & SOC-295 are cross listed

Minimum Credit Hours: ..... 21.0

## Required Support Courses

BBA-133: Business Behavior and Communication

MGT-231: Supervision and Teambuilding

MGT-240: Creative Problem Solving

SPC-131: Fundamentals of Speaking

ENG-135: Business and Technical Writing and Research

Minimum Credit Hours: ..... 15.0

## Elective Courses

Minimum Credit Hours: ..... 6.0

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree.

## Minimum Number Of Credits To Graduate

60.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, counseling@hfcc.edu, Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

University of Michigan - Dearborn

## Career Opportunities

This program prepares students for careers in community organization and community development. In addition, the program provides a foundation for further study in social work, political science, urban and regional development, and urban planning.

# Computer Information Systems

Associate in Applied Science

## Computer Information Systems

Associate in Applied Science

Program Code: CISYS.AAS

## Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

David Maier • (313) 845-9890 • djmaier@hfcc.edu • Technology Bldg  
• Room: T-115A

## Program Information

### Description

Provides students with in-depth skills and knowledge in a broad range of IT disciplines including programming, database development, PC repair, networking, operating systems, security, web development, and system analysis and design. Courses in the CIS program include extensive hands-on laboratory work in current industry technology and software, such as PHP, MySQL, Oracle, .NET, Java and Mobile Application Development. The College is also a member of Microsoft's MSDN Academic Alliance Program which allows us to provide students with many of their development tools at an affordable cost.

## Learning Outcomes

Operate a personal computer and productivity software installed on it, including Microsoft Office, file management, the Internet/Web, e-mail, and input/output/storage devices

Explain the importance of personal responsibility and security in a technological world, including copyright laws, netiquette, ethics, privacy issues, and security threats

Design, create and manipulate with an enterprise database

Explain networking standards, protocols, transmission media, and hardware

Write computer programs using several programming languages, both procedural and object-oriented

Explain the client-server model of web development and develop client and server-side web pages

Interface with the Unix/Linux operating system, including the vi editor, file management, and shell scripting

Analyze, design and implement an information system

Create and deliver a professional team presentation

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: The following course is required in this program and satisfies this General Education Outcome for this program. Students who change their program will need to confirm in advance that they are completing all required courses for their specific program of study, including additional General Education courses:

CIS-100: Introduction to Information Technology

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Computer Information Systems

Associate in Applied Science



## Degree-Specific Requirements

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Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

### Required Core Courses

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- CIS-111: SQL for Database Development
- CIS-112: Introduction to Networking
- CIS-122: Web Internet Technologies
- CIS-125: Principles of Programming Logic
- CIS-129: Introduction to UNIX with Shell Scripting
- CIS-130: Visual Basic.Net Programming
- CIS-170: C Programming
- CIS-171: Java Programming
- CIS-220: Systems Analysis and Design
- Complete two of the following courses:
  - CIS-132: Active Server Pages.Net Programming Or
  - CIS-215: Advanced Visual Basic.Net Database Programming Or
  - CIS-222: Web Database Development with PHP Or
  - CIS-270: Oracle Database Administration Or
  - CIS-271: Advanced Java Or
  - CIS-230: C++ Programming Or
  - CIS-232: C# Programming

Complete 3 credit hours from any one or more of the following areas of study:

#### Web Development:

- CIS 121, CIS 123, CIS 126, CIS 172, CIS 211, CIS 222
- CIS 227, CIS 235.

#### Networking:

- CIS 105, CIS 109, CIS 113, CIS 114, CIS 124, CIS 157,
- CIS 158, CIS 212, CIS 229, CIS 295.

#### Programming and Databases:

- CIS 132, CIS 160, CIS 162, CIS 186, CIS 215, CIS 230,
- CIS 232, CIS 270, CIS 271, CIS 272, CIS 280, CIS 297, CIS 298,
- CIS 299

#### Job Experience Training:

- ICO-191: Co-op in Industrial Technology

Minimum Credit Hours: ..... 38.0

## Required Support Courses

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Complete one MATH course numbered 100 or above.

Minimum Credit Hours: ..... 4.0

The following courses do not meet the requirements for this program: MATH 101, MATH 104, MATH 121, MATH 127, MATH 221, and MATH 225. Students must complete a minimum of 4 credit hours of MATH.

## Elective Courses

---

Take elective credits to meet the minimum number of credit hours need to receive an associates degree.

Minimum Credit Hours: ..... 6.0

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree.

## Minimum Number Of Credits To Graduate

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60.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Davenport University
- Eastern Michigan University
- Ferris State University
- Franklin University
- Lawrence Technological University
- Madonna University
- Siena Heights University
- University of Detroit Mercy
- University of Michigan - Dearborn
- Walsh College
- Wayne State University

## Career Opportunities

ComputerWorld Magazine reports Information Technology (IT) job hiring's are on the rise for the third straight year with programming and application development jobs #1 with 61% of all IT managers surveyed reporting that they will hire in this area in the next twelve months. Source: [http://www.computerworld.com/s/article/358381/9\\_Hot\\_Skills\\_for\\_2012](http://www.computerworld.com/s/article/358381/9_Hot_Skills_for_2012).

Career Opportunities:

- Programmer
- Systems Analyst
- Application Developer
- Software Engineer
- Database Administrator
- Project Manager



# Computer Information Systems — Application Developer

Certificate of Achievement



## Computer Information Systems — Application Developer

Certificate of Achievement

Program Code: APPDEV.CA

### Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Anthony Conti • (313) 845-6355 • tconti@hfcc.edu • Technology  
Bldg • Room: T-162F

### Program Information

#### Description

Provides instruction and training in the highly marketable Information Technology (IT) area of Microsoft .NET application development. Application Developer certificate courses listed can be applied to an Associate in Applied Science within the Computer Information Systems Program. The College is a member of Microsoft's MSDN Academic Alliance Program which means that students can purchase the Visual Studio .NET Academic version for a very affordable price.

## Degree Specific Requirements

### Required Core Courses

CIS-111: SQL for Database Development  
CIS-130: Visual Basic.Net Programming  
CIS-132: Active Server Pages.Net Programming  
CIS-215: Advanced Visual Basic.Net Database Programming

Minimum Credit Hours: ..... 12.0

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

12.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Registry / Certification / Licensure Exam Information

Courses in the Application Developer certificate provide excellent preparation for the Microsoft Certified Technology Specialist (MSTS), Microsoft Certified Professional Developer (MSPD) and Microsoft Certified IT Professional (MCITP) industry certifications.

### Career Opportunities

- Application developer for a Visual Basic .NET application
- Application developer for an ASP.NET Internet application
- Database Administrator for SQL Server database

# Computer Information Systems — Information Assurance

Associate in Applied Science

## Computer Information Systems — Information Assurance

Associate in Applied Science

Program Code: INFOASSUR.AAS...

### Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Marrci Conner • (313) 845-4021 • mrconner2@hfcc.edu • Technolo-  
gy Bldg • Room: T-162J

### Program Information

#### Description

Prepares students for a career in the computer information systems information assurance field. As the world becomes more dependent on information technology, the security of information becomes critical. Henry Ford Community College is a member of the International Cyber-Security Education Consortium, and offers an interdisciplinary program leading to an Associate in Applied Science degree that emphasizes technical security, ethical conduct, legal and regulatory compliance, law enforcement and development of strategic security plans. Students complete an interdisciplinary core of study and can tailor electives to their career or transfer interest.

In April, 2006, the Information Assurance Courseware Evaluation (IACE) Review Committee of the National Security Agency's National Information Assurance Education and Training Program (NIETP) certified that Henry Ford Community College's Information Assurance courseware meets all of the elements of the Committee on National Security Systems (CNSS) National Training Standard for Information Systems Security (INFOSEC) Professionals NSTISSI-4011.

### Learning Outcomes

Operate a personal computer and productivity software installed on it, including Microsoft Office, file management, the Internet/Web, e-mail, and input/output/storage devices

Explain the importance of personal responsibility and security in a technological world, including copyright laws, netiquette, ethics, privacy issues, and security threats

Explain networking standards, protocols, transmission media, and hardware

Describe the fundamentals of information security, the various threats to business continuity, and legal, ethical and professional issues relative to Information Security

Develop a comprehensive security plan, including risk analysis, legal, regulatory, physical, data and personnel threats

Describe the role of various disciplines in Information Assurance in the development of comprehensive security measures and guidelines

Demonstrate proficiency in national, Michigan and Wayne County policies, threats and vulnerabilities of systems, legal elements of protection and prosecution, countermeasures, risk management, trust, organizational personnel

Analyze situations as to technological, policy and educational vulnerabilities and develop solutions and recommendations

### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

### General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: The following course is required in this program and satisfies this General Education Outcome for this program. Students who change their program will need to confirm in advance that they are completing all required courses for their specific program of study, including additional General Education courses:

CRJ-131: Introduction to Law Enforcement and Criminal Justice

Computer Literacy Outcome: The following course is required in this program and satisfies this General Education Outcome for this program. Students who change their program will need to confirm in advance that they are completing all required courses for their specific program of study, including additional General Education courses:

CIS-100: Introduction to Information Technology

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Computer Information Systems — Information Assurance

Associate in Applied Science



## Degree-Specific Requirements

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Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

### Required Core Courses

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- CIS-100: Introduction to Information Technology
- CIS-112: Introduction to Networking
- CIS-124: Introduction to Windows Server Administration
- CIS-158: A+ Operating Systems
- CIS-272: Project Management
- CIS-280: Information Assurance and Security
- CNT-260: Network Security
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- CRJ-132: Police Administration – Staff and Line Operations
- CRJ-134: Criminal Investigation
- CRJ-235: Computer Forensics and Cyber Crime Investigations
- CIS-296: Information Assurance Methodology

Minimum Credit Hours: ..... 40.0

### Required Support Courses

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Complete 18 credit hours from any one or more of the following tracks.

#### Criminal Justice track:

- CRJ-135: Juvenile Justice
- CRJ-136: Introduction to Corrections
- CRJ-234: Criminalistics: Criminal Investigation Laboratory Techniques
- HPE-142: Advanced First Aid
- SOC-131: Introduction to Sociology

#### Network Security track:

- CIS-114: Introduction to Novell NetWare Administration
- CIS-157: A+ Hardware
- CIS-212: Networking II
- CIS-229: UNIX System Administration
- CNT-110: CCNA: Networking I
- CNT-120: CCNA: Networking II
- CNT-210: CCNA: Networking III
- CNT-220: CCNA: Networking IV

#### Software Assurance track:

- CIS-113: Wireless LANs
- CIS-129: Introduction to UNIX with Shell Scripting
- CIS-130: Visual Basic.Net Programming
- CIS-170: C Programming
- CIS-171: Java Programming
- CIS-215: Advanced Visual Basic.Net Database Programming
- CIS-220: Systems Analysis and Design
- CIS-230: C++ Programming

#### World Language track:

- ARA-131: Elementary Arabic I
- ARA-132: Elementary Arabic II
- FRE-131: Elementary French I
- FRE-132: Elementary French II
- FRE-231: Second-Year French III
- FRE-232: Second-Year French IV
- GER-131: Elementary German I
- GER-132: Elementary German II
- GER-231: Second-Year German III
- GER-232: Second-Year German IV
- SPN-131: Elementary Spanish I
- SPN-132: Elementary Spanish II
- SPN-231: Second-Year Spanish III
- SPN-232: Second-Year Spanish IV

Minimum Credit Hours: ..... 18.0

Students should consult with an adviser before course selection. The 18 credit hour requirement is intended for concentration in world language, network security, software assurance or criminal justice.

### Elective Courses

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Minimum Credit Hours: ..... 0.0

### Minimum Number Of Credits To Graduate

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64.0 (Including Options/Electives)

# Computer Information Systems — Information Assurance

Associate in Applied Science

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Eastern Michigan University  
University of Detroit Mercy

### Career Opportunities

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- Law Enforcement
- Secure Software Engineering
- Language Specialist
- Network Security Specialist

# Computer Information Systems — Network Administration

Associate in Applied Science



## Computer Information Systems — Network Administration

Associate in Applied Science

Program Code: CISPNETWRK.AAS

## Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Brent Fulton • (313) 845-6426 • brent@hfcc.edu • Technology Bldg •  
Room: T-162I

## Program Information

### Description

Covers a wide range of topics within the computer networking field including basic networking, Cisco CAN, computer repair, security and Wireless LANs, network server operating systems such as Microsoft Server, Novell NetWare and Unix/Linux, basic network connectivity, repairing and upgrading computers, setup and configuration of switches, routers, VLAN's and VPN's, security weaknesses of multiple types of systems, and administrative tasks including installation, user account creation, file system security, network printing and performance monitoring.

## Learning Outcomes

- Install, maintain and administer a Novell NetWare operating system
- Install, maintain and administer Windows Server operating system
- Develop the programming logic required for system scripts
- Interface with the Unix/Linux operating system, including the vi editor, file management, and shell scripting
- Install, maintain and administer the Unix/Linux operating system
- Develop a comprehensive security plan and create security policies to mitigate network vulnerabilities
- Design, implement and document a comprehensive network environment
- Install, configure and troubleshoot network devices

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: The following course is required in this program and satisfies this General Education Outcome for this program. Students who change their program will need to confirm in advance that they are completing all required courses for their specific program of study, including additional General Education courses:

- CIS-100: Introduction to Information Technology

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Computer Information Systems — Network Administration

Associate in Applied Science

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

### Required Core Courses

CIS-100: Introduction to Information Technology  
 CIS-114: Introduction to Novell NetWare Administration  
 CIS-124: Introduction to Windows Server Administration  
 CIS-125: Principles of Programming Logic  
 CIS-129: Introduction to UNIX with Shell Scripting  
 CIS-229: UNIX System Administration  
 CNT-110: CCNA: Networking I  
 CNT-120: CCNA: Networking II  
 CNT-210: CCNA: Networking III  
 CNT-220: CCNA: Networking IV  
 CIS-295: Network Design and Implementation

Choose one of the following courses:

CNT-260: Network Security Or  
 CIS-280: Information Assurance and Security

Complete 11 credit hours from any one or more of the following areas:

Networking:

CIS-105: Desktop Operating System Concepts  
 CIS-112: Introduction to Networking  
 CIS-113: Wireless LANs  
 CIS-157: A+ Hardware  
 CIS-158: A+ Operating Systems  
 CIS-212: Networking II  
 CNT-260: Network Security  
 CNT-291: CCNP - Routing  
 CNT-293: CCNP - Switching  
 CNT-295: CCNP - Network Troubleshooting

Special Topics:

CIS-297: Special Topics in Computer Information Systems  
 CIS-298: Special Topics in Computer Information Systems  
 CIS-299: Special Topics in Computer Information Systems

Job Experience:

ICO-191: Co-op in Industrial Technology

Minimum Credit Hours: ..... 55.0

## Required Support Courses

Complete 4 credit hours of MATH numbered 100 or above.\*

Minimum Credit Hours: ..... 4.0

\*The following courses do not meet the requirements for this program: MATH 121, MATH 127, MATH 221, and MATH 225.

## Elective Courses

Minimum Credit Hours: ..... 0.0

## Minimum Number Of Credits To Graduate

68.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Registry / Certification / Licensure Exam Information

The AAS degree in Network Administration prepares students to successfully complete a number of Industry Certification Exams, including Comp-TIA A+, Comp-TIA Network+, Comp-TIA Server+, Comp-TIA Security+, Novell NetWare Certified Network Administrator (CNA), Microsoft Windows Server Administration (MCP), and Cisco Systems Certified Network Associate (CCNA). These certification tests are administered at HFCC's M-TEC Center, 3601 Schafer Rd., Dearborn, MI 48126, 313-317-6600. Payment and scheduling of these exams are through the Pearson-Vue Web site (<http://www.pearsonvue.com>).

# Computer Information Systems — Network Administration

Associate in Applied Science



## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Davenport University  
Ferris State University  
Lawrence Technological University

## Career Opportunities

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- PC Software Installation
- PC Hardware Installation
- Network Administration
- Computer Network Support Specialist
- Network Control and Systems Technician
- LAN/WAN Technician
- Cabling Installation Technician

# Computer Information Systems — Web Development

Certificate of Achievement

## Computer Information Systems — Web Development

Certificate of Achievement

Program Code: CISPWEBDSN.CA

### Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

David Maier • (313) 845-9890 • djmaier@hfcc.edu • Technology Bldg  
• Room: T-115A

### Program Information

#### Description

Prepare graduates for an entry-level position as a Web Developer, Webmaster, Web Administrator, Web Programmer or Multimedia Developer. The Web Development Certificate distinguished itself with extensive hands-on laboratory experience using the latest technology and software. Industry-experienced, full-time faculty provide the highest quality instruction on the latest web authoring integrated development environments, graphics and design techniques, client and server-side coding and scripting, back-end technologies, multimedia and animation tools, and project management principles.

### Degree Specific Requirements

#### Required Core Courses

ART-107: Photoshop  
ART-108: Flash  
CIS-122: Web Internet Technologies  
CIS-126: XHTML/HTML/CSS Web Programming  
CIS-172: JavaScript  
CIS-222: Web Database Development with PHP  
CIS-227: Web Authoring

#### Required Support Courses

#### Elective Courses

#### Minimum Number Of Credits To Graduate

24.0 (Including Options/Electives)

### Program Requirements

#### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Other Information

#### Registry / Certification / Licensure Exam Information

CIW Foundations (<http://www.ciwcertified.com/>)

ComTIA i-Net+ (<http://www.comptia.org/>)

Adobe Certified Professional (<http://www.adobe.com/support/certification/>)

#### Career Opportunities

The U.S. Department of Labor, Bureau of Labor Statistics lists computer occupations as 5 out of the top 20 fastest growing occupations in the economy for 2004-2014. The Michigan Department of Labor and Economic Growth projects the highest number of new career opportunities between 2002 and 2012 (25.8%) to be in the computer and mathematics industries with an average starting salary of \$62,000. Money Magazine and Salary.com 2006 Best Jobs in America report lists computer-related occupations as 2 of the top 7 career opportunities on the basis of salary, opportunities, advancement, creativity, flexibility, and stress.

Career Opportunities:

Web Administrator

Webmaster

Web Developer

Multimedia Developer

Web Programmer



# Computer Networking Academy — CCNA

Certificate of Achievement



## Computer Networking Academy — CCNA

Certificate of Achievement

Program Code: COMPNET.CA

## Contact

Business and Computer Technology Division • (313) 845-9804 • business@hfcc.edu • Technology Bldg • Room: T-211

Kathryn Fitzner • (313) 317-1570 • kfitzner@hfcc.edu • Technology Bldg • Room: T-211B

## Program Information

### Description

Provides students with the skills for designing, building, and maintaining computer networks. The College offers a preparation program for CCNA (Cisco Certified Network Associate) and CCNP (Cisco Certified Network Professional) industry certifications. Cisco certifications are consistently rated among the most highly valued certifications within the IT industry by both employers and IT professionals. The CCNA certificate program consists of four courses and is designed to be completed within one year. Students learn how to install and configure Cisco routers and switches in multi-protocol local and wide area networks, perform basic troubleshooting and improve network performance and security. The CCNA courses are also part of the required core courses for the Associate of Applied Science in Computer Information Systems - Network Administration and are electives for the Associate of Applied Science in Computer Information Systems - Information Assurance.

### Accreditation

The College's Computer Networking Academy is Cisco-approved.

## Degree Specific Requirements

### Required Core Courses

- CNT-110: CCNA: Networking I
- CNT-120: CCNA: Networking II
- CNT-210: CCNA: Networking III
- CNT-220: CCNA: Networking IV

Minimum Credit Hours: ..... 16.0

### Required Support Courses

### Elective Courses

These courses are suggestions for electives:

- CNT-103: Network Infrastructure
- CNT-215: Health Information Networking
- CNT-270: CCNA Security

No electives are required for completion of the certificate.

Minimum Credit Hours: ..... 0.0

### Minimum Number Of Credits To Graduate

16.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Career Opportunities

- PC Support Specialist
- Network Administrator
- Help Desk Technician
- Network Engineer
- Network Technician
- Other IT related fields

# Computer Networking Academy — CCNP

Certificate of Achievement

## Computer Networking Academy — CCNP

Certificate of Achievement

Program Code: COMPNETCON.CA

### Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Kathryn Fitzner • (313) 317-1570 • kfitzner@hfcc.edu • Technology  
Bldg • Room: T-211B

### Program Information

#### Description

Prepares students and professionals for the more advanced CCNP industry certification. The CCNP curriculum trains students to install, configure and troubleshoot local and wide-area networks consisting of 100 to over 500 nodes. CCNP courses emphasize the configuration and troubleshooting of multiple routing protocols, IPv6, VLANs, spanning tree protocols, and security in an enterprise campus network. The CCNP courses are electives within the Associate of Applied Science degree program in Network Administration. Please note that completion of all CCNA courses, CCNA certification, or instructor permission is required before beginning the CCNP program.

#### Accreditation

The College's Computer Networking Academy is Cisco-approved.

## Degree Specific Requirements

### Required Core Courses

CNT-291: CCNP - Routing  
CNT-293: CCNP - Switching  
CNT-295: CCNP - Network Troubleshooting

Minimum Credit Hours: ..... 12.0

Please note that completion of all four CCNA courses or CCNA certification is required before beginning the CCNP program.

The three CCNP courses may be taken in any order.

### Required Support Courses

#### Elective Courses

Optional additional Computer Networking course:

CNT-103: Network Infrastructure This course is not required for completion of the certificate.

Minimum Credit Hours: ..... 0.0

### Minimum Number Of Credits To Graduate

12.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Career Opportunities

- \* Network Technician
- \* Network Engineer
- \* Network Administrator
- \* Other IT related fields

# Computer Software Applications

Certificate of Achievement



## Computer Software Applications

Certificate of Achievement

Program Code: COMPSOFTAPP.CA

## Contact

Business and Computer Technology Division • (313) 845-9804 • business@hfcc.edu • Technology Bldg • Room: T-211

Diane Smith • (313) 845-9702 • dsmith1@hfcc.edu • Liberal Arts • Room: L-319D

## Program Information

### Description

Provides students with the opportunity to improve their computer software applications literacy and job skills required, in today's modern business environment, by many occupations. Students in the program will receive training in word processing, spreadsheet, database, presentation, and web pages applications software. The certificate in Computer Software Applications offers evidence to employers of a certain level of proficiency in the application of computer software.

The certificate is often combined with an associate's degree to improve a employability. The certificate can be used as a building block toward a Certificate in Office Administration and/or a degree in Administrative and Information Management.

## Degree Specific Requirements

### Required Core Courses

- BCA-125: Introduction to the Internet and Web Pages
- CIS-100: Introduction to Information Technology
- BCA-143: Word Processing
- BCA-145: Spreadsheets
- BCA-147: Database Applications
- BCA-152: Presentation Software

Minimum Credit Hours: ..... 17.0

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

17.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Registry / Certification / Licensure Exam Information

Successful completion of BCA-143: Word Processing, BCA-145: Spreadsheet Applications, BCA-147: Database Applications, and BCA-152: Presentaion Graphics will provide students with sufficient knowledge and skills to take the Microsoft Office Specialist (MOS) exams for Word, Excel, PowerPoint, and Access.

# Criminal Justice — Corrections/Probation and Parole

Associate in Arts

## Criminal Justice — Corrections/Probation and Parole

Associate in Arts

Program Code: CORAD.AA...

### Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Gregory Osowski • (313) 845-9859 • gosowski@hfcc.edu • Liberal Arts • Room: L-108

### Program Information

#### Description

Designed for students interested public service work with offenders within correctional institutions, such as jails or prisons, or in professional work outside correctional institutions, juveniles and those on probation or parole. Students completing the program benefit from articulation agreements with Eastern Michigan University, Madonna University, University of Michigan-Dearborn, and Lake Superior State University. This allows students to continue their studies toward a bachelor degree with no loss of credit hours.

### Learning Outcomes

Describe the different psychological effects that incarceration has on inmates and staff

Develop a well written report which effectively analyzes and communicates a given situation

Demonstrate and integrate an understanding of ethics and ethical behavior in/at all levels of Corrections, Parole, and Probation

Demonstrate the ability to apply case, criminal, and custodial law by analyzing fact patterns and situations

Characterize the special needs related to the treatment of criminals in the correctional system (e.g. mentally ill, HIV, female)

Contrast the effects of race, education, and economics and how they impact the corrections field

### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

### General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Criminal Justice — Corrections/Probation and Parole

Associate in Arts



## Degree-Specific Requirements

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Complete one course from the Wellness Group:

- COUN-114: Stress Management - A Personal Approach
- HPE-140: Lifetime Wellness
- HPE-142: Advanced First Aid
- HPE-153: Nutrition
- HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher
- HPEA-117: Strength Training and Physical Conditioning / HPEA-217: Strength Training and Physical Conditioning II
- HPEA-126: Aerobic Dance
- HPEA-155: Relaxation Techniques for Stress Management

Complete 8 Humanities credits from courses in:

Art, Dance, English (except ENG-131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 8 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 8 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

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- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- CRJ-135: Juvenile Justice
- CRJ-136: Introduction to Corrections
- CRJ-138: Probation and Parole
- CRJ-141: Corrections Clients – Human Growth and Development
- CRJ-253: Legal Issues in Corrections/Probation and Parole
- CRJ-286: Topics in Corrections/Probation and Parole

Minimum Credit Hours: .....22.0

## Required Support Courses

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- ENG-131: Introduction to College Writing
- ENG-132: College Writing and Research
- CIS-100: Introduction to Information Technology
- HPE-142: Advanced First Aid
- PSY-131: Introductory Psychology
- Complete one of the following courses:
  - SPC-131: Fundamentals of Speaking
  - SPC-145: Interpersonal Communication

Complete one of the following Science courses with a lab:

- ASTR-131: Descriptive Astronomy and
- ASTR-133: Introductory Astronomy Laboratory
- OR
- BIO-138: Environmental Science Lecture and
- BIO-139: Environmental Science Laboratory
- OR one of the following:
  - BIO-131: Introduction to Biology
  - BIO-134: Essentials of Anatomy and Physiology
  - BIO-135: Microbiology for the Allied Health Sciences
  - BIO-150: Biology: Organisms, Genes, and Ecology
  - BIO-152: Cells and Molecular Biology
  - BIO-233: Anatomy and Physiology I
  - CHEM-131: Principles of Chemistry
  - CHEM-141: Principles of General and Inorganic Chemistry I
  - PHYS-131: General Physics I
  - GIS-131: Geospatial Technologies
  - GEOL-131: Physical Geology
  - PHYS-133: Principles of Physics
  - PSCI-131: Introduction to Physical Science
  - PSCI-135: Sound & Light in Fine-Arts

Minimum Credit Hours: .....22.0

## Elective Courses

---

These courses are suggestions for electives:

- CRJ-134: Criminal Investigation
- CRJ-291: Criminal Justice Internship 1
- CRJ-234: Criminalistics: Criminal Investigation Laboratory Techniques

Minimum Credit Hours: .....7.0

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree.

## Minimum Number Of Credits To Graduate

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60.0 (Including Options/Electives)

# Criminal Justice — Corrections/Probation and Parole

Associate in Arts

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

University of Michigan - Dearborn  
Eastern Michigan University  
Madonna University

## Career Opportunities

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Prepares students to take various entry-level positions and certification exams. Most people start out in entry-level positions as corrections officers or in court probation departments upon completion of an associate's degree. For future advancement in the institutional field or work in probation and parole, a bachelor's degree is highly recommended.

Counseling  
Prison Corrections Officer  
Probation/Parole Officer  
Social Work

# Criminal Justice — Corrections/Probation and Parole

Certificate of Achievement



## Criminal Justice — Corrections/Probation and Parole

Certificate of Achievement

Program Code: CORAD.CMLT...

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Gregory Osowski • (313) 845-9859 • gosowski@hfcc.edu • Liberal Arts • Room: L-108

## Program Information

### Description

Prepares students for an entry-level position within the corrections/probation and parole field. This program is based on the Michigan Department of Corrections recommended courses.

## Degree Specific Requirements

### Required Core Courses

- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- CRJ-135: Juvenile Justice
- CRJ-136: Introduction to Corrections
- CRJ-138: Probation and Parole
- CRJ-141: Corrections Clients – Human Growth and Development
- CRJ-253: Legal Issues in Corrections/Probation and Parole
- CRJ-286: Topics in Corrections/Probation and Parole
- ENG-131: Introduction to College Writing

Minimum Credit Hours: .....25.0

### Required Support Courses

### Elective Courses

These courses are suggestions for electives:

- CIS-100: Introduction to Information Technology
- ENG-132: College Writing and Research
- POLS-131: Introduction to American Government and Political Science
- PSY-131: Introductory Psychology
- SOC-131: Introduction to Sociology

Minimum Credit Hours: .....6.0

Students should select any combination of Elective Courses to equal a minimum of 6 credit hours. Students should consult their academic advisor for course selection.

### Minimum Number Of Credits To Graduate

31.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Career Opportunities

Corrections Officers

# Criminal Justice — Law Enforcement

Associate in Arts

## Criminal Justice — Law Enforcement

Associate in Arts

Program Code: LAWEF.AA...

### Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Gregory Osowski • (313) 845-9859 • gosowski@hfcc.edu • Liberal Arts • Room: L-108

### Program Information

#### Description

Emphasizes the preservation of peace, the prevention of crime, and the protection of life and property. The program is designed to prepare students for entry into the public service fields of law enforcement with a full working comprehension of the relationships between public and private concerns. Students completing the program benefit from articulation agreements with Eastern Michigan University, Madonna University, University of Michigan-Dearborn, and Lake Superior State University. This allows students to continue their studies toward a bachelor degree with no loss of credit hours.

### Learning Outcomes

Develop a report which effectively analyses and communicates a given situation

Apply case law, criminal procedure, and custodial law by analyzing fact patterns and situations

Analyze critical issues in law enforcement ( i.e. use of fatal force, racial profiling, minorities in law enforcement, police misconduct ) and their impact on day to day operations of a police department

Distinguish between Police Community Relations and Community Policing and how each impact Community Policing

Characterize the importance of ethics and ethical decisions at all levels and processes within the criminal justice system

### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

### General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

CIS-100: Introduction to Information Technology

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

### Degree-Specific Requirements

Complete one course from the Wellness Group:

HPE-142: Advanced First Aid

Complete 8 Humanities credits from courses in:

Art, Dance, English (except ENG-131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 8 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 8 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology



# Criminal Justice — Law Enforcement

Associate in Arts



## Required Core Courses

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- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- CRJ-132: Police Administration – Staff and Line Operations
- CRJ-134: Criminal Investigation
- CRJ-251: Criminal Law
- CRJ-252: Criminal Procedure
- CRJ-285: Topics in Criminal Justice/Law Enforcement

Minimum Credit Hours: .....20.0

## Required Support Courses

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- ENG-131: Introduction to College Writing
- ENG-132: College Writing and Research
- CIS-100: Introduction to Information Technology
- HPE-142: Advanced First Aid
- PSY-131: Introductory Psychology

Complete one of the following courses:

- SPC-131: Fundamentals of Speaking
- SPC-145: Interpersonal Communication

Complete one of the following Science courses with a lab:

- ASTR-131: Descriptive Astronomy and
- ASTR-133: Introductory Astronomy Laboratory
- OR
- BIO-138: Environmental Science Lecture and
- BIO-139: Environmental Science Laboratory
- OR one of the following:
- BIO-131: Introduction to Biology
- BIO-134: Essentials of Anatomy and Physiology
- BIO-135: Microbiology for the Allied Health Sciences
- BIO-150: Biology: Organisms, Genes, and Ecology
- BIO-152: Cells and Molecular Biology
- BIO-233: Anatomy and Physiology I
- CHEM-131: Principles of Chemistry
- CHEM-141: Principles of General and Inorganic Chemistry I
- GEOL-131: Physical Geology
- GIS-131: Geospatial Technologies
- PHYS-131: General Physics I
- PHYS-133: Principles of Physics
- PSCI-131: Introduction to Physical Science
- PSCI-135: Sound & Light in Fine-Arts

Minimum Credit Hours: .....22.0

## Elective Courses

---

These courses are suggestions for electives:

- CRJ-135: Juvenile Justice
- CRJ-126: Introduction to Homeland Security
- CRJ-234: Criminalistics: Criminal Investigation Laboratory Techniques

Minimum Credit Hours: ..... 9.0

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree.

## Minimum Number Of Credits To Graduate

---

60.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Eastern Michigan University
- Madonna University
- University of Michigan - Dearborn

## Career Opportunities

---

- Federal Law Enforcement
- Police Officer
- Private Security
- State Law Enforcement

# Criminal Justice — Law Enforcement with Police Academy

Associate in Arts

## Criminal Justice — Law Enforcement with Police Academy

Associate in Arts

Program Code: LAWEFPA.AA...

### Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Gregory Osowski • (313) 845-9859 • gosowski@hfcc.edu • Liberal Arts • Room: L-108

### Program Information

#### Description

Emphasizes the preservation of peace, the prevention of crime, and the protection of life and property. The program is designed to prepare students for employment in law enforcement positions requiring both an Associate Degree and Michigan Commission on Law Enforcement Standards (MCOLES) certification. Henry Ford College students complete the associate degree by completing coursework at HFC, then transferring to the Police Academy at Schoolcraft College for the final component of the program. The students then transfer back to HFC which issues the degree. Students completing the program benefit from articulation agreements with Eastern Michigan University, Madonna University, University of Michigan-Dearborn, and Lake Superior State University. This allows students to continue their studies toward a bachelor degree with no loss of credit hours.

### Learning Outcomes

Develop a report which effectively analyses and communicates a given situation

Apply case law, criminal procedure, and custodial law by analyzing fact patterns and situations

Analyze critical issues in law enforcement ( i.e. use of fatal force, racial profiling, minorities in law enforcement, police misconduct ) and their impact on day to day operations of a police department

Distinguish between Police Community Relations and Community Policing and how each impact Community Policing

Characterize the importance of ethics and ethical decisions at all levels and processes within the criminal justice system

### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

### General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Criminal Justice — Law Enforcement with Police Academy

Associate in Arts



## Degree-Specific Requirements

---

Complete one course from the Wellness Group:

- COUN-114: Stress Management - A Personal Approach
- HPE-140: Lifetime Wellness
- HPE-142: Advanced First Aid
- HPE-153: Nutrition
- HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher
- HPEA-117: Strength Training and Physical Conditioning / HPEA-217: Strength Training and Physical Conditioning II
- HPEA-126: Aerobic Dance
- HPEA-155: Relaxation Techniques for Stress Management

Complete 8 Humanities credits from courses in:

Art, Dance, English (except ENG-131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 8 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 8 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

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- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- CRJ-251: Criminal Law
- CRJ-285: Topics in Criminal Justice/Law Enforcement
- CRJ-287: Police Academy (Completed as CJ 286 at Schoolcraft College)

Minimum Credit Hours: .....31.0

CJ 286 at Schoolcraft College is transferred back to HFC as CRJ 287 and fulfills the HFCC Criminal Justice - Law Enforcement with Police Academy Associate in Art degree course requirements for CRJ 132, CRJ 134, CRJ 135, CRJ 252, and HPE 142.

## Required Support Courses

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- ENG-131: Introduction to College Writing
- ENG-132: College Writing and Research
- CIS-100: Introduction to Information Technology
- PSY-131: Introductory Psychology
- Complete one of the following courses:
  - SPC-131: Fundamentals of Speaking
  - SPC-145: Interpersonal Communication
- Complete one of the following Science courses with a lab:
  - ASTR-131: Descriptive Astronomy and
  - ASTR-133: Introductory Astronomy Laboratory
- OR
  - BIO-138: Environmental Science Lecture and
  - BIO-139: Environmental Science Laboratory
- OR one of the following:
  - BIO-131: Introduction to Biology
  - BIO-134: Essentials of Anatomy and Physiology
  - BIO-135: Microbiology for the Allied Health Sciences
  - BIO-150: Biology: Organisms, Genes, and Ecology
  - BIO-152: Cells and Molecular Biology
  - BIO-233: Anatomy and Physiology I
  - CHEM-131: Principles of Chemistry
  - CHEM-141: Principles of General and Inorganic Chemistry I
  - GEOL-131: Physical Geology
  - GIS-131: Geospatial Technologies
  - PHYS-131: General Physics I
  - PHYS-133: Principles of Physics
  - PSCI-131: Introduction to Physical Science
  - PSCI-135: Sound & Light in Fine-Arts

Minimum Credit Hours: ..... 19.0

## Elective Courses

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Minimum Credit Hours: ..... 15.0

Complete as many Elective and Degree Specific credits as necessary to meet the minimum number of credit hours to receive your associate degree.

## Minimum Number Of Credits To Graduate

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65.0 (Including Options/Electives)

# Criminal Justice — Law Enforcement with Police Academy

Associate in Arts

## Program Requirements

### Additional Program Requirements

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Students must pass the following prior to acceptance at the Police Academy at Schoolcraft College:

Physical exam

Written exam

Criminal history background check

Other background checks as required

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Eastern Michigan University

Madonna University

University of Michigan - Dearborn

### Career Opportunities

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Federal Law Enforcement

Police Officer

Private Security

State Law Enforcement

# Culinary Arts

## Associate in Applied Science

### Culinary Arts

Associate in Applied Science

Program Code: CULIN.AAS...

### Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Eric Gackenbach • (313) 317-1572 • epgackenbach@hfcc.edu • Bldg  
ID Retired 12/23/2014 • Room: C-163E

### Program Information

#### Description

Provides opportunities for students to build character, leadership and technical skills that are necessary for success in a global industry of hospitality and tourism. For a four-year degree in the Hospitality field, refer to articulation agreements with Siena Heights University, Eastern Michigan University or Madonna University. Students can transfer up to 90 credits (three years work) from HFC and complete approximately their last year at one of the above listed universities.

### Learning Outcomes

- Execute a menu from start to finish in compliance with ACF category F and G standards for edible hot and cold food
- Relate restaurant operations and scenarios to FDRP standards and procedures
- Based on MLCC and MRA standards, assess when and how beer, wine and spirits are served in a licensed establishment
- Based on NRA standards, decide how to handle various types of food in order to prevent foodborne illness
- Incorporate professional work behaviors to complete 300 hours of supervised internship
- Organize examples of various segments (Non-Commercial, Lodging, Sports & Liesure, Restaurant, Casino) and job opportunities in the Hospitality Industry

#### Accreditation

The Culinary Arts Associate in Applied Science is accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC). The department has also earned the Exemplary Program Award symbolizing the highest educational standards recognized by the ACFEFAC. The award is presented to programs that have proven consistent compliance with all ACFEFAC accreditation requirements, along with excellent management of the program. ACFEFAC is recognized by the Council on Higher Education Accreditation (CHEA).

Instructors receive training and certifications from the American Hotel & Lodging Educational Institute, The National Restaurant Association Educational Foundation, the Federation of Dining Room Professionals and the American Culinary Federation.

#### Admission Requirements / Eligibility

A score of 43 or above on the ASSET reading test, or 82 or above on the COMPASS test, or satisfactory completion of ENG 081.

### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

#### General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

# Culinary Arts

Associate in Applied Science

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

### Required Core Courses

- HOSP-105: Applied Food Service Sanitation
- HOSP-110: Introduction to the Hospitality Industry
- HOSP-121: Introduction to Baking and Cooking \*
- HOSP-124: Introduction to Professional Cooking - Lab \*
- HOSP-125: Introduction to Professional Baking - Lab \*
- HOSP-130: Food and Nutrition
- HOSP-140: Advanced Food Preparation
- HOSP-150: Dining Room Service and Operation
- HOSP-160: Hospitality Purchasing
- HOSP-170: Food and Beverage Controls
- HOSP-210: Hospitality Supervision and Leadership
- HOSP-231: Advanced Baking and Pastry
- HOSP-241: Garde Manger and Menu Planning

Complete 2 credit hours from the following courses:\*\*

- HOSP-190: Co-op in Hospitality or
- HOSP-290: Co-op in Hospitality

Minimum Credit Hours: ..... 50.0

\*HOSP 121 (2 Cr Hrs), HOSP 124 (3 Cr Hrs), and HOSP 125 (3 Cr Hrs) must be taken concurrently.

\*\*Students may take HOSP 190 (minimum of 150 working hours for 2 semesters) instead of

HOSP 290 (minimum of 300 hours in 1 semester).

Official HFCC chef's uniform required to be purchased prior to beginning classes for culinary lab courses - contact department on process to order uniforms. Visit the Hospitality Department in C-163 in the Culinary Arts & Student Center building, or online at <https://culinary.hfcc.edu/> for uniform ordering information.

### Required Support Courses

POLS-131: Introduction to American Government and Political Science or any other 3 credits from the American Society, Events, Institutions & Cultures course list

ENG-131: Introduction to College Writing

Complete one of the following courses:

ENG-132: Honors: College Writing and Research or

ENG-135: Business and Technical Writing and Research

Complete one of the following courses:

MATH-104: Mathematics for Food Service Careers or higher level MATH course - or

BMA-110: Business Math

\*\*\*Student must also complete a minimum of 6 credits of the following HOSP electives:\*\*\*

HOSP-101: Wines of the World

HOSP-103: Major Wines Grape Varieties

HOSP-107: Artisanal Cheese and Craft Beer

HOSP-109: Banquets and Catering

HOSP-115: International Cooking

HOSP-145: Ice Carving and Design

HOSP-221: Front Office Procedures and Guest Services

HOSP-225: Dining Room Captain

HOSP-235: Ice Carving for the Professional

HOSP-245: Hotel and Restaurant Desserts

HOSP-250: Hospitality and Travel Marketing

HOSP-255: Professional Cake Decorating

HOSP-270: Facilities Management

Minimum Credit Hours: ..... 18.0

### Elective Courses

Minimum Credit Hours: ..... 0.0

### Minimum Number Of Credits To Graduate

68.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

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Chef's uniform required for culinary lab courses.

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Eastern Michigan University
- Ferris State University
- Madonna University
- Siena Heights University

### Career Opportunities

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Coupled with diverse line level work experience, the student completing this degree may want to consider entry-level supervisory or management position in these areas:

- Full Service Hotels
- Resort and Travel Destinations
- Fine Dining Restaurants
- Health Care Services
- College and University Dining
- Casinos
- Conference Centers
- Food Sales and Marketing
- School Food Service
- Catering
- Casual Dining Restaurants
- Sports, Leisure, and Event Services

## Culinary Skills

Certificate of Achievement

Program Code: CULSK.CSGL...

## Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Eric Gackenbach • (313) 317-1572 • epgackenbach@hfcc.edu • Bldg  
ID Retired 12/23/2014 • Room: C-163E

## Program Information

### Description

Provides the basic foundational skills necessary for quality food production in a professional kitchen. Consists of both lab and lecture classes. Courses may be applied toward an Associate in Applied Science degree in Culinary Arts and/or an Associate in Applied Science degree in Hotel/Restaurant Management.

### Accreditation

The Associate in Applied Science in Culinary Arts at HFC is accredited by the Accrediting Commission of the American Culinary Federation Educational Foundation.

### Admission Requirements / Eligibility

A score of 43 or above on the ASSET reading test, or 82 or above on the COMPASS test, or satisfactory completion of ENG 081.

## Degree Specific Requirements

### Required Core Courses

HOSP-105: Applied Food Service Sanitation  
HOSP-121: Introduction to Baking and Cooking \*  
HOSP-124: Introduction to Professional Cooking - Lab \*  
HOSP-125: Introduction to Professional Baking - Lab \*  
HOSP-140: Advanced Food Preparation

\*HOSP 121 (2 Cr Hrs), HOSP 124 (3 Cr Hrs), and HOSP 125 (3 Cr Hrs) must be taken concurrently.

Official chef's uniform required to be purchased prior to beginning class for culinary lab courses. Visit the Hospitality Department in C-163 in the Culinary Arts & Student Center building, or online at <https://culinary.hfcc.edu/> for uniform ordering information.

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

18.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

Chef's uniform required for the culinary lab classes.

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.



# Culinary Supervision

Certificate of Achievement



## Culinary Supervision

Certificate of Achievement

Program Code: CULSU.CMLT...

## Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Eric Gackenbach • (313) 317-1572 • epgackenbach@hfcc.edu • Bldg  
ID Retired 12/23/2014 • Room: C-163E

## Program Information

### Description

Provides technical knowledge, human resource skills, and managerial techniques in training, food sanitation and nutrition that are necessary for the success of future chefs. Courses in the Culinary Supervision Program may be applied toward an Associate in Applied Science Degree in Culinary Arts and/or an Associate in Applied Science Degree in Hotel/Restaurant Management.

### Accreditation

The Associate in Applied Science in Culinary Arts at HFCC is fully accredited by the Accrediting Commission of the American Culinary Federation Educational Foundation.

### Admission Requirements / Eligibility

A score of 43 or above on the ASSET reading test, or 82 or above on the COMPASS test, or satisfactory completion of ENG 081.

## Degree Specific Requirements

### Required Core Courses

HOSP-105: Applied Food Service Sanitation  
HOSP-110: Introduction to the Hospitality Industry  
HOSP-121: Introduction to Baking and Cooking \*  
HOSP-124: Introduction to Professional Cooking - Lab \*  
HOSP-125: Introduction to Professional Baking - Lab \*  
HOSP-130: Food and Nutrition  
HOSP-140: Advanced Food Preparation  
HOSP-210: Hospitality Supervision and Leadership  
HOSP-231: Advanced Baking and Pastry  
HOSP-241: Garde Manger and Menu Planning

\*HOSP 121 (2 Cr Hrs), HOSP 124 (3 Cr Hrs), and HOSP 125 (3 Cr Hrs) must be taken concurrently.

Official chef's uniform required to be purchased prior to beginning class for culinary lab courses. Visit the Hospitality Department in C-163 in the Culinary Arts & Student Center building, or online at <https://culinary.hfcc.edu/> for uniform ordering information.

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

39.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

Chef's uniform required for culinary lab courses.

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Customer Service Professional

Certificate of Achievement

## Customer Service Professional

Certificate of Achievement

Program Code: CUSRV.CA

## Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Diane Smith • (313) 845-9702 • dsmith1@hfcc.edu • Liberal Arts •  
Room: L-319D

## Program Information

### Description

Prepares students for a career in customer service. This program emphasizes oral and written communication skills, workplace skills, and basic computer skills and includes training to work effectively as a Customer Service Representative (CSR). CSRs interact with a company's customers by answering questions about products, services or billings. CSRs, working in a call center or in a customer service department, receive in-bound calls from a company's customers and enter orders for products or services, sell tickets, make reservations, and solve problems that customers are experiencing.

The Customer Service Professional certificate (developed in consultation with businesses such as Blue Cross Blue Shield, Ford Motor Company, DTE Energy, and Oakwood Hospital and Medical Center) may be used as a building block towards earning an Associate in Business degree.

## Degree Specific Requirements

### Required Core Courses

BCA-101: Computer Keyboarding  
CIS-100: Introduction to Information Technology  
BBA-133: Business Behavior and Communication  
BBA-153: Customer Service  
BBA-159: Contact Center/Help Desk Practicum  
BBA-110: Business Language Skills  
BBA-231: Business Office Communications

Minimum Credit Hours: .....20.0

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

20.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Registry / Certification / Licensure Exam Information

Students in this program will qualify to test for the National Retail Federation (NRF) Foundation's Professional Certification in Customer Service, a nationally recognized skill standards and certification exam.

# Dance

## Area of Study

### Dance

Area of Study

### Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Diane Mancinelli • (313) 845-6314 • dmancin@hfcc.edu • Technology Bldg • Room: T-211C

### Program Information

#### Description

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HFCC has a vibrant and lively Dance program. Areas of instruction include Tap, Modern Dance, and Jazz. Students benefit from high-quality courses taught by HFC instructors and participation in the Full Circle Dance Company. Many guest dance artists and choreographers have worked at HFC in a variety of genres including Flamenco, Jazz, Ballet, Modern, Classical Indian, Ballroom and Folk. The artists teach master classes and compose dances for the Full Circle Dance Company. The Full Circle Dance Company is open to HFC students and provides intensive training and performance opportunities. Among these is the American College Dance Festival, HFC students have attended at different host colleges for the past 10 years. At the Festival, students have dances adjudicated, take master classes, attend dance concerts, and perform.

### Degree Specific Requirements

#### Required Core Courses

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#### Required Support Courses

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#### Elective Courses

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### Program Requirements

#### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Economics, Finance & Investing

Area of Study

## Economics, Finance & Investing

Area of Study

## Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Jared Boyd • (313) 845-9697 • jboyd@hfcc.edu • Liberal Arts •  
Room: L-329

## Program Information

### Description

Economics is the study of how human beings produce, distribute, trade, and consume the products and services that are desired. Economics is also the study of how societies use scarce resources to satisfy unlimited wants. Many problems that confront society today have important economic aspects. An understanding of economics has a practical value for individuals, both individually and corporately, in the quality of their decision making. Many students majoring in business, engineering, science, or liberal arts may be required to take an economics course. For specific economic course descriptions, see BEC 133-Basic Economics, BEC 151-Macro Economics, and BEC 152-Micro Economics.

Finance is the study of the methods that individuals, businesses, and organizations use to raise, allocate, and manage monetary resources over time considering the risk and return involved in those decisions. Investing is the study of maximizing returns on wealth while minimizing risk. Investing includes the study of the markets; types of securities; and consideration of age, income, and risk tolerance of the individual investor. BFN 130-Beginning Investment and BFN 141-Personal Finance are intended for individuals desiring knowledge of personal investing while BFN 253-Principles of Finance is designed for individuals interested in learning how businesses make financial decisions.

## Degree Specific Requirements

### Required Core Courses

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### Required Support Courses

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### Elective Courses

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## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Education Paraprofessional

Certificate of Achievement



## Education Paraprofessional

Certificate of Achievement

Program Code: EDPAR.CMLT...

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Tracie Varitek • (313) 845-6393 • tlvaritek@hfcc.edu • Learning Technology Center • Room: A-202

## Program Information

### Description

Designed to increase students' knowledge in specific content areas and to promote the development of interaction skills necessary for working with children. This certificate also enables those presently employed as paraprofessionals to become more effective as aides. Upon successful completion of the program students receive a Certificate of Achievement. Those who wish to earn an Associate in Arts degree in Pre-Elementary Education may apply the total hours of the certificate program toward that degree. However, ENG 121 and HPE 142 may not apply toward a bachelor's degree in Elementary Education. Please consult the transfer guides in the University Transfer, Advising, and Career Counseling Center.

## Degree Specific Requirements

### Required Core Courses

- CIS-221: Instructional Technology for Elementary Teachers
- ENG-121: Assisting with Elementary Reading
- ENG-131: Introduction to College Writing
- ENG-132: College Writing and Research
- ENG-246: Introduction to Children's Literature
- HPE-142: Advanced First Aid
- MATH-121: Mathematics for Elementary Teachers I
- MATH-221: Mathematics for Elementary Teachers II
- PSY-131: Introductory Psychology
- PSY-256: Educational Psychology

Minimum Credit Hours: .....30.0

### Required Support Courses

4 credit hours Science (100 level or higher)

Minimum Credit Hours: .....4.0

### Elective Courses

### Minimum Number Of Credits To Graduate

34.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

The law requires new teachers, school administrators, school psychologists, and other personnel to provide documentation of a completed criminal record check. Students who complete field experiences as part of their HFC coursework must provide a state-wide criminal record check prior to work with children in public or non-public schools.

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Career Opportunities

School paraprofessional

# Electrical Technology

Associate in Applied Science

## Electrical Technology

Associate in Applied Science

Program Code: ELECT.AAS...

## Contact

Industrial Technology Division • (313) 845-9656 • [technology@hfcc.edu](mailto:technology@hfcc.edu) • Technology Bldg • Room: T-172

Mark Siedlik • (313) 845-6353 • [msiedlik@hfcc.edu](mailto:msiedlik@hfcc.edu) • Technology Bldg • Room: T-115E

## Program Information

### Description

Provides students with the basic principles of electricity and proceeds to the concepts of solid state components such as diodes, transistors, integrated circuits, and microprocessor systems. More advanced courses show how these fundamental principles are applied to machine control, computers, power supplies, amplifiers, oscillators, industrial control, and instrumentation systems.

The Electrical Technology facilities are state-of-the-art offering the high-tech training and equipment necessary to prepare you for job success in today's economy. Working conditions are simulated in five fully-equipped laboratories where students put electrical-electronics theory to practice. Along with hands-on lab experience setting up circuits, trouble shooting, and calibrating systems, computer-simulated circuit analysis is used in most of the electronics courses.

## Learning Outcomes

Apply laws to the design, construction, analysis, and measurement of electric, hydraulic and pneumatic circuits. Break out into fluids and electric

Interpret and develop technical drawing, schematics and diagrams

Create documents based on technical information using descriptive writing, diagrams, mathematical expression, computation, and graphs

Perform electrical/mechanical assembly/disassembly, repair, troubleshoot, and calibration of components and devices.

Break out into mechanical and electrical

Apply electrical/mechanical laws to the operation and control of machines. This one sounds funny? What exactly are you after? Needs more explanation

Apply critical thinking skills to solving electro-mechanical problem

Communicate and perform in a team environment

Develop PLC, HMI, Robot programs for the control of electro-/mechanical systems

Analyze a set of specifications and create a LabView virtual instrument

Apply electro-/mechanical laws to the application of specific industrial sensors/transducers

Evaluate sensor/transducer output based on computer generated data for the purpose of creating a lab report using Microsoft Office products. This is narrowly focused - You may want to be more broad

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

# Electrical Technology

Associate in Applied Science



## General Education Requirements

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Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

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Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

## Required Core Courses

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- ELEC-103: Basic Electricity
- ELEC-106: Basic Electronics
- ELEC-115: Digital Circuits 1
- ELEC-120: Basic Hydraulics
- ELEC-145: AC/DC Rotating Machinery
- ELEC-155: Analog Electronics 1
- ELEC-185: Pneumatics
- ELEC-195: AC/DC Circuit Analysis
- ELEC-200: Ladder Diagrams and Motor Controls
- ELEC-245: Programmable Controllers
- ELEC-255: Instrumentation Systems
- ELEC-260: Automation Controls and Robotics
- ELEC-295: Microprocessor Systems

Minimum Credit Hours: ..... 40.0

## Required Support Courses

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MATH-112: Trigonometry or higher numbered MATH course

Complete one of the following courses:

- PHYS-120: Technical Physics I
- PHYS-131: General Physics I

Complete 7 credit hours from the following courses:

- AUTO 101, CNT 110, DRAF 120, ELEC 190, ELEC 205, ELEC 215, and/or MPS 100.

Minimum Credit Hours: ..... 14.0

## Elective Courses

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Minimum Credit Hours: ..... 0.0

## Minimum Number Of Credits To Graduate

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63.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Davenport University
- Eastern Michigan University
- Ferris State University
- Lawrence Technological University
- Siena Heights University
- University of Michigan - Dearborn
- Wayne State University

## Career Opportunities

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This program leads to an associate degree in Electrical/Electronics technology, which prepares individuals for positions in the following career opportunities:

- \* Computer Service
- \* Instrumentation Set-up
- \* Machine Service
- \* Quality Control
- \* Research and Development
- \* Machine Controls
- \* Instrumentation Repair
- \* Microprocessor Systems
- \* Product Evaluation
- \* Sales

Articulation Agreements:

3+1 Articulation with Eastern Michigan University, Bachelor of Science in Electrical Engineering Technology.

3+1 Articulation with Ferris State, Bachelor in Applied Science in Industrial Technology & Management.



# Electrical Technology — Analog Electronics

Certificate of Achievement

## Electrical Technology — Analog Electronics

Certificate of Achievement

Program Code: ELECANALEL.CMLT..

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Mark Siedlik • (313) 845-6353 • msiedlik@hfcc.edu • Technology Bldg • Room: T-115E

## Program Information

### Description

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Analog electronics deals with infinitely varying signals and the components that amplify and operate with these varying signals. Topics in this area include diodes, rectification, filtration, amplification, transistors, scr, triacs, diacs, sensors and instrumentation. This certificate can be earned while pursuing an Associate in Applied Science degree in Electrical Technology.

## Degree Specific Requirements

### Required Core Courses

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ELEC-103: Basic Electricity  
ELEC-106: Basic Electronics  
ELEC-155: Analog Electronics 1  
ELEC-190: Electronics Technology CO-OP  
ELEC-195: AC/DC Circuit Analysis  
ELEC-255: Instrumentation Systems  
MATH-103: Technical Mathematics or higher level MATH

### Required Support Courses

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### Elective Courses

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### Minimum Number Of Credits To Graduate

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21.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Electrical Technology — Automation Controls

Certificate of Achievement

## Electrical Technology — Automation Controls

Certificate of Achievement

Program Code: ELECAUCTRL.CMLT..

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Mark Siedlik • (313) 845-6353 • msiedlik@hfcc.edu • Technology Bldg • Room: T-115E

## Program Information

### Description

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Geared towards people working in industry that need the skills directly related to their job in industrial controls. Also Electrical Engineers, who may have a theoretical four year degree, may want to consider taking some of the classes in the certificate; especially ELEC 245- Programmable Controllers and ELEC 260-Automation Controls and Robotics. This certificate can be earned while pursuing an Associate in Applied Science degree in Electrical Technology.

## Degree Specific Requirements

### Required Core Courses

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ELEC-103: Basic Electricity  
ELEC-145: AC/DC Rotating Machinery  
ELEC-200: Ladder Diagrams and Motor Controls  
ELEC-245: Programmable Controllers  
ELEC-260: Automation Controls and Robotics  
MATH-103: Technical Mathematics or higher level MATH

### Required Support Courses

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### Elective Courses

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### Minimum Number Of Credits To Graduate

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20.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Electrical Technology — Basic Electronics

Certificate of Achievement



## Electrical Technology — Basic Electronics

Certificate of Achievement

Program Code: ELECBASEEL.CSGL...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Mark Siedlik • (313) 845-6353 • msiedlik@hfcc.edu • Technology Bldg • Room: T-115E

## Program Information

### Description

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This certificate can be earned while pursuing an Associate in Applied Science degree in Electrical Technology.

## Degree Specific Requirements

### Required Core Courses

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ELEC-103: Basic Electricity  
ELEC-106: Basic Electronics  
MATH-103: Technical Mathematics or higher level MATH

### Required Support Courses

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### Elective Courses

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### Minimum Number Of Credits To Graduate

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10.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Electrical Technology — Basic Electronics

Certificate of Achievement

## Electrical Technology — Digital Electronics

Certificate of Achievement

Program Code: ELEC DIGELE.CMLT...

### Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Mark Siedlik • (313) 845-6353 • msiedlik@hfcc.edu • Technology Bldg • Room: T-115E

### Program Information

#### Description

Digital electronics is that branch of electronics dealing with finite and discrete signal levels. Most digital signals are binary: they are either high or low. Students can earn this certificate while pursuing an Associate in Applied Science degree in Electrical Technology.

## Degree Specific Requirements

### Required Core Courses

ELEC-103: Basic Electricity  
 ELEC-106: Basic Electronics  
 ELEC-115: Digital Circuits 1  
 ELEC-195: AC/DC Circuit Analysis  
 ELEC-295: Microprocessor Systems  
 MATH-103: Technical Mathematics or higher level MATH

Minimum Credit Hours: ..... 19.0

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

19.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Energy Technology - Multi-Skilled Facility Maintenance Technician

Associate in Applied Science



## Energy Technology - Multi-Skilled Facility Maintenance Technician

Associate in Applied Science

Program Code: MSFMT.AAS...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Gregory Laskowsky • (313) 317-1550 • glaskowsky@hfcc.edu • Technology Bldg • Room: T-115D

## Program Information

### Description

Prepare students for a career in building/plant facility maintenance. Students will be exposed to various skills that are necessary for this skilled-trades classification. Primary focuses are job safety, basic electricity, heating and cooling, sheet metal fabrication, EPA refrigeration certification, power engineering (exposure to boilers and hydronic systems), building controls, hydraulics, plumbing and pipefitting, millwright basics (applied tech), and welding.

The student will be exposed to and gain the required knowledge for establishing employment in this fast growing economy. Many large and small companies are combining trades and as a result, are seeking individuals for employment in this fast-growing job category.

## Learning Outcomes

- Apply basic skills in HVAC installation, maintenance and repair
- Operate basic boiler and hydronic systems
- Troubleshoot basic electrical equipment utilizing the basic theories of electricity
- Demonstrate installation and maintenance plumbing and pipefitting skills
- Demonstrate basic welding skills
- Communicate effectively in the workplace using interpersonal and computer skills
- Apply basic carpentry skills such as measuring, cutting, and shaping wood and other building materials
- Employ basic millwrighting skills
- Apply basic fabricating/sheet metal working skills such as layout and fabrication of sheet metal fittings
- Apply basic machine repair skills
- Apply basic skills in installation and troubleshooting of instrumentation and controls
- Utilize the appropriate tools as dictated by project
- Understand and apply industrial safety standards

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

Computer Literacy Outcome: Complete at least one course:

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

# Energy Technology - Multi-Skilled Facility Maintenance Technician

Associate in Applied Science

## Required Core Courses

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ENT-103: AC and DC Electricity  
 ENT-104: Heating Technology  
 ENT-105: Introduction to Refrigeration, Air Conditioning, and Heating (RACH)  
 ENT-106: Sheet Metal Fabrication  
 ENT-108: Introduction to Heating and Cooling Codes  
 ENT-113: Refrigeration Technology  
 ENT-119: Air Conditioning Technology  
 ENT-124: Construction Blueprint Reading  
 ENT-141: Power Engineering I Energy Conversion Fundamentals  
 ENT-219: RACH Light Commercial Systems  
 ENT-269: Energy Technology Project Management

Complete one of the following:

ENT-125: Steam and Hot Water Heating Systems  
 PLMB-120: Steam and Hot Water Systems

Minimum Credit Hours: ..... 32.0

## Required Support Courses

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ENG-131: Introduction to College Writing

Complete one of the following:

ENG-132: College Writing and Research  
 ENG-135: Business and Technical Writing and Research

Complete one of the following:

CHEM-131: Principles of Chemistry  
 PHYS-131: General Physics I

Complete one of the following:

MATH-100: Basic Technical Mathematics  
 MATH-110: Intermediate Algebra

Complete one of the following:

HIST-151: American History I  
 POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

Complete one of the following:

CIS-100: Introduction to Information Technology  
 CLT-100: Computer Literacy Test

Minimum Credit Hours: ..... 17.0

## Elective Courses

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Complete 19.0 credit hours from the following courses:

ELEC-106: Basic Electronics  
 ELEC-120: Basic Hydraulics  
 ELEC-185: Pneumatics  
 ELEC-195: AC/DC Circuit Analysis  
 ELEC-200: Ladder Diagrams and Motor Controls  
 ELEC-245: Programmable Controllers  
 ELEC-255: Instrumentation Systems  
 ELEC-295: Microprocessor Systems  
 ENT-145: Power Engineering II Boilers and Auxiliaries  
 ENT-216: Light Commercial Refrigeration  
 MPS-100: Manufacturing Processes I  
 MPS-110: Manufacturing Processes II  
 PLMB-101: Fundamentals of Plumbing and Pipefitting  
 PLMB-110: Drains, Wastes, and Vents  
 PLMB-250: Plumbing Pipefitting Code  
 TAMJ-110: Welding Fundamentals  
 TAMN-100: Shop Tools and Techniques  
 TAMT-110: Mechanical Power Transmission

Minimum Credit Hours: ..... 21.0

Complete as many Elective credits as necessary to complete this associate degree.

## Minimum Number Of Credits To Graduate

---

70.0 (Including Options/Electives)

# Energy Technology - Multi-Skilled Facility Maintenance Technician

Associate in Applied Science

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

### Career Opportunities

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- HVAC (Heating and Cooling)
- Power Engineering
- Building Controls
- Plumbing
- Electrical
- Welding
- Hydraulics
- Millwright
- Renewable Energy

Class credits earned at HFC can be used for transferring. See 3 for 1 articulation agreements with 4 year universities. Additional information is available in the University Transfer, Advising, and Career Counseling Center or your academic advisor. Students can complete a minimum of 51 credit hours for a certificate. With an additional minimum of 19 credit hours a student may earn an associate degree.

# Energy Technology — Alternative Energy

Associate in Applied Science

## Energy Technology — Alternative Energy

Associate in Applied Science

Program Code: ENGRYALT.AAS...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Gregory Laskowsky • (313) 317-1550 • glaskowsky@hfcc.edu • Technology Bldg • Room: T-115D

## Program Information

### Description

Covers alternative automotive propulsion, green construction, energy system design, blueprint reading; wind, solar, and fuel cell technology, geothermal systems, refrigeration, and AC/DC electricity.

## Learning Outcomes

Distinguish the full range of renewable energy technologies and their applications

Describe how mechanical components of renewable energy technologies that are economically relevant work (wind, solar PV, solar thermal, batteries, geothermal, small hydropower, fuel cells, alternatively fueled vehicles, and biomass)

Demonstrate basic principles of electrical repair and installation while employing appropriate safety measures

Demonstrate the installation, maintenance, and repair of small wind generators, solar PV, solar thermal hot water systems, basic biomass combustion systems, and above-ground components of geothermal systems following manufacturer specifications

Compare and contrast the environmental impact and economic role of both traditional and alternative energy supplies

Perform building energy audits for residential and commercial buildings

Perform energy efficient upgrades to building envelopes, HVAC equipment, and controls

Describe and apply mechanical, building, plumbing, electrical, and energy codes, standards, local ordinances, and state, and federal regulations

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

Computer Literacy Outcome: Complete at least one course:

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

## Required Core Courses

ENT-103: AC and DC Electricity

ENT-104: Heating Technology

ENT-105: Introduction to Refrigeration, Air Conditioning, and Heating (RACH)

REEN-110: Geothermal Systems and Water Furnace Technology

REEN-120 : Wind, Solar, and Fuel Cell Technology

REEN-130: Smart Home Control Technology

REEN-140: Cogeneration and Backup Power



# Energy Technology — Alternative Energy

Associate in Applied Science



Complete one of the following

- ENT-101: Introduction to Energy Technology
- REEN-101 : Survey of Renewable Energy Sources

Minimum Credit Hours: ..... 19.0

## Required Support Courses

- BIO-138: Environmental Science Lecture and
- BIO-139: Environmental Science Laboratory
- PHYS-131: General Physics I
- ENG-131: Introduction to College Writing

Complete one of the following

- ENG-132: College Writing and Research
- ENG-135: Business and Technical Writing and Research

Complete one of the following

- MATH-100: Basic Technical Mathematics
- MATH-110: Intermediate Algebra

Complete one of the following:

- CIS-100: Introduction to Information Technology
- CLT-100: Computer Literacy Test

Complete one of the following

- HIST-151: American History I
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology

Complete a minimum of 8-10 credit hours from the following support courses:

- ACT-109: Residential Energy Efficiency and Sustainability
- ACT-124: Construction Systems 1
- ACT-175: Environmental Building Systems
- ACT-224: Construction Systems 2
- AUTO-105: Internal Combustion Engines
- AUTO-120: Automotive Fuel Management Systems
- AUTO-260: Alternative Automotive Propulsion Systems

Minimum Credit Hours: ..... 30.0

## Elective Courses

Complete a minimum of 16-18 credit hours from the following elective courses

- ENT-113: Refrigeration Technology
- ENT-124: Construction Blueprint Reading
- ENT-216: Light Commercial Refrigeration
- ENT-219: RACH Light Commercial Systems
- ENT-252: Green Building Strategies
- ENT-255: Green Building Certification Preparation
- ENT-260: Energy Systems Management

ENT-265: Energy Systems Design

ENT-269: Energy Technology Project Management

REEN-160: Energy Auditing/Weatherization

REEN-161: Energy Auditing/Weatherization Certification Lab

Minimum Credit Hours: ..... 19.0

Complete as many electives credits as necessary to meet the minimum number of credit hours to receive your associate degree.

## Minimum Number Of Credits To Graduate

68.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Eastern Michigan University
- Siena Heights University
- Wayne State University

## Career Opportunities

- Automotive - Fuels, Battery
- Developing jobs in wind, photovoltaic, construction, automotive, consulting, design, and financial development.
- Energy Auditing - Weatherization
- Fuel Cell Technology
- Geothermal - Planning, Development
- Photovoltaic - Installations, Sales, Design
- Wind Turbine - Manufacture, Assembly, Assessment

# Energy Technology — Boiler License Review Basic

Certificate of Achievement

## Energy Technology — Boiler License Review Basic

Certificate of Achievement

Program Code: ENTPHPBOIL.CSGL...

### Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Gregory Laskowsky • (313) 317-1550 • glaskowsky@hfcc.edu • Technology Bldg • Room: T-115D

### Program Information

#### Description

Designed for students seeking to enter the boiler operation, power plant operation or facilities operation and maintenance fields. In this program students operate boilers, engines, turbines and heating and cooling equipment in the “hands-on” labs in the Energy Technology Department.

Upon completing this certificate program, students may present their credentials to local license agencies to assist in meeting the requirements to take a HP Boiler, LP Boiler or NIULPE 4th Class license exam.

Courses in the certificate may also be applied to the Energy Technology — Power/Building Engineer Advanced Certificate. All courses in the certificate program may be applied to an Associate in Applied Science degree in Energy Technology — Power/Building Engineer.

## Degree Specific Requirements

### Required Core Courses

- ENT-103: AC and DC Electricity
- ENT-105: Introduction to Refrigeration, Air Conditioning, and Heating (RACH)
- ENT-141: Power Engineering I Energy Conversion Fundamentals
- ENT-145: Power Engineering II Boilers and Auxiliaries
- ENT-256: Power Engineering III Steam Plant Systems-Equipment
- ENT-259: Power Engineering IV - Plant/Building Operations and Maintenance

Minimum Credit Hours: ..... 17.0

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

17.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Career Opportunities

Successful passing of one of these exams will offer the opportunity to seek employment as a power engineer, building engineer of facilities engineer. Graduates of this program also find employment in:

- Boiler
- HVAC, refrigeration
- Air conditioning areas such as sales, service, installation, maintenance, and repair of buildings and their related mechanical and electrical systems.

# Energy Technology — Heating and Cooling Advanced

Certificate of Achievement



## Energy Technology — Heating and Cooling Advanced

Certificate of Achievement

Program Code: HCOOL.CMLTL...

### Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

James Elmer • (313) 317-4129 • jlelmer@hfcc.edu • Technology Bldg • Room: T-164D

### Program Information

#### Description

Intended for the student who would like to take the next step into the residential and light commercial heating and cooling industry, this program provides entry-level theory and hands-on experiences are provided as well as advanced courses in commercial heating and refrigeration, light commercial controls, heating and cooling mechanical codes, installation, energy management and energy system design. Students successfully completing this certificate may take ARI, Ferris State or ACCA air conditioning exams and the EPA Refrigerant Recovery exam and will be prepared to sit for the State of Michigan Mechanical Contractors Test. All courses in the certificate program may be applied to an Associate of Applied Science degree in Energy Technology — HVAC. Courses in this program may also be applied to the Energy Technology — Heating and Cooling Basic Certificate.

### Degree Specific Requirements

#### Required Core Courses

- ENT-100: Basic Workplace Skills
- ENT-101: Introduction to Energy Technology
- ENT-103: AC and DC Electricity
- ENT-104: Heating Technology
- ENT-105: Introduction to Refrigeration, Air Conditioning, and Heating (RACH)
- ENT-106: Sheet Metal Fabrication
- ENT-108: Introduction to Heating and Cooling Codes
- ENT-109: HVAC Installation and Start-Up
- ENT-113: Refrigeration Technology
- ENT-119: Air Conditioning Technology

#### Required Support Courses

#### Elective Courses

Complete a total of 9.0 credit hours from the following courses

- ENT-124: Construction Blueprint Reading
- ENT-125: Steam and Hot Water Heating Systems or PLMB-120: Steam and Hot Water Systems
- ENT-212: Commercial Heating
- ENT-216: Light Commercial Refrigeration
- ENT-219: RACH Light Commercial Systems
- ENT-230: Michigan Mechanical Contractor - License Preparation
- ENT-260: Energy Systems Management
- ENT-265: Energy Systems Design
- ENT-269: Energy Technology Project Management

#### Minimum Number Of Credits To Graduate

35.0 (Including Options/Electives)

### Program Requirements

#### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

#### Career Opportunities

- Energy Conservation Technician
- Facilities Maintenance Technician
- HVAC Service and Installation Technician
- Representative for power equipment or instrument and control equipment found in buildings of all sizes.

# Energy Technology — Heating and Cooling Basic

Certificate of Achievement

## Energy Technology — Heating and Cooling Basic

Certificate of Achievement

Program Code: HCOOL.CMLT...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

James Elmer • (313) 317-4129 • jlelmer@hfcc.edu • Technology Bldg • Room: T-164D

## Program Information

### Description

Prepares students for a job entry preparation certificate in Heating and Cooling for residential service. Courses provide theory and hands-on exposure to the basics of electricity, air conditioning, heating, and refrigeration technology. Sheet metal fabrication and heating and cooling installation, troubleshooting and design are included. A student successfully completing this certificate should be ready to sit for air conditioning (ARI or ACCA) and EPA Refrigerant Recovery exams to be certified as an entry level residential service technician. All courses in the certificate program may be applied to an Associate of Applied Science degree in Energy Technology — HVAC. All courses in this program may also be applied to the Energy Technology — Heating and Cooling Advanced Certificate.

## Degree Specific Requirements

### Required Core Courses

ENT-103: AC and DC Electricity  
ENT-104: Heating Technology  
ENT-105: Introduction to Refrigeration, Air Conditioning, and Heating (RACH)  
ENT-106: Sheet Metal Fabrication  
ENT-113: Refrigeration Technology  
ENT-119: Air Conditioning Technology  
Partial online course

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

19.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Career Opportunities

\*HVAC Apprentice

# Energy Technology — HVAC

Associate in Applied Science

## Energy Technology — HVAC

Associate in Applied Science

Program Code: ENGRYHVAC.AAS...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

James Elmer • (313) 317-4129 • jlelmer@hfcc.edu • Technology Bldg • Room: T-164D

## Program Information

### Description

Presents an overall study of the principles of energy production and its uses. It provides the student with a rounded background in the principles of measurement, conservation and operation and repair of residential/commercial heating, air conditioning and refrigeration equipment. Students have the opportunity to earn the Energy Technology — HVAC Basic Certificate and the Energy Technology — HVAC Advanced Certificate during his or her progress in this Associate Degree program, which may enable students to obtain career opportunities while completing the associate degree.

## Learning Outcomes

Use proper tools, materials and equipment necessary for completing mechanical operations on residential and light commercial HVAC-R systems and equipment

Utilize standard safety procedures

Demonstrate both soft skills and communication skills including reading comprehension, computer skills, communication, and customer service

Troubleshoot electrical systems and controls in HVAC-R equipment

Interpret mechanical, electrical, and control diagrams relevant to the HVAC-R industry

Apply manufacturer specifications for HVAC-R equipment and systems

Demonstrate energy auditing and energy management for efficiency

Perform preventative maintenance according to service agreements

Demonstrate effective project management skills

Design and select equipment for HVAC-R systems including ductwork

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

Computer Literacy Outcome: Complete at least one course:

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

[CLT 100: Computer Literacy Test]

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

# Energy Technology — HVAC

Associate in Applied Science

## Required Core Courses

- ENT-100: Basic Workplace Skills
  - ENT-101: Introduction to Energy Technology
  - ENT-103: AC and DC Electricity
  - ENT-104: Heating Technology
  - ENT-105: Introduction to Refrigeration, Air Conditioning, and Heating (RACH)
  - ENT-106: Sheet Metal Fabrication
  - ENT-108: Introduction to Heating and Cooling Codes
  - ENT-109: HVAC Installation and Start-Up
  - ENT-113: Refrigeration Technology
  - ENT-119: Air Conditioning Technology
  - ENT-141: Power Engineering I Energy Conversion Fundamentals
  - ENT-260: Energy Systems Management
- Complete 12.0 credit hours from the following courses:
- ENT-124: Construction Blueprint Reading
  - ENT-125: Steam and Hot Water Heating Systems
  - ENT-212: Commercial Heating
  - ENT-216: Light Commercial Refrigeration
  - ENT-219: RACH Light Commercial Systems
  - ENT-230: Michigan Mechanical Contractor - License Preparation
  - ENT-265: Energy Systems Design
  - ENT-269: Energy Technology Project Management
  - PLMB-120: Steam and Hot Water Systems

Minimum Credit Hours: ..... 44.0

## Required Support Courses

- ENG-131: Introduction to College Writing
- Complete one of the following:
- ENG-132: College Writing and Research
  - ENG-135: Business and Technical Writing and Research
- Complete one of the following:
- HIST-151: American History I
  - POLS-131: Introduction to American Government and Political Science
  - SOC-131: Introduction to Sociology

Complete one of the following:

- MATH-100: Basic Technical Mathematics
  - MATH-110: Intermediate Algebra
- Complete one of the following:
- CHEM-131: Principles of Chemistry
  - PHYS-131: General Physics I

Complete one of the following:

- CIS-100: Introduction to Information Technology or passing score on the Computer Literacy Exam

Minimum Credit Hours: ..... 17.0

## Elective Courses

Minimum Credit Hours: ..... 2.0

Complete as many electives credits as necessary to meet the minimum number of credit hours to receive your associate degree.

## Minimum Number Of Credits To Graduate

63.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Eastern Michigan University
- Ferris State University
- Siena Heights University
- Wayne State University

## Career Opportunities

- Energy Conservation Technician
- Facilities Manager or Facilities Maintenance Technician
- Field Application Engineer
- Field Service Engineer
- HVAC Design/Estimating or Sales Engineer
- HVAC Project Manager
- HVAC Service and Installation Technician
- Licensed Power Engineer or Building Engineer
- Plant/Building Energy Manager
- Representative for power equipment or instrument and control equipment found in buildings of all sizes.
- Residential/Commercial Energy Auditor

# Energy Technology — Plumbing - Pipefitting Advanced

Certificate of Achievement



## Energy Technology — Plumbing - Pipefitting Advanced

Certificate of Achievement

Program Code: ENTPLPIPAD.CMLT...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Gregory Laskowsky • (313) 317-1550 • glaskowsky@hfcc.edu • Technology Bldg • Room: T-115D

## Program Information

### Description

Designed for students interested in Plumbing-Pipefitting and for those seeking to improve their skills in the Construction Technical Trades or multi-skilled improvements. This Advanced Plumbing-Pipefitting Certificate is achieved by obtaining the basic certificate first, then taking the next steps preparing for State of Michigan Welding Certification, along with a Practical Plumbing Lab and State of Michigan License preparation for the Journeymen's State of Michigan License Exam. Verifiable apprentice work time is required to take the State of Michigan Journeyman's test. 35 hours.

## Degree Specific Requirements

### Required Core Courses

- ENT-100: Basic Workplace Skills \*
  - ENT-124: Construction Blueprint Reading
  - PLMB-101: Fundamentals of Plumbing and Pipefitting
  - PLMB-110: Drains, Wastes, and Vents
  - PLMB-120: Steam and Hot Water Systems
  - PLMB-240: Plumbing Materials and Components
  - PLMB-250: Plumbing Pipefitting Code
  - PLMB-255: Plumbing Fixture Installation
  - PLMB-270: Plumbing Service - Residential & Commercial
  - PLMB-275: Practical Plumbing Lab for State License Preparation
  - PLMB-280: Plumbing-Pipefitting State of Michigan License Preparation
  - TAMJ-110: Welding Fundamentals
  - TAMJ-115: Advanced Welding Techniques
  - TAMJ-125: Welding: AWS Pipe Welding
  - TAMJ-230: Welding: AWS Pipe and Pressure Vessel Certification
  - TAMN-100: Shop Tools and Techniques
- \*Partial online course

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

29.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Career Opportunities

Pipefitting  
Plumbing

# Energy Technology — Plumbing - Pipefitting Basic

Certificate of Achievement

## Energy Technology — Plumbing - Pipefitting Basic

Certificate of Achievement

Program Code: ENTPLPIPBA.CMLT...

### Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Gregory Laskowsky • (313) 317-1550 • glaskowsky@hfcc.edu • Technology Bldg • Room: T-115D

### Program Information

#### Description

Designed for individuals interested in Plumbing-Pipefitting and looking to improve their skills in the construction/technical trades. Upon completing the Plumbing-Pipefitting Basic Certificate students are encouraged to continue and complete the Plumbing-Pipefitting Advanced Certificate. Completing both certificates helps prepare individuals for the State of Michigan Welding Certification, along with a Practical Plumbing Lab and State of Michigan License preparation for the Journeyman's State of Michigan License Exam.

\*Verifiable apprentice work time is required to take the State of Michigan Journeyman's test. 35 hours.

## Degree Specific Requirements

### Required Core Courses

ENT-100: Basic Workplace Skills  
ENT-124: Construction Blueprint Reading  
PLMB-101: Fundamentals of Plumbing and Pipefitting  
PLMB-110: Drains, Wastes, and Vents  
PLMB-120: Steam and Hot Water Systems or  
ENT-125: Steam and Hot Water Heating Systems  
PLMB-250: Plumbing Pipefitting Code  
TAMJ-110: Welding Fundamentals  
TAMN-100: Shop Tools and Techniques

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

18.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Career Opportunities

Pipefitter  
Plumber



# Energy Technology — Power Engineering 1st and 2nd Class Steam - Refrigeration License Review Online



Certificate of Achievement

## Energy Technology — Power Engineering 1st and 2nd Class Steam - Refrigeration License Review Online

Certificate of Achievement

Program Code: ENTPADSTRE.CSGL...

### Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

James Martini • (313) 845-6453 • jmartini@hfcc.edu • Technology Bldg • Room: T-211L

### Program Information

#### Description

Provides refrigeration and steam study in the areas of 1st and 2nd class refrigeration operator license review and refrigeration journeyman and 1st and 2nd Class Steam License review. Information and review of the fundamentals of refrigeration thermodynamics, refrigerants, metering devices, refrigeration system components, refrigeration system operation for ammonia and other refrigerants and refrigeration system operation and maintenance is included with refrigeration. Boilers, basic thermodynamics, boiler operation & maintenance, boiler and plant efficiency and emissions control, pump, auxiliaries, power plant accessories, turbines, engines, electrical, compressors, internal combustion engines, power plant equipment, and review of national, state and local steam and boiler codes are included with steam.

Online study and courses are available for operations personnel who have had some power, process or maintenance field experience and are seeking their initial license or studying to obtain higher licenses. For those persons desiring to enter this field without field experience, it is recommended that they enroll in the regular classroom lab courses in the power engineering area at the college or consider taking the introductory online courses.

### Degree Specific Requirements

#### Required Core Courses

MFMT-241: Power Engineering/Refrigeration License Review \*  
MFMT-248: Power Engineering - Steam License Review \*

Minimum Credit Hours: ..... 10.0

100% online course

#### Required Support Courses

#### Elective Courses

#### Minimum Number Of Credits To Graduate

10.0 (Including Options/Electives)

### Program Requirements

#### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Other Information

#### Registry / Certification / Licensure Exam Information

This Certificate is a review for the licenses listed below. It is not a program required for the "License." Students cannot necessarily receive a license upon completion of this certificate, but will be better prepared to take qualifying exams listed below.

Students completing this certificate may have the knowledge to take the NIULPE (National Institute for the Uniform Licensing of Power Engineers) 2nd, 1st or Chief Engineers License Exams on campus or through any one of the 20 + state licensing boards for NIULPE, if they have the required years of field experience for a specific steam license or may use the course to prepare for other local license agency steam license exams at various license levels.

Students completing this certificate may also have the knowledge to take the EPA Refrigerant Recovery Exam, and the Refrigeration portions of the NIULPE (National Institute for the Uniform Licensing of Power Engineers) 3rd, 2nd, 1st or Chief Engineers License Exams on campus or through any one of the 20 + state licensing boards for NIULPE, if they have the required years of field experience for a specific refrigeration license or may use the course to prepare for other local license agency refrigeration exams at various license levels.

# Energy Technology — Power Engineering 1st and 2nd Class Steam - Refrigeration License Review Online

## Certificate of Achievement

Note: This certificate does not qualify a person to take power engineering license exams. Specific experience requirements are required to take various license exams. Check with the license agency involved to ensure you have the required experience for the license you are seeking.

### **Career Opportunities**

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A successful graduate earning the Certificate will have potential employment in occupations such as:

- Power Engineers
- Process Engineers
- Building Engineers
- Facility Engineers
- Stationary Engineers
- Technicians

### **Employment Outlook**

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The Projections of Employment, published by the Labor Market Information projects a 10% increase the number of Facilities Engineers and Stationary Engineers through 2012. The trend toward automated, centralized control of building operations has not reduced the need for Power, Building and Facilities Engineers. When automated systems are installed in older buildings, they often take the place of simpler systems and equipment that had not required the high-level services of Power, Facilities and Building Engineers.

Facilities Engineers and Stationary Engineers:

- Service industrial machinery, hospital equipment, plumbing fixtures, elevators, and other electrical or mechanical devices used on the premises.
- Monitor Control Room equipment including troubleshooting
- Machine/Equipment maintenance and some 'hands-on' repair.
- They also handle all aspects of the job; in others, they are assisted by helpers or maintenance personnel.

# Energy Technology — Power Engineering High Pressure Boiler 3rd Class - Steam License Review Online



Certificate of Achievement

## Energy Technology — Power Engineering High Pressure Boiler 3rd Class - Steam License Review Online

Certificate of Achievement

Program Code: ENTPHPBOIL.CSLG...

### Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

James Martini • (313) 845-6453 • jmartini@hfcc.edu • Technology Bldg • Room: T-211L

### Program Information

#### Description

Provides students with a study of equipment, mechanical and electrical systems of buildings and plants, develops an understanding of individual elements and field systems, and prepares students for license exams for high pressure boiler operator and third class refrigeration and air conditioning engineers.

Online study and courses are available for operations personnel who have had some power, process or maintenance field experience and are seeking their initial license or studying to obtain higher licenses. For those persons desiring to enter this field without field experience, it is recommended that they enroll in the regular classroom lab courses in the power engineering area at the college or consider taking the introductory online courses.

### Degree Specific Requirements

#### Required Core Courses

- MFMT-114: Energy Conversion Principles, Tools, Instruments, Processes \*
- MFMT-116: High Pressure Boiler-3rd Class License Preparation \*
- MFMT-241: Power Engineering/Refrigeration License Review \*

Minimum Credit Hours: ..... 10.0  
100% online course

#### Required Support Courses

#### Elective Courses

#### Minimum Number Of Credits To Graduate

9.0 (Including Options/Electives)

### Program Requirements

#### Additional Program Requirements

Energy Technology — Power Engineering online elective and substitution courses for online certificates. With completion of an advising session and written approval, of Energy Technology — Power Engineering Technology faculty, the following online courses may be taken to enhance the advancement for students in the profession.

- MFMT 103 – Industrial Computer Exploration 2 Cr. Hrs.
- MFMT 151 – Power and Process Plant Operation 5 Cr. Hrs.
- MFMT 162 – Boiler Installers-Repairers License Review 5 Cr. Hrs.
- MFMT 222 – Manufacturing Fabrication 2 Cr. Hrs.
- MFMT 223 – Facilities Fabrication 2 Cr. Hrs.

#### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Energy Technology — Power Engineering High Pressure Boiler 3rd Class - Steam License Review Online

Certificate of Achievement

## Other Information

### Registry / Certification / Licensure Exam Information

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This Certificate is a review for the licenses listed below. It is not a program required for the "License." Students cannot necessarily receive a license upon completion of this certificate. This program is for 3rd Class Steam or Refrigeration license review and HP Boiler license review. It is designed to prepare qualifying students to take:

- 1) NIULPE (National Institute for the Uniform Licensing of Power Engineers) 3rd or 4th Class Power Engineer Exams,
- 2) City of Detroit LP Boiler, HP Boiler or 3rd Class Steam or Refrigeration License Exams or
- 3) City of Dearborn LP Boiler, HP Boiler or 3rd Class Steam or Refrigeration License Exams.

(Please note that specific field experience and/or completion of qualified technical education programs are required to take Power Engineering and other license exams. Check with the license agency involved to ensure you have the required experience for the license you are seeking.)

### Career Opportunities

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A successful graduate earning the Certificate will have potential employment in occupations such as:

- Power Engineers
- Process Engineers
- Building Engineers
- Facility Engineers
- Stationary Engineers
- Technicians

### Employment Outlook

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The Projections of Employment, published by the Labor Market Information projects a 10% increase the number of Facilities Engineers and Stationary Engineers through 2012. The trend toward automated, centralized control of building operations has not reduced the need for Power, Building and Facilities Engineers. When automated systems are installed in older buildings, they often take the place of simpler systems and equipment that had not required the high-level services of Power, Facilities and Building Engineers.

Facilities Engineers and Stationary Engineers:

Service industrial machinery, hospital equipment, plumbing fixtures, elevators, and other electrical or mechanical devices used on the premises.

Monitor Control Room equipment including troubleshooting.

Machine/Equipment maintenance and some 'hands-on' repair.

They also handle all aspects of the job; in others, they are assisted by helpers or maintenance personnel.

# Energy Technology — Power Engineering Low Pressure Boiler - Plant Operator Online

## Certificate of Achievement

### Energy Technology — Power Engineering Low Pressure Boiler - Plant Operator Online

Certificate of Achievement

Program Code: ENTPLBOIL.CSGL...

### Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

James Martini • (313) 845-6453 • jmartini@hfcc.edu • Technology Bldg • Room: T-211L

### Program Information

#### Description

Provides students with an online certificate for individuals seeking initial positions as low pressure boiler or heating and cooling plant operators or maintenance technicians. Subjects covered in this program are energy conversion fundamentals, tools and equipment used by heating and cooling plant technicians, boiler-heating and cooling plant operations and maintenance, and information for completing low pressure boiler license exams.

Online study and courses are available for operations personnel who have had some power, process or maintenance field experience and are seeking their initial license or studying to obtain higher licenses. For those persons desiring to enter this field without field experience, it is recommended that they enroll in the regular classroom lab courses in the power engineering area at the college or consider taking the introductory online courses.

### Degree Specific Requirements

#### Required Core Courses

MFMT-114: Energy Conversion Principles, Tools, Instruments, Processes \*

MFMT-115: Boiler Low Pressure Heating Plant Operation and Maintenance \*

MFMT-228: Building-Plant Major Equipment/Controls Maintenance I \*

Complete one of the following courses:

ENT-259: Power Engineering IV - Plant/Building Operations and Maintenance \*\*

MFMT-229: Building-Plant Major Equipment/Controls Maintenance II \*

Minimum Credit Hours: ..... 8.0

100% online course

\*\* Partial online course

#### Required Support Courses

#### Elective Courses

#### Minimum Number Of Credits To Graduate

8.0 (Including Options/Electives)

### Program Requirements

#### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

#### Career Opportunities

A successful graduate earning the Certificate will have potential employment in occupations such as:

- Power Engineers
- Process Engineers
- Building Engineers
- Facility Engineers
- Stationary Engineers
- Technicians

#### Employment Outlook

The Projections of Employment, published by the Labor Market Information projects a 10% increase the number of Facilities Engineers and Stationary Engineers through 2012. The trend toward automated, centralized control of building operations has not reduced the need for Power, Building and Facilities Engineers. When automated systems are installed in older buildings, they often take the place of simpler systems and equipment that had not required the high-level services of Power, Facilities and Building Engineers.

Facilities Engineers and Stationary Engineers:

Service industrial machinery, hospital equipment, plumbing fixtures, elevators, and other electrical or

mechanical devices used on the premises.

Monitor Control Room equipment including troubleshooting.

Machine/Equipment maintenance and some 'hands-on' repair.

They also handle all aspects of the job; in others, they are assisted by helpers or maintenance personnel.

# Energy Technology — Power/Building Engineer

Associate in Applied Science

## Energy Technology — Power/Building Engineer

Associate in Applied Science

Program Code: ENGRYPWRBLD.AAS...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

James Martini • (313) 845-6453 • jmartini@hfcc.edu • Technology Bldg • Room: T-211L

## Program Information

### Description

Provides the necessary background principles, concepts and practical laboratory experience to enter the field of power engineering or assume a position in the building or small plant operation and maintenance areas. This program is for students interested in becoming an operating engineer, boiler operator, building engineer, refrigeration and air conditioning engineer in generating plants, pumping stations, steam plants, heating plants, water treatment facilities, industrial refrigeration plants and commercial and industrial buildings.

### Learning Outcomes

- Solve basic math and science problems found within power building engineering
- Demonstrate technical communication including reading and interpreting reports, diagrams, and manufacturer specifications and writing work orders, logs, etc
- Apply safe workplace procedures including use of safety equipment in laboratory and field conditions
- Maintain electrical systems in residential, commercial and industrial facilities
- Maintain mechanical systems in residential, commercial and industrial facilities
- Maintain and sustain building envelopes and structural elements of buildings utilizing the concepts of operational maintenance, upgrading, green building feature implementation, energy efficiency, energy management, and commissioning/retro-commissioning
- Maintain HVAC equipment in residential, commercial, and industrial settings
- Maintain automated building control systems
- Create workplans to complete building exterior and landscape maintenance
- Create workplans to complete building interior and custodial maintenance

Maintain boilers, auxiliary equipment, and other steam generation equipment

Maintain combustion equipment including equipment associated with ash handling, fans and draft control, and pollution control

Maintain water handling and water treatment equipment

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

# Energy Technology — Power/Building Engineer

Associate in Applied Science



Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

## Required Core Courses

- ENT-100: Basic Workplace Skills \*
- ENT-101: Introduction to Energy Technology
- ENT-103: AC and DC Electricity \*
- ENT-105: Introduction to Refrigeration, Air Conditioning, and Heating (RACH) \*
- ENT-141: Power Engineering I Energy Conversion Fundamentals \*
- ENT-145: Power Engineering II Boilers and Auxiliaries \*
- ENT-256: Power Engineering III Steam Plant Systems-Equipment \*
- ENT-259: Power Engineering IV - Plant/Building Operations and Maintenance
- ENT-260: Energy Systems Management
- MFMT-103: Industrial Computer Application

Complete 7 credit hours from the following courses:

- ENT 201, ENT 231, MFMT 115\*\*, MFMT 116\*\*, MFMT 241\*\*, and/or MFMT 248\*\*.

Complete 12 credit hours from the following courses:

- ENT 201, ENT 212\*, ENT 216, ENT 219, ENT 230\*, ENT 265, MFMT 241\*\*, and/or MFMT 248\*\*.

Minimum Credit Hours: ..... 45.0

Partial online course

\*\* 100% online course

## Required Support Courses

Complete 4 credit hours of Math from the following courses:

- MATH 100, MATH 103, MATH 175, and/or MATH 180.

Complete 4 credit hours of Science from the following courses:

- CHEM 131, PHYS 120, and/or PHYS 131.

Complete one of the following courses:

- POLS-131: Introduction to American Government and Political Science

- SSC-131: Survey of the Social Sciences

Minimum Credit Hours: ..... 11.0

## Elective Courses

Minimum Credit Hours: ..... 0.0

## Minimum Number Of Credits To Graduate

62.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Davenport University
- Eastern Michigan University
- Ferris State University
- Lawrence Technological University
- Siena Heights University
- University of Michigan - Dearborn
- Wayne State University

## Career Opportunities

Students may earn the Energy Technology — Boiler License Review Basic Certificate and the Energy Technology — Power/Building Engineer Advanced Certificate through the course of this degree, which may present career opportunities for students while completing the associate degree.

# Energy Technology — Power/Building Engineer Advanced

Certificate of Achievement

## Energy Technology — Power/Building Engineer Advanced

Certificate of Achievement

Program Code: PWBLD.CERT...

### Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

James Martini • (313) 845-6453 • jmartini@hfcc.edu • Technology Bldg • Room: T-211L

### Program Information

#### Description

Designed for the prospective entry-level power engineer and those seeking educational credentials or licensing in this field. This certificate program provides two distinct study options and is designed to prepare students to enter the power plant operation, building and facilities operation and maintenance, and HVAC commercial-industrial operation and maintenance fields. Students may select this to achieve this certificate in a traditional classroom/lab approach OR an online approach with lab and/or field experiences.

Option A - Traditional Classroom/Lab Approach provides the traditional classroom-lab approach to completing the program and includes “hands-on” lab and field experiences required by some license agencies. All courses from the Phase I - HP Boiler License Prep Program apply toward Option A of this program. Students completing the 34 credits for the program receive a certificate which may be presented to local license agencies to assist in meeting the requirements to take a HP Boiler license exam, NIULPE 4th Class and/or a 3rd Class Refrigeration Operator license exam. In this program students operate boilers, engines, turbines and heating and cooling equipment in the “hands-on” Co-Generation Facility in the Energy Technology Department.

Option B - Online Approach With Lab and/or Field Experiences provides an equivalent approach to completing the program which is up to ninety-five percent online and includes completion of mandatory power engineering “hands-on” labs or documenting field experiences as required by some license agencies. Students completing the 34 credits for the program receive a certificate which (if it includes the required level of “hands-on” lab training and/or field experiences) may be presented to local license agencies to assist in meeting the requirements to take a HP Boiler license exam, NIULPE 4th Class and/or a 3rd Class Refrigeration Operator license exam.

## Degree Specific Requirements

### Required Core Courses

- ENT-100: Basic Workplace Skills \*
- ENT-101: Introduction to Energy Technology \*
- ENT-103: AC and DC Electricity \*
- ENT-105: Introduction to Refrigeration, Air Conditioning, and Heating (RACH) \*
- ENT-141: Power Engineering I Energy Conversion Fundamentals \*
- ENT-145: Power Engineering II Boilers and Auxiliaries \*
- ENT-256: Power Engineering III Steam Plant Systems-Equipment \*
- ENT-259: Power Engineering IV - Plant/Building Operations and Maintenance \*
- MFMT-103: Industrial Computer Application \*\*
- MFMT-224: Automated Control Systems 1 \*\*
- PEFT-112: Technical Communication-Power \*\*

Complete 6 credit hours from the following courses:

- ENT-212: Commercial Heating \*
- ENT-216: Light Commercial Refrigeration
- ENT-219: RACH Light Commercial Systems
- MFMT-241: Power Engineering/Refrigeration License Review \*\*
- MFMT-248: Power Engineering - Steam License Review \*\*

Complete 2 credit hours from the following courses:

- ICO-192: Industrial Co-Op (2)
- MFMT-192: Power Facilities Practicum
- MFMT-196: Power Engineering Independent Study
- PEFT-108: Portfolio Development
- PEFT-180: Power Heating Plant Lab
- PEFT-182: Power Fundamentals Lab
- PEFT-184: Power Systems Operation and Maintenance Lab

Minimum Credit Hours: ..... 34.0

Students must meet the prerequisites or have permission to enroll in some of the advanced courses.

\*Partial online course

\*\*100% online course



# Energy Technology — Power/Building Engineer Advanced

Certificate of Achievement



## Required Support Courses

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- MFMT-100: Workplace Skills \*\*
- MFMT-101: Energy Technology Applications \*\*
- MFMT-103: Industrial Computer Application \*\*
- MFMT-105: Basic HVACR - Power \*\*
- MFMT-107: Basic Electrical – Power \*\*
- MFMT-114: Energy Conversion Principles, Tools, Instruments, Processes \*\*
- MFMT-224: Automated Control Systems 1 \*\*
- MFMT-229: Building-Plant Major Equipment/Controls Maintenance I \*\*
- PEFT-112: Technical Communication-Power \*\*
- PEFT-143: Power Engineering Boilers \*\*
- PEFT-246: Steam Plant Prime Movers \*\*
- Complete one of the following courses:
  - MFMT-116: High Pressure Boiler-3rd Class License Preparation \*\*
  - MFMT-241: Power Engineering/Refrigeration License Review \*\*
  - MFMT-248: Power Engineering - Steam License Review \*\*

Complete 2 credit hours from the following courses:

- MFMT-228: Building-Plant Major Equipment/Controls Maintenance I \*\*
- PEFT-247: Combined and Cogeneration Power Plants \*\*

Complete 5 credit hours from the following courses:

- ICO-192: Industrial Co-Op (2)
- MFMT-192: Power Facilities Practicum
- MFMT-196: Power Engineering Independent Study
- PEFT-108: Portfolio Development
- PEFT-180: Power Heating Plant Lab
- PEFT-182: Power Fundamentals Lab
- PEFT-184: Power Systems Operation and Maintenance Lab

Minimum Credit Hours: ..... 33.0

\*\*100% online course

## Elective Courses

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## Minimum Number Of Credits To Graduate

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34.0 (Including Options/Electives)

## Program Requirements

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### Additional Program Requirements

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Transfer from one Option to another Option

IMPORTANT: Full-time or part-time students must meet with the Power/Building Engineering faculty advisor or, online students must correspond with the Power/Building Engineering faculty advisor prior to registration to develop an approved plan of work for the program. Any changes from the original Plan of Work for a student's program MUST be approved by a Power Engineering Faculty member BEFORE a change in class enrollment takes place! Specific requirements regarding switching options are as follows:

Option A students may at any time (with an approved plan of work) change to an Option B mode of study usually without significant makeup courses due to the fact that "hands-on" labs-experiences are included with the courses in this option.

Option B students requesting to switch to Option A MUST first establish an approved plan of work with a Power Engineering faculty member BEFORE enrolling in any courses included in the Option A program. Additional "hands-on" experiences may need to be added to the student's program to meet the Option A program lab and experience requirements for completion of that option.

### Program Duration Limits / Updates / Changes

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This certificate is a one year, four semester program. Students attend a fall and winter semester along with two eight-week spring-summer semesters. Entry into the program may be during any one of the four semesters. Students are encouraged to make an early application, at least one month or earlier, before either a fall or winter semester and to seek advising and counseling prior to entry. Full time or part time students must meet with the Power/Building Engineering faculty advisor or, online students must correspond with the Power/Building Engineering faculty advisor prior to registration to develop an approved plan of work for the program.

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Energy Technology — Power/Building Engineer Advanced

Certificate of Achievement

## Other Information

### Registry / Certification / Licensure Exam Information

Students completing this certificate may have the knowledge to take the NIULPE (National Institute for the Uniform Licensing of Power Engineers) 4th Class License Exam (when approved by the individual state board), and the 3rd, 2nd, 1st or Chief Engineers License Exams on campus or through any one of the 20 + state licensing boards for NIULPE, or if they have the required years of field experience for a specific power engineer license.

Students completing this certificate may also have the knowledge to take the EPA Refrigerant Recovery Exam, and the Refrigeration portions of the NIULPE (National Institute for the Uniform Licensing of Power Engineers) 4th Class License Exam (when approved by the individual state board), 3rd, 2nd, 1st or Chief Engineers License Exams on campus or through any one of the 20 + state licensing boards for NIULPE, if they have the required years of field experience for a specific refrigeration license.

The NIULPE 4th class License Exam and the EPA Refrigerant Recovery Exam are offered as part of this program in ENT 256 (For Option A students) and in PEFT 256 (For Option B Online students who can travel to the campus for the exam session). Students receiving a passing score on these exams will receive certification in these areas.

### Career Opportunities

Student successfully completing this program and passing a steam and/or refrigeration license exam may find employment such as:

Building and Facilities Engineers

Operating Engineers

Stationary Engineers

Power Engineers

Service industrial machinery, hospital equipment, plumbing fixtures, elevators, and other electrical or mechanical devices used on the premises.

Monitor Control Room equipment including troubleshooting

Machine/Equipment maintenance and some 'hands-on' repair.

They also handle all aspects of the job; in others, they are assisted by helpers or maintenance personnel.

These employment positions may be found in steam-electric or cogeneration generating plants, pumping stations, heating plants, air conditioning plants, water treatment facilities, industrial or commercial refrigeration plants and commercial or industrial process plants and buildings.

Students with power field operating experience may advance in the profession by utilizing this program to seek advanced operating positions, management positions or a higher grade of license.

Students completing Option B of this program may find additional employment positions in the Power/Building Engineer field such as in administration, engineering, marketing or sales, and parts or service.

### Employment Outlook

The Projections of Employment, published by the Labor Market Information projects a 10% increase the number of Facilities Engineers and Stationary Engineers through 2012. The trend toward automated, centralized control of building operations has not reduced the need for Power, Building and Facilities Engineers. When automated systems are installed in older buildings, they often take the place of simpler systems and equipment that had not required the high-level services of Power, Facilities and Building Engineers.

This program alone does not qualify a person to take power engineering license exams. However, this program may in some cases offer the capability to gain all of the qualifying educational and/or field experiences toward meeting license exam requirements. Admission to license exams is based upon education and field experience and is granted depending upon each individual's credentials. Check with your employer or the local license agency involved to ensure you will obtain the required experience and/or the educational background necessary for the license you are seeking or the documentation you require to advance in the profession.

# Energy Technology — Renewable Energy Advanced

Certificate of Achievement



## Energy Technology — Renewable Energy Advanced

Certificate of Achievement

Program Code: RENEWAD.CMLT..

### Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Gregory Laskowsky • (313) 317-1550 • glaskowsky@hfcc.edu • Technology Bldg • Room: T-115D

### Program Information

#### Description

Exposes individuals to the many new jobs that are opening in this field related to different types of non-traditional types of energy efficient power generation, heating and cooling, alternative automotive propulsion, green construction and energy related savings through better usage and design. This program is a general technical career general education program that focuses on exposure to renewable/alternative energies, not engineering.

### Degree Specific Requirements

#### Required Core Courses

- ENT-101: Introduction to Energy Technology or
- REEN-101 : Survey of Renewable Energy Sources
- ENT-103: AC and DC Electricity
- ENT-104: Heating Technology
- ENT-105: Introduction to Refrigeration, Air Conditioning, and Heating (RACH)
- REEN-110: Geothermal Systems and Water Furnace Technology
- REEN-120 : Wind, Solar, and Fuel Cell Technology
- REEN-130: Smart Home Control Technology
- REEN-140: Cogeneration and Backup Power

Minimum Credit Hours: ..... 19.0

#### Required Support Courses

Complete a minimum of 16.0 credit hours from the following courses:

- ENT-113: Refrigeration Technology
- ENT-124: Construction Blueprint Reading
- ENT-216: Light Commercial Refrigeration
- ENT-219: RACH Light Commercial Systems
- ENT-252: Green Building Strategies
- ENT-255: Green Building Certification Preparation
- ENT-260: Energy Systems Management
- ENT-265: Energy Systems Design
- ENT-269: Energy Technology Project Management
- REEN-160: Energy Auditing/Weatherization and
- REEN-161: Energy Auditing/Weatherization Certification Lab
- REEN-170: Battery Technologies
- REEN-180: Hydropower

Minimum Credit Hours: ..... 16.0

#### Elective Courses

#### Minimum Number Of Credits To Graduate

35.0 (Including Options/Electives)

### Program Requirements

#### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

- Eastern Michigan University
- Siena Heights University
- Wayne State University

#### Career Opportunities

- Automotive
- Batteries
- Biomass
- Developing jobs in wind and photovoltaic
- Geothermal
- Hydrogen Fuel Cell technology
- Hydropower

# Energy Technology — Renewable Energy Basic

Certificate of Achievement

## Energy Technology — Renewable Energy Basic

Certificate of Achievement

Program Code: RENEW.CSGL...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Gregory Laskowsky • (313) 317-1550 • glaskowsky@hfcc.edu • Technology Bldg • Room: T-115D

## Program Information

### Description

Provides students with knowledge and current concepts in renewable energy, and applies to students interested in an alternative to the current reliance on fossil fuels.

## Degree Specific Requirements

### Required Core Courses

REEN-101 : Survey of Renewable Energy Sources  
REEN-110: Geothermal Systems and Water Furnace Technology  
REEN-120 : Wind, Solar, and Fuel Cell Technology  
REEN-130: Smart Home Control Technology  
REEN-140: Cogeneration and Backup Power

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

10.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Career Opportunities

Apprentice  
Technician

# English

## Area of Study

### English

Area of Study

### Contact

Communications Division • (313) 845-9624 • english@hfcc.edu • Liberal Arts • Room: L-201

Jennifer Ernst • (313) 845-6385 • jlernst@hfcc.edu • Liberal Arts • Room: L-208

### Program Information

#### Description

The English Department offers a wide selection of courses for students with varying interests, from improving basic reading, writing, and study skills to appreciating and understanding great works of American and world literature.

The literature classes offer students both introductory surveys and more advanced and specialized studies of the literature of specific genres and historical periods. Students who are seeking an initial acquaintance can take ENG 231-Introduction to Literature: Poetry and Drama and ENG 233-Introduction to the Novel. Those interested in more specialized courses may choose from two American literature surveys, Shakespeare, Children's literature, and African-American literature, among others. ENG 139-Creative Writing is offered in the fall and winter semesters.

ENG 135-Business and Technical Writing and Research trains students to write effectively in the workplace, and it is also available to people already working in local business and industry who desire to improve their professional writing skills. Sections of this course are among those taught in computer-equipped classrooms and online, thus emphasizing computer technology as a critical tool in workplace communication. Students should contact University Transfer, Advising, and Career Counseling Center for ENG 135 transferability to other institutions.

ENG 079 and ENG 081 (developmental reading courses) and ENG 088 and ENG 093 (developmental writing courses) and are offered every semester to provide students the opportunity to improve their basic skills and ensure their success at Henry Ford College. Students placement scores determine which courses are appropriate, given their existing reading and writing skills.

If students placement scores indicate no need for developmental courses, they should enroll in ENG 131-Introduction to College Writing, a freshman-level course which stresses critical reading, critical thinking, and critical writing. Either ENG 132-College Writing and Research, or ENG 135-Business and Technical Writing and Research follows successful completion of ENG 131.

Some students for whom English has not been the primary language need specialized courses to prepare them for academic success. The English Department offers one developmental writing course for such students (ENG 092), and one developmental reading courses (ENG 082). Enrollment is restricted to 20 per class in these courses in order to ensure that these students receive individual attention.

### Degree Specific Requirements

#### Required Core Courses

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#### Required Support Courses

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#### Elective Courses

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### Program Requirements

#### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Environmental Studies

Associate in Science

## Environmental Studies

Associate in Science

Program Code: ENVIRN.AS...

## Contact

Math and Science Division • (313) 845-9631 • math@hfcc.edu •  
Health Careers Education Ctr • Room: H-122

Joshua Osborn • (313) 317-1747 • jcosborn@hfcc.edu • Bldg ID  
Retired 12/23/2014 • Room: S-152

## Program Information

### Description

Emphasizes the interdisciplinary nature of environmental problem-solving at the local, regional, and international levels. Students completing this program can transfer to Bachelor's program in four broad areas: land resources, nature studies, resource and policy management, and urban service.

## Learning Outcomes

- Conduct an experiment; analyze, interpret, and present results either individually or in a team setting
- Describe the process of ecological succession
- Recognize the components of an ecosystem and explain the relationships among them
- Evaluate the process of biological evolution
- Explain biogeochemical cycles
- Describe the major geologic processes that affect the Earth
- Describe the scope of geologic time-scales
- Use Geographic Information System software to design clear and effective digital maps
- Analyze experimental data using critical thinking skills
- Show proficiency in the use of basic laboratory equipment and basic knowledge of safe lab procedures
- Analyze climatic data and interpret it to describe the climate of an area
- Interpret topographic maps
- Write formal reports using a standard format
- Prepare a spreadsheet that incorporates basic formulas and a variety of formatting
- Analyze free market capitalism and outline its characteristics
- Demonstrate how supply and demand determine prices in a market
- Examine how public policy is developed and implemented

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Environmental Studies

Associate in Science



## Degree-Specific Requirements

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Complete 6 Humanities credits from courses in:

Art, Dance, English (except ENG 131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 24 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 6 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

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- BIO-138: Environmental Science Lecture
- BIO-139: Environmental Science Laboratory
- BIO-150: Biology: Organisms, Genes, and Ecology
- CHEM-141: Principles of General and Inorganic Chemistry I
- GEOG-131: Principles of Physical Geography
- GEOG-132: World Regional Geography
- GEOL-131: Physical Geology

Complete one of the following courses:

- ATMS-131: Weather and Climate
- GEOG-231: Introduction to Geographic Information Systems

Minimum Credit Hours: .....28.0

Students should consult the Environmental Studies advisor for a Recommended Course Sequence for your intended area of study.

## Required Support Courses

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- ANTH-131: Introduction to Anthropology
- BCA-140: Software Applications
- BEC-152: Principles of Microeconomics
- MATH-112: Trigonometry or higher level MATH course
- POLS-131: Introduction to American Government and Political Science

Complete 6 credit hours of Humanities

Minimum Credit Hours: .....21.0

## Elective Courses

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Minimum Credit Hours: ..... 5.0

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. Students may be able to take additional coursework at HFC and transfer it to a 4-year institution.

## Minimum Number Of Credits To Graduate

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60.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

University of Michigan - Dearborn

### Career Opportunities

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Some occupations of Bachelors-level environmental studies majors are:

- Teacher
- National park naturalist
- Resource policy planner
- Air quality analyst
- Regional land use planner
- Public health officer
- Public interest group director

# Firefighter/Paramedic

Associate in Applied Science

## Firefighter/Paramedic

Associate in Applied Science

Program Code: FFPAR.AAS...

## Contact

Health Sciences Division • (313) 845-9635 • Health Careers Education Ctr • Room: H-132

Shannon Bruley • (313) 317-6582 • sbruley@hfcc.edu • Health Careers Education Ctr • Room: H-132I

## Program Information

### Description

Offers a career pathway for individuals seeking an entry-level position with a full-time municipal fire service. This program is a combination of academic education with necessary hands-on skills. Degree recipients will have an Associate in Applied Science, an EMT-Basic license, paramedic certification, Firefighter I & II certification and field clinical experience.

### Learning Outcomes

- Maintain Equipment and Facilities
- Respond appropriately to Calls
- Demonstrate Scene Control
- Conduct a proficient primary and secondary patient assessment
- Identify & manage patient illness and or injury
- Determine when to provide pt. transport
- Effectively document the incident and patient information
- Perform post-incident Management tasks
- Perform professionally within the Firefighter/paramedic field
- Provide proof of successful testing for Fire Ground Training

### Accreditation

Henry Ford Community College is an approved EMS Program Sponsor through the Michigan Department of Community Health, Bureau of EMS & Trauma Systems.

### Admission Requirements / Eligibility

The first year of studies for the Emergency Medical Service degree is open enrollment as long as students meet the college level reading and writing scores identified below:

- COMPASS Reading score of 82 or better
- Assessment score sufficient for placement in ENG 131.

This requirement may also be fulfilled by successful completion of required developmental English courses or completion of ENG 131 or its equivalent with a grade of C or better

All first year EMS courses must be taken concurrently and passed concurrently with a C or better. Students wishing to enter the second year of studies, which includes the paramedic core, must apply through the EMS office in Health Careers. This level of studies begins every FALL semester. Acceptance to the college is granted to most applicants and does not constitute nor guarantee admission to the paramedic core studies. Early advising for course sequencing is highly recommended. Students are accepted into the program based on a "first-qualified, first-accepted" basis. All potential placements must be registered on the wait list in the EMS office.

For EMS 200-level courses, students will need to satisfy the following prerequisites:

- EMT-Basic MI License (with a current National Registry Certificate preferred), BIO 233, BIO 234, AH 100, AH 120 and AH 105 (or equivalent)\*
- Math proficiency as demonstrated by successful completion of MATH 080 or its equivalent with a C grade or better OR COM-PASS Algebra score of 46 or better

See first year Reading and English requirements. This applies to all students entering the second year as well

A grade of C or better is required for successful completion of all courses (core and support) required in the EMS program. Students not receiving a C or better cannot continue in the program until they have successfully repeated the course(s) earning a C or better. Students who do not successfully complete all co-requisite courses in the EMS Program cannot continue with that same class of students. Therefore, students who fail must repeat all coursework (200+ and up) from the beginning up to the point that they failed, and then progress in sequence with the new class of paramedic students. Students who need to repeat paramedic must request to be put on the waiting list for the following year. Re-admittance is subject to seat capacity and prior performance.

Tech. Prep. Public Safety Pathway (PSP) completers from the Downriver Career Tech Program. In order to receive "TR" credits, you must complete (with a C or better) at least six credit hours of 100+ level course-work (at HFCC) for each year of HS PSP credit earned. Bring a student copy of your HFCC transcript along with a copy of your FINAL HS transcript to the EMS Program Manager. This is necessary to process a request for credits to be posted by the Office of the Registrar. Do not ask your Counselor, Health Career Advisor or Instructor to post credits.

This process must be initiated by the EMS Program Director. If you are not sure if you earned credit, contact the EMS Program Manager before you schedule courses. The courses in the PSP Program are as follows:

- Year 1- CRJ 131 (3 credit hours), MFR (5 credit hours, no transfer equivalent)\*
- Year 2- CRJ 135 (3 credit hours), AH 100 (4 credit hours), and EMS (8 credit hours, no transfer equivalent)\*



# Firefighter/Paramedic

Associate in Applied Science



## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

## Required Core Courses

- EMS-100: EMT-Basic Fundamentals
- EMS-106: EMT-Basic Procedures
- EMS-109: EMT-Basic Clinical Externship
- EMS-200: Paramedic I
- EMS-205: Paramedic Lab I
- EMS-210: Paramedic II
- EMS-215: Paramedic Lab II
- EMS-220: Paramedic III
- EMS-225: Paramedic Lab III
- EMS-230: Paramedic IV
- EMS-240: Paramedic V
- EMS-290: Advanced Clinical I
- EMS-295: Advanced Clinical II
- EMS-299: Advanced Clinical III

Complete Firefighter I and Firefighter II certification (9 credit hours).\*

Minimum Credit Hours: .....60.5

A minimum of 'C' grade is required in all Required Core Courses.

\*The 60.5 minimum credit hours include the 9 credit hours for the Firefighter I and Firefighter II certificate that are available at HFC from the training academy. To receive this credit on your transcript see the EMS program manager after you have completed your first semester of Paramedic studies (200 of higher level EMS coursework).

## Required Support Courses

- AH-100: Medical Terminology
- AH-105: Basic Life Support for Healthcare Providers
- AH-120: Pharmacology for Allied Health
- BIO-233: Anatomy and Physiology I
- BIO-234: Anatomy and Physiology II
- POLS-131: Introduction to American Government and Political Science

Complete one of the following courses:

- CRJ 131, CRJ 132, MGT 237, MGT 238, and/or MGT 240.

Minimum Credit Hours: .....21.5

Students should take AH 100 and AH 105 before taking any course with an EMS prefix.

# Firefighter/Paramedic

Associate in Applied Science

## Elective Courses

These courses are suggestions for electives:

HPEA-155: Relaxation Techniques for Stress Management

HPEA-117: Strength Training and Physical Conditioning I

Minimum Credit Hours: ..... 2.0

Complete as many electives credits as necessary to meet the minimum number of credit hours to receive your associate degree.

## Minimum Number Of Credits To Graduate

90.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

#### Health Appraisal

Each student is required to complete a Health Appraisal Form, copies of which are available in the Health Careers Office. This appraisal includes a physical, blood titers (to validate immunity to childhood immunizations), TB test, Hepatitis B and boosters if necessary. Actual lab results from the titers need to be submitted with the appraisal to the program. The cost for this appraisal is in addition to the basic tuition and fee schedule.

Students in the EMS program must meet the same physical and mental requirements as emergency medical technicians. A representative job profile, also available in the Health Careers Office, lists the specific physical and mental requirements as well as the environmental conditions of the occupation.

Students must have basic health insurance coverage during clinical courses.

#### Criminal Background Check and Drug Screen

Consistent with Section 20173 of the Michigan Public Health Code and the requirements of our clinical affiliates, a Criminal Background Check and Drug Screen\* is required for all students in EMS programs prior to beginning clinical assignments. The cost for this test is in addition to the basic tuition and fee schedule.

Students with felony convictions on their record should not enroll into the program as we have a zero-tolerance stance from our clinical affiliates. If such individuals are granted an expungement, then they would be considered for eligibility. Students with a history of alcohol related driving offenses or felony convictions will find it difficult if not impossible to gain employment in public safety careers.

Students who are not cleared for clinical through the Health Appraisal, Criminal Background Check, and Drug Screen will not be able to complete the EMS education programs.

## Uniforms

Uniform shirts are provided through the program at the Basic EMT level. Pants, shoes, work belt, stethoscope and exam fees are in addition to the basic tuition and fee schedule.

## Job Placement

Information about career placement and job success is available through either the Health Careers Office or the College's Job Placement Office.

## Program Duration Limits / Updates / Changes

Once a student is admitted/enrolled into the paramedic portion of the EMS degree, that student must complete with that same group of students. If for any reason a student must stop attending after successfully completing any portion thereof, and wishes to complete, the student must reapply through the EMS office for the desired year of return. Because of the rapid changes in healthcare, legislation and resulting course content, successfully completed EMS classes must be repeated in order to assure competence. This applies to all second year students who start, stop and then return for completion. Early advising through the EMS office is essential.

The College continuously attempts to improve each program and as a result, courses and requirements may be modified. Curriculum, course content and program criteria are subject to change by action of the College faculty and administration. Contact the Health Careers Office at (313) 845-9877 for any current program updates, or visit [www.hfcc.edu](http://www.hfcc.edu).

## Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Occupational Exposure / Risk

In emergency medical services, both in school and on the job, exposure to infectious diseases and latex may be minimal to moderate depending on the setting in which students are working. Exposure to illness and infectious disease is an occupational risk for all health care workers.

People should not become health care workers unless they recognize and accept this risk. Proper education and strict adherence to well established infection-control guidelines can reduce the risk to a minimum. People who have latex sensitivity or allergies should consult with a physician prior to entering the program for guidance on the merits of continuing in a health care career.

# Firefighter/Paramedic

Associate in Applied Science



## Registry / Certification / Licensure Exam Information

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### EMT-Basic Certification and Paramedic Certification

The paramedic program at HFC reflects the new national curriculum, and all successful completers are eligible to take the National Registry certification exams. The college reserves the right to change policies and course requirements in effect at the time of catalog publication.

The EMS portion of the program is constantly updated to meet the changing needs of the profession. This is reflected in the high success rate of our graduates both on the National Registry and in practice.

If an individual is a convicted felon, it could disqualify him/her from obtaining the necessary National Registry Certification. For the specific National Registry EMS Policy, go to [http://www.nremt.org/about/policy\\_felony.asp](http://www.nremt.org/about/policy_felony.asp). After obtaining a National Registry Certificate, individuals can apply for a Michigan Licensure, which is necessary to practice EMS as a profession. If an individual is a convicted felon, questions regarding potential licensure should be directed to the Michigan Department of Community Health, Bureau of Health Professions, or go to the following web site: <http://www.michigan.gov/mdch>.

In EMS, paramedics are in high demand. According to the U.S. Department of Labor, Bureau of Labor Statistics, “Employment of emergency medical technicians and paramedics is expected to grow faster than the average for all occupations through 2012” (Occupational Outlook Handbook, 2004-2005 Reprint).

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

## Career Opportunities

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Employment opportunities range from municipal fire services to field and hospital-based emergency care positions. Firefighting positions are highly competitive which is why we encourage all students to complete the Associate in Applied Science as a Firefighter/Paramedic. This 90+/- credit hour associate level program is actually a 3-year degree program. Students who successfully complete the full program can transfer to Siena Heights University as a Senior, with only one year remaining in order to complete a bachelor degree (inverted major with Bachelor of Applied Science). This positions our graduates well above many entry-level applicants for the coveted Firefighter positions.

# Fitness and Sports Center Management

Associate in Business

## Fitness and Sports Center Management

Associate in Business

Program Code: FSCMGMT.AB

## Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Corinne Asher • (313) 845-9867 • casher@hfcc.edu • Liberal Arts •  
Room: L-325

## Program Information

### Description

Assists students in gaining the necessary knowledge and competencies to manage the specialized business functions of an athletic club, fitness center, health club or sports facility. Students will learn concepts of accounting, customer service, human resources, marketing, management and effective oral and written communication skills. Students will learn about nutrition, current and future trends in exercise, operation of a fitness facility, equipment purchase and maintenance and exercise prescriptions for clients from various demographic populations. Students may also earn a Fitness Leadership Certificate in addition to this degree by successfully completing two Anatomy and Physiology classes and performing an internship.

## Learning Outcomes

- Interpret basic financial statements
- Apply management theory to effectively supervise the human resources of an organization
- Evaluate management decisions given an organization's relationship to the external business environment
- Creatively solve common problems in managing an organization
- Demonstrate effective non-verbal and verbal communication skills for a business environment
- Demonstrate effective written communication for a business environment
- Employ computer applications to perform business activities
- Devise the appropriate exercise prescription for a variety of populations (e.g. obese, athlete, diabetic) following the American College of Sports Medicine guidelines
- Diagram the facility requirements for a wellness center as defined by the American College of Sports Medicine
- Perform the appropriate response to the injury situations that are likely to happen in an exercise setting

Demonstrate procedures for assessing skill and health-related components of physical fitness based on guidelines from the American College of Sports Medicine

Outline the physiological changes that occur to the systems of the body as a result of exercise  
Outline the physiological changes that occur to the systems of the body as a result of exercise

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

# Fitness and Sports Center Management

Associate in Business



Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

## Required Core Courses

- BAC-110: Practical Accounting
- BBA-131: Introduction to Business
- BBA-133: Business Behavior and Communication
- BBA-153: Customer Service
- BBA-252: Principles of Marketing
- BMA-110: Business Math
- CIS-100: Introduction to Information Technology
- MGT-230: Principles of Management
- MGT-231: Supervision and Teambuilding
- MGT-240: Creative Problem Solving

Minimum Credit Hours: .....32.0

## Required Support Courses

- HPE-140: Lifetime Wellness
- HPE-142: Advanced First Aid
- HPE-150: Exercise Physiology
- HPE-151: Methods for Teaching Exercise
- HPE-152: Tests and Measurements
- HPE-154: Facilities and Equipment
- HPE-253: Nutrition for the Professional

Choose one of the following courses:

- HPEA-117: Strength Training and Physical Conditioning I Or
- HPEA-217: Strength Training and Physical Conditioning II

Choose one of the following courses:

- HPEA-120: Lifetime Fitness Or
- HPEA-110: Volleyball I Or
- HPEA-210: Volleyball II Or
- HPEA-126: Aerobic Dance Or
- HPEA-127: Aquacise

Minimum Credit Hours: .....22.0

## Elective Courses

## Minimum Number Of Credits To Graduate

63.0 (Including Options/Electives)

## Program Requirements

## Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, counseling@hfcc.edu, Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

# Fitness Leadership: Associate in Applied Science

Associate in Applied Science

## Fitness Leadership: Associate in Applied Science

Associate in Applied Science

Program Code: FITLD.AAS...

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Carole Sloan • (313) 845-6318 • csloan@hfcc.edu • Athletic Memorial Bldg • Room: PE-11

## Program Information

### Description

Provides knowledge necessary for careers as certified exercise instructors and personal trainers in national fitness clubs, corporate fitness centers, recreation facilities, and hospitals. Explores areas relative to exercise science such as nutrition, exercise physiology, methods of teaching exercise, and first aid. Students may seek certification upon completion of program.

## Learning Outcomes

Devise the appropriate exercise prescription for a variety of populations (e.g. obese, athlete, diabetic) following the American College of Sports Medicine guidelines

Demonstrate communication skills necessary to lead one-on-one and group exercise

Demonstrate procedures for assessing skill and health-related components of physical fitness based on guidelines from the American College of Sports Medicine

Diagram the facility requirements for a wellness center as defined by the American College of Sports Medicine

Describe the physiological changes that occur to the systems of the body as a result of exercise

Perform the appropriate response to the injury situations that are likely to happen in an exercise setting

### Admission Requirements / Eligibility

There are no special admission requirements to the program. Simply declare Fitness Leadership as your program of study when you apply to the college or register for classes. Early in the program you should contact the director of the program to understand the sequence of classes in the program.

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

# Fitness Leadership: Associate in Applied Science

Associate in Applied Science



Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

### Required Core Courses

- HPEA-127: Aquacise
- HPE-140: Lifetime Wellness
- HPE-142: Advanced First Aid
- HPE-150: Exercise Physiology
- HPE-151: Methods for Teaching Exercise
- HPE-152: Tests and Measurements
- HPE-153: Nutrition
- HPE-154: Facilities and Equipment
- HPE-192: Internship in Physical Education

Complete one Dance (DNC) course from the following: Ballet, Jazz, Modern, and/or Aerobic Dance

Complete one team sport from the following

- HPEA-104: Basketball I
- HPEA-110: Volleyball I
- HPEA-204: Basketball II
- HPEA-210: Volleyball II

Complete one of the following

- HPEA-117: Strength Training and Physical Conditioning I
- HPEA-217: Strength Training and Physical Conditioning II

Minimum Credit Hours: ..... 27.0

### Required Support Courses

- BBA-131: Introduction to Business
- BIO-233: Anatomy and Physiology I
- BIO-234: Anatomy and Physiology II
- SPC-131: Fundamentals of Speaking

Minimum Credit Hours: ..... 15.0

### Elective Courses

These courses are suggestions for electives:

- MATH-110: Intermediate Algebra
- MATH-112: Trigonometry
- MATH-115: College Algebra
- MATH-175: Precalculus
- PHYS-133: Principles of Physics
- BIO-131: Introduction to Biology
- BIO-143: Zoology
- HPEA-155: Relaxation Techniques for Stress Management
- HPE-253: Nutrition for the Professional
- HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher

Minimum Credit Hours: ..... 9.0

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree.

### Minimum Number Of Credits To Graduate

60.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Registry / Certification / Licensure Exam Information

Students interested in taking industry certification exams such as the American Council on Exercise (ACE) or American College of Sports Medicine (ACSM) may elect to do so at the completion of the program. Two courses in the program, HPE 150-Exercise Physiology and HPE 151-Methods for Teaching Exercise, are designed to help students be successful with certification.

# Fitness Leadership: Associate in Applied Science

Associate in Applied Science

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Eastern Michigan University
- University of Michigan - Ann Arbor
- Michigan State University
- Central Michigan University

## Career Opportunities

A third party independent study funded by the American Council on Exercise completed a study of salaries on people working as personal trainers and group exercise leaders in 2013. The study reported a 12% increase in salaries since 2010, the time of the last study. Currently, the average national salary for personal trainers and group exercise leaders working full-time is \$52,537 and for those working part-time in north central United States, exercise instructors are averaging an hourly rate of \$26. The survey can be accessed at [http://www.acefitness.org/salary/docs/ACE\\_SalarySurvey.pdf](http://www.acefitness.org/salary/docs/ACE_SalarySurvey.pdf).

A future exercise leader who can work one-on-one with people wanting to improve their health as well as teach classes in aerobics, yoga, or water exercise can find an exciting career path with the Fitness Leadership program. This program provides the student with the credentials and experience to become a leader in the fitness industry.



# Fitness Leadership: Certificate of Achievement

Certificate of Achievement



## Fitness Leadership: Certificate of Achievement

Certificate of Achievement

Program Code: FITLD.CERT...

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Carole Sloan • (313) 845-6318 • csloan@hfcc.edu • Athletic Memorial Bldg • Room: PE-11

## Program Information

### Description

Designed to help students respond to the increasing demand for highly-trained, certified exercise instructors and personal trainers in national fitness clubs, corporate fitness centers, area-wide recreation facilities and hospitals. To become a successful fitness trainer, an individual needs to be knowledgeable in exercise science, skilled at motivating individuals to make lifestyle changes, and aware of current and future trends in the profession. This programs offer a wide variety of courses including Exercise Physiology, Nutrition, Methods of Teaching Exercise, Strength Training, Wellness, and First Aid, and culminates with a 100 hour internship program designed to give the student experience in the field that will lead to job opportunities.

### Admission Requirements / Eligibility

There are no special requirements to the program. You simply need to claim Fitness Leadership as your course of study when you apply to the college or register for classes. Early in the program you should contact the director of the program to understand the sequence of classes in the program.

## Degree Specific Requirements

### Required Core Courses

- HPE-140: Lifetime Wellness
- HPE-142: Advanced First Aid
- HPE-150: Exercise Physiology
- HPE-151: Methods for Teaching Exercise
- HPE-152: Tests and Measurements
- HPE-153: Nutrition
- HPE-154: Facilities and Equipment
- HPE-192: Internship in Physical Education
- HPEA-127: Aquacise
- BIO-233: Anatomy and Physiology I
- BIO-234: Anatomy and Physiology II

Complete one of the following

- BIO-131: Introduction to Biology
- BIO-150: Biology: Organisms, Genes, and Ecology
- BIO-152: Cells and Molecular Biology

Minimum Credit Hours: ..... 33.0

BIO-131, BIO-150 or BIO-152 will serve as the prerequisite to BIO-233.

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

33.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Fitness Leadership: Certificate of Achievement

## Certificate of Achievement

### Other Information

#### Registry / Certification / Licensure Exam Information

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Many students are interested in taking the American Council on Exercise (ACE) or the American College of Sports Medicine (ACSM) industry certification exams at the completion of the program. The certificate/associate's degree from HFC serves as a much higher level of certification than the various industry certification exams. Even though this is the case, many students take the industry certification exam and do very well. The classes that will specifically prepare students for the various industry certification exams are HPE 150-Exercise Physiology and HPE 151-Methods for Teaching Exercise.

Statistics provided by ACE and ACSM have shown that students who have received training from a college perform well on certification exams.

The Fitness Leadership certificate serves as an excellent foundation for students entering other careers such as nursing, physical therapy, community health and business. Students may find that having two complementary areas of concentration and expertise makes them more marketable.

#### Career Opportunities

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Following completion of the certificate program, many students move into the Associate of Applied Science program in Fitness Leadership. Attaining the certificate first, enables the student to begin working in the field and collecting valuable work experience. HFC has an articulation agreement with Eastern Michigan University (EMU) allowing for a smooth transition to the University without a loss of credit hours. Additionally, many students transfer to Wayne State University (WSU) which has excellent programs in exercise science, nutrition, health, coaching, and physical therapy.

A third party independent study funded by the American Council on Exercise completed a study of salaries on people working as personal trainers and group exercise leaders in 2013. The study reported a 12% increase in salaries since 2010, the time of the last study. Currently, the average national salary for personal trainers and group exercise leaders working full-time is \$52,537 and for those working part-time in north central United States, exercise instructors are averaging an hourly rate of \$26. The survey can be accessed at [http://www.acefitness.org/salary/docs/ACE\\_SalarySurvey.pdf](http://www.acefitness.org/salary/docs/ACE_SalarySurvey.pdf).

A future exercise leader who can work one-on-one with people wanting to improve their health as well as teach classes in aerobics, yoga, or water exercise can find an exciting career path with the Fitness Leadership program. This program provides the student with the credentials and experience to become a leader in the fitness industry.

# General Business — No Concentration

Associate in Business



## General Business — No Concentration

Associate in Business

Program Code: GENRLAB

### Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Jared Boyd • (313) 845-9697 • jpboyd@hfcc.edu • Liberal Arts •  
Room: L-329

### Program Information

#### Description

Enables students to customize their academic programs to meet specific goals and is often used by students who are interested in transferring to a four-year institution. The associate's degree in General Business with no concentration is the most basic and flexible degree offered by the Business and Computer Technology Division. Students may combine this degree with certificate programs offered by the Business and Computer Technology Division or with a degree in another area to improve their employability. The division offers the following certificates:

- Bookkeeping
- Computer Software Applications
- Customer Service Professional
- Industrial Distribution – Business Concentration
- Office Administration
- Office Skills - Fundamentals
- Small Business Management and Entrepreneurship
- Supervision

### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

### General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

### Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

# General Business — No Concentration

Associate in Business

## Required Core Courses

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- BFN-141: Personal Finance Or
- BAC-110: Practical Accounting Or
- BAC-131: Introduction to Financial Accounting
- BBA-131: Introduction to Business

Complete an additional 12-13 credit hours from the following courses:

- CIS-100: Introduction to Information Technology Or

Any course(s) from the following prefixes:

- BAC, BBA, BCA, BCO, BEC, BFN, BLW, BMA, MGT, and/or PLGL.

Minimum Credit Hours: .....20.0

CIS 100 is a recommended course and will also satisfy General Education Outcome #2: Computer Literacy general course requirement.

## Required Support Courses

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Complete one of the following MATH options.

- BMA-110: Business Math Or
- MATH-115: College Algebra or higher numbered MATH course\*

Minimum Credit Hours: .....3.0

\*The following courses may not be used to fulfill the requirement: MATH 121, MATH 221, and MATH 225.

## Elective Courses

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Take elective credits to meet the minimum number of credit hours needed to receive an associates degree.

Minimum Credit Hours: .....26.0

## Minimum Number Of Credits To Graduate

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60.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

# Geography

Area of Study



## Geography

Area of Study

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Tarek Joseph • (313) 845-6402 • tjoseph@hfcc.edu • Learning Technology Center • Room: A-221

## Program Information

### Description

Geography emphasizes spatial relationships, locations, and distributions. Geographers address the questions of “where” and “why” by examining the location of people and activities across the earth’s surface, and the reasons for their distribution. Geographers study spatial variations in the way people interact with one another and their environments. In short, geography is an exciting discipline that has great relevance and application to our everyday lives.

Geography courses encourage student participation and address topics such as population patterns, the spatial distribution of culture, resource use, pollution, urbanization, perception of place, the environment, and human alteration of the physical landscape. Discussion of current events from a geographic perspective enhances students’ understanding of complex local, national, and global issues.

Geography courses at the 100 level or above fulfill the graduation requirement for Associate in Arts degree, Social Sciences.

Geography courses may be taken in any order, fulfill social science credits, and are fully transferable to four-year institutions.

## Degree Specific Requirements

### Required Core Courses

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### Required Support Courses

---

### Elective Courses

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## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Geology

Area of Study

## Contact

Math and Science Division • (313) 845-9631 • math@hfcc.edu •  
Health Careers Education Ctr • Room: H-122

Brian Kirchner • (313) 317-1527 • bkirchner@hfcc.edu • Bldg ID  
Retired 12/23/2014 • Room: S-106F

## Program Information

### Description

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HFC offers one course in Geology (GEOL 131-Physical Geology). It is ideal for the student with little or no prior scientific or mathematical experience who wishes to explore geology or science in general, as well as for students preparing to be secondary school science teachers. It also provides a good introductory survey for students planning advanced study of geology.

Students interested in majoring in geology at a four-year school should consult the catalog of the school to which they wish to transfer for assistance in planning a course of study.

## Degree Specific Requirements

### Required Core Courses

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### Required Support Courses

---

### Elective Courses

---

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Graphic Design: Animation

Certificate of Achievement



## Graphic Design: Animation

Certificate of Achievement

Program Code: ANIMATE.CMULT...

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Victoria Shepherd • (313) 845-6487 • vashpherd@hfcc.edu • Fine Arts Bldg • Room: F-149

## Program Information

### Description

Provides students with skills and knowledge in the area of graphic design: animation. Animators are artists who create the magic of motion. With animation commonplace on television, movies and the web, there is a demand for artists with the skill and know-how to produce creative animation. Computer and drawing skills are very important in this field.

## Degree Specific Requirements

### Required Core Courses

- ART-101: Two-Dimensional Design
- ART-102: Drawing I
- ART-107: Photoshop
- ART-108: Flash
- ART-112: Drawing II
- ART-113: Life Drawing I
- ART-115: Intermediate Perspective
- ART-130: History of Graphic Design
- ART-165: Typography
- ART-255: Animation Basics
- ART-265: Illustration
- ART-275: Advanced Projects
- TCM-157: Digital Video Editing
- ART-209: Maya
- ENG-131: Introduction to College Writing

Minimum Credit Hours: .....43.0

ART 255 must be completed before taking ART 275 for the Animation concentration.

Additional General Education and Elective credit hours may be taken to obtain an Associate in Arts degree.

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

43.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

All graduating students must participate in a graduating exhibition.

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Graphic Design: Associate of Arts

Associate in Arts

## Graphic Design: Associate of Arts

Associate in Arts

Program Code: GPHDS.AA...

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Victoria Shepherd • (313) 845-6487 • vashpherd@hfcc.edu • Fine Arts Bldg • Room: F-149

## Program Information

### Description

Provides a broad knowledge base for applying Graphic Design skills. Offers courses in other areas to provide a frame of reference for creating work relevant to society today. A certificate of achievement is awarded during the course of study. Choose a certificate track from the list below. Credit hours to completion vary depending on the Graphic Design certificate achieved and are as follows: Animation: 61 hours, Illustration: 60 hours, Multimedia Design: 63 hours, Print Design: 60 hours, Web Design: 61 hours.

## Learning Outcomes

Create visual communications of an intended message, from conceptual development to final artifact using a range of media, both traditional and digital, for final output both printed and digital

Incorporate historic and contemporary design influences, both period and designers, in the creation of print and digital artifacts

Implement appropriate typographic treatments for print and digital communications. This includes legibility as well as emotive communications

Sketch preliminary concepts for traditional and digital outcomes as well as conceptual ideation

Illustrate fundamentals of 2D design through the development of both traditional and digital applications

Apply color theory to image correction and creation of digital and traditional artifacts

Utilize current graphic design terminology

Construct both 2D and 3D, vector and raster files for use in print, motion and digital outcomes

Develop digital work environments and appropriated file formats for saving work as well as for distribution of final output

Develop a portfolio of projects for use in seeking an entry-level position or transfer to a four-year degree program

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research



# Graphic Design: Associate of Arts

Associate in Arts



## Degree-Specific Requirements

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Complete one course from the Wellness Group:

- COUN-114: Stress Management - A Personal Approach
- HPE-140: Lifetime Wellness
- HPE-142: Advanced First Aid
- HPE-153: Nutrition
- HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher
- HPEA-117: Strength Training and Physical Conditioning / HPEA-217: Strength Training and Physical Conditioning II
- HPEA-126: Aerobic Dance
- HPEA-155: Relaxation Techniques for Stress Management

Complete 8 Humanities credits from courses in:

Art, Dance, English (except ENG-131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 8 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 8 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

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For all certificate tracks complete the following:

- ART-101: Two-Dimensional Design
- ART-102: Drawing I
- ART-107: Photoshop
- ART-130: History of Graphic Design
- ART-275: Advanced Projects
- ENG-131: Introduction to College Writing

Minimum Credit Hours: ..... 18.0

## Required Support Courses

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Choose one certificate track from the following: Animation, Illustration, Multimedia, Print, or Web.

### ANIMATION

- ART-108: Flash
- ART-112: Drawing II
- ART-113: Life Drawing I
- ART-115: Intermediate Perspective
- ART-209: Maya
- ART-255: Animation Basics
- ART-265: Illustration
- TCM-157: Digital Video Editing

..... 22 credit hours

### ILLUSTRATION

- ART-112: Drawing II
- ART-113: Life Drawing I
- ART-115: Intermediate Perspective
- ART-116: Painting I
- ART-121 : Art History Survey I (Ancient to Medieval)
- ART-165: Typography
- ART-265: Illustration

..... 21 credit hours

### MULTIMEDIA

- ART-108: Flash
- ART-112: Drawing II
- ART-165: Typography
- ART-172: Color Theory
- ART-245: Interactive Design
- ART-255: Animation Basics
- CIS-126: XHTML/HTML/CSS Web Programming
- TCM-151: Digital Audio Editing
- TCM-157: Digital Video Editing

..... 24 credit hours

### PRINT

- ART-110: InDesign
- ART-112: Drawing II
- ART-121 : Art History Survey I (Ancient to Medieval)
- ART-165: Typography
- ART-172: Color Theory
- ART-265: Illustration

Complete one of the following:

- ART-113: Life Drawing I
- ART-115: Intermediate Perspective

..... 21 credit hours

WEB

- ART-108: Flash
  - ART-112: Drawing II
  - ART-165: Typography
  - ART-172: Color Theory
  - ART-245: Interactive Design
  - ART-255: Animation Basics
  - CIS-126: XHTML/HTML/CSS Web Programming
- ..... 22 credit hours

**Elective Courses**

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21 hours to fulfill Degree Specific and General Education requirements. See above.

**Minimum Number Of Credits To Graduate**

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61.0 (Including Options/Electives)

**Program Requirements**

**Requirements are Subject to Change**

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

**Transfer Information**

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Wayne State University
- Eastern Michigan University

# Graphic Design: Illustration

Certificate of Achievement



## Graphic Design: Illustration

Certificate of Achievement

Program Code: ILLUS.CMULT..

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Victoria Shepherd • (313) 845-6487 • vashpherd@hfcc.edu • Fine Arts Bldg • Room: F-149

## Program Information

### Description

Provides students with skills and knowledge in the area of graphic design: illustration. As long as there have been newspapers, books, and magazines, there has been a need for hand-drawn art that tells a story or communicates an idea. Illustrators need to have excellent drawing skills, know the history of their craft, and be proficient with programs such as Photoshop and Illustrator.

## Degree Specific Requirements

### Required Core Courses

ART-101: Two-Dimensional Design  
ART-102: Drawing I  
ART-107: Photoshop  
ART-112: Drawing II  
ART-113: Life Drawing I  
ART-115: Intermediate Perspective  
ART-116: Painting I  
ART-121 : Art History Survey I (Ancient to Medieval)  
ART-130: History of Graphic Design  
ART-165: Typography  
ART-265: Illustration ART 265 must be taken before ART 275  
ART-275: Advanced Projects  
ENG-131: Introduction to College Writing

Additional General Education and Elective credit hours may be taken to obtain an Associate in Arts degree.

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

39.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Graphic Design: Multimedia Design

Certificate of Achievement

## Graphic Design: Multimedia Design

Certificate of Achievement

Program Code: MULTMED.CMULT...

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Victoria Shepherd • (313) 845-6487 • vashpherd@hfcc.edu • Fine Arts Bldg • Room: F-149

## Program Information

### Description

Provides students with skills and knowledge in the area of multimedia graphic design: animation. Computers did not simplify the lives of graphic designers, but make them more interesting. Designers working in multimedia must be able to blend animation, audio, video, and graphic design into a cohesive arrangement. Design skills and computer savvy are important for multimedia design.

## Degree Specific Requirements

### Required Core Courses

ART-101: Two-Dimensional Design  
ART-102: Drawing I  
ART-107: Photoshop  
ART-108: Flash  
ART-112: Drawing II  
ART-130: History of Graphic Design  
ART-165: Typography  
ART-172: Color Theory  
ART-245: Interactive Design  
ART-255: Animation Basics ART 255 must be taken before ART 275  
ART-275: Advanced Projects  
CIS-126: XHTML/HTML/CSS Web Programming  
TCM-151: Digital Audio Editing  
TCM-157: Digital Video Editing  
ENG-131: Introduction to College Writing

Additional General Education and Elective credit hours may be taken to obtain an Associate in Arts degree.

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

42.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Graphic Design: Print Design

Certificate of Achievement



## Graphic Design: Print Design

Certificate of Achievement

Program Code: PRINTDSN.CMLT...

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Victoria Shepherd • (313) 845-6487 • vashpherd@hfcc.edu • Fine Arts Bldg • Room: F-149

## Program Information

### Description

Provides students with skills and knowledge in the area of graphic print design. The demise of the printed page at the hands of the Internet has been greatly exaggerated. The majority of graphic designers design for print. A good eye for type, strong layout skills, and a technical understanding of the printing process are important in this field. Students will gain the proficiency in Photoshop, Illustrator, and InDesign required to succeed in this field. Students earn a Print Design Certificate by completing 36 credit hours of core courses. Students may complete an additional 24 credit hours of General Education Courses to earn an Associate in Arts degree.

## Degree Specific Requirements

### Required Core Courses

ART-101: Two-Dimensional Design

ART-102: Drawing I

ART-107: Photoshop

ART-110: InDesign ART 110 must be taken before ART 275

ART-112: Drawing II

ART-121 : Art History Survey I (Ancient to Medieval)

ART-130: History of Graphic Design

ART-165: Typography ART 165 must be taken before ART 275

ART-172: Color Theory

ART-265: Illustration

ART-275: Advanced Projects

Complete one of the following courses:

ART-113: Life Drawing I

ART-115: Intermediate Perspective

Additional General Education and Elective credit hours may be taken to obtain an Associate in Arts degree.

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

36.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Graphic Design: Web Design

Certificate of Achievement

## Graphic Design: Web Design

Certificate of Achievement

Program Code: ARTSGPHWEB.CMLT..

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Victoria Shepherd • (313) 845-6487 • vashpherd@hfcc.edu • Fine Arts Bldg • Room: F-149

## Program Information

### Description

Provides students with skills and knowledge in the area of graphic design: web design. Interactive web design presents new challenges. Designers must understand how users interact with sites in order to create new and effective ways to present and communicate ideas in a non-linear format. Photoshop, Flash, and Dreamweaver are among the programs web designers need to know. Students may complete an additional 24 credit hours of General Education and Elective courses to earn an Associate in Arts degree.

## Degree Specific Requirements

### Required Core Courses

ART-101: Two-Dimensional Design  
ART-102: Drawing I  
ART-107: Photoshop  
ART-108: Flash  
ART-112: Drawing II  
ART-130: History of Graphic Design  
ART-165: Typography  
ART-172: Color Theory  
ART-245: Interactive Design Must be taken before ART 275  
ART-255: Animation Basics  
ART-275: Advanced Projects  
CIS-126: XHTML/HTML/CSS Web Programming Must be taken before ART 245  
ENG-131: Introduction to College Writing

Additional General Education and Elective credit hours may be taken to obtain an Associate in Arts degree.

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

41.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# History

Area of Study



## History

Area of Study

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Pamela Sayre • (313) 845-6396 • psayre@hfcc.edu • Liberal Arts • Room: L-103

## Program Information

### Description

History is what happened, what historical writings and people represent to have happened, and the application of this knowledge to us and to our time. In addition to adding zest to life, history courses meet graduation requirements. HIST 151 and HIST 152 fulfill the American Society, Events, Institutions and Cultures General Education Outcome. History offerings cover the fields of world civilization; American history; and specialized topics such as African-American, Middle Eastern, and military history. In addition the History Department has recently added several online courses, including the American Revolution, the American Civil War, the Cold War and the Vietnam War.

## Degree Specific Requirements

### Required Core Courses

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### Required Support Courses

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### Elective Courses

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## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Hospitality Professional Management

Certificate of Achievement

## Hospitality Professional Management

Certificate of Achievement

Program Code: HRMGT.CMLT...

### Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Eric Gackenbach • (313) 317-1572 • epgackenbach@hfcc.edu • Bldg  
ID Retired 12/23/2014 • Room: C-163E

### Program Information

#### Description

Provides students with knowledge of modern-day management practices necessary in today's increasingly complex hospitality/travel industry. A focus is placed on cost control, purchasing, marketing, and training at the front office level. Courses in the Hospitality Professional Management Certificate Program may be applied toward an Associate in Applied Science Degree in Culinary Arts and/or an Associate in Applied Science Degree in Hotel/Restaurant Management.

#### Accreditation

The Associate in Applied Science Degree in Culinary Arts at HFCC is fully accredited by the Accrediting Commission of the American Culinary Federation Educational Foundation.

### Degree Specific Requirements

#### Required Core Courses

- HOSP-105: Applied Food Service Sanitation
- HOSP-110: Introduction to the Hospitality Industry
- HOSP-130: Food and Nutrition
- HOSP-150: Dining Room Service and Operation
- HOSP-160: Hospitality Purchasing
- HOSP-170: Food and Beverage Controls
- HOSP-210: Hospitality Supervision and Leadership
- HOSP-221: Front Office Procedures and Guest Services
- HOSP-250: Hospitality and Travel Marketing

Official chef's uniform required to be purchased for culinary lab courses. (PRC) = A score of 43 or above on the ASSET Reading Test, or 82 or above on the COMPASS Test, or a satisfactory completion of ENG 081 - Developmental College Reading

#### Required Support Courses

#### Elective Courses

#### Minimum Number Of Credits To Graduate

26.0 (Including Options/Electives)

### Program Requirements

#### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Hotel/Restaurant Management

Associate in Applied Science

Program Code: HRMGT.AAS...

### Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Eric Gackenbach • (313) 317-1572 • epgackenbach@hfcc.edu • Bldg  
ID Retired 12/23/2014 • Room: C-163E

### Program Information

#### Description

Provides opportunities for students to build character, leadership and technical skills that are necessary for success in a global industry of hospitality and tourism. For a four-year degree in the Hospitality field, refer to articulation agreements with Siena Heights University, Eastern Michigan University or Madonna University. Students can transfer up to 90 credits (three years work) from HFC and complete approximately their last year at one of the above listed universities.



# Hospitality Professional Management

## Certificate of Achievement



### Learning Outcomes

- Relate restaurant operations and scenarios to FDRP standards and procedures
- Based on MLCC and MRA standards, assess when and how beer, wine and spirits are served in a licensed establishment
- Based on NRA standards, decide how to handle various types of food in order to prevent foodborne illness
- Incorporate professional work behaviors to complete 300 hours of supervised internship
- Organize examples of various segments (Non-Commercial, Lodging, Sports & Leisure, Restaurant, Casino) and job opportunities in the Hospitality Industry
- Combine principles of Management, Marketing, Accounting, Finance and Economics as they relate to decision making in the Hospitality Industry

### Accreditation

Courses in the Hotel/Restaurant Management curriculum are supported by materials and certification exams from the American Hotel & Lodging Educational Institute, National Restaurant Association Educational Foundation and Federation of Dining Room Professionals.

Instructors receive training and certifications from the American Hotel & Lodging Educational Institute, The National Restaurant Association Educational Foundation, the Federation of Dining Room Professionals and the American Culinary Federation.

### Admission Requirements / Eligibility

A score of 43 or above on the ASSET reading test, or 82 or above on the COMPASS test, or satisfactory completion of ENG 081.

### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

### General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

### Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

# Hospitality Professional Management

## Certificate of Achievement

### Required Core Courses

HOSP-105: Applied Food Service Sanitation  
 HOSP-110: Introduction to the Hospitality Industry  
 HOSP-121: Introduction to Baking and Cooking \*  
 HOSP-124: Introduction to Professional Cooking - Lab \*  
 HOSP-125: Introduction to Professional Baking - Lab \*  
 HOSP-130: Food and Nutrition  
 HOSP-140: Advanced Food Preparation  
 HOSP-150: Dining Room Service and Operation  
 HOSP-160: Hospitality Purchasing  
 HOSP-170: Food and Beverage Controls  
 HOSP-210: Hospitality Supervision and Leadership  
 HOSP-221: Front Office Procedures and Guest Services  
 HOSP-225: Dining Room Captain  
 HOSP-250: Hospitality and Travel Marketing  
 HOSP-270: Facilities Management  
 HOSP-290: Co-op in Hospitality \*\*

\*HOSP 121 (2 Cr Hrs), HOSP 124 (3 Cr Hrs), and HOSP 125 (3 Cr Hrs) must be taken concurrently.

\*\*Students may take HOSP 190 (minimum of 150 working hours for 2 semesters) instead of HOSP 290 (minimum of 300 hours in 1 semester).

Official chef's uniform required to be purchased prior to beginning class for culinary lab courses. Visit the Hospitality Department in C-163 in the Culinary Arts & Student Center building, or online at <https://culinary.hfcc.edu/> for uniform ordering information.

### Required Support Courses

BAC-110: Practical Accounting  
 ENG-131: Introduction to College Writing  
 Complete one of the following courses:  
 ENG-132: College Writing and Research or  
 ENG-135: Business and Technical Writing and Research

Complete one of the following courses:

MATH-104: Mathematics for Food Service Careers or  
 BMA-110: Business Math

Cognate Courses (3 credit hours minimum required)

HOSP-101: Wines of the World  
 HOSP-103: Major Wines Grape Varieties  
 HOSP-107: Artisanal Cheese and Craft Beer  
 HOSP-109: Banquets and Catering  
 HOSP-115: International Cooking  
 HOSP-145: Ice Carving and Design  
 HOSP-235: Ice Carving for the Professional  
 HOSP-245: Hotel and Restaurant Desserts  
 HOSP-255: Professional Cake Decorating

### Elective Courses

Minimum Credit Hours: ..... 0.0

### Minimum Number Of Credits To Graduate

69.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

Chef's uniform required for culinary lab courses.

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Eastern Michigan University  
 Ferris State University  
 Madonna University  
 Siena Heights University

# Hospitality Professional Management

## Certificate of Achievement



### **Career Opportunities**

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Coupled with diverse line level work experience, the student completing this degree may want to consider entry-level supervisory or management position in one of the following areas:

- Full Service Hotels
- Restaurants
- Event Planning
- Non-Commercial Food Service
- Facilities Management
- Limited Service Hotels
- Food Sales & Marketing
- Corporate Travel
- Meeting & Hotel Sales

# Industrial Distribution - Business Concentration

Certificate of Achievement

## Industrial Distribution - Business Concentration

Certificate of Achievement

Program Code: INDSTBUS.CA

### Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Diane Smith • (313) 845-9702 • dsmith1@hfcc.edu • Liberal Arts •  
Room: L-319D

### Program Information

#### Description

Provides students with the skills necessary to work in a customer-service capacity in the industrial distribution industry. The industrial distribution channel is the most efficient and cost-effective means of moving products from manufacturers to users. This program emphasizes the development of the oral and written communication skills and customer service skills required to succeed in a distribution system. This certificate program was developed in consultation with the Industrial Career Pathways organization.

## Degree Specific Requirements

### Required Core Courses

BBA-110: Business Language Skills  
BBA-131: Introduction to Business  
BBA-133: Business Behavior and Communication  
BBA-153: Customer Service  
BBA-159: Contact Center/Help Desk Practicum  
BBA-164: Introduction to Industrial Distribution  
BBA-170: Contemporary Selling  
BBA-231: Business Office Communications  
BMA-110: Business Math  
CIS-100: Introduction to Information Technology  
BCA-101: Computer Keyboarding (or documented proficiency in computer keyboarding)

Minimum Credit Hours: .....29.0

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

29.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Industrial Distribution — Technical Concentration

Certificate of Achievement



## Industrial Distribution — Technical Concentration

Certificate of Achievement

Program Code: INDSTTEC.CMLT..

### Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Miles Jarvis • (313) 317-6502 • mjarvis@hfcc.edu • Technology Bldg • Room: T-164

### Program Information

#### Description

Combines product specification and application with customer service. This program is a rewarding and challenging career for those with both technical aptitude and an interest in sales and can help elevate an industrial distribution career to the next level as a technical representative. Individuals in Industrial Distribution support customers through phone or personal contact, represent manufacturers' new and existing products, provide customer service, and manage inventory and warehouse functions. Currently more starting-level jobs in Industrial Distribution exist than the number of qualified people to fill these jobs. This trend is expected to continue.

### Degree Specific Requirements

#### Required Core Courses

- TAFD-120: Industrial Safety Awareness
- TAFD-150: Applied Technology
- TAMA-110: Industrial Applications of Basic Mathematical Principles
- TAMA-120: Industrial Applications of Algebraic Principles
- TAMN-100: Shop Tools and Techniques

Complete one of the following courses:

- TADV-100: Basic Print Reading
- TAGD-110: Basic Shape and Size Interpretation

Complete a minimum of 4 credit hours from the following:\*

- TAEL-103: DC and AC Electricity
- TAMT-110: Mechanical Power Transmission
- TAIM-100: Industrial Materials
- TAFP-150: Introduction to Industrial Hydraulics
- TAMT-200: Predictive Maintenance - Shaft Alignment and Couplings

Minimum Credit Hours: ..... 19.0

\*Course prerequisites are to be observed.

#### Required Support Courses

#### Elective Courses

#### Minimum Number Of Credits To Graduate

19.0 (Including Options/Electives)

### Program Requirements

#### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

#### Career Opportunities

Career Opportunities include:

- Business Managers
  - Buyers
  - Customer Service Representatives
  - Inside/Outside Sales Representatives
  - Inventory/Warehouse Managers
  - Technical Product Line Specialists
- While salaries will vary based on experience and education, compensation is competitive.\*
- Outside Sales: \$40,000-\$80,000
  - Branch Management: \$40,000-\$70,000
  - Inside Sales: \$28,000-\$65,000
  - Purchasing: \$27,000-\$60,000
  - Customer Service: \$22,000-\$40,000
  - Warehouse: \$21,000-\$38,000

\*Sources: American Society of Employers; Power Transmission Distributors Association.

To learn more about Industrial Distribution, please visit [www.industrialcareerspathway.org](http://www.industrialcareerspathway.org).

# Interior Design

Associate in Arts

## Interior Design

Associate in Arts

Program Code: INDSG.AA...

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Karen Wilmering • (313) 845-9814 • kawilmering@hfcc.edu • Fine Arts Bldg • Room: F-151

## Program Information

### Description

Provides a comprehensive foundation of study, emphasizing the development of theoretical, practical, and technical skills within the interior environment. This specialization is developed and formed utilizing sequential courses with specific course work in environmental psychology, architectural and interior construction materials and components, lighting and environmental systems, and a range of studio classes. The environmental systems course group will focus on building codes, sustainability, and energy conservation. Graphic, oral and written communication, and presentation skills will be evaluated and enhanced. Computer applications are employed and utilized across the core courses to assist students in developing a broad range of computer skills including Compute Aided Design (CAD).

## Learning Outcomes

Evaluate the physiological, sociological and psychological human factor needs of users in the design of residential and commercial interiors

Produce professional presentation boards and 3-D models of residential and commercial interiors exhibiting quality of craftsmanship, superior graphic composition, and enhanced technical and artistic presentation skills

Select appropriate interior materials and finishes through critical analysis of their characteristics, properties, uses, components, construction methods, quantity calculations, performance, maintenance and sustainability

Produce basic 2-D and 3-D schematic construction drawings employing technical manual and CAD architectural drafting skills

Exhibit artistic visual communication and presentation skills essential to conveying interior environments through perspective drawing, sketching and rendering

Design an interior space from an historically significant period to include art, furniture, architecture and interior design elements of a specific period style from Antiquities to the Present

Design commercial and residential projects utilizing knowledge of building codes and mechanical systems, including acoustical, electrical, lighting, plumbing and HVAC and their impact on environmental, energy and economic issues

Integrate lighting as a major component in a commercial interior environment

Design a small-scale residential project including programming documents, schematic and construction drawings, perspective drawings and presentation boards conveying well-developed aesthetic and functional interior design concepts

Design a small-scale non-residential project incorporating Universal Design Principles and ADA codes and selecting sustainable materials, using evidence based design research

Develop a small-business mock design firm utilizing professional practice of interior design

Synthesize the interior design educational experience through the development of design solutions for a real life client

Develop a professional-quality student portfolio, including resume and cover letters, to successfully enter a career in interior design or continue to pursue a bachelors degree at a four-year institution

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

# Interior Design

Associate in Arts



Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Complete one course from the Wellness Group:

- COUN-114: Stress Management - A Personal Approach
- HPE-140: Lifetime Wellness
- HPE-142: Advanced First Aid
- HPE-153: Nutrition
- HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher
- HPEA-117: Strength Training and Physical Conditioning / HPEA-217: Strength Training and Physical Conditioning II
- HPEA-126: Aerobic Dance
- HPEA-155: Relaxation Techniques for Stress Management

Complete 8 Humanities credits from courses in:

Art, Dance, English (except ENG-131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 8 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 8 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

- INTR-120: Manual Architectural Drafting for Interior Designers
- INTR-130: Intro to CAD for Interior Design
- INTR-131: Advanced CAD for Interior Design
- INTR-180: Design and User Needs
- INTR-181: Principles of Design
- INTR-182: Interior Design Materials and Components
- INTR-183: Perspective Drawing and Rendering
- INTR-280: History of Design - Antiquities to Present
- INTR-281: Residential Design Studio
- INTR-283: Lighting and Environmental Systems for Interiors
- INTR-284: Commercial Design Studio
- INTR-285: Professional Practice for Interior Designers
- INTR-287: Interior Design Synthesis

Minimum Credit Hours: ..... 39.0

## Required Support Courses

Complete one of the following:

- ART-101: Two-Dimensional Design
- ART-105: Three-Dimensional Design
- ART-107: Photoshop
- ART-108: Flash
- ART-110: InDesign
- ART-112: Drawing II
- ART-113: Life Drawing I
- ART-115: Intermediate Perspective
- ART-116: Painting I
- ART-121: Art History Survey I (Ancient to Medieval)
- ART-123: History of Modern Art
- ART-130: History of Graphic Design
- ART-135: Art Appreciation
- ART-141: Ceramics I
- ART-165: Typography
- ART-172: Color Theory
- ART-209: Maya
- ART-213: Life Drawing II
- ART-216: Painting II
- ART-224: Art of Islam
- INTR-250: Kitchen Design Studio
- INTR-251: Bath Design Studio

Minimum Credit Hours: ..... 3.0

# Interior Design

Associate in Arts

## Elective Courses

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### Minimum Number Of Credits To Graduate

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66.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Eastern Michigan University  
Lawrence Technological University  
Wayne State University  
College for Creative Studies

## Career Opportunities

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Students who complete this degree will have learned skills and abilities that will assist in seeking entry-level positions in the field of Interior Design and related disciplines or transfer to a four-year program. Many of the core Interior Design courses will transfer to College for Creative Studies, Eastern Michigan University, and Lawrence Technological University.

Architectural Draftsperson  
Color Consultant  
Facility Manager  
Interior Designer  
Residential Designer  
Sales Representative:  
Commercial Furniture Showroom  
Home Furnishings  
Manufacturers Representative

Prospective Interior Design majors should meet with the Interior Design Program Coordinator to discuss their program and sequence of study in that introductory courses may be offered in the Winter semester as well as the Fall. Call the Interior Design Program Coordinator at 313-845-9814 or e-mail [kawilmering@hfcc.edu](mailto:kawilmering@hfcc.edu) to schedule an appointment.



# International Business

Associate in Business



## International Business

Associate in Business

Program Code: INTLBUSINESS.AB

## Contact

Business and Computer Technology Division • (313) 845-9804 • business@hfcc.edu • Technology Bldg • Room: T-211

Douglas Langs • (313) 845-6363 • dlangs@hfcc.edu • Technology Bldg • Room: T-211G

## Program Information

### Description

Emphasizes how globalization integrates people, companies, and governments of different nations. Discusses how globalization affects the environment, culture, political systems, economic development and prosperity, and societal well-being. Examines the benefits and costs associated with globalization and the impact of international trade, foreign investment, and information technology.

### Learning Outcomes

Define international business (trade and investment) and explain various terms, concepts and theories that describe the ongoing economic integration and interdependency of countries worldwide

Analyze the impact of conducting business internationally with respect to accounting, management, marketing, finance, logistics, and supply chain management

Explain the political, legal, economic, and cultural differences of foreign countries and assess their impact on business performance

Create effective business documents following the principles of business communication. Recognize professional business behavior as well as effective office communications

Exhibit computer literacy

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# International Business

Associate in Business

## Degree-Specific Requirements

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Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

### Required Core Courses

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- BAC-131: Introduction to Financial Accounting
- BAC-132: Introduction to Managerial Accounting
- BBA-110: Business Language Skills
- BBA-131: Introduction to Business
- BBA-133: Business Behavior and Communication
- BBA-231: Business Office Communications
- BBA-250: International Business
- BBA-252: Principles of Marketing
- BBA-254: Logistics and Supply Chain Management
- BMA-110: Business Math
- BEC-151: Principles of Macroeconomics
- BEC-152: Principles of Microeconomics
- BFN-253: Principles of Finance
- BLW-253: Business Law and the Legal Environment
- CIS-100: Introduction to Information Technology
- MGT-230: Principles of Management

Minimum Credit Hours: ..... 52.0

### Required Support Courses

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- Choose one of the following courses:
- BBA-290: Study Abroad in International Business Or
  - GEOG-132: World Regional Geography Or
  - POLS-152: International Relations

Minimum Credit Hours: ..... 3.0

### Elective Courses

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Minimum Credit Hours: ..... 0.0

### Minimum Number Of Credits To Graduate

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64.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Eastern Michigan University

# Kitchen & Bath Design

Certificate of Achievement



## Kitchen & Bath Design

Certificate of Achievement

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Karen Wilmering • (313) 845-9814 • kawilmering@hfcc.edu • Fine Arts Bldg • Room: F-151

## Program Information

### Description

Offers students an opportunity to express themselves creatively while developing the skills necessary, to obtain employment in the kitchen and bath industry. To ensure the quality and success of this program, the Interior Design faculty collaborated with the National Kitchen and Bath Association (NKBA), the governing agency accrediting kitchen and bath design programs at colleges and universities across the U.S. and Canada. To assist in transitioning to a design professional, this certificate program will include a 160-hour internship in the kitchen and bath industry.

### Accreditation

The NKBA assists in the development of the kitchen and bath program curriculum to assure the course objectives and competencies meet industry standards. The HFC Kitchen and Bath Design certificate meets the rigorous curriculum standards of the NKBA and has been designated as an NKBA Supported program. Becoming a Supported program provides HFC and our students more than theoretical and pedagogical advice. Additional benefits from NKBA include:

- State-of-the-art industry-standard kitchen and bath design software
- Industry research and student scholarship opportunities (Substantial Awards)
- Extensive professional development opportunities for faculty
- Annual grants toward funding NKBA Student Chapter Activities
- Discounted student NKBA membership dues
- Assistance for students in obtaining internships in kitchen and bath design firms

## Degree Specific Requirements

### Required Core Courses

- INTR-181: Principles of Design
- INTR-185: Kitchen and Bath Materials and Estimating
- INTR-250: Kitchen Design Studio
- INTR-251: Bath Design Studio
- INTR-255: Advanced Kitchen and Bath Studio
- INTR-283 : Lighting and Environmental Systems for Interiors
- INTR-285: Professional Practice for Interior Designers
- INTR-294: Kitchen and Bath Internship

Minimum Credit Hours: ..... 22.0

### Required Support Courses

- INTR-120: Manual Architectural Drafting for Interior Designers
- INTR-130: Intro to CAD for Interior Design
- INTR-187: Computer Drafting for Kitchen and Bath

Minimum Credit Hours: ..... 8.0

### Elective Courses

Select ONE from the following Art courses

- ART-102: Drawing I
- ART-107: Photoshop
- ART-112: Drawing II
- ART-115: Intermediate Perspective
- ART-121 : Art History Survey I (Ancient to Medieval)
- ART-122: Art History Survey II
- ART-123: History of Modern Art
- ART-135: Art Appreciation
- HUM-101: Introduction to the Humanities (has prerequisites)

Select ONE from the following:

- INTR-131: Advanced CAD for Interior Design
- INTR-183: Perspective Drawing and Rendering
- INTR-280: History of Design - Antiquities to Present
- INTR-281: Residential Design Studio

Minimum Credit Hours: ..... 6.0

### Minimum Number Of Credits To Graduate

33.0 (Including Options/Electives)

# Kitchen & Bath Design

Certificate of Achievement

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Career Opportunities

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Kitchen and Bath Design and Retail Sales Consultant  
Kitchen and Bath Planner  
Independent Kitchen and Bath Designer  
Draftsperson  
Manufacturer's Representative

# Liberal Arts

## Area of Study



### Liberal Arts

Area of Study

### Contact

### Program Information

#### Description

Completion of the Liberal Arts area of study signifies that the student is broadly educated in the major divisions of higher learning: humanities, natural sciences, mathematics, social sciences, and fine arts. The student has acquired methods of study and habits of thought which are demonstrated by an ability to analyze problems, make appropriate value judgments, and express conclusions in cogent style. The student devotes a major portion of study to in-depth concentration of one subject.

Students completing the Liberal Arts area of study must satisfy the General Education requirements and the specific degree requirements for the Associate in Arts degree that are listed elsewhere in this catalog. Electives should be selected to reflect both the student's interests and the requirements of the intended transfer institution. Students are encouraged to consult the transfer guide sheets located in the University, Transfer, Advising, and Career Counseling Center.

### Degree Specific Requirements

#### Required Core Courses

First Year: First Semester

- ENG-131: Honors: Introduction to College Writing Science: 4 credits\*
- Social Science: 3 or 4 credits\*\*
- Elective: 3 or 4 credits\*\*\*\*\*
- Wellness Course: 2 credits

First Year: Second Semester

- Science: 4 credits\*
- Social Science: 3 or 4 credits\*\*
- Elective: 3 or 4 credits\*\*\*\*\*
- Complete one of the following:
  - ENG-132: College Writing and Research
  - ENG-135: Business and Technical Writing and Research

Second Year: First Semester

- World Language\*\*\* or Elective\*\*\*\*\*: 3 or 4 credits
- Elective: 3 or 4 credits\*\*\*\*\*
- Humanities\*\*\*\* or Social Science\*\*: 3 or 4 credits
- Major and/or Electives\*\*\*\*\*: 3 or 4 credits

Second Year: Second Semester

World Language\*\*\* or Elective\*\*\*\*\*: 3 or 4 credits

Elective: 3 or 4 credits\*\*\*\*\*

Humanities\*\*\*\* or Social Science\*\*: 3 or 4 credits

Major and/or Electives\*\*\*\*\*: 3 or 4 credits

Minimum Credit Hours: ..... 52.0

\*Science: Select from Astronomy, Botany, Chemistry, Geology, Introductory Biology, Physical Science, Physics, and/or Zoology.

\*\*Social Science: Select from Anthropology, Geography, History, Political Science, Psychology, and/or Sociology.

\*\*\*World Language: Four semesters of French, German or Spanish may be elected; two semesters of Arabic, Chinese or Italian are offered.

\*\*\*\*Humanities: Art, Music, Literature, Philosophy, Drama, World Religion, and/or World Civilization.

\*\*\*\*\*Elective: Electives include the above courses plus Math and Business.

#### Required Support Courses

#### Elective Courses

Minimum Credit Hours: ..... 8.0

Complete as many elective credits as necessary to reach the minimum 60-62 hours required for graduation.

### Program Requirements

#### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Machine Tool Technology / CNC

Associate in Applied Science

## Machine Tool Technology / CNC

Associate in Applied Science

Program Code: CNC.AAS

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Guy Pizzino • (313) 845-6331 • gpizzino@hfcc.edu • Technology Bldg • Room: T-117B

## Program Information

### Description

Designed for students interested in adapting ideas to working models or generally refining an engineer's concepts. Through extensive laboratory experiences, the student acquires skills that are essential for the 21st-century in manufacturing. Most students work part time in their fields of endeavor while completing their degree requirements. All CNC programs strongly emphasize the safe and skillful use of tool-room machines. Core courses are individualized to fit the student's personal goals.

## Learning Outcomes

Develop knowledge of career opportunities and demonstrate the requisite entry level machining and measurement skills for the Manufacturing Industry

Practice safe work habits in an industrial manufacturing environment

Create a basic or complex part on non-computerized industry standard machining and turning equipment

Create complete complex parts on computer controlled machining centers

Create complete complex parts on computer controlled turning centers

Utilize quality control concepts to identify root cause part discrepancies

Utilize appropriate technology to solve complex problems through critical analysis in the machining environment

Synthesize information using numerical control software to complete three-dimensional parts on computer controlled milling and turning centers

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: The following course is required in this program and satisfies this General Education Outcome for this program. Students who change their program will need to confirm in advance that they are completing all required courses for their specific program of study, including additional General Education courses:

CIS-100: Introduction to Information Technology

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: The following courses are required in this program and satisfies this General Education Outcome for this program. Students who change their program will need to confirm in advance that they are completing all required courses for their specific program of study, including additional General Education courses::

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Machine Tool Technology / CNC

Associate in Applied Science



## Degree-Specific Requirements

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Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

### Required Core Courses

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- MTT-100: Machine Tool Processes I
- MTT-105: Print Reading for Manufacturing
- MTT-110: Machine Tool Processes II
- MTT-130: Quality Control Gaging and Inspection
- MTT-140: Introduction to CNC
- MTT-145: CNC Operations
- MTT-146: Introduction to Machine Tool Probing
- MTT-147: Basic Macro Programming for CNC
- MTT-148: Advanced CNC Probing
- MTT-150: Statistical Process Control (SPC) In Manufacturing
- MTT-160: Computer Assisted N/C Programming
- MTT-170: Advanced Computer Assisted N/C Programming
- MTT-275: Advanced CNC Operations

Minimum Credit Hours: ..... 37.0

### Required Support Courses

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- DRAF-110: Introduction to Industrial Drafting
- DRAF-120: Introduction to CAD
- CIS-125: Principles of Programming Logic
- MATH-100: Basic Technical Mathematics or higher level Math class except Math 101, Math 104, Math 121, Math 221, or Math 225

Minimum Credit Hours: ..... 14.0

### Elective Courses

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Minimum Credit Hours: ..... 0.0

### Minimum Number Of Credits To Graduate

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63.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Davenport University
- Eastern Michigan University
- Ferris State University
- Lawrence Technological University
- Siena Heights University
- University of Michigan - Dearborn

### Career Opportunities

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- Automation and Control Technician
- CNC Set-up Technician
- Engineering Technician
- Quality Controller
- Programmer
- Laboratory Technician
- Tool Analyst
- Pre-production Planner
- Plastic R & D Technician
- Machinist/Toolmaker
- Sales & Service Engineer
- Process Engineer
- Test Technician

# Management

Associate in Business

## Management

Associate in Business

Program Code: MNGMT.AB

## Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Corinne Asher • (313) 845-9867 • casher@hfcc.edu • Liberal Arts •  
Room: L-325

## Program Information

### Description

Assists students in gaining the necessary knowledge and competencies to succeed in acquiring an entry-level or promoting to a higher-level management position. Students will learn the fundamentals of management, creative problem solving, and interpersonal skills for supervision and team building. The knowledge and skills obtained in this program are relevant to a variety of business organizations. Students may earn a Certificate in Supervision as they fulfill the requirements of the Management degree program.

## Learning Outcomes

- Interpret basic financial statements
- Apply management theory to effectively supervise the human resources of an organization
- Evaluate management decisions given an organization's relationship to the external business environment
- Creatively solve common problems in managing an organization
- Demonstrate effective non-verbal and verbal communication skills for a business environment
- Demonstrate effective written communication for a business environment
- Employ computer applications to perform business activities

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research



# Management

Associate in Business



## Degree-Specific Requirements

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Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

## Required Core Courses

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- MGT-230: Principles of Management
- MGT-231: Supervision and Teambuilding
- MGT-240: Creative Problem Solving
- MGT-232: Human Resources Management
- Complete one of the following courses:
- MGT-237: Psychology in the Workplace
- MGT-238: Labor-Management Relations
- MGT-241: Small Business Management and Entrepreneurship
- BBA-290: Study Abroad in International Business

Complete one of the following courses:

- BAC-110: Practical Accounting Or
- BAC-131: Introduction to Financial Accounting

Complete one of the following courses:

- BEC-151: Principles of Macroeconomics Or
- BEC-152: Principles of Microeconomics

Minimum Credit Hours: ..... 22.0

## Required Support Courses

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- BBA-110: Business Language Skills
- BBA-131: Introduction to Business
- BBA-133: Business Behavior and Communication
- BBA-231: Business Office Communications
- BMA-110: Business Math
- BLW-253: Business Law and the Legal Environment
- CIS-100: Introduction to Information Technology
- SPC-131: Fundamentals of Speaking

Minimum Credit Hours: ..... 26.0

## Elective Courses

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These courses are suggestions for electives:

- BFN-253: Principles of Finance Or
- BBA-250: International Business Or
- BBA-252: Principles of Marketing

Minimum Credit Hours: ..... 3.0

## Minimum Number Of Credits To Graduate

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60.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Eastern Michigan University

# Manufacturing Production Specialist

Certificate of Achievement

## Manufacturing Production Specialist

Certificate of Achievement

Program Code: MPSPEC.CSGL...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Joseph Skupin • jskupin@hfcc.edu • Room: J-172

## Program Information

### Description

Provides foundation skills and experiences in manufacturing processes and systems, develops an awareness of manufacturing systems and technologies, and creates a level of technological literacy essential for today's advanced manufacturing operations. The Basic Manufacturing Production Specialist certificate provides the educational essentials for working at the production level in Advanced Manufacturing and leads to the Mechatronic Manufacturing Associate in Applied Science Degree.

### Admission Requirements / Eligibility

High school diploma or GED

ASSET Reading score of 48 or better OR a COMPASS Reading score of 51 or better and a Writing score of 78 or better by the end of the first semester

ASSET or COMPASS Writing score sufficient for placement in ENG 131 by the beginning of the second semester. These requirements may also be fulfilled by successful completion of developmental English course

Successful completion of TAMA 110 or MATH 101 with a grade of C or better

## Degree Specific Requirements

### Required Core Courses

TADV-100: Basic Print Reading

TAFD-115: Computer Applications for the Skilled Trades

TAFD-120: Industrial Safety Awareness

TAFD-150: Applied Technology

TAMA-120: Industrial Applications of Algebraic Principles

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

11.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Manufacturing Trades

Associate in Applied Science

Program Code: MFGTD.AAS...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Joseph Skupin • jskupin@hfcc.edu • Room: J-172

## Program Information

### Description

Provides the related trades instructional classes for registered Department of Labor and other industrial apprentices involved in the manufacturing technologies of transportation based manufacturing. Apprentices in these skilled trade classifications take courses defined by their employer or joint apprentice committee. They also must complete the on-the-job hours of work to qualify for journey-person certification or the equivalent. Apprentice certificate educational programs are typically 38 credit hours or longer in duration. Apprentice or Journeymen students may also be eligible to apply credits earned in their trade's educational programs toward the 60 credit hours required for the degree.

# Manufacturing Production Specialist

Certificate of Achievement



## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

## Required Core Courses

A minimum of 38 credit hours is required through the Apprenticeship Program.\*

Minimum Credit Hours: ..... 38.0

\*Apprenticeship programs vary in the number of credit hours earned. The minimum number is 38 credit hours. All program requirements must be met in order for an apprentice to qualify for a certificate. The credits acquired apply towards the Associate in Applied Science degree. Coursework is selected by the student based on his or her personal or career goals and the results of academic tests, transcript evaluations, and career planning sessions with the TAE apprentice coordinator.

## Required Support Courses

## Elective Courses

Minimum Credit Hours: ..... 22.0

Complete as many electives and general education credits as necessary to meet the minimum number of credit hours to receive your associate degree.

## Minimum Number Of Credits To Graduate

60.0 (Including Options/Electives)

## Program Requirements

## Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Manufacturing Production Specialist

## Certificate of Achievement

### Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Eastern Michigan University  
Ferris State University  
Lawrence Technological University  
Siena Heights University  
University of Michigan - Dearborn  
Wayne State University

### Career Opportunities

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Tool and Die Journeyman  
Tool and Die Repairman  
Tool and Die Group Leader  
Tool and Die Group Supervision  
Skilled Trade Supervision  
Tool Engineer  
Industrial Service Tool and Die Technician  
Product Design Technician  
Quality Control Technician  
Tool Designer

# Mathematics

Area of Study



## Mathematics

Area of Study

## Contact

Math and Science Division • (313) 845-9631 • math@hfcc.edu • Health Careers Education Ctr • Room: H-122

Larry Smyrski • (313) 845-6388 • lsmyrski@hfcc.edu • Health Careers Education Ctr • Room: H-120E

## Program Information

### Description

The Mathematics Department offers a wide range of courses, from developmental to advanced, that enable students to fulfill program requirements at Henry Ford College, to transfer with advanced standing into four-year degree programs, or to complete admission requirements for graduate degrees where the student's undergraduate mathematical background is insufficient.

For students who come to Henry Ford without the adequate preparation and skills to be successful in college-level mathematics, the Mathematics Department has a series of developmental offerings that prepares them for success in more advanced courses. In addition, the Learning Laboratory provides support for students who are lacking in specific mathematics skills in their HFC courses.

If a student's career objective is a technical degree or certificate, there is a structured two-course sequence in Technical Mathematics (MATH 100 and MATH 103) that is designed to meet the mathematical needs of these specific programs. Related problem-solving activities are integrated throughout this sequence. In addition, specialty courses are available to students in the Pharmacy Technician program (MATH 101) or the Culinary Arts program (MATH 104).

For students who plan eventually to transfer to a four-year program that has a strong mathematics component, the entire range of the traditional first two years of undergraduate mathematics courses is offered. Included is a three-course calculus sequence (MATH 180, MATH 183, MATH 280), in addition to specialty courses such as MATH 289-Differential Equations, MATH 283-Linear Algebra, and MATH 150-Finite Mathematics.

Future elementary education majors can satisfy their mathematics requirement at most institutions by completing MATH 121, MATH 221, and MATH 225. Students should consult the transfer guides to the four-year institutions of their choice for the appropriate courses.

Students preparing for an undergraduate degree in business or for entry into an MBA program can elect MATH 153-Calculus for Business, Life and Social Sciences, and MATH 141-Introduction to Statistics.

MATH 131-Mathematics in the Modern World provides students whose program or career goals do not require a specific mathematics course sequence the opportunity to develop quantitative literacy skills that will meet HFC requirements, and requirements at many four-year institutions. Students should consult their program requirements and transfer guides prior to electing this class.

The Mathematics Department emphasizes problem-solving techniques and the appropriate use of technology, both computer and graphing calculator-based, throughout its wide range of course offerings. Whether in science, engineering, statistics, business, health careers, education, or any other field that requires quantitative literacy, the mathematics offerings are designed to prepare students to become creative problem solvers.

## Degree Specific Requirements

### Required Core Courses

### Required Support Courses

### Elective Courses

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Medical Assistant

## Certificate of Achievement

### Medical Assistant

Certificate of Achievement

Program Code: MASST.CMLT..

### Contact

Health Sciences Division • (313) 845-9635 • Health Careers Education Ctr • Room: H-132

Elizabeth Hoffman • ehoffman1@hfcc.edu • Health Careers Education Ctr • Room: H-133B

### Program Information

#### Description

A Level II (Complex Skills) certificate designed to prepare professional multi-skilled individuals for employment in physician's offices, medical clinics,

laboratories and other ambulatory health care facilities. This program emphasizes administrative and clinical skills in the classroom and laboratory under directed practical experience in physician offices, clinics, and ambulatory care settings, teen health centers, and in the public school system.

The medical assistant must be able to demonstrate critical thinking skills in the performance of the following:

Administrative duties include: Patient reception, appointment scheduling, and management of electronic and paper-based medical records, medical correspondence, insurance procedures, and accounts receivable and payable procedures, medical billing and coding, medical transcription, health information technology, medical bookkeeping and accounting procedures.

Clinical duties include: Patient assessment and interviewing procedures, patient education, measuring and monitoring of vital signs, performance of electrocardiograms and basic x-ray procedures, administration of medication, phlebotomy, sterilization of supplies/instruments, the performance of basic laboratory test, assisting during examinations and minor surgery, and emergency preparedness procedures.

Externships are arranged by program faculty utilizing many of the clinical agencies throughout the region.

#### Accreditation

The Medical Assistant program is accredited by the Commission on Accreditation of Allied Health

Education Programs ([www.caahep.org](http://www.caahep.org)) upon the recommendation of the Medical Assistant Education Review Board (MAERB).

Commission on Accreditation of Allied Health Education Programs, 1361 Park St., Clearwater, FL

33756, 727-210-2350.

#### Admission Requirements / Eligibility

A minimum high school grade-point average of C+ (2.5) or a minimum average score of 55 on the GED test, or a minimum college grade-point average of C (2.25) for both transfer students and Henry Ford Community College students.

A COMPASS score 84 or higher or successful completion of ENG 081.

A COMPASS Pre-Algebra score of 39 or higher or successful completion of MATH 074 with a C grade or better.

Health Careers typing test at 30words/min or better or successful completion of BCA 101 with a grade B or better

The program has limited enrollment and admits students based on space availability. Admission is on a first-come, first-served bases. Students are highly encouraged to complete their admission requirements as early as possible.

### Degree Specific Requirements

#### Required Core Courses

- MOA-100: Medical Office Procedures I - Administrative
- MOA-110: Processing Health Insurance Claims
- MOA-120: Medical Office Computer Applications
- MOA-150: Medical Office Assistant Procedures II-Clinical
- MOA-160: Basic X-ray Techniques
- MOA-170: Medical Correspondence
- MOA-190: Medical Office Externship

Minimum Credit Hours: .....21.0

Students must maintain a minimum C grade or better in all MOA required and support courses including the last in the sequence, MOA 190.

Accreditation standards require that students do not receive compensation/payment, monetary or otherwise, from any clinical site for any portion of their clinical practicum (MOA 190-Medical Office Externship).

# Medical Assistant

## Certificate of Achievement



### Required Support Courses

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AH-100: Medical Terminology  
HPE-142: Advanced First Aid  
PSY-131: Introductory Psychology  
Complete one of the following course options:  
BIO-134: Essentials of Anatomy and Physiology  
OR  
BIO-233: Anatomy and Physiology I AND  
BIO-234: Anatomy and Physiology II

Minimum Credit Hours: ..... 15.0

### Elective Courses

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### Minimum Number Of Credits To Graduate

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36.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

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Accreditation standards require that students do not receive compensation/payment, monetary or otherwise, from any clinical site for any portion of their clinical externship (MOA 190 – Medical Office Externship).

In order to begin the clinical procedures course of the MOA Program, MOA 150, students must meet the following pre-requisites:

\*MOA 100, MOA 110, MOA 120, AH 100 and BIO 134 or BIO 233/BIO 234 all with a C grade or better

During the program the students will be required to submit proof of all of the following by designated program deadlines:

- Active Health Insurance coverage
- Completion of Physical Examination
- Evidence of required immunizations
- AHA, BLS for Healthcare Providers certification
- Valid driver's license or state issued identification card with a picture
- Criminal Background Check and Drug Screen Clearance

### Program Duration Limits / Updates / Changes

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All educational experiences are under the guidance of the MOA program. Student progress is evaluated in the classroom, laboratory and clinical setting throughout the program. Progression in the program is based upon the student meeting the following requirements:

Adherence to the program requirements outlined in the MOA Student Handbook.

Achievement of a minimum grade of C or better in all MOA and required courses including the last in the sequence (MOA 190).

Maintenance of an overall cumulative grade-point average of 2.0 or better.

All MOA courses taken at HFCC must be successfully completed within three consecutive calendar years.

The Medical Assisting program continuously updates its program of study to meet changing health care needs and the requirements of the accreditation agency and clinical affiliates, thus the College reserves the right to change policies at any time

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Occupational Exposure / Risk

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Applicants who consider a career in medical assisting should be aware that during the course of their education and subsequent employment they are likely to working in situations where exposure to infectious diseases is possible. This is an occupational risk for all health care workers. Persons should not become health care workers unless they recognize and accept this risk. Proper education and strict adherence to well established infection-control guidelines can reduce the risk to a minimum. Thorough education in infection control procedures is an important part of the medical assistant program of study.

### Latex Allergies

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Early recognition of sensitization to natural rubber latex (NRL) is crucial to prevent the occurrence of life-threatening reactions in sensitized healthcare workers. The Medical Assistant Program Faculty strongly advises that students sensitized or allergic to latex consult a physician for guidance on the merits of continuing in a healthcare career. NRL sensitized students who choose to continue in their program must notify the program director upon admission.

# Medical Assistant

## Certificate of Achievement

### **Registry / Certification / Licensure Exam Information**

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Upon completion of the Medical Assistant Program, students graduating from medical assistant programs accredited through CAAHEP (Commission on accreditation of Health Education Programs) or ABHES (Accreditation Bureau of Health Education Schools) are eligible and required to sit for either of the following certification examinations for medical assistants. Each credential is equal in weight, importance and acceptance for future employment.

CMAs and RMA's receive a better salary than those without credentials. Employers prefer medical assistants from accredited programs with professional certification.

The American Association of Medical Assistant (AAMA) offers the CMA (Certified Medical Assistant) examination. The CMA is a national certification.

The American Medical Technologist (AMT) offers the RMA (Registered Medical Assistant) examination. The RMA credential is an international certification.

### **Career Opportunities**

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According to recent reports from the U.S. Bureau of Labor Statistics employment of medical assistants is expected to grow much faster than the average for all occupations through 2030 as the health care industry expands because of technological advances in medicine and a growing aging population.

Employment growth will be driven by the increase in the number of group practices and other health care facilities that need a high proportion of support personnel, particularly the flexible medical assistant who can handle both administrative and clinical duties.

Information about career placement and job success is available through either the Health Careers Office or the College Placement Office.



# Medical Imaging Informatics

Certificate of Achievement



## Medical Imaging Informatics

Certificate of Achievement

## Contact

Health Sciences Division • (313) 845-9635 • Health Careers Education Ctr • Room: H-132

Sharon Wu • (313) 317-6595 • swu@hfcc.edu • Health Careers Education Ctr • Room: H-133C

## Program Information

### Description

Incorporates information technology, diagnostic imaging technology, biological sciences and healthcare into the multidisciplinary field of Medical Imaging Informatics. Imaging Informatics professionals manage the diagnostic digital imaging chain including image acquisition and processing, image distribution and communication, image storage and retrieval, image interpretation and reporting. Imaging Informatics professionals manage, maintain and troubleshoot both the hardware and the software of the diagnostic imaging network. Students may come to this certification preparation program from a healthcare or an information technology background. The didactic courses are 100% online.

## Degree Specific Requirements

### Required Core Courses

- MII-101: Medical Imaging Informatics Basics
- MII-102: Evaluating the Clinical Image
- MII-201: Picture Archiving and Communication system (PACS) Procurement and Project Management
- MII-202: Medical Imaging Informatics Advanced
- MII-290: Clinical Externship
- In place of MII 290- equivalent professional work experience equivalent to 168 hours

Minimum Credit Hours: ..... 12.0

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

12.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Medical Imaging Informatics

## Certificate of Achievement

### Medical Insurance Specialist

Certificate of Achievement

Program Code: MEDINS.CMLT...

### Contact

Health Sciences Division • (313) 845-9635 • Health Careers Education Ctr • Room: H-132

Elizabeth Hoffman • ehoffman1@hfcc.edu • Health Careers Education Ctr • Room: H-133B

### Program Information

#### Description

A Level II (Complex Skills Certificate) certificate designed to provide entry-level skills for medical billing specialists. These individuals process the information necessary for reimbursement of health care services. The medical insurance biller is responsible for collection of preadmission/pretreatment insurance information through submission of claims to insurance carrier or patient. Verification of insurance coverage and determination of whether any predetermination, pre-certification, or second-opinion requirements exist is another important aspect of the job.

Training is provided in verification of insurance coverage, assignment of diagnostic and procedural codes, as well as both manual and computerized claim preparation. Review and follow-up procedures for the major carriers are included in addition to posting and balancing of accounts. Students will be able to recognize, evaluate and interpret inconsistencies, discrepancies, and inaccuracies in the billing procedure. Physician billing as well as facility billing procedures are developed.

Medical Insurance Specialist is the second stage of the three step program option. The students may elect to stop-out at the end of any one of the three stages depending upon their career and educational objectives.

Medical Receptionist, Level I Certificate, 16.5 credit hours

Medical Insurance Specialist, Level II Certificate, 48 credit hours

Medical Practice/Facility - Business Management Associate in Business degree, 70 credit hours

Interested students must work closely with the Health Career Advisor in order to develop their own individual educational plan. For additional information or an appointment, students should contact the Health Careers Office at (313) 845-9877.

### Admission Requirements / Eligibility

Admission to the program is based on upon satisfying the following admission requirements.

A minimum high school grade-point average of C+ (2.5) or a minimum average score of 55 on the GED, or a minimum college grade-point average of C (2.0) for both transfer students and Henry Ford Community College students.

A COMPASS score of 84 or successful completion of ENG 081

A COMPASS score of 39 for Pre-Algebra or the successful completion of MATH 074 with a grade of C or better

Health Careers typing test at 30 words/min or better or successful completion of BCA 101 with a grade of B or better.\*

### Degree Specific Requirements

#### Required Core Courses

AH-100: Medical Terminology

BBA-110: Business Language Skills

BBA-153: Customer Service

BBA-231: Business Office Communications

BCA-140: Software Applications

BMA-110: Business Math

HIT-150: Basic Coding: Theory and Practice

HIT-230: Ambulatory Coding

MOA-100: Medical Office Procedures I - Administrative

MOA-110: Processing Health Insurance Claims

MOA-165: Physician Billing Concepts

MOA-168: Facility Billing Concepts

MOA-181: Medical Collection and Legal Issues

MOA-205: Insurance Coding and Reimbursement

Complete one of the following courses:

BAC-110: Practical Accounting

BAC-131: Introduction to Financial Accounting

#### Required Support Courses

#### Elective Courses

#### Minimum Number Of Credits To Graduate

48.0 (Including Options/Electives)

# Medical Imaging Informatics

Certificate of Achievement



## Program Requirements

### Additional Program Requirements

---

Adherence to the program requirements outlined in the MOA/MR/MIS Student Handbook.

Achievement of a minimum grade of C or better in all MOA and required courses.

Maintenance of an overall cumulative grade point average of 2.0 or better.

### Program Duration Limits / Updates / Changes

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HFCC continuously attempts to improve each program, and as a result courses and requirements may be modified. Curriculum, course content, and admission criteria are subject to change by action of the College faculty and administration.

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Registry / Certification / Licensure Exam Information

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Upon completion of the Medical Insurance Specialist program students are eligible to take the certification examination for Certified Medical Administrative Specialists (CMAS).

This examination is offered through the American Medical Technologists (AMT).

As a graduate of a CAAHEP accredited program (Commission on Accreditation of Health Education Programs) or ABHES accredited program. (American Bureau of Health Education Programs),

students may also consider taking the Certified Medical Billing Insurance Examination (CMBI) offered by the American Association of Professional Coders. These credentials are necessary for employment in administrative medical office duties.

### Career Opportunities

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The employment outlook for medical insurance specialists is good, but very competitive especially for entry-level positions. Information about career placement is available through the College Placement Office which also assists students in finding employment.

All health care employers are now requiring Criminal Background Checks and Drug Screens of their new applicants. Students must complete Criminal Background Check and Drug Screen per Michigan Public Health Code 20713 for admission into the Medical Insurance Specialist program - see below.

# Medical Practice — Clinical Management

Associate in Applied Science

## Medical Practice — Clinical Management

Associate in Applied Science

Program Code: MPCM.AAS...

## Contact

Health Sciences Division • (313) 845-9635 • Health Careers Education Ctr • Room: H-132

Debra Szymanski • (313) 317-6580 • dszyman@hfcc.edu • Health Careers Education Ctr • Room: H-133F

## Program Information

### Description

Focuses on the preparation of the Medical Assistant and the foundation necessary to prepare medical assistants for increasing management responsibility within the medical office or clinic and to perform routine administrative duties in physicians' offices, clinics, and other ambulatory health care facilities. Students may elect to stop out at either one of the two stages depending upon their career or educational objectives.

Medical (Office) Assistant, Level II Certificate of Achievement, 36 credit hours

Medical Practice - Clinical Management Associate in Applied Science degree, 66 credit hours.

Credits in this certificate program may be applied to the Associate in Applied Science degree centered around the Medical Assistant.

## Learning Outcomes

- Measure and Record Patient Vital Signs These are Course Outcomes. These need to be broader & more comprehensive. Business needs to be added, and outcomes could be combined
- Administer Oral and Parenteral Medications
- Perform Electrocardiography
- Perform Phlebotomy
- Perform Basic Radiographic Procedures
- Assist with examinations and minor surgery
- Provide patient instruction in health promotion and wellness
- Apply management theory to effectively supervise the human resources of an organization
- Evaluate management decisions given an organization's relationship to the external business environment
- Creatively solve common problems in managing the business office of a medical or medical related organization
- Demonstrate effective non-verbal and verbal communication skills for a business environment

Demonstrate effective written communication for a business environment

Employ computer applications to perform business activities

Prepare billing and insurance reimbursement documents to insure proper payment

## Accreditation

The medical assistant portion of the program is accredited by the Commission on Accreditation of

Allied Health Education Programs ([www.caahep.org](http://www.caahep.org)) upon the recommendation of the Curriculum Review

Board of the American Association of Medical Assistants Endowment (CRB-AAMAE).

Commission on Accreditation of Allied Health Education Programs, 1361 Park St., Clearwater, FL

33756, 727-210-2350.

## Admission Requirements / Eligibility

A minimum high school grade-point average of C+ (2.5) or a minimum average score of 55 on the GED, or a minimum college grade-point average of C (2.25) for both transfer students and Henry Ford Community College students.

A COMPASS score of 84 or better or successful completion of ENG 081.

A COMPASS Pre-Algebra score of 39 or higher or successful completion MATH 074 with a C grade or better.

Health Careers typing test at 30 words/min or better or successful completion of BCA 101 with a grade of B or better

The program is restricted, has a limited enrollment and admits students based on space availability. Admission is on a first-come, first-served basis. Students are highly encouraged to complete their admission requirements as early as possible.

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

# Medical Practice — Clinical Management

Associate in Applied Science



## General Education Requirements

---

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

---

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

## Required Core Courses

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- AH-100: Medical Terminology
- BBA-110: Business Language Skills
- BBA-133: Business Behavior and Communication
- BBA-153: Customer Service
- MGT-230: Principles of Management
- MGT-231: Supervision and Teambuilding
- MGT-232: Human Resources Management
- MGT-240: Creative Problem Solving
- MOA-100: Medical Office Procedures I - Administrative
- MOA-110: Processing Health Insurance Claims
- MOA-120: Medical Office Computer Applications
- MOA-150: Medical Office Assistant Procedures II-Clinical
- MOA-160: Basic X-ray Techniques
- MOA-170: Medical Correspondence
- MOA-190: Medical Office Externship

Minimum Credit Hours: .....46.0

## Required Support Courses

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- HPE-142: Advanced First Aid
- PSY-131: Introductory Psychology
- ENG-131: Introduction to College Writing
- ENG-132: College Writing and Research
- SOC-131: Introduction to Sociology
- Complete one of the following Biology options:
- BIO-134: Essentials of Anatomy and Physiology
- OR
- BIO-233: Anatomy and Physiology I AND
- BIO-234: Anatomy and Physiology II

Minimum Credit Hours: .....20.0

## Elective Courses

---

Minimum Credit Hours: .....0.0

## Minimum Number Of Credits To Graduate

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66.0 (Including Options/Electives)

# Medical Practice — Clinical Management

Associate in Applied Science

## Program Requirements

### Additional Program Requirements

Accreditation standards require that students do not receive compensation/payment, monetary or otherwise, from any Clinical site for any portion of their clinical externship (MOA 190 – Medical Office Externship).

In order to begin the clinical procedures course of the MOA Program, MOA 150, students must meet the following pre-requisites:

MOA 100, MOA 110, MOA 120, AH 100 and BIO 134 or BIO 233/ BIO 234 all with a C grade or better

During the program the students will be required to submit proof of all of the following by designated program deadlines:

Active Health Insurance coverage

Completion of Physical Examination

Evidence of required immunizations

AHA, BLS for Healthcare Providers certification

Valid driver's license or state issued identification card with a picture

Criminal Background Check and Drug Screen Clearance

### Program Duration Limits / Updates / Changes

All educational experiences are under the guidance of the MOA program. Student progress is evaluated in the classroom, laboratory and clinical setting throughout the program. Progression in the program is based upon the student meeting the following requirements:

Adherence to the program requirements outlined in the MOA Student Handbook.

Achievement of a minimum grade of C or better in all MOA and required courses including the last in the sequence (MOA 190).

Maintenance of an overall cumulative grade-point average of 2.0 or better.

All MOA courses taken at HFCC must be successfully completed within three consecutive calendar years.

HFCC continuously attempts to improve each program, and as a result courses and requirements may be modified. Curriculum, course content, and admission criteria are subject to change by action of the College faculty and administration.

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Occupational Exposure / Risk

Applicants who consider a career in medical assisting should be aware that during the course of their education and subsequent employment they are likely to working in situations where exposure to infectious diseases is possible. This is an occupational risk for all health care workers. Persons should not become health care workers unless they recognize and accept this risk. Proper education and strict adherence to well established infection-control guidelines, however, can reduce the risk to a minimum. Thorough education in infection control procedures is an important part of the medical assistant program of study.

### Latex

Early recognition of sensitization to natural rubber latex (NRL) is crucial to prevent the occurrence of life-threatening reactions in sensitized healthcare workers. The Medical Assistant Program Faculty strongly advises that students sensitized or allergic to latex consult a physician for guidance on the merits of continuing in a healthcare career. NRL sensitized students who choose to continue in their program must notify the program director upon admission.

### Registry / Certification / Licensure Exam Information

Upon completion of the Medical Assistant Program, students graduating from medical assistant programs accredited through CAAHEP (Commission on Accreditation of Allied Health Education Programs) or ABHES (Accreditation Bureau of Health Education Schools) are eligible and required to sit for either of the following certification examinations for medical assistants. Each credential is equal in weight, importance and acceptance for future employment.

CMAs and RMAs receive a better salary than those without credentials. Employers prefer medical assistants from accredited programs with professional certification.

The American Association of Medical Assistant (AAMA) offers the CMA (Certified Medical Assistant) examination. The CMA is a national certification.

The American Medical Technologist (AMT) offers the RMA (Registered Medical Assistant) examination. The RMA credential is an international certification.

# Medical Practice — Clinical Management

Associate in Applied Science

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

## Career Opportunities

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According to recent reports from the U.S. Bureau of Labor Statistics, employment of medical assistants is expected to grow much faster than the average for all occupations through 2030 as the health care industry expands because of technological advances in medicine and a growing aging population.

Employment growth will be driven by the increase in the number of group practices and other health care facilities that need a high proportion of support personnel, particularly the flexible medical assistant who can handle both administrative and clinical duties.

Information about career placement and job success is available through either the Health Careers Office or the College Placement Office.

# Medical Practice/Facility Business Management

Associate in Business

## Medical Practice/Facility Business Management

Associate in Business

Program Code: MPFBM.AB

### Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Corinne Asher • (313) 845-9867 • casher@hfcc.edu • Liberal Arts •  
Room: L-325

## Program Information

### Description

Builds on the Medical Insurance Specialist certificate and prepares students to manage the specialized business functions of a medical practice or medical facility. Course work covers medical billing, coding, and insurance claim forms as well as accounting, customer service, management, medical terminology, and effective oral and written communications. Students must complete a criminal background check and drug screen per Michigan Public Health Code 20713.

### Learning Outcomes

- Interpret basic financial statements
- Apply management theory to effectively supervise the human resources of an organization
- Evaluate management decisions given an organization's relationship to the external business environment
- Creatively solve common problems in managing the business office of a medical or medical related organization
- Demonstrate effective non-verbal and verbal communication skills for a business environment
- Demonstrate effective written communication for a business environment
- Employ computer applications to perform business activities
- Prepare billing and insurance reimbursement documents to insure proper payment

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research



# Medical Practice/Facility Business Management

Associate in Business



## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

### Required Core Courses

- BBA-110: Business Language Skills
- BBA-131: Introduction to Business
- BBA-133: Business Behavior and Communication
- BBA-153: Customer Service
- BBA-231: Business Office Communications
- BMA-110: Business Math
- CIS-100: Introduction to Information Technology
- MGT-230: Principles of Management
- MGT-231: Supervision and Teambuilding
- Complete one of the following courses:
- BAC-110: Practical Accounting
- BAC-131: Introduction to Financial Accounting

Minimum Credit Hours: ..... 32.0

### Required Support Courses

- AH-100: Medical Terminology
- HIT-150: Basic Coding: Theory and Practice
- HIT-230: Ambulatory Coding
- MOA-100: Medical Office Procedures I - Administrative
- MOA-110: Processing Health Insurance Claims
- MOA-165: Physician Billing Concepts
- MOA-168: Facility Billing Concepts
- MOA-181: Medical Collection and Legal Issues
- MOA-205: Insurance Coding and Reimbursement

Minimum Credit Hours: ..... 29.0

### Elective Courses

Minimum Credit Hours: ..... 0.0

### Minimum Number Of Credits To Graduate

70.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

Students must complete a Criminal Background Check and Drug Screen per Michigan Public Health Code 20713.

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, counseling@hfcc.edu, Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

# Medical Receptionist

## Certificate of Achievement

### Medical Receptionist

Certificate of Achievement

Program Code: MEDREC.CSGL...

### Contact

Health Sciences Division • (313) 845-9635 • Health Careers Education Ctr • Room: H-132

Elizabeth Hoffman • ehoffman1@hfcc.edu • Health Careers Education Ctr • Room: H-133B

### Program Information

#### Description

Prepares individuals to function with supervision in a health care office providing customer service as well as patient intake and discharge services. The curriculum includes medical office procedures such as scheduling appointments, managing the telephone, filing, mail duties, preparing and maintaining patient records, basic insurance claims, word processing, basic, spreadsheet and database skills, as well as medical office policies such as privacy requirements.

This program may be completed in one semester or it may be used as a stepping stone for the Medical Insurance Specialist certificate followed by the Associate in Business degree in Medical Practice/Facility Business Management. The students may elect to stop out at the end of any one of the three stages depending upon their career and educational objectives.

Medical Receptionist, Level I (Basic Skills) Certificate of Achievement, 16.5 credit hours

Medical Insurance Specialist, Level II Certificate of Achievement, 48 credit hours

Medical Practice/Facility Business Management, Associate in Business degree, 70 credit hours

### Admission Requirements / Eligibility

All students seeking admission into the Medical Receptionist Certificate Program must schedule an appointment with the Health Careers Advisor at (313) 845-9877.

Admission to the program is based upon satisfying the following admission requirements:

A minimum high school GPA of C+ (2.5) or a minimum average score of 55 on GED test, or a minimum college GPA of 2.25 (C) or better for both HFCC students and transfer students.

A COMPASS Reading score of 84+ or satisfactory completion of ENG 081.

A COMPASS Pre-Algebra score of 39+ or successful completion of MATH 074 with a C grade or better.

Health Careers typing test at 30 words/min or better or successful completion of BCA 101 with a B grade or better.

Once these requirements have been met, the student will be given a granted petition to register for classes from the program director. Once a class roster has been filled for a particular class, the student may place themselves on the course waitlist for the next possible seat.

Medical Receptionist program course waitlists are not carried over from semester to semester. The student will be required to meet with a health careers advisor to make sure they are placed in the proper class.

### Criminal Background Check and Drug Screen

Consistent with Michigan Public Health Code and the requirements of our clinical affiliates, a Criminal Background Check and a Drug Screen is required for all students in the medical assistant program prior to beginning their clinical assignments. The cost for the Health Appraisal, Drug Screen, Immunizations and background check are in addition to the cost of basic tuition and fee schedule.

### Degree Specific Requirements

#### Required Core Courses

AH-100: Medical Terminology

AH-105: Basic Life Support for Healthcare Providers

BBA-153: Customer Service

BCA-140: Software Applications

HCS-103: Employment Skills for Health Careers

MOA-100: Medical Office Procedures I - Administrative

MOA-110: Processing Health Insurance Claims

# Medical Receptionist

## Certificate of Achievement

### **Required Support Courses**

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### **Elective Courses**

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### **Minimum Number Of Credits To Graduate**

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16.5 (Including Options/Electives)

## **Program Requirements**

### **Additional Program Requirements**

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The Medical Receptionist program may be completed in one semester following a full-time schedule, or the program may be extended and completed on a part-time basis. In either case, careful scheduling is required. Students are strongly encouraged to consult the Health Careers Advisor in planning their class schedules at (313) 845-9877.

### **Program Duration Limits / Updates / Changes**

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HFCC continuously attempts to improve each program, and as a result courses and requirements may be modified. Curriculum, course content and admission criteria are subject to change by action of the College faculty and administration.

### **Requirements are Subject to Change**

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### **Career Opportunities**

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The employment outlook for the Medical Receptionist is good, but very competitive especially for entry-level positions. Information about career placement is available through the College Placement Office which also assists students in finding employment.

Many health care employers are now requiring criminal background checks and drug screens of their new applicants.

# Motion Capture Systems Technician

Certificate of Achievement

## Motion Capture Systems Technician

Certificate of Achievement

Program Code: MCST.CSGL...

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

George Popovich • (313) 845-6478 • popovich@hfcc.edu • Fine Arts Bldg • Room: F-127

## Program Information

### Description

Teaches the skill sets required for the film and animation industry standard of Motion Capture Systems Technician. The certificate was developed in cooperation with Dan Lemieux, Hollywood stunt coordinator and Motion Capture performer. Courses are taught in the Virtual Theatricality Lab and using a Vicon Optical Motion Capture System, Blade and Motion Builder Software. This program is an “add-on” program to the Associate In Arts Degree, or for avocational or personal enrichment purposes, and not as a vocational end in itself. Students in Animation, Telecommunications, and related disciplines are encouraged to take the Mo Cap certificate while pursuing the Associate in Arts Degree. The Mo Cap Certificate takes approximately 2 years to complete.

## Degree Specific Requirements

### Required Core Courses

VTL-235: Science Fiction, Fantasy, and Horror Films

VTL-262: Introduction to Motion Capture

VTL-263: Intermediate Motion Capture

VTL-264 : Advanced Motion Capture Application

Minimum Credit Hours: ..... 12.0

### Required Support Courses

ART-209: Maya

Minimum Credit Hours: ..... 3.0

## Elective Courses

VTL-150: Special and Visual Effects for Stage and Screen

VTL-265: Introduction to Motion Capture Body Performance for Stage

VTL-266: Green Screen Visual Effects for Stage and Screen

VTL-267: Stereoscopic Cinematography for Stage and Screen

Minimum Credit Hours: ..... 3.0

## Minimum Number Of Credits To Graduate

18.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Career Opportunities

Motion Capture Systems Technician

# Multi-Skilled Manufacturing Maintenance (Mechatronic Manufacturing Maintenance)

Associate in Applied Science

## Multi-Skilled Manufacturing Maintenance (Mechatronic Manufacturing Maintenance)

Associate in Applied Science

Program Code: MSMM.AAS...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Joseph Skupin • jskupin@hfcc.edu • Room: J-172

## Program Information

### Description

Develops skills in areas including industrial electrical, mechanical, robot maintenance, welding, and hydraulics. During the program students will also be able to develop advanced skill concentrations in electrical and/or mechanical areas through elective industrial technology courses.

Course work and educational experience will be provided that support skills in the area of self-directed work teams. This program provides the maintenance skill sets sought by advanced manufacturing employers. This is a 21st Century Career Program in Automated Manufacturing and includes Advanced and Basic Certificates.

### Admission Requirements / Eligibility

High school diploma or GED.

ASSET Reading score 48 or better OR COMPASS Reading score of 51 to 83 and a Writing score between 78 to 99 by the end of the first semester.

ASSET or COMPASS Writing test score sufficient for placement in ENG 131 by the beginning of the second semester. These requirements may also be fulfilled by successful completion of developmental English courses.

Successful completion of TAMA 110 or MATH 101 with a grade of C or better.

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Multi-Skilled Manufacturing Maintenance (Mechatronic Manufacturing Maintenance)

Associate in Applied Science

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

### Required Core Courses

- TADV-100: Basic Print Reading
- TAEL-103: DC and AC Electricity
- TAFD-115: Computer Applications for the Skilled Trades
- TAFD-120: Industrial Safety Awareness
- TAFD-150: Applied Technology
- TAFP-150: Introduction to Industrial Hydraulics
- TAMA-110: Industrial Applications of Basic Mathematical Principles
- TAMA-120: Industrial Applications of Algebraic Principles
- TAIM-100: Industrial Materials

Minimum Credit Hours: .....25.0

### Required Support Courses

A minimum of 15 credit hours from the following courses after completing a planning session with the TAE apprentice coordinator.

Electrical: Complete at least one of the following:

- TAEL-105: AC Theory and Equipment
- TAEL-145: DC and AC Motors
- TAEL-150: DC Motors and Controls
- TAEL-200: Ladder Diagrams and Motor Controls
- TAEL-245: Programmable Logic Controller (PLC)
- TAEL-270: Industrial and Commercial Wiring

Mechanical: Complete at least one of the following:

- TAGD-110: Basic Shape and Size Interpretation
- TAGD-120: Advanced Graphic Interpretation
- TAGD-130: Assembly Detailing
- TAMT-110: Mechanical Power Transmission
- TAMT-115: Maintenance Trades Print Reading
- TAMT-200: Predictive Maintenance - Shaft Alignment and Couplings
- TAMT-210: Predictive Maintenance-Vibration Analysis
- TAMT-220: Advanced Rigging
- TAMT-260: Gearing

Fluid Power: Complete at least one of the following:

- TAFP-160: Pneumatic Power and Control
- TAFP-260: Fluid Power Systems- Advanced
- TAFP-270: Fluid Power Systems: Circuit Design and Troubleshooting
- TAPP-100: Fundamentals of Plumbing and Pipefitting
- TAPP-120: Heating Systems
- TAPP-250: Plumbing Code

Welding: Complete at least one of the following:

- TAMJ-110: Welding Fundamentals
- TAMJ-115: Advanced Welding Techniques
- TAMJ-120: Welding: Gas Tungsten Arc Welding (GTAW) and Gas Metal Arc Welding (GMAW) Techniques
- TAMJ-125: Welding: AWS Pipe Welding
- TAMJ-145: Welding: Advanced Gas Torch Techniques
- TAMJ-230: Welding: AWS Pipe and Pressure Vessel Certification
- TAMJ-235: Welding: GTAW and GMAW Certification

Minimum Credit Hours: ..... 15.0

### Elective Courses

Minimum Credit Hours: ..... 11.0

Complete as many electives credits as necessary to meet the minimum number of credit hours to receive your associate degree.

### Minimum Number Of Credits To Graduate

60.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

For additional information contact: The Trade and Apprentice Education office at 845-9606 or 845-9670.

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

# Music

## Associate in Arts

### Music

Associate in Arts

Program Code: MUSIC.AA...

### Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Kevin Dewey • (313) 845-6474 • kdewey@hfcc.edu • Fine Arts Bldg • Room: F-132

### Program Information

#### Description

Credentialed students for employment opportunities in music and prepares students for further study at a university level. Students desiring an Associate in Arts degree with a major in music must have music reading skills and basic piano keyboarding skills. Students lacking these skills will need to take MUS 134 Music Fundamentals (3 credits) to develop music reading skills and MUS 117 Piano Class 1 (2 credits) to develop piano skills in addition to the courses listed below.

### Learning Outcomes

Perform, within a historical context, on an instrument, keyboard or voice, as a soloist and in ensemble with tone, intonation and style at the level of a second year University School of Music student

Analyze four-part compositions in 18th-century style (e.g. chorale) in all major and minor keys

Compose four-part compositions in 18th-century style (e.g. chorale) in all major and minor keys, applying appropriate melody, rhythm, chord progression, voicing, and phrasing

### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

### General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

### Degree-Specific Requirements

Complete one course from the Wellness Group:

COUN-114: Stress Management - A Personal Approach

HPE-140: Lifetime Wellness

HPE-142: Advanced First Aid

HPE-153: Nutrition

HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher

HPEA-117: Strength Training and Physical Conditioning /

HPEA-217: Strength Training and Physical Conditioning II

HPEA-126: Aerobic Dance

HPEA-155: Relaxation Techniques for Stress Management

Complete 8 Humanities credits from courses in:

Art, Dance, English (except ENG-131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 8 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 8 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

### Required Core Courses

Complete 4 credit hours in musical ensembles in any combination from the following. All ensemble classes are for one credit.

Chorus: MUS 107, MUS 108, MUS 207, MUS 208,  
Symphony Band: MUS 109, MUS 110, MUS 209, MUS 210,  
Jazz Band: MUS 111, MUS 112, MUS 211, MUS 212,  
Vocal Jazz Ensemble: MUS 143, MUS 144, MUS 243, MUS 244.

Complete 4 credit hours from the following courses:

Applied Music (1 credit each):  
MUS 113, MUS 115, MUS 213, MUS 215  
Applied Music (2 credits each):  
MUS 114, MUS 116, MUS 214, and/or MUS 216.

Complete all of the following classes:

MUS-118: Piano Class 2 See note below.  
MUS-132: Music Literature  
MUS-138: Music Theory 1  
MUS-139: Music Theory 2  
MUS-141: Aural Music Skills 1  
MUS-142: Aural Music Skills 2  
MUS-152: Music Notation with Finale 1

Select one of the following:

MUS-232: History of Western Music 1  
MUS-233: History of Western Music 2

Minimum Credit Hours: .....28.0

NOTE: Piano Class 1 or performance placement required as prerequisite

### Required Support Courses

PSCI-135: Sound & Light in Fine-Arts

Minimum Credit Hours: .....4.0

### Elective Courses

Complete as many electives credits as necessary to meet the minimum number of credit hours to receive your associate degree.

### Minimum Number Of Credits To Graduate

60.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Eastern Michigan University  
Wayne State University  
Central Michigan University

### Career Opportunities

Church Music Director  
Community Music Director  
Free Lance Musician  
Music Retail  
Private Music Instruction



# Nursing

Associate in Applied Science



## Nursing

Associate in Applied Science

Program Code: NURSE.AAS...

## Contact

Health Sciences Division • (313) 845-9635 • Health Careers Education Ctr • Room: H-132

Lorraine Paffenroth • (313) 317-6525 • lpaffen@hfcc.edu • Welcome Center • Room: WC

## Program Information

### Description

Prepares individuals to work as entry level registered nurses. HFC is the first associate's degree nursing program in Michigan and one of the first seven such programs in the nation. The program has received many awards and grants for curricula design, innovative teaching strategies, creative curriculum scheduling and collaborative partnerships. With credit for courses taken in their prior education, licensed practical nurses (LPNs) may apply for admission to the Advancement of LPN's to RN program. Interested parties should refer to that program for information.

### Learning Outcomes

Use Orem's Self-Care Deficit Theory, scientific principles and research findings as the foundation for critical thinking and decision making in nursing practice

Communicate effectively with individuals, families, communities, and the health care team using a variety of processes and technologies (informatics)

Use standards of care in health promotion, disease prevention and illness management for individuals and families throughout life stages

Manage health care for clients in varied settings recognizing the impact of societal forces on quality care and the health care delivery system

Practice nursing with diverse client populations using an ethical and legal framework

Incorporate professional nursing values into role development as a competent degree nurse

### Accreditation

The program is approved by the Michigan State Board of Nursing and accredited by the Accreditation Commission for Education in Nursing (ACEN), (formerly the National League for Nursing accrediting Commission). Their address is 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326 Phone: 404.975.5000 and Fax: 404.975.5020 <http://www.acenursing.org>

### Admission Requirements / Eligibility

Applicants must be admitted to the college and designate Associate of Science Degree with a pre-nursing specialization as their program of study. Applicants must have a GPA of 2.7 or better. The program has a limited enrollment and admits students in the fall and winter semesters. Admission is competitive.

Applicants must submit a nursing program application with all required documentation. The application deadline is January 30th for the fall semester and June 30th for the winter semester.

No pre-requisite, non-nursing support or nursing course can be repeated more than one time to receive a "C" (no minus) or better grade. High school grades are only valid within 10 years of college admission date.

- GPA of 2.7 or better maintained
- High school cumulative GPA of 2.7 or better, or
- Minimum G.E.D. test score of 550 or higher, or
- Completion of 12 credit hours at HFCC at 2.7 or higher, or
- Transfer credit of 2.7 or higher or an additional 12 credit hours at HFCC to establish required GPA.

Biology: High school GPA of "A" (4.0) or "B" (3.0) throughout a one year laboratory Advance Placement course, or BIO 131 – Introduction to Biology, or its transfer equivalent or better, with a minimum grade of "C" (no C minus).

CHEM 131: Principles of Chemistry, or its equivalent or better, with a minimum grade of "C" (no C minus): or Chemistry placement test score of 10 or greater.

MATH 080: Beginning Algebra with a minimum grade of "C" (no C minus); or a Compass Algebra score of 46 or higher.

ENG 131 with a minimum grade of "C" (no C minus)

ENG 132 with a minimum grade of "C" (no C minus)

PSY 131 with a minimum grade of "C" (no C minus)

The required Nurse Admission Test (NAT) is offered by the College. Only two attempts are allowed. The Learning Lab offers free assistance to prepare for this exam. All NAT exams must be taken at HFCC. The NAT requirements are:

- Math proficiency at 80%
- Reading composite proficiency at 80%
- Grammar proficiency at 80%
- Vocabulary proficiency at 80%
- Successful completion of the NAT objectives is required to be eligible for admission to the nursing program.
- The NAT exam must be passed within two years prior to admission dated into the Nursing Program.

Placement tests and all admission requirements must be completed before students are considered for admission to the program

### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

### General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

### Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

### Required Core Courses

- NSG-120: Nursing and Health Care System I
- NSG-126: Nursing and Self-Care I
- NSG-150: Nursing and Self-Care II
- NSG-155: Nursing and Self-Care III
- NSG-221: Nursing and Self-Care IV – Part I
- NSG-222: Nursing and Self-Care IV - Part II
- NSG-250: Nursing and Self Care V: Childbearing Family and Child and Family
- NSG-255: Nursing and Health Care Systems II

Minimum Credit Hours: ..... 39.0

If any nursing course is failed after two attempts, the student will no longer qualify for the Nursing program and may reapply to the program after a period of 5 years.

A minimum grade of C is required in ALL coursework.

### Required Support Courses

- AH-120: Pharmacology for Allied Health
- BIO-233: Anatomy and Physiology I
- BIO-234: Anatomy and Physiology II
- PSY-131: Introductory Psychology
- PSY-253: Lifespan Development
- SOC-131: Introduction to Sociology
- ENG-131: Introduction to College Writing
- ENG-132: College Writing and Research
- Computer Literacy Test (CLT 100) or Equivalent Course

Minimum Credit Hours: ..... 26.0

### Elective Courses

Minimum Credit Hours: ..... 0.0

### Minimum Number Of Credits To Graduate

65.0 (Including Options/Electives)

# Nursing

Associate in Applied Science



## Program Requirements

### Additional Program Requirements

Applicants must attend informational and orientation meetings scheduled by the Associate Dean of Health Sciences.

Final acceptance is contingent upon fulfilling and maintaining minimum program requirements and proof of the following by specified deadline dates:

- Health Insurance
  - Physical examination
  - TB testing/screening
  - Immunizations as required
  - Titers from previous immunizations
  - BLS for Healthcare Professionals certification
  - Drug screening
  - Criminal background check
  - ACE Clinical Passport Requirements
- Uniform/program supplies

### Program Duration Limits / Updates / Changes

The College and the Nursing Faculty reserve the right to make policy and program changes at any time to comply with requirements of accrediting agencies, clinical facilities, or the college, and to meet the changing health care needs of society. For the most current information, students should contact the nursing office.

**Clinical Placements:** Placement of students in clinical agencies is increasingly difficult to arrange. Clinical placements occur in many different agencies and may be during the day, afternoon, evening or weekends. Students who are unwilling or unable to make arrangements and adjustments in their personal schedules to accommodate their assigned clinical rotations will need to withdraw from the nursing program.

All educational experiences are under the direction and guidance of the nursing faculty. Student progress is evaluated in the clinical setting, classroom and nursing laboratories. Progression in nursing courses follows the policy written in the Nursing Student Handbook and is based on the student's:

Adherence to program requirements and policies outlined in the Nursing Student Handbook.

Achievement of the minimum grade of "C" (no C minus) for all non-nursing and required support courses.

Achievement of the minimum grade of "C" (no C minus) for all nursing courses.

Satisfactory clinical performance. Unsatisfactory clinical or lab performance in a course with a clinical component is considered a failure in the course.

Competency in math dosage calculation.

**Withdrawal and Readmission:** Students who do not complete course objectives for personal reasons, receive less than a "C" grade in theory, are unable to pass math competency exams, or who receive a clinical/lab unsatisfactory evaluation for any nursing course are withdrawn from the Nursing Program. This student does not progress to the next level of courses. Refer to the Withdrawal and Readmission Policy in the Nursing Student Handbook.

**Program Duration Limits:** All courses for the nursing program must be completed within a total of three consecutive calendar years. BIO 233/234, or transfer course equivalents, must be successfully completed in no more than two attempts and must not be older than five years old from the date that students will enter the nursing program. Anatomy and Physiology of less than eight semester credits or taken over five years ago, must be repeated. All co-requisites must successfully completed as dictated by the nursing curricular master plan.

**Nursing Program Changes:** The College and the Nursing faculty reserve the right to change policies at any time. The nursing program continuously updates its program of study to meet changing health needs. Requirement changes, updates and all information regarding the nursing program can be obtained through the nursing office (N120) or the Admissions Specialist for nursing (located in advising within the Welcome Center area of the College).

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Occupational Exposure / Risk

Because nurses are required to lift, move and transfer patients, stand for long periods of time, possess certain fine motor skills and sufficient visual acuity to care for patients, additional physical capabilities are required for entrance into the program. See Nursing Student Handbook for specific requirements. Applicants considering a career in nursing may also be exposed to infectious diseases during their course of study and in subsequent employment in the field and are likely to work in situations where exposure to infectious disease is possible. This is an occupational health risk for all health care workers. Persons should not become health care workers unless they recognize and accept this risk. Proper education and strict adherence to well established infection-control guidelines can reduce this risk to a minimum. Thorough education in infection control procedures is an important part of the nursing program of study.

### Latex Allergies

Early recognition of sensitization to natural rubber latex (NRL) is crucial to prevent the occurrence of life-threatening reactions in sensitized healthcare workers. The Nursing faculty strongly advise that students sensitized or allergic to latex consult a physician for guidance on the merits of continuing in a health care career. NRL

# Nursing

## Associate in Applied Science

sensitized students who choose to continue in their program must notify the program director/coordinator upon admission.

### **Registry / Certification / Licensure Exam Information**

The nursing program prepares graduates for entry-level positions in the nursing profession.

Successful completion of the program of study qualifies graduates to receive an Associate in Applied Science Degree and apply to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN) leading to state license as a registered nurse.

Applicants should be aware that the Michigan Board of Nursing may deny a license to an applicant who has been convicted of a criminal offense or is addicted to drugs or alcoholic beverages.

### **Transfer Information**

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Eastern Michigan University  
Madonna University  
Oakland University  
University of Detroit Mercy

### **Career Opportunities**

Graduates can acquire full-time employment upon passing the National Council Licensure Exam for Registered Nurses (NCLEX-RN). Opportunities for employment in nursing exist in hospitals, clinics, home care, factories, military services, schools, public health, and education. The Bureau of Labor Statistics predicts that employment in nursing will grow 19% between the years of 2012 and 2022. Many more opportunities in nursing are available with advanced education and experience.

# Nursing Care Skills

Certificate of Achievement



## Nursing Care Skills

Certificate of Achievement

Program Code: NURSE.CSGL...

## Contact

Health Sciences Division • (313) 845-9635 • Health Careers Education Ctr • Room: H-132

Patrice Irving • (313) 317-6534 • pirving@hfcc.edu • Health Careers Education Ctr • Room: H-103I

## Program Information

### Description

Prepares individuals to become a Nurse Aide in 5-weeks. The program is a great foundation for an associate degree in applied science. By completing 6 credits in the Nursing Care Skills program successfully the student will have the opportunity to begin working as a nurse aide. Some employers may help you pay for your associate degree.

Nurse Aide's render care to clients in hospitals, long-term care facilities and in home-care. The basic nursing skills necessary to perform the duties of a nurse aide are acquired. There are 40 hours of theory, 50 hours of laboratory practice, and 30 hours in a clinical agency. The course requires attendance from 9:00 a.m. - 3:30 p.m., 4 days a week. Successful mastery allows testing at the state level to receive the Certified Nurse Aide (CNA) designation.

### Admission Requirements / Eligibility

High School Diploma/GED

Score of 82 or above on the COMPASS Test, or satisfactory completion of ENG 081

Current Basic Life Support (CPR) card from American Red Cross or American Heart Association

Students with a history of alcohol-related driving offenses or felony convictions will find it difficult if not impossible to gain employment in health care. A drug screening and criminal background check are required to enter the program. The process will be explained in information sessions in the Nursing Skills Program. Drug screening must also be paid by the student. This also is explained during the new student Information Session. Students who are not cleared for clinical placement through the Physical Examination, the Criminal Background Check and the Drug Screen will not be able to complete the NCS 110 course.

## Degree Specific Requirements

### Required Core Courses

NCS-110: Competency Evaluated Nurse Assistant

Minimum Credit Hours: ..... 6.0

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

6.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Occupational Exposure / Risk

Because nurse assistants are required to lift, move and transfer patients, stand for long period of times, possess certain fine motor skills and sufficient visual acuity to care for patients, additional physical capabilities are required for entrance into the program. Applicants considering a career in health care may be exposed to infectious diseases during their course of study and in subsequent employment in the field and are likely to work in situations where exposure to infectious disease is possible. Persons should not become health care workers unless they recognize and accept this risk. Proper education and strict adherence to well established infection-control guidelines can reduce the risk to a minimum. Thorough education in infection control procedures is an important part of the program of study.

Early recognition of sensitization to natural rubber latex (NRL) is crucial to prevent the occurrence of life-threatening reactions in sensitized healthcare workers. The Nursing Faculty strongly advise that students sensitized or allergic to latex consult a physician for guidance on the merits of continuing in a health care career. NRL sensitized students who choose to continue in the nursing program must notify the program director/coordinator upon admission.

# Nursing Care Skills

## Certificate of Achievement

### **Registry / Certification / Licensure Exam Information**

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Upon completion of the course and two tests, the knowledge and clinical skills test, an applicant is issued a certification by Prometric which allows the applicant to work as a CNA for two years.

### **Career Opportunities**

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Students who complete the Nursing Care Skills 110 course work in hospitals, long-term care facilities and in home health care. Many students return to school to become nurses or other health care professionals.

# Nursing — Advancement of LPNs to RNs

Associate in Applied Science

## Nursing — Advancement of LPNs to RNs

Associate in Applied Science

Program Code: NURLP.AAS...

## Contact

Health Sciences Division • (313) 845-9635 • Health Careers Education Ctr • Room: H-132

Lorraine Paffenroth • (313) 317-6525 • lpaffen@hfcc.edu • Welcome Center • Room: WC

## Program Information

### Description

Offers licensed practical nurses (LPN's) the opportunity to advance their career in nursing. LPN's pursuing this degree who have attended an accredited LPN program and possess an active Michigan PN license are welcome to apply to the nursing program at HFCC as advanced placement students. LPN students will earn credit for prior learning for first semester courses with proof of a valid LPN license and upon completion of NSG 091.

### Learning Outcomes

Use Orem's Self-Care Deficit Theory, scientific principles and research findings as the foundation for critical thinking and decision making in nursing practice

Communicate effectively with individuals, families, communities, and the health care team using a variety of processes and technologies (informatics)

Use standards of care in health promotion, disease prevention and illness management for individuals and families throughout life stages

Manage health care for clients in varied settings recognizing the impact of societal forces on quality care and the health care delivery system

Practice nursing with diverse client populations using an ethical and legal framework

Incorporate professional nursing values into role development as a competent degree nurse

### Accreditation

The program is approved by the Michigan State Board of Nursing and accredited by the Accreditation Commission for Education in Nursing (ACEN), formerly known as the National League for Nursing Accrediting Commission. Their address is 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326 Phone 404.975.5000; Fax 404.975-5020; <http://www.acenursing.org>

### Admission Requirements / Eligibility

Applicants must be admitted to the college and designate Associate of Science Degree with a specialization in pre-nursing as their program of study. Applicants must have a GPA of 2.7 or better. The program has a limited enrollment and admits students in the fall and winter semesters. Admission is competitive. The application deadline is January 30th for the fall semester and June 30th for the winter semester.

LPN to RN students must make an appointment with the nursing admission specialist and submit a nursing program application with all required documentation by the application deadline.

No pre-requisite, non-nursing support or nursing course can be repeated more than one time to receive a "C" (no minus) or better grade. High school grades are only valid within 10 years of college admission date.

- GPA of 2.7 or better maintained
- High school cumulative GPA of 2.7 or better, or
- Minimum G.E.D. test score of 550 or higher, or
- Completion of 12 credit hours at HFCC at 2.7 or higher, or
- Transfer credit of 2.7 or higher or an additional 12 credit hours at HFCC to establish required GPA.

Biology: High school GPA of "A" (4.0) or "B" (3.0) throughout a one year laboratory Advance Placement course, or BIO 131 – Introduction to Biology, or its transfer equivalent or better, with a minimum grade of "C" (no C minus).

CHEM 131: Principles of Chemistry, or its equivalent or better, with a minimum grade of "C" (no C minus); or Chemistry placement test score of 10 or greater.

MATH 080: Beginning Algebra with a minimum grade of "C" (no C minus); or a Compass Algebra score of 46 or higher.

All advance placement students must have ENG 131, ENG 132, PSY 131, PSY 253, BIO 233, BIO 234, and SOC 131 completed successfully prior to entry into the nursing program.

The required Nurse Admission Test (NAT) is offered by the College. Only two attempts are allowed. The Learning Lab offers free assistance to prepare for this exam. All NAT exams must be taken at HFCC. The NAT requirements are:

- Math proficiency at 80%
- Reading composite proficiency at 80%
- Grammar proficiency at 80%
- Vocabulary proficiency at 80%
- Successful completion of the NAT objectives is required to be eligible for admission to the nursing program.
- The NAT exam must be passed within two years prior to admission dated into the Nursing Program.

Placement tests and admission requirements must be complete before students are considered for admission to the program.

# Nursing — Advancement of LPNs to RNs

Associate in Applied Science

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

## Required Core Courses

- Granted with proof of valid LPN license - NSG 120 and NSG 126 (9 cr. hrs.)
- NSG-091: Nursing Systems II for Articulating L.P.N. Transition
- Granted with proof of valid LPN license.
- If passed, exempt from NSG 120 and NSG 126 (9 cr. hrs.)
- NSG-150: Nursing and Self-Care II  
(Pending exemption, based on LPN transcript)
- NSG-155: Nursing and Self-Care III
- NSG-221: Nursing and Self-Care IV – Part I
- NSG-222: Nursing and Self-Care IV - Part II
- NSG-250: Nursing and Self Care V: Childbearing Family and Child and Family
- NSG-255: Nursing and Health Care Systems II

Minimum Credit Hours: ..... 40.0

Transcripts will be reviewed for previous mental health NSG courses. Upon transcript evaluation, a decision will be made about which course(s) a student must take in the second semester of the program.

NSG 150 may be required based upon review.

## Required Support Courses

- AH-120: Pharmacology for Allied Health
- BIO-233: Anatomy and Physiology I
- BIO-234: Anatomy and Physiology II
- PSY-131: Introductory Psychology
- PSY-253: Lifespan Development
- ENG-131: Introduction to College Writing
- ENG-132: College Writing and Research
- SOC-131: Introduction to Sociology

Minimum Credit Hours: ..... 26.0

## Elective Courses

Minimum Credit Hours: ..... 0.0

## Minimum Number Of Credits To Graduate

66.0 (Including Options/Electives)



# Nursing — Advancement of LPNs to RNs

Associate in Applied Science

## Program Requirements

### Additional Program Requirements

Applicants must attend informational and orientation meetings scheduled by the Associate Dean of Health Sciences.

Final acceptance is contingent upon fulfilling and maintaining minimum program requirements and proof of the following by specified deadline dates:

- An official transcript from the applicant's practical nursing school
- Proof of a current Michigan LPN license
- Verification of most recent work experience to include at least 2000 hours (equal to one year of full time employment) within the last two years as an LPN
- Submission of a resume (including job description and daily nursing activities)
- Health Insurance
- Physical examination
- TB testing/screening
- Immunizations as required
- Titers from previous immunizations
- BLS for Healthcare Professionals certification
- Drug screening
- Criminal background check
- ACE Clinical Passport Requirements

Uniform/program supplies

Specific procedures for the Advanced Placement track may be obtained from the nursing admission specialist or the Nursing Office located in the School of Nursing - East Campus, N120.

### Program Duration Limits / Updates / Changes

The College and the Nursing Faculty reserve the right to make policy and program changes at any time to comply with requirements of accrediting agencies, clinical facilities, or the college and to meet the changing health care needs of society. For the most current information, students should contact the nursing office.

**Clinical Placements:** Placement of students in clinical agencies is increasingly difficult to arrange. Clinical placements occur in many different agencies and may be during the day, afternoon, evening or weekends. Students who are unwilling or unable to make arrangements and adjustments in their personal schedules to accommodate their assigned clinical rotations will need to withdraw from the nursing program.

All educational experiences are under the direction and guidance of the nursing faculty. Student progress is evaluated in the clinical setting, classroom and nursing laboratories. Progression in nursing courses follows the policy written in the Nursing Student Handbook and is based on the student's:

Adherence to program requirements and policies outlined in the Nursing Student Handbook.

Achievement of the minimum grade of "C" (no C minus) for all non-nursing and required support courses.

Achievement of the minimum grade of "C" (no C minus) for all nursing courses.

Satisfactory clinical performance. Unsatisfactory clinical or lab performance in a course with a clinical component is considered a failure in the course.

Competency in math dosage calculation.

**Withdrawal and Readmission:** Students who do not complete course objectives for personal reasons, receive less than a "C" grade in theory, are unable to pass math competency exams, or who receive a clinical/lab unsatisfactory evaluation for any nursing course are withdrawn from the Nursing Program. This student does not progress to the next level of courses. Refer to the Withdrawal and Readmission Policy in the Nursing Student Handbook.

**Program Duration Limits:** All courses for the nursing program must be completed within a total of three consecutive calendar years. BIO 233/234, or transfer course equivalents, must be successfully completed in no more than two attempts and must not be older than five years old from the date that students will enter the nursing program. Anatomy and Physiology of less than eight semester credits or taken over five years ago, must be repeated. All co-requisites must successfully completed as dictated by the nursing curricular master plan.

**Nursing Program Changes:** The College and the Nursing faculty reserve the right to change policies at any time. The nursing program continuously updates its program of study to meet changing health needs. Requirement changes, updates and all information regarding the nursing program can be obtained through the nursing office (N120) or the Admissions Specialist for nursing (located in advising within the Welcome Center area of the College).

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Nursing — Advancement of LPNs to RNs

Associate in Applied Science

## Other Information

### Occupational Exposure / Risk

Because nurses are required to lift, move and transfer patients, stand for long periods of time, possess certain fine motor skills and sufficient visual acuity to care for patients, additional physical capabilities are required for entrance into the program. See Nursing Student Handbook for specific requirements. Applicants considering a career in nursing should be aware that during their course of study and in subsequent employment in the field and are likely to work in situations where exposure to infectious disease is possible. This is an occupational health risk for all health care workers. Persons should not become health care workers unless they recognize and accept this risk. Proper education and strict adherence to well established infection-control guidelines can reduce the risk to a minimum. Thorough education in infection control procedures is an important part of the nursing program of study.

### Latex Allergies:

Early recognition of sensitization to natural rubber latex (NRL) is crucial to prevent the occurrence of life-threatening reactions in sensitized healthcare workers. The faculty strongly advise that students sensitized or allergic to latex consult a physician for guidance on the merits of continuing in a health care career. NRL sensitized students who choose to continue in their program of study must notify the program director/coordinator upon admission.

### Registry / Certification / Licensure Exam Information

The nursing program prepares graduates for entry-level positions in the nursing profession.

Successful completion of the program of study qualifies graduates to receive an Associate in Applied Science degree and apply to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN) leading to state licensure as a registered nurse.

Applicants should be aware that the Michigan Board of Nursing may deny a license to an applicant who has been convicted of a criminal offense or is addicted to drugs or alcoholic beverages.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Eastern Michigan University  
Madonna University  
Oakland University  
University of Detroit Mercy

## Career Opportunities

Graduates can acquire full-time employment upon passing the National Council Licensure Exam for Registered Nurses. Opportunities for employment in nursing exist in hospitals, clinics, home care factories, military services, schools, public health, and education. The Bureau of Labor Statistics predicts that employment in nursing will grow 19% between the years of 2012 and 2022. Many more opportunities in nursing are available with advanced education and experience.

# Office Administration

Certificate of Achievement



## Office Administration

Certificate of Achievement

Program Code: OFFICEADMIN.CA

## Contact

Business and Computer Technology Division • (313) 845-9804 • business@hfcc.edu • Technology Bldg • Room: T-211

Diana Baran • (313) 317-1583 • dbaran@hfcc.edu • Liberal Arts • Room: L-303

## Program Information

### Description

Provides students with the knowledge and skills to assume an administrative role in today's modern office environment. Students will learn the most commonly used computer software applications and critical communication and management skills. The program finishes with a capstone course where all aspects of the program are integrated to give students a comprehensive understanding of the operations of contemporary offices. Individuals who are already employed may find that the Office Administration Certificate increases the opportunity for promotion.

While working towards this certificate, students may apply course credits towards certificates in Computer Software Applications and/or Office Skills Fundamentals. The Office Administration Certificate may also be used as a building block towards the achievement of an Associate in Business degree in Administrative and Information Management.

## Degree Specific Requirements

### Required Core Courses

- BAC-110: Practical Accounting
- BBA-110: Business Language Skills
- BBA-133: Business Behavior and Communication
- BBA-231: Business Office Communications
- BBA-235: Office Administration Practicum
- CIS-100: Introduction to Information Technology
- BCA-143: Word Processing
- BCA-145: Spreadsheets
- MGT-230: Principles of Management
- MGT-231: Supervision and Teambuilding

Minimum Credit Hours: ..... 32.0

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

32.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Office Skills - Fundamentals

Certificate of Achievement

## Office Skills - Fundamentals

Certificate of Achievement

Program Code: OFFSKILLS.CA

## Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Diana Baran • (313) 317-1583 • dbaran@hfcc.edu • Liberal Arts •  
Room: L-303

## Program Information

### Description

Prepares students to provide basic administrative support under the supervision of office managers, administrative assistants, secretaries, and other office personnel. Students will learn computer keyboarding; the Windows operating system; and the basics of the Microsoft Office Suite of Word, Excel, Access and PowerPoint. Students will review the language arts and learn business grammar and the basic principles underlying business communication to create effective business documents.

## Degree Specific Requirements

### Required Core Courses

BCA-101: Computer Communications

Minimum Credit Hours: ..... 18.0

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

18.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Ophthalmic Technician

Associate in Applied Science

## Ophthalmic Technician

Associate in Applied Science

Program Code: OPTECH.AAS...

## Contact

Health Careers • (313) 845-9877 • [healthcareers@hfcc.edu](mailto:healthcareers@hfcc.edu) • Health Careers Education Ctr • Room: H-132

Debra Szymanski • (313) 317-6580 • [dszyman@hfcc.edu](mailto:dszyman@hfcc.edu) • Health Careers Education Ctr • Room: H-133F

## Program Information

### Description

Prepares individuals as entry-level Ophthalmic Technicians. The first year of the program is devoted to building a strong foundation in core technical courses and their corresponding academic support courses. Students receive a comprehensive introduction to ophthalmic technology with simulated and actual clinical equipment. During the second year, the program continues with advanced didactic conferences and studies while students begin the clinical component of the program, consisting of approximately 950 hours in a variety of diverse vision care clinical settings.

## Learning Outcomes

- Perform technician-level tasks safely and accurately defined by national certification and accreditation standards
- Communicate and collaborate effectively as part of an interdisciplinary healthcare team
- Model professional and ethical behaviors in the healthcare environment
- Performs administrative duties of an ophthalmic technician
- Calibrate and maintain ophthalmic equipment and instrumentation
- Evaluate eye movements and binocular functions
- Measure visual acuity and visual fields
- Perform surgical scrub, change gloves and gown, monitor sterile field during minor and major eye surgery to meet professional standards
- Perform ocular imaging procedures

### Accreditation

The Ophthalmic Technician program is accredited by the Commission on Accreditation of Ophthalmic Medical Programs, 2025 Woodlane Drive, St. Paul, MN 55125-2998.

Phone (651) 731-7244 or visit [www.jcahpo.org/coa-omp](http://www.jcahpo.org/coa-omp).

## Admission Requirements / Eligibility

Students who meet all admission requirements are considered qualified and are admitted to the program once per year in the fall semester on a “first-qualified first-admitted” basis. Acceptance into the college does not constitute nor guarantee admission to the program. Final approval to enroll in the program comes from the Ophthalmic Technician Program Director. Students who are interested in this program should select Associate of Science with a specialization in Pre-Ophthalmic Technician degree, and meet with a Health Careers Advisor/Admissions Specialist in the Welcome Center.

## OPT Program Admission Criteria

Minimum high school grade-point average of 2.6 (4.0 scale), or if a student has taken college courses, a minimum of 12 academic credits, excluding less than 100 level courses, HPE activity, studio and performance classes (if applicable).

COMPASS Reading score of 84 or better.

BIO 134 or college equivalent with a C or better.

COMPASS Writing score sufficient for placement in ENG 131.

This requirement may also be fulfilled by successful completion of required developmental English courses or completion of ENG 131 with a C or better

A COMPASS Pre-Algebra score of 39 or higher; or completion of MATH 101 or MATH 074 with a grade of C or better.

## The Program Admission Process

It is recommended that students interested in a health career meet with a Health Careers Admissions Assistant/Advisor in the Welcome Center or (313) 845-9877 to discuss program options and then create an academic plan to qualify for the selected program.

### Step 1 - Apply to the program

First time applicants to HFC will indicate the program by selecting an Associate of Science with a specialization in Pre-Ophthalmic Technician degree on the application to the college.

Current HFC students must complete a program change form indicating the new program as an Associate of Science with a specialization in Pre-Ophthalmic Technician degree. College applications and change forms must be submitted to the Records and Registration Office located in the Welcome Center.

### Step 2 – Qualifying for admission

Complete all program admission requirements.

### Step 3 - Deliver information and track applicant status

It is the student’s responsibility to make certain official transcripts are sent to: Henry Ford College, Transfer Evaluation, 5101 Evergreen Road, Dearborn, MI 48128-2407

# Ophthalmic Technician

Associate in Applied Science

It is the student's responsibility to make certain all necessary records are submitted to the Health Careers Admissions Assistant in the Welcome Center.

Students are responsible to monitor their program admission progress via the WebAdvisor Program Evaluation link.

## Step 4 - Qualifying and admission

Students are qualified when all of the program's admission criteria have been satisfied.

Applicants are admitted on a "first-qualified, first-admitted" basis. Application date may be used to determine placement on the qualified list if necessary.

Students will only be contacted via the contact information provided through WebAdvisor. It is imperative that all student contact information such as phone numbers and addresses are kept current. If we are unable to contact you, we then move to the next qualified applicant.

Final approval to enroll in the program comes from the Ophthalmic Technician Program Director.

Due to the number of credit hours required for program completion and the intensity of the program, students are

encouraged to complete as many of the Required Support/General Education Courses as possible prior to entering the program.

The first courses that a student should complete are those required for program admission followed by the other Required Support/General Education Courses.

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and Research
- ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and Research
- ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

# Ophthalmic Technician

Associate in Applied Science



## Required Core Courses

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- OPT-101: Introduction to Ophthalmic Technology
- OPT-134: Ocular Anatomy and Pathology
- OPT-150: Applied Ophthalmic Optics
- OPT-160: Ocular Measurements I
- OPT-180: Ocular Measurements II
- OPT-200: Clinical Optical Procedures
- OPT-220: Ophthalmic Photography
- OPT-240: Ophthalmic Surgical Assisting
- OPT-260: Current Issues in Vision Care
- OPT-290: Clinical Externship I
- OPT-293: Clinical Externship II
- OPT-297: Clinical Externship III

Minimum Credit Hours: ..... 45.0

All OPT courses must be successfully completed within three consecutive calendar years and may be repeated only once. A minimum of a C grade is required for all courses in this program.

## Required Support Courses

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- AH-100: Medical Terminology
- AH-105: Basic Life Support for Healthcare Providers
- BIO-135: Microbiology for the Allied Health Sciences
- HCS-103: Employment Skills for Health Careers
- HCS-124: Basic Health Assessment
- HCS-131: Computers in Health Care
- MOA-100: Medical Office Procedures I - Administrative
- SRG-101: Introduction to Surgical Technology
- SSC-131: Survey of the Social Sciences
- ENG-131: Introduction to College Writing

Select one of the following

- ENG-132: College Writing and Research
- ENG-135: Business and Technical Writing and Research

Complete one of the following courses:

- AH-120: Pharmacology for Allied Health
- SRG-160: Surgical Pharmacology

Minimum Credit Hours: ..... 32.5

## Elective Courses

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### Minimum Number Of Credits To Graduate

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77.5 (Including Options/Electives)

## Program Requirements

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### Additional Program Requirements

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Prior to starting the program:

\* Applicants must attend informational and orientation meetings scheduled by program director for Ophthalmic Technician Program.

\* Within two months of beginning clinical rotations, students must provide a current American Heart Association Basic Life Support, Healthcare Provider card (AHA, BLS Healthcare Provider ) valid through remainder of program. This may be completed by taking AH 105.

### Program Supplies

Students will be required to purchase clinical uniforms and supplies including electronic devices (i.e. iPod Touch) for electronic clinical documentation. Do not purchase in advance. Specific directions will be given during orientation meeting.

### Program Deposit

At the time of formal admission to the program, each applicant is required to pay a \$100 fee to secure a place in the program. This fee is refunded only if the student is still active in the program Oct. 15 of Fall Term 1.

### Health Appraisal

Students in the OPT program are expected to meet the same physical and mental health requirements as an ophthalmic technician.

A representative OPT Job Profile listing these requirements as well as environmental conditions of this occupation is available through the Health Careers Office.

Final acceptance and continuation in the OPT program is contingent upon fulfilling and maintaining minimum program requirements and proof of the following by specified deadline dates:

Physical examination (must meet job profile requirements as determined by a physician and validated on health form)

Required titers from previous immunizations and needed immunizations from titer results, if necessary. Evidence of titers must be provided by submission of current lab copies

Tuberculosis screening

Vaccinations as required by health care Community, including flu vaccine

Health Insurance coverage throughout clinical externship portion of the program

### Criminal Background Check and Drug Screen

Consistent with the Michigan Public Health Code and the requirements of our clinical affiliates, a Criminal Background Check and Drug Screen are required for all students in the OPT program prior to beginning clinical assignments. The cost for this test is in addition to the basic tuition and fee schedule. For questions regarding this policy, contact the Health Careers Office.

# Ophthalmic Technician

Associate in Applied Science

Students who are not cleared for clinical through the Health Appraisal, Criminal Background Check and Drug Screen will not be able to complete the OPT program.

## Program Duration Limits / Updates / Changes

The Ophthalmic Technician program is 23 months in length. Students must complete all OPT courses within three years of beginning the formal program. All courses in the OPT program must be completed with a C or better. Students are responsible for their own transportation to clinical sites and any expenses incurred.

The College continuously attempts to improve each program and as a result, courses and requirements may be modified. Curriculum, course content and admission criteria are subject to change by action of the College faculty and administration. Contact the Health Careers Office at (313) 845-9877 for any current program updates or visit [www.hfcc.edu](http://www.hfcc.edu).

## Withdrawal and Readmission

A student who fails one or both first semester OPT courses (OPT 101/OPT 134) must stop out of the program. Sequencing for OPT course work is not optional; courses are scheduled annually. Therefore, all students who fail a course must appeal for continuance with a remediation plan in writing. If a student fails a course on second attempt, they are out of the ophthalmic technician program.

## Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Occupational Exposure / Risk

Applicants considering a career as an Ophthalmic Technician should be aware that during their course of study and in subsequent employment in the field, they are likely to work in situations where exposure to infectious disease is possible. This is an occupational risk for all health care workers. Persons should not become health care workers unless they recognize and accept this risk. Proper education and strict adherence to well established infection control guidelines can reduce the risk to a minimum. Thorough education in infection control procedures is an important part of the Ophthalmic Technician program.

**Latex Allergies** Early recognition of sensitization to natural rubber latex (NRL) is crucial to prevent the occurrence of life-threatening reactions in sensitized healthcare workers. The program faculty strongly advises that students sensitized or allergic to latex consult with a physician for guidance on the merits of continuing in a health care career. NRL sensitized students who choose to continue in Ophthalmic Technician program must notify the program director.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

## Career Opportunities

The Profession Ophthalmic Technicians are health professionals who are an integral part of the team of medical practitioners providing vision care. They perform administrative and clinical functions under the direction of medical or osteopathic physicians who provide comprehensive, refractive, medical, and surgical eye care to the public. Technicians provide administrative support services by coordinating clinic schedules, charting, coding, and transmitting orders of the physician. Clinical functions may be generalized or specialized. Duties may include calibrating and maintaining ophthalmic equipment and supplies, recording medical histories and vision, testing eye movements and binocular functions, measuring optical power and visual fields, assisting in minor and major eye surgery, and performing ocular imaging and biometry services as applicable by local law.

Ophthalmic technicians are employed primarily by ophthalmologists, medical institutions, clinics, hospitals, ambulatory surgery centers, university ophthalmology centers, or physician groups in which they may be assigned to an ophthalmologist responsible for their supervision and performance. They may be involved with the patients of an ophthalmologist in any setting for which the ophthalmologist is responsible.

Demand for ophthalmic medical technicians should remain strong due to the rising population of older persons, the segment of the population with increased frequency of chronic health conditions.



# Paralegal Studies

Associate in Business



## Paralegal Studies

Associate in Business

Program Code: PARALEGAL.AB

## Contact

Business and Computer Technology Division • (313) 845-9804 • business@hfcc.edu • Technology Bldg • Room: T-211

Rachelle Loomus • (313) 317-4158 • rsloomus@hfcc.edu • Liberal Arts • Room: L-331

## Program Information

### Description

Offers students a solid foundation of core legal knowledge and essential skills necessary for a career in the legal profession. A paralegal is employed by a law office, business, or government agency, and performs specifically delegated substantive legal work for which a lawyer is responsible. Graduates may enter the workforce as a paralegal or continue their education by transferring to a four-year baccalaureate-degree institution. Paralegals must work under the supervision of an attorney. Paralegals are not lawyers and are not permitted to provide legal services directly to the public except as permitted by law.

## Learning Outcomes

Demonstrate knowledge and understanding of substantive law in one or more areas of practice

Prepare legal documents using proper legal reasoning and analysis of issues, facts and law

Use critical thinking skills and legal research skills to solve legal problems and make well-reasoned legal and ethical decisions

Articulate the structure of the legal system and the paralegal's duties and responsibilities for the delivery of legal services within that system

Critically analyze and resolve legal problems and communicate these results in a clear and effective manner, both orally and in writing

Demonstrate the computer, time management, organizational and communication skills necessary to work professionally and efficiently in a legal environment

### Accreditation

The Paralegal Studies program is approved by the American Bar Association (ABA).

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: The following course is required in this program and satisfies this General Education Outcome for this program. Students who change their program will need to confirm in advance that they are completing all required courses for their specific program of study, including additional General Education courses:

CRJ-131: Introduction to Law Enforcement and Criminal Justice

Computer Literacy Outcome: The following course is required in this program and satisfies this General Education Outcome for this program. Students who change their program will need to confirm in advance that they are completing all required courses for their specific program of study, including additional General Education courses:

CIS-100: Introduction to Information Technology

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: The following courses are required in this program and satisfies this General Education Outcome for this program. Students who change their program will need to confirm in advance that they are completing all required courses for their specific program of study, including additional General Education courses:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

**Required Core Courses**

- BLW-253: Business Law and the Legal Environment
- PLGL-100: Essential Paralegal Skills
- PLGL-110: Legal Ethics
- PLGL-115: Property Law
- PLGL-120: Legal Research I
- PLGL-125: Legal Research II
- PLGL-200: Civil Litigation I
- PLGL-220: Personal Injury Litigation
- PLGL-225: Legal Writing
- PLGL-235: Commercial Transactions
- PLGL-240: Family Law
- PLGL-245: Estate Planning and Probate
- PLGL-250: Business Organizations

Minimum Credit Hours: .....39.0

**Required Support Courses**

- BBA-110: Business Language Skills
- SPC-131: Fundamentals of Speaking
- CRJ-251: Criminal Law

Minimum Credit Hours: .....6.0

**Elective Courses**

Minimum Credit Hours: .....0.0

**Minimum Number Of Credits To Graduate**

64.0 (Including Options/Electives)

**Program Requirements**

**Requirements are Subject to Change**

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

**Transfer Information**

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Chancellor University
- Davenport University
- Eastern Michigan University
- Lawrence Technological University
- Madonna University
- Siena Heights University
- University of Michigan - Dearborn
- Walsh College

# Paramedic

## Associate in Applied Science



### Paramedic

Associate in Applied Science

Program Code: PAMED.AAS...

### Contact

Health Sciences Division • (313) 845-9635 • Health Careers Education Ctr • Room: H-132

Shannon Bruley • (313) 317-6582 • sbruley@hfcc.edu • Health Careers Education Ctr • Room: H-132I

### Program Information

#### Description

Designed to meet the needs of students interested in entry-level training as well as those seeking career advancement in the emergency medical and paramedic fields. Emergency Medical Technology offers an exciting and challenging health-care career for individuals interested in providing emergency care in the pre-hospital or hospital emergency department setting.

Due to health-care reform issues and the growing recognition of the Emergency Medical Technician, also known as an EMT, a professional member of the health-care team, career opportunities for EMTs of all levels of licensure are developing and expanding. Basic Emergency Medical Technicians are trained in basic life support procedures and the principles of care and transportation of the sick and injured. Basic EMT licensure qualifies the student for an entry-level position as an emergency care provider with municipal and private ambulance services as well as some hospital emergency departments. The basic EMT license is often a prerequisite for employment as a firefighter. (Progressive fire departments in our service area require a paramedic license. An EMT Basic license is the first step in meeting this criterion.)

Paramedics are highly trained members of the health-care community often responsible for bringing life-saving diagnostic and treatment skills to the patient at the scene of an emergency. Paramedics receive intense training in EKG interpretation, emergency pharmacology, and advanced life-support procedures. The scope of practice of the paramedic is rapidly expanding, creating a number of new employment opportunities.

The EMS Program at HFC offers the options of certificates of achievement in Basic EMT and Paramedic, or the option of an Associate in Applied Science degree. The HFC Paramedic Program has been awarded the highest level of approval through the Bureau of Emergency Medical Services & Trauma Systems, Michigan Department of Community Health.

### Learning Outcomes

- Maintain Equipment and Facilities
- Respond appropriately to Calls
- Demonstrate Scene Control
- Conduct a proficient primary and secondary patient assessment
- Identify & manage patient illness and or injury
- Determine when to provide pt. transport
- Effectively document the incident and patient information
- Perform post-incident Management tasks
- Perform professionally within the Paramedic field

### Accreditation

HFC is an approved EMS Program Sponsor through the Michigan Department of Community Health, Bureau of EMS & Trauma Systems.

### Admission Requirements / Eligibility

The first year of studies for the Emergency Medical Service degree is open enrollment as long as students meet the college level reading and writing scores identified below:

COMPASS Reading score of 82 or better.

Assessment score sufficient for placement in ENG 131. This requirement may also be fulfilled by successful completion of required developmental English courses or completion of ENG 131 or its equivalent with a C grade or better.

Students planning to enter the second year of studies, which includes the paramedic core, must apply through the EMS office in Health Careers. Required Core Course sequencing begins in the Fall semester. Early advising for course sequencing is highly recommended. Acceptance to the college is granted to most applicants and neither constitutes nor guarantees admission to the Paramedic program. Students are accepted into the program based on a "first-qualified, first-accepted" basis. All potential placements must be registered on the wait list in the EMS office.

For EMS 200-level courses, students will need to satisfy the following prerequisites:

EMT-Basic MI License (with a current National Registry Certificate preferred), BIO 233, BIO 234, AH 100, AH 120 and AH 105 (or equivalent)\*

Math proficiency as demonstrated by successful completion of MATH 080 or its equivalent with a C grade or better OR COMPASS Algebra score of 46 or better

See first year Reading and English requirements. This applies to all students entering the second year as well.

A "C" grade or better is required for successful completion of all courses (core and support) required in the EMS program. Students not receiving a C or better cannot continue in the program until

# Paramedic

## Associate in Applied Science

they have successfully repeated the course(s) earning a C or better. Students who do not successfully complete all co-requisite courses in the EMS Program cannot continue with that same class of students. Therefore, students who fail must repeat all coursework (200+ and up) from the beginning up to the point that they failed, and then progress in sequence with the new class of paramedic students. Students who need to repeat paramedic must request to be put on the waiting list for the following year. Re-admittance is subject to seat capacity and prior performance.

### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

### General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care

- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and Research
- ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and Research
- ENG-135: Business and Technical Writing and Research

### Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

### Required Core Courses

- EMS-100: EMT-Basic Fundamentals
- EMS-106: EMT-Basic Procedures
- EMS-109: EMT-Basic Clinical Externship
- EMS-200: Paramedic I
- EMS-205: Paramedic Lab I
- EMS-210: Paramedic II
- EMS-215: Paramedic Lab II
- EMS-220: Paramedic III
- EMS-225: Paramedic Lab III
- EMS-230: Paramedic IV
- EMS-240: Paramedic V
- EMS-290: Advanced Clinical I
- EMS-295: Advanced Clinical II
- EMS-299: Advanced Clinical III

Minimum Credit Hours: .....51.5

### Required Support Courses

- AH-100: Medical Terminology \*
- AH-105: Basic Life Support for Healthcare Providers \*
- AH-120: Pharmacology for Allied Health

# Paramedic

## Associate in Applied Science



BIO-233: Anatomy and Physiology I  
BIO-234: Anatomy and Physiology II

Minimum Credit Hours: ..... 15.5  
Students should take AH 100 and AH 105 before taking any course with an EMS prefix.

### Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree. It should be noted that courses listed in the Required Core Courses and Required Support Courses may also be used to fulfill Associate in Applied Science Degree requirements when applicable. Developmental courses (developmental courses are those numbered below 100) cannot be used to fulfill these requirements.

### General Education

Students must also complete the General Education requirements of the College. Courses listed in the Required Core Courses and Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate Degree in Applied Science, may also be used to fulfill General Education requirements when applicable.

### Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate's degree. No more than six credit hours may come from developmental courses (courses numbered below 100).

### Elective Courses

These courses are suggestions for electives:

- HPEA-117: Strength Training and Physical Conditioning I
- HPEA-155: Relaxation Techniques for Stress Management

Minimum Credit Hours: ..... 2.0

Complete as many electives credits as necessary to meet the minimum number of credit hours to receive your associate degree.

### Minimum Number Of Credits To Graduate

78.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

#### Health Appraisal

Each student is required to complete a Health Appraisal Form, copies of which are available in the Health Careers Office. This appraisal includes a physical, blood titers (to validate immunity to childhood immunizations), TB test, Hepatitis B and boosters if necessary. The cost for this appraisal is in addition to the basic tuition and fee schedule.

Students in the EMS program are expected to meet the same physical and mental requirements as emergency medical technicians. A representative job profile, also available in the Health Careers Office, lists the specific physical and mental requirements as well as the environmental conditions of the occupation.

#### Criminal Background Check and Drug Screen

Consistent with Section 20173 of the Michigan Public Health Code and the requirements of our clinical affiliates, a Criminal Background Check and Drug Screen\* is required for all students in EMS programs prior to beginning clinical assignments. The cost for this test is in addition to the basic tuition and fee schedule.

Students with felony convictions on their record should not enroll into the program as we have a zero-tolerance stance from our clinical affiliates. If such individual is granted an expungement, then he/she would be considered for eligibility. Students with a history of alcohol related driving offenses and or felony convictions will find it difficult if not impossible to gain employment in public safety careers.

Students who are not cleared for clinical through the Health Appraisal, Criminal Background Check and Drug Screen will not be able to complete the EMS education programs.

#### Uniforms

Uniform shirts are provided through the program at the Basic EMT level. Pants, shoes, work belt, stethoscope, and National Registry exam fees are in addition to the basic tuition and fee schedule.

#### Job Placement

Information about career placement and job success is available through either the Health Careers Office or the College's Job Placement Office.

### Program Duration Limits / Updates / Changes

# Paramedic

## Associate in Applied Science

Once a student is admitted/enrolled into the paramedic portion of the EMS degree, that student must complete with that same group of students. If for any reason a student must stop attending after successfully completing any portion thereof, and wishes to complete, the student must reapply through the EMS office for the desired year of return. Because of the rapid changes in healthcare, legislation and resulting course content, successfully completed EMS classes must be repeated in order to assure competence. This applies to all second year students who start, stop and then return for completion. Early advising through the EMS office is essential.

The College continuously attempts to improve each program and as a result, courses and/or requirements may be modified. Curriculum, course content, and admission criteria are subject to change by action of the College faculty and administration. Contact the Health Careers Office at (313) 845-9877 for any current program updates or visit [www.hfc.edu](http://www.hfc.edu).

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Other Information

### Occupational Exposure / Risk

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In emergency medical services, both in school and on the job, exposure to infectious diseases and latex may be minimal to moderate depending on the setting in which you are working.

Exposure to illness and infectious disease is an occupational risk for all health care workers. Persons should not become health care workers unless they recognize and accept this risk. Proper education and strict adherence to well established infection-control guidelines can reduce the risk to a minimum. Persons who have latex sensitivity or allergies should consult with a physician prior to entering the program for guidance on the merits of continuing in a health care career.

### Registry / Certification / Licensure Exam Information

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If individuals are convicted felons, it could disqualify them from obtaining the necessary National Registry Certification.

For the specific National Registry EMS Policy, go to <http://www.nremtorg/about/policyfelony.asp>. After obtaining a National Registry Certificate, individuals can apply for a Michigan Licensure, which is necessary to practice EMS as a profession. If an individual is a convicted felon, questions regarding potential licensure should be directed to the Michigan Department of Community Health, Bureau of Health Professions, or go to the following web site: <http://www.michigan.gov/mdch>.

### Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

### Career Opportunities

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Paramedics are in high demand. According to the U.S. Department of Labor, Bureau of Labor Statistics, "Employment of emergency medical technicians and paramedics is expected to grow faster than the average for all occupations through 2012" (Occupational Outlook Handbook, 2004-2005 Reprint).

# Pharmacy Technician

Certificate of Achievement



## Pharmacy Technician

Certificate of Achievement

Program Code: PHARM.CMLT...

## Contact

Health Careers • (313) 845-9877 • [healthcareers@hfcc.edu](mailto:healthcareers@hfcc.edu) • Health Careers Education Ctr • Room: H-132

Theresa Mozug • (313) 317-6548 • [tmozug@hfcc.edu](mailto:tmozug@hfcc.edu) • Health Careers Education Ctr • Room: H-133J

## Program Information

### Description

A Level II (Complex Skills Certificate) program designed to prepare professional multi-skilled individuals for employment as an entry-level pharmacy technician in hospital, retail, community or other institutional pharmacies. Clinical duties are emphasized in the classroom and laboratory with directed practical experience in selected hospital, out patient, home infusion, long-term care and compounding pharmacies.

Pharmacy technicians are skilled health specialists who, under the direction and supervision of a pharmacist, assist in the varied activities of a pharmacy department. The pharmacy technician may be responsible for:

- A. Preparing and dispensing medications in accordance with standard procedures and laws under the supervision of a registered pharmacist.
- B. Transcribing and processing physician orders.
- C. Preparing intravenous admixtures, including chemotherapy medications.
- D. Maintaining patient profiles and medication records electronically.
- E. Preparing bulk formulations and compounding.
- F. Maintaining inventories of pharmaceutical supplies.
- G. Communicating effectively with patients and members of the health care team.

Students in the program will have the opportunity to practice their skills using pharmacy specific equipment and supplies. This program begins only once per year in the fall semester. Externships may be taken in the spring, summer, or fall semester. The externship rotations are arranged and

supervised by the program's technical coordinator. The program is affiliated with sixteen hospital pharmacies, twelve or more out patient (retail and community) pharmacies, and several home infusion and long term care pharmacies.

### Accreditation

The Pharmacy Technician Program is fully accredited through the American Society of Health-System Pharmacists (ASHSP), 7272 Wisconsin Avenue, Bethesda, Maryland 20814-4820, (301) 657-3000

### Admission Requirements / Eligibility

A minimum high school academic grade point average of C+ (2.25). This requirement may also be satisfied by completion of at least 12 college credit hours with an academic grade point average of 2.25 (non-skill courses) for both transfer students and HFCC students.

COMPASS Reading score of 82.

Successful completion of MATH 101 or MATH 100 with a C grade or better taken within five (5) years of admission or completion of a higher level Math course with a grade of C or better and a COMPASS Algebra test score of 46 or above taken within two (2) years of admission.

Health Careers Typing Test of at least 25 words per minute or successful completion of BCA 101 with a C or better.

### Health Appraisal

Students in the Pharmacy Technician program are expected to meet the same physical and mental requirements as an employed pharmacy technician. A representative Pharmacy Technician Job Profile is available upon request from the Health Careers Office or during the interview with the program's Technical Coordinator.

The job profile lists the specific physical and mental requirements as well as the environmental conditions of the occupation. Each student must have a physical examination and vaccination record on file before admission to externship rotations. The Health Appraisal Form addresses the issue of normal color perception, eye-hand coordination, and any history of substance abuse.

### Criminal Background Check and Drug Screen

Consistent with Section 20173 of the Michigan Public Health Code and the requirements of our clinical affiliates, a Criminal Background Check and Drug Screen is required for all students in the PHT program prior to beginning clinical assignments. The cost for this test is in addition to the basic tuition and fee schedule. For questions regarding this policy, contact the Health Careers Office.

Students who are not cleared for clinical through the Health Appraisal, Criminal Background Check and Drug Screen will not be able to complete the program.

### Pharmacy Technician vs. Pre-Pharmacy Programs

HFCC offers its students two distinct pharmacy options. One option is the one-year Pharmacy Technician Program. The technician curriculum is designed to prepare the students for employment assisting pharmacists after completion of the program. The courses in the Pharmacy Technician Program are designed to prepare the

# Pharmacy Technician

## Certificate of Achievement

students for employment immediately and not designed for transfer nor intended for those students primarily interested in applying to pharmacy schools.

If a student's primary intent is on becoming a pharmacist, then the second pharmacy option at HFCC which is the Associate in Science Pre-Pharmacy Program is the curriculum that should be followed. The Pre-Pharmacy Academic Transfer Program is designed for the transfer of course work for those students primarily interested in applying to pharmacy schools.

### Degree Specific Requirements

#### Required Core Courses

- PHT-100: Introduction to Pharmacy Technology
- PHT-119: Outpatient Pharmacy Externship
- PHT-124: Pharmacology I for Pharmacy Technicians
- PHT-125: Pharmacology II for Pharmacy Technicians
- PHT-132: Basic Pharmacy Software Applications
- PHT-150: Pharmaceutical Calculations
- PHT-165: Issues in Pharmacy
- PHT-175: Applied Pharmacy Systems
- PHT-178: Applied Out-Patient Pharmacy Systems
- PHT-193: Pharmacy Externship

Minimum Credit Hours: ..... 26.0

#### Required Support Courses

- AH-100: Medical Terminology
- BBA-110: Business Language Skills
- HCS-131: Computers in Health Care

Minimum Credit Hours: ..... 10.0

Required Support Courses may be taken prior to acceptance into the Pharmacy Technician program.

#### Elective Courses

#### Minimum Number Of Credits To Graduate

36.0 (Including Options/Electives)

### Program Requirements

#### Additional Program Requirements

Required core courses can be taken only after formal admission to the PHT program through the Health Careers Division.

All educational experiences are under the guidance of the PHT program. Student progress is evaluated in the classroom, laboratory and clinical setting throughout the program. Progression in the program is based upon the student meeting the following requirements:

Adherence to the program requirements outlined in the PHT Student Handbook.

Achievement of a minimum grade of C or better in all PHT and required courses.

Maintenance of an overall cumulative grade-point average of 2.0 or better.

#### The Program Application Process

##### Step 1 – Select your career program

It is recommended that each applicant meet with a Health Careers Advisor (313) 845-9877 to discuss program options and then to create an academic plan to qualify for the selected program. It is suggested that you first select and apply to your program of choice before you begin any of the prerequisite course work.

##### Step 2 – Apply to the program

First time applicants to HFCC will indicate the program selection on the application to the College. This process automatically applies you to your program of choice.

Current HFCC students selecting to change their program of study to a health career program must complete a specific program application. Program applications are available in the Welcome Center. The Admissions office is located in the Welcome Center and the Health Careers Office is located in the Health Careers Education Center.

##### Step 3 – Deliver information and track application

It is the student's responsibility to make certain that all transcripts, grades and/or necessary records are submitted to the Welcome Center.

Program applicants transferring college credit from another institution must have an official transcript mailed to:

Henry Ford Community College, Transfer Evaluation, 5101 Evergreen Road, Dearborn, MI 48128-2407.

Applicants must also submit a student copy of all of their transcripts to the Health Careers Admissions assistant.

It is strongly recommended that you personally track your specific program application through the Welcome Center, (313) 317-6525.

Students are strongly encouraged to monitor their program admission status via the WebAdvisor Program Evaluation link.



# Pharmacy Technician

Certificate of Achievement



It is imperative that all student contact information such as phone numbers and addresses is kept current through the Registration office. If we are unable to contact you, we then will move to the next qualified applicant.

## Step 4 – Qualifying and admission

Students are qualified when all of the program's admission criteria have been satisfied.

Applicants are then admitted on a "first-qualified, first-accepted" basis for available positions. A student's application date to the program either by indication on HFCC application or the separate program application then may be used to determine placement on the qualified list if necessary – the earlier the better.

## Program Duration Limits / Updates / Changes

Transfer of Pharmacy Technician courses from other institutions will be accepted only from programs accredited by the American Society of Health-System Pharmacists and will be evaluated on an individual basis.

The Pharmacy Technician Program may be completed in one year (full-time) or two years (part-time). In either case, careful course sequencing is required and each student must satisfy the program's admission criteria.

There are specific admission criteria which must be satisfied in order to be admitted into this program; however, students are permitted to take the required support courses prior to being formally accepted and admitted into the program. AH 100, HCS 131, and BBA 110 may be taken prior to formal acceptance into the program.

HFCC continuously attempts to improve each program, and as a result courses and requirements may be modified. Curriculum, course content and admission criteria are subject to change by action of the College faculty and administration.

## Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Occupational Exposure / Risk

Exposure to infectious diseases and latex may be minimal to moderate depending on the setting in which you are working.

Those with latex sensitivity or allergies should consult with a physician prior to entering the program for guidance on the merits of continuing in a health care career. During the course of the program students learn infection control guidelines and procedures and strict adherence to these guidelines will reduce the risk of exposure to infectious diseases.

### Registry / Certification / Licensure Exam Information

Upon completion of the accredited program, students will be eligible for the Pharmacy Technician Certification Board examination (PTCB) to earn the Certified Pharmacy Technician (CPhT) credential. This program is one of six college-based programs in Michigan to maintain accreditation through ASHSP. Some local area hospital pharmacy employers require pharmacy technicians to be certified (CPhT). In addition, out-patient pharmacy employers prefer pharmacy technicians who are CPhTs or at least CPhT eligible. In the near future both in-patient and out-patient pharmacy technicians will need certification. The CPhT credential is a national certification recognized by employers across the country.

Any questions regarding the national certification exam, including qualifications and eligibility, should be directed to the Pharmacy Technician Certification Board (PTCB) at (202) 429-7576.

### Career Opportunities

According to recent reports from the U.S. Bureau of Labor Statistics, employment opportunities for pharmacy technicians in this region are expected to remain strong through this decade. The shortage of pharmacists and pharmacy technicians is expected to continue as the health services industry expands because of technological advances in medicine and an aging population. In addition, employment growth will be driven by the increase in the number of outpatient pharmacies, home infusion pharmacies, compounding pharmacies and other pharmacy related facilities that need skilled support personnel, particularly pharmacy technicians.

General information about career placement and job success is available through either the Health Careers Office or the College's Placement Office. In addition, salary expectations are discussed during the PHT program pre-acceptance interview.

## Philosophy

Area of Study

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Martin Anderson • (313) 845-6488 • mander@hfcc.edu • Fine Arts Bldg • Room: F-131

## Program Information

### Description

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Philosophy is the love of wisdom. Wisdom is based on knowledge and insight, not on preferences or subjective beliefs. HFCCs sequence of courses in philosophy is academically designed to develop critical and creative thinking skills, and to encourage intellectual integrity in the pursuit of objective methods of confirmation or disconfirmation of beliefs. HFCCs philosophy courses challenge serious students to engage in focused inquiry, to expose fallacious reasoning, and to develop sensitive approaches to understanding, evaluating, deciding, or acting in any area of significant human concern. There are no prerequisites for any philosophy course. The intellectual life begins and ends with philosophy.

## Degree Specific Requirements

### Required Core Courses

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### Required Support Courses

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### Elective Courses

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## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Physical Therapist Assistant

Associate in Applied Science

## Physical Therapist Assistant

Associate in Applied Science

Program Code: PTAST.AAS...

## Contact

Health Careers • (313) 845-9877 • [healthcareers@hfcc.edu](mailto:healthcareers@hfcc.edu) • Health Careers Education Ctr • Room: H-132

Cynthia Scheuer • (313) 317-6575 • [cscheuer@hfcc.edu](mailto:cscheuer@hfcc.edu) • Health Careers Education Ctr • Room: H-133I

## Program Information

### Description

Prepares individuals for employment as entry-level Physical Therapist Assistants. Students in this program will have learning experiences in the classroom, laboratory and in local physical therapy facilities. The final semester is spent in full-time (40 hrs/week) clinical externships.

## Learning Outcomes

Demonstrate competence in physical therapy intervention, from the plan of care established by the Physical Therapist, including review of the plan, provision of appropriate interventions, and progression as indicated

Demonstrate competence in data collection, based upon the plan of care and patient needs

Provide appropriate instruction to the patient, client, and/or family based upon the needs

Document accurate, consistent, legal, and relevant information about treatment interventions

Communicate effectively, orally and in writing, with the professional team and community for the provision of patient care and the betterment of the profession of physical therapy

Demonstrate professional behaviors throughout interactions with patients, fellow students, caregivers, and other practitioners

Utilize feedback and self-evaluation in the development of their own abilities and career

Comply with appropriate legal standards for a Physical Therapist Assistant

Exhibit conduct and integrity appropriate for the Physical Therapist Assistant, throughout health care related interactions, as established by the American Physical Therapy Association

Provide care as directed by the plan of care in a safe manner, minimizing risk to the patient, self, and others

Identify effective and ineffective physical therapy interventions and modify, within the plan of care to maximize patient outcomes

### Accreditation

The Physical Therapist Assistant Program at Henry Ford College is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 1111 North Fairfax Street, Alexandria Virginia 22314; telephone: 703-706-3245; email: [accreditation@apta.org](mailto:accreditation@apta.org); website: <http://www.capteonline.org>.

### Admission Requirements / Eligibility

Students who meet all admission requirements are considered qualified and are admitted to the program once per year in the fall semester on a "first-qualified first-admitted" basis. Acceptance into the college does not constitute nor guarantee admission to the program. Final approval to enroll in the program comes from the Physical Therapist Assistant Program Director. Students who are interested in this program should select Associate of Science with a specialization in Pre-Physical Therapist Assistant degree, and meet with a Health Careers Advisor/Admissions Specialist in the Welcome Center.

Minimum College GPA of 2.8 (at least 12 credits excluding less than 100 level courses)

COMPASS Reading score of 84 or better

Assessment test scores sufficient to allow for placement into ENG 131\*. This requirement may also be satisfied by successful completion of the required developmental courses.

Minimum math requirement is Algebra\* - may be satisfied by one of the following:

-COMPASS Algebra score of 46 or better

-Successful completion of MATH 080-Beginning Algebra, with a C or better

Successful completion of BIO 233-Anatomy & Physiology I, or equivalent, with a B- or better,

within five years of admission.\*

Successful completion of AH 100-Medical Terminology, or equivalent, with a B- or better.

Twenty hours or more of observation in a physical therapy setting observing a PTA at work with a letter of confirmation from the supervisory PT or PTA.

\*There may be other pre-admission coursework the student needs to complete based on results of placement tests and/or high school coursework.

# Physical Therapist Assistant

Associate in Applied Science

## The Program Admission Process

It is recommended that students interested in a health career meet with a Health Careers Admissions Assistant/Advisor in the Welcome Center or (313) 845-9877 to discuss program options and then create an academic plan to qualify for the selected program.

### Step 1 - Apply to the program

First time applicants to HFC will indicate the program by selecting an Associate of Science with a specialization in Pre-Physical Therapist Assistant degree on the application to the college.

Current HFC students must complete a program change form indicating the new program as an Associate of Science with a specialization in Pre-Physical Therapist Assistant degree. College applications and change forms must be submitted to the Records and Registration Office located in the Welcome Center.

### Step 2 - Qualifying for admission

Complete all program admission requirements.

### Step 3 - Deliver information and track applicant status

It is the student's responsibility to make certain official transcripts are sent to: Henry Ford College, Transfer Evaluation, 5101 Evergreen Road, Dearborn, MI 48128-2407

It is the student's responsibility to make certain all necessary records are submitted to the Health Careers Admissions Assistant in the Welcome Center.

Students are responsible to monitor their program admission progress via the WebAdvisor Program Evaluation link.

### Step 4 - Qualifying and admission

Students are qualified when all of the program's admission criteria have been satisfied.

Applicants are admitted on a "first-qualified, first-admitted" basis. Application date may be used to determine placement on the qualified list if necessary.

Students will only be contacted via the contact information provided through WebAdvisor. It is imperative that all student contact information such as phone numbers and addresses are kept current. If we are unable to contact you, we then move to the next qualified applicant.

Final approval to enroll in the program comes from the Physical Therapist Assistant Program Director.

Due to the number of credit hours required for program completion and the intensity of the program, students are

encouraged to complete as many of the Required Support/General Education Courses as possible prior to entering the program.

The first courses that a student should complete are those required for program admission followed

by the other Required Support/General Education Courses.

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Physical Therapist Assistant

Associate in Applied Science



## Degree-Specific Requirements

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Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

## Required Core Courses

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- PTA-102: Introduction to Physical Therapy Practice
- PTA-108: Therapeutic Techniques I
- PTA-118: Exercise Techniques I
- PTA-119: Exercise Techniques II
- PTA-132: Kinesiology for PTAs
- PTA-142: Therapeutic Modalities
- PTA-168: Development Across the Lifespan for PTAs
- PTA-225: Applied Pathology for PTAs
- PTA-250: Extremity Orthopedics
- PTA-254: Spinal Orthopedics
- PTA-262: Rehabilitation of Neurological Conditions I
- PTA-264: Rehabilitation of Neurological Conditions II
- PTA-270: Physical Therapist Assistant Seminar
- PTA-291: Clinical Externship I
- PTA-295: Clinical Externship II

Minimum Credit Hours: .....49.0

## Required Support Courses

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- BIO-233: Anatomy and Physiology I This course is an admission requirement for this program. Students must earn a B- or better.
- AH-100: Medical Terminology This course is an admission requirement for this program. Students must earn a B- or better.
- BIO-234: Anatomy and Physiology II
- PHYS-133: Principles of Physics
- HCS-131: Computers in Health Care
- Complete one of the following courses:
  - POLS-131: Introduction to American Government and Political Science
  - SSC-131: Survey of the Social Sciences

Minimum Credit Hours: .....22.0

Notes:

Anatomy and Physiology courses that were taken five or more years prior to enrollment in the PTA program must be repeated.

## Elective Courses

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## Minimum Number Of Credits To Graduate

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77.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

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#### Prior to starting the program

Qualified students are invited and must attend an informational meeting scheduled by the Program Director for Physical Therapist Assistant

#### Health Appraisal

Potential students must have an interest in working with the ill and disabled. Good physical strength, observation skills and communication skills are just some of the abilities required for this

job. A more detailed sample job profile is available through the Health Careers Office 313-845-9877. Each student must pass a basic physical examination prior to entering the program and a more detailed examination (including checking blood titers for immunity, vaccinations required by health care community, tuberculosis screening) prior to the start of clinical externships. Any students requesting special accommodations for program admission and progression should contact the Assisted Learning Office at 313-845-9617.

#### Criminal Background Check and Drug Screen

Consistent with Section 20173 of the Michigan Public Health Code and the requirements of our clinical affiliates, a Criminal Background Check and Drug Screen is required for all students in PTA program prior to beginning clinical assignments. The cost for this test is in addition to the basic tuition and fee schedule. For questions regarding this policy, contact the Health Careers Office.

Students who are not cleared for clinical through the Health Appraisal, Criminal Background Check and Drug Screen will not be able to complete the PTA program.

#### Program Deposit

At the time of formal admission to the program, each applicant is required to pay a \$100 fee to secure a position. One month after classes start in the fall, the \$100 fee is refunded to the student if the student is still active in the program. Required core courses can be taken only after acceptance into the PTA Program through the Health Careers Division.

#### CPR

Students must maintain AHA-Healthcare Provider CPR-Certification throughout the Clinical Externships.

# Physical Therapist Assistant

Associate in Applied Science

## Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Occupational Exposure / Risk

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In physical therapy, both in school and on the job, exposure to infectious diseases may be minimal to moderate depending on the setting in which you are working. This is an occupational risk. Proper education and strict adherence to well established infection control guidelines, can further reduce the risk. Thorough education in infection control procedures is a part of the physical therapist assistant program of study.

### Latex Allergies

Early recognition of sensitization to natural rubber latex (NRL) is crucial to prevent the possible occurrence of life-threatening reactions in sensitized healthcare workers. The program faculty strongly advise that students sensitized or allergic to latex consult a physician for guidance on the merits of continuing in a health care career. NRL sensitized students who choose to continue in the physical therapist assistant program are to notify the program director.

NOTE: All PTA courses taken at HFC must be successfully completed within three consecutive calendar years. The HFC PTA program graduation rate is comparable to other state and national PTA programs at 76% in 2011, 76% in 2012, and 75% in 2013.

The College continuously attempts to improve each program and as a result, courses and/or requirements may be modified. Curriculum, course content, and admission criteria are subject to change by action of the College faculty and administration.

### Registry / Certification / Licensure Exam Information

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Successful passage of the PTA Licensure Exam is required to practice in the State of Michigan.

Students who are graduates of this program do qualify to sit for the National Physical Therapist Assistant Examination. Further details regarding this exam will be given as the student nears graduation. The HFC PTA program 2011-2013 ultimate pass rate on the licensing exam is 98.4%.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Siena Heights University

University of Michigan - Dearborn

## Career Opportunities

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### The Profession

Physical Therapist Assistants (PTAs) are skilled health care providers who assist in providing planned patient care under the direction and supervision of a Physical Therapist. As members of the rehabilitation team, PTAs perform treatments designed to relieve pain, promote healing and improve functional ability. Once a treatment plan is designed by a physical therapist, the PTA may be responsible for carrying out this treatment plan.

### Opportunities

Opportunities for PTAs are excellent at this time and are projected to increase through at least the year 2018. PTAs may choose to practice in a variety of settings including hospitals, rehab centers, sports medicine clinics, public and private schools, outpatient physical therapy clinics, nursing homes, and home health settings.

HFC PTA graduate employment rate over the past three years has been excellent, 100% in 2010, 94% in 2011, and 95% in 2012. Information about career placement and job success is available through either the Health Careers Office or the Career Services Office.

# Physics

Area of Study



## Physics

Area of Study

## Contact

Math and Science Division • (313) 845-9631 • math@hfcc.edu •  
Health Careers Education Ctr • Room: H-122

Michael LoPresto • (313) 845-9722 • lopresto@hfcc.edu • Bldg ID  
Retired 12/23/2014 • Room: S-106B

## Program Information

### Description

The Physics Department offers a variety of laboratory-based courses for students interested in studying physics, engineering, and other sciences, as well as support courses for students studying health careers, teaching, and other topics.

Students in other scientific disciplines will typically take the algebra-based courses PHYS 131-Liberal Arts Physics and PHYS 132-Liberal Arts Physics (Continued).

Students taking PHYS 120-Technical Physics and PHYS 121-Technical Physics (Continued) will apply the laws of physics to solve everyday technical problems in the workplace.

PHYS 133-Principles of Physics introduces various branches of physics to students who have limited mathematical skills. It is appropriate for students needing to fill a one-semester laboratory science requirement and for those in certain programs in Health Careers and teaching.

## Degree Specific Requirements

### Required Core Courses

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### Required Support Courses

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### Elective Courses

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## Program Requirements

### Additional Program Requirements

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Potential physics majors: Physics is a rigorous academic program that requires strong math and science skills. Students in physics programs at 4-year colleges and universities typically take 16-18 credit hours each semester. The majority of these courses are in physics, and mathematics. Students planning to major in physics should take a rigorous high school background including four years of college prep math and science.

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Plant Maintenance Trades

Associate in Applied Science

## Plant Maintenance Trades

Associate in Applied Science

Program Code: PLMTT.AAS...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Joseph Skupin • jskupin@hfcc.edu • Room: J-172

## Program Information

### Description

Provides the related trades instructional classes for registered Department of Labor and other industrial apprentices involved in the maintenance of manufacturing systems. Apprentices in these skilled trade classifications take courses defined by their employer or joint apprentice committee. They also must complete on-the-job hours of work to qualify for a journey-person certification or the equivalent. Apprentice certificate educational programs are typically 38 credit hours or longer in duration. Apprentice or Journeymen students may also be eligible to apply credits earned in their trade's educational program toward the 60 credit hours required for the degree. Additional licensing test preparation is also available for specific trades such as the State of Michigan licensing for Electricians.

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and Research
- ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and Research
- ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

## Required Core Courses

A minimum of 38 credit hours is required through the Apprenticeship Program.\*

Minimum Credit Hours: .....38.0



# Plant Maintenance Trades

Associate in Applied Science



\*Apprenticeship programs vary in the number of credit hours required. The minimum number is 38. All program requirements must be met in order for an apprentice to qualify for a certificate. The credits acquired apply towards the Associate in Applied Science degree. Coursework is selected by the student based on his or her personal or career goals and the results of academic assessment tests, transcript evaluations, and career planning sessions with the TAE apprentice coordinator.

## Required Support Courses

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### Elective Courses

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Minimum Credit Hours: .....22.0

Complete as many electives and general education credits as necessary to meet the minimum number of credit hours to receive your associate degree.

### Minimum Number Of Credits To Graduate

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60.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

- Eastern Michigan University
- Ferris State University
- Lawrence Technological University
- Siena Heights University
- University of Michigan - Dearborn
- Wayne State University

## Career Opportunities

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- Industrial Electrician
- Industrial Machine Repair
- Maintenance Group Leader
- Maintenance Supervision
- Skilled Trade Supervision
- Tool Engineer
- Industrial Service Technician
- Product Design Technician
- Quality Control Technician

## Political Science

Area of Study

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Anthony Perry • (313) 845-6383 • adperry1@hfcc.edu • Learning Technology Center • Room: A-237

## Program Information

### Description

Politics is the study of who gets what, when, and how through government or other instruments of power.

Power can be exercised by individuals, interest groups, parties, nation-states, or international organizations.

Political science examines the theory and practice of politics by focusing on political behavior and values.

Subfields include American government, public policy and administration, judicial politics, comparative

politics, international relations, and political theory.

POLS 131-Introduction to American Government and Political Science fulfills Henry Ford Community

College's political science requirement for graduation, and fulfills general education outcome number one,

American Society, Events, Institutions and Cultures.

Political Science courses at the 100 level or above fulfill the graduation requirement for Associate in Arts

degrees, in Group III - Social Sciences.

## Degree Specific Requirements

### Required Core Courses

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### Required Support Courses

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### Elective Courses

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## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Pre-Elementary Education

Associate in Arts

## Pre-Elementary Education

Associate in Arts

Program Code: PELED.AA...

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Tracie Varitek • (313) 845-6393 • tlvartek@hfcc.edu • Learning Technology Center • Room: A-202

## Program Information

### Description

Designed for students seeking teacher certification in Elementary Education. This degree focuses on teaching children in grades K-8. Upon completion of this program students are eligible for work in various education and child care professions, however, transfer to and completion of a four-year university teacher preparation program is necessary for full teacher certification. When following university articulation guides, graduates pursuing a bachelor's degree should be able to transfer all of the required and elective coursework toward that degree.

## Learning Outcomes

Apply current educational theories and practices to a classroom setting

Analyze children's literature for its use in the elementary or middle school classroom

Apply knowledge of the physical, emotional, intellectual, and social development theories of the learner in a school setting

Apply knowledge of the exceptionalities, learning environments, and laws as they relate to special education programs

Develop lesson plans implementing educational software for grades P - 8

Analyze elementary and middle school mathematics at the level necessary for teaching.

Construct scientific knowledge using inquiry-based techniques

Follow appropriate health, physical education, nutrition, and safety practices for K-8 classrooms

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Pre-Elementary Education

Associate in Arts

## Degree-Specific Requirements

Complete one course from the Wellness Group:

- COUN-114: Stress Management - A Personal Approach
- HPE-140: Lifetime Wellness
- HPE-142: Advanced First Aid
- HPE-153: Nutrition
- HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher
- HPEA-117: Strength Training and Physical Conditioning / HPEA-217: Strength Training and Physical Conditioning II
- HPEA-126: Aerobic Dance
- HPEA-155: Relaxation Techniques for Stress Management

Complete 8 Humanities credits from courses in:

Art, Dance, English (except ENG-131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 8 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 8 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

- CIS-221: Instructional Technology for Elementary Teachers
- EDU-201: Introduction to Education
- EDU-202: Introduction to Education Practicum
- ENG-246: Introduction to Children's Literature
- MATH-121: Mathematics for Elementary Teachers I
- MATH-221: Mathematics for Elementary Teachers II
- PSY-131: Introductory Psychology
- PSY-256: Educational Psychology

Complete 4 credit hours of Science courses (100-level or higher. One course must include a lab.)

Minimum Credit Hours: ..... 26.0

## Required Support Courses

- ENG-131: Introduction to College Writing
  - ENG-132: College Writing and Research
  - HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher
- Complete one of the following courses:
- HIST-151: American History I
  - POLS-131: Introduction to American Government and Political Science

Complete 5 credit hours of Humanities courses.\*

Minimum Credit Hours: ..... 17.0

Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that the appropriate courses are selected.

## Elective Courses

Minimum Credit Hours: ..... 17.0

Complete as many Elective and Degree Specific credits as necessary to meet the minimum number of credit hours to receive your associate degree.

## Minimum Number Of Credits To Graduate

60.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

The law requires new teachers, school administrators, school psychologists, and other personnel to provide documentation of a completed criminal record check. Students who complete field experiences as part of their HFC coursework must provide a state-wide criminal record check prior to work with children in public or non-public schools.

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Pre-Elementary Education

Associate in Arts

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Eastern Michigan University  
Marygrove College  
University of Michigan - Dearborn  
Wayne State University

## Career Opportunities

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Pre-Elementary Education program graduates may seek employment in child development centers. For those wishing to teach in K-8 schools, completion of a four-year teacher preparation program with teacher certification is necessary.

This degree requires coursework that can be transferred to most four-year teacher preparation programs without loss of credit. The elective component of this program allows students to select courses that apply toward the bachelor's degree at their intended transfer institution. Students are encouraged to consult the university guide sheets in the University Transfer, Advising, and Career Counseling Center located in Learning Resources Center.

# Pre-Engineering

Associate in Science

## Pre-Engineering

Associate in Science

Program Code: ENGIN.AS...

## Contact

Math and Science Division • (313) 845-9631 • math@hfcc.edu •  
Health Careers Education Ctr • Room: H-122

## Program Information

### Description

Provides the first two years of a student's engineering education. Articulation agreements guarantee admission to the final two years of engineering school at several universities to students who satisfactorily complete this degree and maximizes course transferability. The courses in this program are courses common in the first two years of an ABET-accredited engineering program, and HFC has worked closely with faculty at local engineering schools to make sure courses will transfer. The elective courses required for the various fields of engineering may vary slightly, and you should check with an engineering advisor to make sure that you are taking the correct series of courses for your intended field of engineering.

## Learning Outcomes

- Solve engineering related problems by applying mathematical concept
- Solve engineering related problems by applying principles of physics
- Solve problems using concepts found in general chemistry
- Evaluate problems and arguments using quantitative methods of economics

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Pre-Engineering

## Associate in Science



### Degree-Specific Requirements

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Complete 6 Humanities credits from courses in:

Art, Dance, English (except ENG 131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 24 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 6 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

### Required Core Courses

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- MATH-180: Calculus I
- MATH-183: Calculus II
- MATH-280: Calculus III
- MATH-289: Differential Equations
- CHEM-141: Principles of General and Inorganic Chemistry I
- PHYS-231: Engineering Physics I
- PHYS-232: Engineering Physics II

Minimum Credit Hours: ..... 34.0

Engineering students may use MATH 180 as the prerequisite for CIS 170.

### Required Support Courses

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Complete one of the following courses:

- BEC-133: Basic Economics
- BEC-151: Principles of Macroeconomics
- BEC-152: Principles of Microeconomics

Minimum Credit Hours: ..... 3.0

### Elective Courses

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These courses are suggestions for electives:

- BIO-131: Introduction to Biology
- BIO-150: Biology: Organisms, Genes, and Ecology
- BIO-152: Cells and Molecular Biology
- CHEM-142: Principles of General and Inorganic Chemistry II
- CIS-170: C Programming
- ENGR-130: Introduction to Engineering
- ENGR-201: Science of Materials
- ENGR-232: Statics
- ENGR-233: Dynamics

Minimum Credit Hours: ..... 5.0

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. Students may be able to take additional coursework at HFC and transfer it to a 4-year institution.

### Minimum Number Of Credits To Graduate

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60.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

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Requirements for different fields of engineering and schools vary. Students must consult with an engineering advisor to plan an appropriate course of study for the area of engineering and the college or university to which they intend to transfer.

The minimum requirement for earning the Associate in Science degree in Pre-Engineering is 60 credit hours. However, engineering schools will accept as many as seven additional courses from HFCC transfer students toward Bachelor of Science degrees in engineering. We encourage students to take advantage of this and to complete as many courses as they can transfer at HFCC.

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Lawrence Technological University  
Michigan Technological University  
University of Detroit Mercy  
University of Michigan - Ann Arbor  
University of Michigan - Dearborn  
Wayne State University

### Career Opportunities

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Engineering students can specialize in fields such as:

Aerospace  
Biomedical  
Chemical  
Computer and electrical  
Industrial  
Mechanical  
Civil, including structural, transportation, environmental, geotechnical, urban planning, and water resources.

The core engineering curriculum is fairly standard among accredited engineering schools; however, students should consult with an engineering advisor to determine which courses they should take, depending on the engineering discipline and the engineering school to which they will transfer.



# Pre-Nursing

## Associate in Science



### Pre-Nursing

Associate in Science

### Contact

Health Sciences Division • (313) 845-9635 • Health Careers Education Ctr • Room: H-132

Lorraine Paffenroth • (313) 317-6525 • lpaffen@hfcc.edu • Welcome Center • Room: WC

### Program Information

#### Description

Provides students with the general academic background to be successful in their chosen health care field. For students pursuing admission the nursing program, please follow the these steps:

- Complete the program admission requirements including NAT exam.

- Apply to the Nursing program.

- Complete the remaining program admission requirements

### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

### General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900

- ENG-236: American Autobiography

- ENG-237: American Literature Since 1900

- CRJ-131: Introduction to Law Enforcement and Criminal Justice

- HIST-151: American History I

- HIST-152: American History II

- POLS-131: Introduction to American Government and Political Science

- SOC-131: Introduction to Sociology

- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects

- BCA-140: Software Applications

- CIS-100: Introduction to Information Technology

- CIS-221: Instructional Technology for Elementary Teachers

- CIS-223: Instructional Technology for Secondary Teachers

- HCS-131: Computers in Health Care

- MFMT-103: Industrial Computer Application

- TAFD-115: Computer Applications for Skilled Trades

- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

**Degree-Specific Requirements**

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Complete 6 Humanities credits from courses in:

Art, Dance, English (except ENG 131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 24 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 6 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

**Required Core Courses**

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- BIO-131: Introduction to Biology
- BIO-233: Anatomy and Physiology I
- BIO-234: Anatomy and Physiology II
- NSG-285: Pathophysiology for Nurses
- BIO-251: Microbiology
- HPE-253: Nutrition for the Professional

Minimum Credit Hours: .....24.0

**Required Support Courses**

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- ENG-131: Introduction to College Writing
- ENG-132: College Writing and Research
- PSY-131: Introductory Psychology
- SOC-131: Introduction to Sociology
- HCS-131: Computers in Health Care
- SPC-131: Fundamentals of Speaking
- MATH-110: Intermediate Algebra
- MATH-141: Introduction to Statistics
- CHEM-131: Principles of Chemistry \* Or Chemistry placement test of 10 or higher
- CHEM-141: Principles of General and Inorganic Chemistry I
- Two courses in Humanities from: Art, Dance, English (except ENG 131, 132, or 135) Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Theater, World Religion

Minimum Credit Hours: .....37.0

**Elective Courses**

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Complete as many electives credits as necessary to meet the minimum number of credit hours to receive your associate degree.

**Minimum Number Of Credits To Graduate**

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61.0 (Including Options/Electives)

**Program Requirements**

**Requirements are Subject to Change**

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

**Transfer Information**

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, counseling@hfcc.edu, Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

**Career Opportunities**

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Intended to prepared candidate for admission to HFC Nursing program or transfer to another academic institution.

# Pre-Ophthalmic Technician

Associate in Science

## Pre-Ophthalmic Technician

Associate in Science

## Contact

Health Sciences Division • (313) 845-9635 • Health Careers Education Ctr • Room: H-132

Tara Jarois • tajarois@hfcc.edu

## Program Information

### Description

Provides students with the general academic background to be successful in their chosen health care field. For students pursuing admission to the ophthalmic technician program, please follow these steps:

Apply to the program. Students are strongly urged to meet with a health careers advisor within the first semester of course work.

Complete the program admission course work.

Complete the remaining program admission requirements

Confirm with Health Careers Advisor completion of steps 1-3 and placement on the qualified/wait list.

While on the qualified/wait list, complete as many of the required general education and program support courses as possible.

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Complete 6 Humanities credits from courses in:

Art, Dance, English (except ENG 131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 24 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 6 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

# Pre-Ophthalmic Technician

Associate in Science

## Required Core Courses

AH-100: Medical Terminology  
 BIO-134: Essentials of Anatomy and Physiology  
 BIO-135: Microbiology for the Allied Health Sciences  
 AH-105: Basic Life Support for Healthcare Providers  
 HCS-103: Employment Skills for Health Careers  
 HCS-124: Basic Health Assessment  
 MOA-100: Medical Office Procedures I - Administrative  
 SRG-101: Introduction to Surgical Technology

Complete one of the following

AH-120: Pharmacology for Allied Health  
 SRG-160: Surgical Pharmacology

Minimum Credit Hours: .....25.5

## Required Support Courses

HCS-131: Computers in Health Care  
 SSC-131: Survey of the Social Sciences  
 PSY-131: Introductory Psychology  
 SPC-131: Fundamentals of Speaking  
 ENG-131: Introduction to College Writing  
 Complete one of the following  
 ENG-132: College Writing and Research  
 ENG-135: Business and Technical Writing and Research

Complete one of the following

MATH-115: College Algebra  
 MATH-175: Precalculus  
 MATH-180: Calculus I

Complete Four Additional Science Courses (at least one non-Biology course)

Complete Two Humanities Courses from Two Different Disciplines (subjects) from the following

ARA (Arabic); ART-107, 108, 110, 119, 121, 122, 123, 130, 135, 172, 209, 221, 224, 225, 226, 227, or 290; CHN (Chinese);  
 ITAL (Italian); FRE (French); GER (German); HUM-101, 250;  
 INTR-180, 181, 182, 280; MUS-130, 132, 133, 134, 138, 139, 141, 142  
 MUS-147, 232, 233, 238; SPN (Spanish), THEA-131, 135, 138, 238; VTL-235, 262, 263, 264, 266, 267

Minimum Credit Hours: .....41.0

## Elective Courses

## Minimum Number Of Credits To Graduate

66.5 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

# Pre-Pharmacy

Associate in Science



## Pre-Pharmacy

Associate in Science

Program Code: PHARM.AS...

## Contact

Health Careers • (313) 845-9877 • [healthcareers@hfcc.edu](mailto:healthcareers@hfcc.edu) • Health Careers Education Ctr • Room: H-132

Theresa Mozug • (313) 317-6548 • [tmozug@hfcc.edu](mailto:tmozug@hfcc.edu) • Health Careers Education Ctr • Room: H-133J

## Program Information

### Description

Prepares students interested in becoming pharmacists for transfer to a 4-year institution. The courses outlined in the program of study have been carefully selected using the basic admission requirements for a number of pharmacy programs as a guide. This program prepares students with a solid foundation using a set of carefully selected courses, which will maximize the transfer of course work. These courses were selected considering the general admission criteria used by pharmacy schools and the formal transfer agreements HFC maintains with many of the universities throughout Michigan. Pre-Pharmacy students are strongly encouraged to work closely with the Pharmacy Coordinator before they select their courses in order to be certain that these courses are covered by the transfer agreements.

### Pharmacy Options

HFC offers our students two distinct program options. The first option is the Pre-Pharmacy Academic Transfer program, which is designed for the transfer of course work for those students primarily interested in applying to pharmacy schools. The second program option at HFC is our one-year Pharmacy Technician program. The technician curriculum prepares the students for employment assisting pharmacists after completion of the program. Unlike the Pre-Pharmacy program, the courses in the Pharmacy Technician program prepare students for employment immediately and not for transfer nor for those students primarily interested in applying to pharmacy schools. (See the Pharmacy Technician brochure for more information on that one-year certificate program).

If a student's primary intent is on becoming a pharmacist, then the Associate in Science Degree in Pre-Pharmacy program is the curriculum which should be followed.

## Learning Outcomes

Incorporate principles of general and organic chemistry to apply concepts

Differentiate between algebraic and trigonometric concepts

Communicate personal abilities to write effectively

Apply biological concepts and principals in the analysis of biological processes

Interpret written forms of communication

Demonstrate interpersonal communication skills

## Admission Requirements / Eligibility

### Educational Requirements

Admission to pharmacy schools is highly competitive and very selective. Typically, pharmacy programs will use some variation of grades and admission test scores in their selection process. The specific admission criteria for schools of pharmacy vary between each individual program. For a list of the three programs in Michigan as well as the 17 plus pharmacy programs in the general Midwest region, please contact the Health Careers office. Because admission to pharmacy schools is so competitive, students interested in becoming a pharmacist should explore all of their options and need to review the current admission requirements for not just one but several pharmacy schools.

HFCC maintains close contact with a number of pharmacy programs in an effort to keep the program of study and course transfer agreements up-to-date. Annually, admission representatives from a number of pharmacy programs are on campus to visit with and discuss their programs with HFCC students.

Students need to contact, visit and frequently monitor for themselves the admission requirements for their target Pharmacy Schools as these requirements do periodically change.

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

# Pre-Pharmacy

Associate in Science

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Complete 6 Humanities credits from courses in:

Art, Dance, English (except ENG 131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 24 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 6 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

- PHT-144: Pharmacy College Admission Testing (PCAT) and Current Issues in Pre-Pharmacy
- BIO-152: Cells and Molecular Biology
- BIO-233: Anatomy and Physiology I
- BIO-234: Anatomy and Physiology II
- BIO-251: Microbiology
- CHEM-141: Principles of General and Inorganic Chemistry I
- CHEM-142: Principles of General and Inorganic Chemistry II
- CHEM-241: Organic Chemistry I
- CHEM-242: Organic Chemistry II
- CHEM-243: Microscale Organic Chemistry Laboratory I
- MATH-180: Calculus I
- PHYS-131: General Physics I

Minimum Credit Hours: .....48.0

## Required Support Courses

- ENG-131: Introduction to College Writing
- ENG-132: College Writing and Research
- PHIL-131: Introduction to Logic
- POLS-131: Introduction to American Government and Political Science
- SPC-131: Fundamentals of Speaking

Complete one of the following courses:

- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology

Complete one of the following courses:

- BEC-151: Principles of Macroeconomics
- BEC-152: Principles of Microeconomics

Minimum Credit Hours: .....21.0

Students should contact the Health Careers Division to determine CIS 100 or BCA 140 course options based on educational needs for transfer.

## Elective Courses

### Minimum Number Of Credits To Graduate

71.0 (Including Options/Electives)

# Pre-Pharmacy

Associate in Science



## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

# Pre-Physical Therapist Assistant

Associate in Science

## Pre-Physical Therapist Assistant

Associate in Science

## Contact

Health Careers • (313) 845-9877 • healthcareers@hfcc.edu • Health  
Careers Education Ctr • Room: H-132

Tara Jarois • tajarois@hfcc.edu

## Program Information

### Description

Provides students with the general academic background to be successful in their chosen health care field. For students pursuing admission to the physical therapist assistant program, please follow these steps:

Apply to the program. Students are strongly urged to meet with a health careers advisor within the first semester of course work.

Complete the program admission course work.

Complete the remaining program admission requirements

Confirm with Health Careers Advisor completion of steps 1-3 and placement on the qualified/wait list.

While on the qualified/wait list complete as many of the required general education and program support courses as possible.

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and Research  
College Writing and Research

or

ENG-131: Introduction to College Writing and Research  
Business and Technical Writing and Research

## Degree-Specific Requirements

Complete 6 Humanities credits from courses in:

Art, Dance, English (except ENG 131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 24 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics



# Pre-Physical Therapist Assistant

Associate in Science



Complete 6 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

### Required Core Courses

- AH-100: Medical Terminology
- BIO-233: Anatomy and Physiology I
- BIO-234: Anatomy and Physiology II
- PHYS-133: Principles of Physics
- SPC-131: Fundamentals of Speaking

Minimum Credit Hours: ..... 19.0

### Required Support Courses

- HCS-131: Computers in Health Care Or
- PSY-131: Introductory Psychology
- ENG-131: Introduction to College Writing And

Complete one of the following

- ENG-132: College Writing and Research Or
- ENG-135: Business and Technical Writing and Research

Complete one of the following

- POLS-131: Introduction to American Government and Political Science Or
- SSC-131: Survey of the Social Sciences

Complete one of the following

- MATH-115: College Algebra And
- MATH-175: Precalculus
- MATH-180: Calculus I

Complete Three Additional Science Courses

Complete Two Humanities Courses from Two Different Disciplines (subjects) from the following

- ARA (Arabic); ART-107, 108, 110, 119, 121, 122, 123, 130, 135, 172, 209, 221, 224, 225, 226, 227, or 290; CHN (Chinese);
- ITAL (Italian); FRE (French); GER (German); HUM-101, 250; INTR-180, 181, 182, 280; MUS-130, 132, 133, 134, 138, 139, 141, 142
- MUS-147, 232, 233, 238; SPN (Spanish), THEA-131, 135, 138, 238; VTL-235, 262, 263, 264, 266, 267

Minimum Credit Hours: ..... 35.0

### Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree.

Minimum Credit Hours: ..... 6.0

### Minimum Number Of Credits To Graduate

60.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

NOTE: These courses are required for the Physical Therapists Assistant program.

\*\* There are additional program admission requirements beyond admission course work. Please see the Physical Therapist Assistant Program of Study. (:Link to program page.)

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, counseling@hfcc.edu, Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

## Pre-Professional

Area of Study

## Contact

## Program Information

### Description

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Students who wish to enter the professional schools of universities may be required to spend some time in a liberal arts college. Students interested in law, journalism, agriculture, architecture, home economics, public health, library science, and other fields will find it possible to take the first one or two years of their college without loss of time or credit hours when they transfer, provided a high standard of work is maintained. Henry Ford College's schedule of classes is constructed with the needs of the professional school in mind, and, in most cases, a full two years of work is possible.

## Degree Specific Requirements

### Required Core Courses

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### Required Support Courses

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### Elective Courses

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## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Pre-Radiographer

Associate in Science



## Pre-Radiographer

Associate in Science

## Contact

Health Sciences Division • (313) 845-9635 • Health Careers Education Ctr • Room: H-132

Sharon Wu • (313) 317-6595 • swu@hfcc.edu • Health Careers Education Ctr • Room: H-133C

## Program Information

### Description

Provides students with the general academic background to be successful in their chosen health care field. For students pursuing admission to the radiographer program, please follow these steps:

Apply to the program. Students are strongly urged to meet with a health careers advisor within the first semester of course work.

Complete the program admission course work.

Complete the remaining program admissions requirements

Confirm with Health Careers Advisor completion of steps 1-3 and placement on the qualified/wait list.

While on the qualified/wait list complete as many of the required general education and program support courses as possible.

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and College Writing and Research

or

ENG-131: Introduction to College Writing and Business and Technical Writing and Research

## Degree-Specific Requirements

Complete 6 Humanities credits from courses in:

Art, Dance, English (except ENG 131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 24 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

# Pre-Radiographer

## Associate in Science

Complete 6 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

### Required Core Courses

AH-100: Medical Terminology  
 BIO-233: Anatomy and Physiology I  
 BIO-234: Anatomy and Physiology II  
 MATH-100: Basic Technical Mathematics

Minimum Credit Hours: ..... 16.0

### Required Support Courses

HCS-131: Computers in Health Care  
 PSY-131: Introductory Psychology  
 SPC-131: Fundamentals of Speaking  
 ENG-131: Introduction to College Writing

Complete one of the following

ENG-132: College Writing and Research  
 ENG-135: Business and Technical Writing and Research

Complete one of the following

POLS-131: Introduction to American Government and Political Science  
 SSC-131: Survey of the Social Sciences

Complete one of the following

MATH-115: College Algebra  
 MATH-175: Precalculus  
 MATH-180: Calculus I

Complete Three Additional Science Courses (at least one non-Biology course)

Complete Two Humanities Courses from Two Different Disciplines (subjects) from the following

ARA (Arabic); ART-107, 108, 110, 119, 121, 122, 123, 130, 135, 172, 209, 221, 224, 225, 226, 227, or 290; CHN (Chinese); ITAL (Italian); FRE (French); GER (German); HUM-101, 250; INTR-180, 181, 182, 280; MUS-130, 132, 133, 134, 138, 139, 141, 142  
 MUS-147, 232, 233, 238; SPN (Spanish), THEA-131, 135, 138, 238; VTL-235, 262, 263, 264, 266, 267

Minimum Credit Hours: ..... 38.0

### Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree.

Minimum Credit Hours: ..... 6.0

### Minimum Number Of Credits To Graduate

60.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

# Pre-Respiratory Therapist

Associate in Science

## Pre-Respiratory Therapist

Associate in Science

## Contact

Health Careers • (313) 845-9877 • healthcareers@hfcc.edu • Health Careers Education Ctr • Room: H-132

Debra Szymanski • (313) 317-6580 • dszyman@hfcc.edu • Health Careers Education Ctr • Room: H-133F

## Program Information

### Description

Provides students with general academic background to be successful in their chosen health care field. For students pursuing admission to the respiratory therapist program, please follow these steps:

Apply to the program. Students are strongly urged to meet with a health careers advisor within the first semester of course work.

Complete the program admission course work.

Complete the remaining program admission requirements

Confirm with Health Careers Advisor completion of steps 1-3 and placement on the qualified/wait list.

While on the qualified/wait list complete as many of the required general education courses as required by program and program support courses as possible.

This degree does not have to be completed to be eligible for admission / entry to the Respiratory Therapist Program

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Complete 6 Humanities credits (2 courses) from two different subject areas in:

Art, Dance, English (except ENG 131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 24 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

# Pre-Respiratory Therapist

Associate in Science

Complete 6 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

AH-100: Medical Terminology  
 BIO-233: Anatomy and Physiology I  
 BIO-234: Anatomy and Physiology II  
 CHEM-131: Principles of Chemistry

Minimum Credit Hours: ..... 16.0

## Required Support Courses

HCS-131: Computers in Health Care  
 PSY-131: Introductory Psychology  
 SPC-131: Fundamentals of Speaking  
 ENG-131: Introduction to College Writing  
 Complete one of the following  
 ENG-132: College Writing and Research  
 ENG-135: Business and Technical Writing and Research

Complete one of the following

POLS-131: Introduction to American Government and Political Science  
 SSC-131: Survey of the Social Sciences

Complete one of the following

MATH-115: College Algebra  
 MATH-175: Precalculus  
 MATH-180: Calculus I

Complete Three Additional Science Courses

Complete Two Humanities Courses from Two Different Disciplines (subjects) from the following

ARA (Arabic); ART-107, 108, 110, 119, 121, 122, 123, 130, 135, 172, 209, 221, 224, 225, 226, 227, or 290; CHN (Chinese);  
 ITAL (Italian); FRE (French); GER (German); HUM-101, 250;  
 INTR-180, 181, 182, 280; MUS-130, 132, 133, 134, 138, 139, 141, 142  
 MUS-147, 232, 233, 238; SPN (Spanish), THEA-131, 135, 138, 238; VTL-235, 262, 263, 264, 266, 267

Minimum Credit Hours: ..... 38.0

## Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree.

Minimum Credit Hours: ..... 6.0

## Minimum Number Of Credits To Graduate

60.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

# Pre-Secondary Education

Associate in Arts

## Pre-Secondary Education

Associate in Arts

Program Code: PSCED.AA...

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Tracie Varitek • (313) 845-6393 • tlvartitek@hfcc.edu • Learning Technology Center • Room: A-202

## Program Information

### Description

Designed for students seeking teacher certification in Secondary Education. This degree focuses on teaching in grades 7-12. Students in this program complete General Education requirements, early professional preparation courses, and begin course work in their teaching majors and minors. Transfer to and completion of a four-year university teacher preparation program is necessary for full teacher certification. Students are advised to consult transfer guides for the school to which they intend to transfer when selecting courses.

## Learning Outcomes

Apply current educational theories and practices to a classroom setting

Apply content knowledge to development of lessons to be taught in grades 7 – 12

Apply knowledge of the physical, emotional, intellectual, and social development theories of the learner in a school setting

Apply knowledge of the exceptionalities, learning environments, and laws as they relate to secondary education programs

Develop lesson plans implementing educational software for grades 7 – 12

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Complete one course from the Wellness Group:

COUN-114: Stress Management - A Personal Approach

HPE-140: Lifetime Wellness

HPE-142: Advanced First Aid

HPE-153: Nutrition

HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher

HPEA-117: Strength Training and Physical Conditioning /

HPEA-217: Strength Training and Physical Conditioning II

HPEA-126: Aerobic Dance

HPEA-155: Relaxation Techniques for Stress Management

# Pre-Secondary Education

Associate in Arts

Complete 8 Humanities credits from courses in:

Art, Dance, English (except ENG-131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 8 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 8 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

CIS-223: Instructional Technology for Secondary Teachers  
 EDU-201: Introduction to Education  
 EDU-202: Introduction to Education Practicum  
 PSY-131: Introductory Psychology  
 PSY-256: Educational Psychology  
 Math/Science: One must be a lab science

Minimum Credit Hours: ..... 17.0

## Required Support Courses

ENG-131: Introduction to College Writing  
 POLS-131: Introduction to American Government and Political Science

Complete 3 credit hours of History (HIST)

Complete one of the following:

ENG-132: College Writing and Research  
 ENG-135: Business and Technical Writing and Research

Minimum Credit Hours: ..... 12.0

## Elective Courses

This course is a suggested elective.

PSY-260: Adolescent Psychology

Minimum Credit Hours: ..... 17.0

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree.

## Minimum Number Of Credits To Graduate

60.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

The law requires new teachers, school administrators, school psychologists, and other personnel to provide documentation of a completed criminal record check. Students who complete field experiences as part of their HFC coursework must provide a state-wide criminal record check prior to work with children in public or non-public schools.

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, counseling@hfcc.edu, Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Eastern Michigan University  
 Marygrove College  
 University of Michigan - Dearborn  
 Wayne State University

## Career Opportunities

Pre-Secondary Education program graduates who complete a bachelor degree with teacher certification may teach in middle schools or high schools.

This degree requires course work that can be transferred to most four-year teacher preparation programs without loss of credit. The elective component of this program allows students to select courses that apply toward the bachelor's degree at their intended transfer institution. Students are encouraged to consult the university guide sheets in the University Transfer, Advising, and Career Counseling Center located in Learning Resources Center.



# Pre-Special Education

Associate in Arts

## Pre-Special Education

Associate in Arts

Program Code: PSPED.AA...

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Tracie Varitek • (313) 845-6393 • tlvartitek@hfcc.edu • Learning Technology Center • Room: A-202

## Program Information

### Description

Designed for students seeking teacher certification in Special Education. This degree focuses on teaching students with disabilities such as mental, emotional, physical, visual or hearing impairments, learning disabilities, and autism. Transfer to and completion of a four-year university teacher preparation program is necessary for full teacher certification.

## Learning Outcomes

Apply current educational theories and practices to a classroom setting

Analyze children's literature for its use in the elementary, special education, or middle school classroom

Apply knowledge of the physical, emotional, intellectual, and social development theories of the learner in a school setting

Apply knowledge of the exceptionalities, learning environments, and laws as they relate to special education programs

Develop lesson plans implementing educational software for special education students

Analyze elementary and middle school mathematics at the level necessary for teaching

Construct scientific knowledge using inquiry-based techniques

Follow appropriate health, physical education, nutrition, and safety practices for special education classrooms

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Pre-Special Education

Associate in Arts

## Degree-Specific Requirements

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Complete one course from the Wellness Group:

COUN-114: Stress Management - A Personal Approach

HPE-140: Lifetime Wellness

HPE-142: Advanced First Aid

HPE-153: Nutrition

HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher

HPEA-117: Strength Training and Physical Conditioning / HPEA-217: Strength Training and Physical Conditioning II

HPEA-126: Aerobic Dance

HPEA-155: Relaxation Techniques for Stress Management

Complete 8 Humanities credits from courses in:

Art, Dance, English (except ENG-131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 8 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 8 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

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EDU-201: Introduction to Education

EDU-202: Introduction to Education Practicum

ENG-246: Introduction to Children's Literature

MATH-121: Mathematics for Elementary Teachers I

PSY-131: Introductory Psychology

PSY-256: Educational Psychology

PSY-296: The Exceptional Child

Science: Choose one lab science

Minimum Credit Hours: ..... 23.0

## Required Support Courses

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ENG-131: Introduction to College Writing

ENG-132: College Writing and Research

POLS-131: Introduction to American Government and Political Science

Complete one of the following:

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

Minimum Credit Hours: ..... 12.0

## Elective Courses

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Minimum Credit Hours: ..... 25.0

Complete as many Elective and Degree Specific credits as necessary to meet the minimum number of credit hours to receive your associate degree.

## Minimum Number Of Credits To Graduate

---

60.0 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

---

The law requires new teachers, school administrators, school psychologists, and other personnel to provide documentation of a completed criminal record check. Students who complete field experiences as part of their HFC coursework must provide a state-wide criminal record check prior to work with children in public or non-public schools.

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Pre-Special Education

Associate in Arts

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Central Michigan University  
Eastern Michigan University  
Michigan State University  
University of Detroit Mercy  
University of Michigan - Dearborn  
Wayne State University

## Career Opportunities

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Pre-Special Education program graduates who complete a bachelor degree with teacher certification may teach special education classes in many disability areas such as mental impairments, visual impairments, learning disabilities, emotional impairments, physical impairments, hearing impairments, speech impairments, and autism.

This degree requires coursework that can be transferred to most four-year teacher preparation programs without loss of credit. The elective component of this program allows students to select courses that apply toward the bachelor's degree at their intended transfer institution. Students are encouraged to consult the university guide sheets in the University Transfer, Advising, and Career Counseling Center located in Learning Resources Center.

# Pre-Surgical Technologist

Associate in Science

## Pre-Surgical Technologist

Associate in Science

## Contact

Health Sciences Division • (313) 845-9635 • Health Careers Education Ctr • Room: H-132

Debra Szymanski • (313) 317-6580 • dszyman@hfcc.edu • Health Careers Education Ctr • Room: H-133F

## Program Information

### Description

Provides students with the general academic background to be successful in their chosen health care field. For students pursuing admission to the surgical technologist program, please follow these steps:

Apply to the program. Students are strongly urged to meet with a health careers advisor within the first semester of course work.

Complete the program admission course work.

Complete the remaining program admission requirements

Confirm with Health Careers Advisor completion of steps 1-3 and placement on the qualified/wait list.

While on the qualified/wait list complete as many of the required general education and program support courses as possible.

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and Research  
College Writing and Research

or

ENG-131: Introduction to College Writing and Research  
Business and Technical Writing and Research

## Degree-Specific Requirements

Complete 6 Humanities credits from courses in:

Art, Dance, English (except ENG 131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 24 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

# Pre-Surgical Technologist

Associate in Science



Complete 6 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

- BIO-135: Microbiology for the Allied Health Sciences
- AH-100: Medical Terminology
- BIO-233: Anatomy and Physiology I
- BIO-234: Anatomy and Physiology II
- AH-105: Basic Life Support for Healthcare Providers
- HCS-103: Employment Skills for Health Careers
- HCS-124: Basic Health Assessment

Minimum Credit Hours: ..... 18.5

## Required Support Courses

- PSY-131: Introductory Psychology
- SPC-131: Fundamentals of Speaking
- HCS-131: Computers in Health Care
- ENG-131: Introduction to College Writing
- Complete one of the following
- ENG-132: College Writing and Research
- ENG-135: Business and Technical Writing and Research

Complete one of the following

- POLS-131: Introduction to American Government and Political Science
- SSC-131: Survey of the Social Sciences
- SOC-131: Introduction to Sociology

Complete one of the following

- MATH-115: College Algebra
- MATH-175: Precalculus
- MATH-180: Calculus I

Complete Three Additional Science Courses (at least one non-Biology course)

Complete Two Humanities Courses from Two Different Disciplines (subjects) from the following

- ARA (Arabic); ART-107, 108, 110, 119, 121, 122, 123, 130, 135, 172, 209, 221, 224, 225, 226, 227, or 290; CHN (Chinese);
- ITAL (Italian); FRE (French); GER (German); HUM-101, 250;
- INTR-180, 181, 182, 280; MUS-130, 132, 133, 134, 138, 139, 141, 142
- MUS-147, 232, 233, 238; SPN (Spanish), THEA-131, 135, 138, 238; VTL-235, 262, 263, 264, 266, 267

Minimum Credit Hours: ..... 38.0

## Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree.

Minimum Credit Hours: ..... 3.5

## Minimum Number Of Credits To Graduate

60.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

# Process Technology

Associate in Applied Science

## Process Technology

Associate in Applied Science

Program Code: PTECH.AAS...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Joseph Skupin • jskupin@hfcc.edu • Room: J-172

## Program Information

### Description

Prepares students for a career in process technology. A process technician/operator is a key member of a team of people responsible for planning, analyzing, and controlling the production of products from the acquisition of raw materials through the production and distribution of products to customers in a variety of process industries. These industries include, but are not limited to, chemical, food and beverage, oil exploration and production, pharmaceuticals, power generation, pulp and paper, refining and waste water treatment. This program assists students in developing skills necessary for being an effective technician/operator, such as working effectively in a team-based environment, strong oral and written communication, maintaining a safe work environment, controlling, monitoring and troubleshooting equipment, analyzing, evaluating and communicating about data, and training others.

### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

### General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

### Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

### Required Core Courses

TAFD-125: Industrial Safety Awareness with First Aid

TAFD-126: Process Industry Health, Environment, and Safety

TAPT-100: Introduction to Process Technology Practices

TAPT-110: Process Technology Equipment

TAPT-120: Introduction to Process Instrumentation

TAPT-125: Process Technology Instrumentation II

TAPT-130: Process Technology Systems

TAPT-140: Process Technology Quality

Minimum Credit Hours: .....26.0

# Process Technology

Associate in Applied Science



## Required Support Courses

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- CHEM-131: Principles of Chemistry
- ENT-141: Power Engineering I Energy Conversion Fundamentals
- ENT-145: Power Engineering II Boilers and Auxiliaries
- TAMA-110: Industrial Applications of Basic Mathematical Principles
- TAMA-120: Industrial Applications of Algebraic Principles

Complete one of the following courses:

- TAFD-115: Computer Applications for the Skilled Trades Or
- MFMT-103: Industrial Computer Application

Complete 6 credit hours from the following courses:

- ICO-191: Co-op in Industrial Technology
- ICO-192: Industrial Co-Op (2)
- ICO-193: Industrial Co-op

Complete 6 or more credit hours from one of the following areas of concentration:

### Industrial Maintenance

- TAEL 103, TAEL 195, TAFP 150, TAFP 160, TAMT 110, TAMT 115, TAMT 200, and/or TAMT 210.

### Energy Technology

- ENT 103\*, ENT 104\*, ENT 105\*, ENT 108, ENT 113, and/or ENT 119.

### Instrumentation

- TAPI 120.

### Multi-Skilled Facilities Maintenance

- MFMT 101\*\*, MFMT 102, MFMT 105\*\*, MFMT 107\*\*, and/or MFMT 172.

### Power Engineering Facilities Technology

- PEFT 180, PEFT 182, and/or PEFT 184.

Minimum Credit Hours: .....29.0

Students must complete 6 credit hours of Industrial Co-op or approved internship (may be waived for students working in the Process Industry and replaced with courses from a concentration area.)

Partial online course

\*\* 100% online course

### Elective Courses

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Minimum Credit Hours: .....0.0

### Minimum Number Of Credits To Graduate

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64.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

### Career Opportunities

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#### Job Forecast Data

Process technicians/operators will be in demand more than ever in the coming years. A shortage of process technicians/operators currently exists within the chemical, oil and gas exploration and production and power generation industries.

#### Chemical Sector

The chemical process industry represents a large diversity of industries:

- \* Plastics Materials and Synthetics
- \* Cleaning Preparations
- \* Industrial Organic Chemicals
- \* Industrial Inorganic Chemicals
- \* Miscellaneous Chemicals
- \* Paints and Allied Products
- \* Agricultural Chemicals
- \* Drug Manufacturing

#### Oil and Gas Production Sector

Qualified process technicians will be needed to meet demands for projects in production. For example, BP, the second largest oil company in the world, estimates that an additional 200 people will be needed (based on 2002 projections) to staff new deepwater projects in the Gulf of Mexico.

# Process Technology — Advanced

Certificate of Achievement

## Process Technology — Advanced

Certificate of Achievement

Program Code: PTAD.CMLT..

### Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Joseph Skupin • jskupin@hfcc.edu • Room: J-172

### Program Information

#### Description

Prepares students to understand, operate, shut down, analyze and troubleshoot industrial processes. The Process Technology program prepares students to become process technicians in industries such as: refining, petrochemical, power generation, oil and gas production, food, metals, minerals and others. Technical knowledge and skills will be gained in areas such as operating equipment, instrumentation and process systems, troubleshooting and computer applications.

Fuel, energy, water and chemical companies throughout Michigan are making the call for process industry technicians. In your process technology career, you'll check and manage the processes that make a product, working with engineers, chemists and other professionals as a team member. You may work in a lab or in all types of weather and places in scheduled shift work. In this career, you'll:

- Maintain a safe work place
- Install, operate and troubleshoot industrial machines and equipment
- Develop, analyze and implement procedures
- Work with vendors and raw material suppliers
- Prepare manuals and flow charts

Henry Ford Community College is working in partnership with the Detroit Regional Chamber and Michigan Works! agencies as part of its mission to provide skilled and qualified workers for Michigan's manufacturing industries. HFCC is a member of the Southeast Michigan Community College Consortium, nine community colleges sharing resources and developing mutual educational solutions to support the region's economic development.

## Degree Specific Requirements

### Required Core Courses

- CHEM-131: Principles of Chemistry
- ENG-131: Introduction to College Writing
- ENT-141: Power Engineering I Energy Conversion Fundamentals \*
- ENT-145: Power Engineering II Boilers and Auxiliaries \*
- TAFD-125: Industrial Safety Awareness with First Aid
- TAFD-126: Process Industry Health, Environment, and Safety
- TAMA-110: Industrial Applications of Basic Mathematical Principles
- TAMA-120: Industrial Applications of Algebraic Principles
- TAPT-100: Introduction to Process Technology Practices
- TAPT-110: Process Technology Equipment
- TAPT-120: Introduction to Process Instrumentation
- TAPT-125: Process Technology Instrumentation II
- TAPT-130: Process Technology Systems
- TAPT-140: Process Technology Quality
- Complete one of the following courses:
- MFMT-103: Industrial Computer Application \*\*
- TAFD-115: Computer Applications for the Skilled Trades
- Partial online course

\*\* 100% online course

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

46.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.



# Process Technology — Basic

Certificate of Achievement



## Process Technology — Basic

Certificate of Achievement

Program Code: PTAD.CSGL...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Joseph Skupin • jskupin@hfcc.edu • Room: J-172

## Program Information

### Description

Prepares students to understand, operate, shut down, analyze and troubleshoot industrial processes. The Process Technology program prepares students to become process technicians in industries such as: refining, petrochemical, power generation, oil and gas production, food, metals,

minerals and others. Technical knowledge and skills will be gained in areas such as operating equipment, instrumentation and process systems, troubleshooting and computer applications. Introduces students to Process Technology and Process Instrumentation and includes courses in industrial safety awareness and basic Math principles for industrial applications. The courses taken in this certificate program can be applied to the Process Technology – Advanced Certificate and the Associate in Applied Science degree.

## Degree Specific Requirements

### Required Core Courses

- ENG-131: Introduction to College Writing
- ENT-141: Power Engineering I Energy Conversion Fundamentals \*
- TAFD-125: Industrial Safety Awareness with First Aid
- TAMA-110: Industrial Applications of Basic Mathematical Principles
- TAPT-100: Introduction to Process Technology Practices
- TAPT-120: Introduction to Process Instrumentation  
Partial online course

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

16.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Radiographer

Associate in Applied Science

Program Code: RADTC.AAS...

## Contact

Health Sciences Division • (313) 845-9635 • Health Careers Education Ctr • Room: H-132

Sharon Wu • (313) 317-6595 • swu@hfcc.edu • Health Careers Education Ctr • Room: H-133C

## Program Information

### Description

Prepares students for a career in Radiologic Technology, a segment of medicine devoted to patient diagnosis through the use of ionizing radiation. Specifically, radiation is used to create images of tissues, organs, bones and vessels that comprise the human body. Clinical assignments will be held at a variety of health care settings throughout the southeastern Michigan region.

## Learning Outcomes

- Attend to the needs of patients while in the imaging department
- Execute medical imaging procedures of the thorax and abdomen
- Execute medical imaging procedures of the gastrointestinal and urinary systems
- Execute medical imaging procedures of the spine and pelvis
- Execute medical imaging procedures of the head
- Execute medical imaging procedures of upper and lower extremities
- Utilize radiographic and fluoroscopic equipment, fixed and mobile, to produce diagnostic images
- Comply with the legal and ethical radiation protection responsibilities of radiation workers
- Apply the prime technical factors to produce quality radiographic images within an acceptable exposure indicator range
- Integrate decision making skills into clinical practice
- Communicate effectively within the health care setting
- Model professional behavior within the health care setting

## Accreditation

The Joint Review Committee on Education in Radiologic Technology, JRCERT, 20 N. Wacker Drive, Suite 2850, Chicago, IL 60606-3182, (312) 704-5300, FAX: (423) 304-5304, mail@jrcert.org, accredits the program, www.jrcert.org.

JRCERT Program Effectiveness Data:

1. First time Pass Rate on ARRT National credentialing exam: Class of 2013, 96% (27/28); five year average from 2009 – 2013, 96% (127/132)
2. Graduation Rate: Class of 2013, 88% (28/32); five year average 2009 - 2013, 91% (133/147)
3. Job Placement Rate (# of graduates employed within 12 months versus # actively seeking employment): Class of 2013, 95% (21/22), five year average from 2009 – 2013, 81% (100/122)

## Admission Requirements / Eligibility

Students who meet all admission requirements are considered qualified and are admitted to the program once per year in the fall semester on a “first-qualified first-admitted” basis. Acceptance into the college does not constitute nor guarantee admission to the program. Final approval to enroll in the program comes from the Radiographer Program Director. Students who are interested in this program should select Associate of Science with a specialization in Pre-Radiographer degree, and meet with a Health Careers Advisor/ Admissions Specialist in the Welcome Center.

## Program Admission Requirements

GPA of 2.5: High school GPA of 2.5 (on a 4.0 scale) or a college GPA of at least 2.5 for the last 12 academic credits. (Note: Once a college GPA has been established, high school GPA is no longer considered.)

COMPASS Reading score of 84 or better.

COMPASS Writing Test score sufficient for placement in ENG 131. This requirement may also be fulfilled by successful completion of required developmental English courses.

Math: MATH 100 or higher with a C grade or better.

Successful completion of BIO 233-Anatomy and Physiology I, with a C grade or better.

Successful completion of AH 100-Medical Terminology, with a C grade or better.

Basic occupational experience: May be fulfilled with one of the following:

Completion of MOA 160 with a C grade or better. It is highly recommended that students take this course.

Twenty hours of observation in a radiography department at a hospital or clinic with a letter of support from a supervisor.

# Radiographer

## Associate in Applied Science

### The Program Admission Process

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It is recommended that students interested in a health career meet with a Health Careers Admissions Assistant/Advisor in the Welcome Center or (313) 845-9877 to discuss program options and then create an academic plan to qualify for the selected program.

#### Step 1 - Apply to the program

First time applicants to HFC will indicate the program by selecting an Associate of Science with a specialization in Pre-Radiography degree on the application to the college.

Current HFC students must complete a program change form indicating the new program as an Associate of Science with a specialization in Pre-Radiographer degree. College applications and change forms must be submitted to the Records and Registration Office located in the Welcome Center.

#### Step 2 - Qualifying for admission

Complete all program admission requirements.

#### Step 3 - Deliver information and track applicant status

It is the student's responsibility to make certain official transcripts are sent to: Henry Ford College, Transfer Evaluation, 5101 Evergreen Road, Dearborn, MI 48128-2407

It is the student's responsibility to make certain all necessary records are submitted to the Health Careers Admissions Assistant in the Welcome Center.

Students are responsible to monitor their program admission progress via the WebAdvisor Program Evaluation link.

#### Step 4 - Qualifying and admission

Students are qualified when all of the program's admission criteria have been satisfied.

Applicants are admitted on a "first-qualified, first-admitted" basis. Application date may be used to determine placement on the qualified list if necessary.

Students will only be contacted via the contact information provided through WebAdvisor. It is imperative that all student contact information such as phone numbers and addresses are kept current. If we are unable to contact you, we then move to the next qualified applicant.

Final approval to enroll in the program comes from the Radiographer Program Director.

Due to the number of credit hours required for program completion and the intensity of the program, students are encouraged to complete as many of the Required Support/General Education Courses as possible prior to entering the program. The first courses that a student should complete are those required for program admission followed by the other Required Support/General Education Courses.

### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

### General Education Requirements

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Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Radiographer

Associate in Applied Science

## Degree-Specific Requirements

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Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

### Required Core Courses

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- RAD-101: Introduction to Radiography
- RAD-109: Clinical Education I
- RAD-111: Principles of Radiation Protection
- RAD-114: Basic Patient Care in Radiography
- RAD-118: Radiographic Positioning
- RAD-158: Radiographic Positioning II
- RAD-161: Imaging Equipment
- RAD-171: Principles of Exposure
- RAD-181: Contrast Studies
- RAD-188: Radiographic Positioning III
- RAD-190: Clinical Education II
- RAD-194: Clinical Education III
- RAD-198: Clinical Education IV
- RAD-209: Clinical Education V
- RAD-214: Pathology and Cross Sectional Anatomy \*
- RAD-227: Radiographic Positioning IV
- RAD-267: Radiation Physics \*
- RAD-270: Image Acquisition and Display
- RAD-274: Principles of Radiation Biology
- RAD-284: Principles of Computed Tomography \*\*
- RAD-286: Registry Review
- RAD-290: Advanced Clinical Education
- RAD-296: Clinical Education VII

Minimum Credit Hours: .....53.0

## Required Support Courses

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MATH-100: Basic Technical Mathematics This course is an admission requirement for this program. Students must earn a C or better.

BIO-233: Anatomy and Physiology I This course is an admission requirement for this program. Students must earn a C or better.

AH-100: Medical Terminology This course is an admission requirement for this program. Students must earn a C or better.

BIO-234: Anatomy and Physiology II

HCS-131: Computers in Health Care

ENG-131: Introduction to College Writing

Select one of the following

ENG-132: College Writing and Research

ENG-135: Business and Technical Writing and Research

Select one of the following

POLS-131: Introduction to American Government and Political Science

SSC-131: Survey of the Social Sciences

Minimum Credit Hours: .....28.0

## Elective Courses

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### Minimum Number Of Credits To Graduate

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81.0 (Including Options/Electives)

# Radiographer

## Associate in Applied Science



### Program Requirements

#### Additional Program Requirements

##### Prior to starting the program

\* CPR certification American Heart Association, Basic Life Support, Health Care Provider. Fulfilled by taking AH 105-Basic Life Support.

\* Students must attend two Radiographer (RAD) program Spring meetings prior to acceptance into the RAD program.

##### Required for digital clinical documentation

iPhone or iPod touch

Details regarding iPhone or iPod touch will be provided at the Radiographer Program Spring meeting.

##### Health Appraisal Form

Each Radiographer student must submit an acceptable Health Appraisal Form. Copies of the form are available through the Health Careers Office.

##### Criminal Background Check and Drug Screen

Consistent with Section 20173 of the Michigan Public Health Code the requirements of clinical rotation partners, a Criminal Background Check and Drug Screen clearances will be required to participate in any clinical rotations.

##### Program Deposit

At the time of formal admission to the program, each applicant is required to pay a \$100 fee to secure a position. One month after classes start in the fall, the \$100 fee is refunded to the student if the student is still active in the program.

##### Program Duration Limits / Updates / Changes

HFC continuously attempts to improve each program, and as a result courses and requirements may be modified. Curriculum, course content and admission criteria are subject to change by action of the College faculty and administration.

##### Graduation

Graduates of the Radiographer program will be awarded an Associate in Applied Science Degree, as well as a certificate in Radiography. Graduates who intend to take the American Registry of Radiologic Technologists (ARRT) certification examination are required to meet all general and ethical qualifications of the ARRT.

A list of qualifications is available upon request at ARRT (651) 687-0048 or at [www.rrt.org](http://www.rrt.org).

##### Health Care Coverage

It is the student's responsibility to have health care coverage in place during the entire program. Hospitalization insurance can be purchased through the College.

#### Clinical Assignments

Required for digital clinical documentation: iPhone or iPod touch.

Radiology students begin a continuous twenty-two month clinical rotation during the first semester of the program. Clinical time is generally 8 a.m.-4:30 p.m. with specific days of assignment changing from semester to semester. Beginning in the third semester of training, students are assigned clinical rotations on the afternoon shift.

Listed below is a tentative breakdown of assigned clinical days for each semester.

First Semester: Fall..... Monday/Wednesday/Friday

Second Semester: Winter..... Monday/Wednesday/Friday

Third Semester: Spring ..... Tuesday/Wednesday/Thursday

Fourth Semester: Fall ..... Tuesday/Thursday/Friday

Fifth Semester: Winter ..... Tuesday/Thursday/Friday

Sixth Semester: Spring ..... Monday/Tuesday/Thursday

#### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

### Other Information

#### Occupational Exposure / Risk

In Radiologic Technology, both in school and on the job, frequent exposure to radiation, sharps, patient secretions, bodily wastes, infectious patients, electricity, equipment noise and latex is possible. These are occupational risks. Proper education in all areas and strict adherence to well established infection control guidelines, can reduce the risk to a minimum. Thorough education in all areas, including infection control procedures is an important part of the radiographer program.

Latex allergy Early recognition of sensitization to natural rubber latex (NRL) is crucial to prevent the possible occurrence of life-threatening reactions in sensitized healthcare workers. The program faculty strongly advise that students sensitized or allergic to latex consult a physician for guidance on the merits of continuing in a health care career. NRL sensitized students who choose to continue in the radiographer program are to notify the program director.

#### Registry / Certification / Licensure Exam Information

Students who intend to take the American Registry of Radiologic Technology Certification Examination are required to meet all general and ethical qualifications of the ARRT. A list of qualifications is included in the student handbook. Conviction of a crime may prevent a student from taking this examination. This material is also available upon request by calling the ARRT at (651) 687-0048 or online at [www.rrt.org](http://www.rrt.org).

### Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Central Michigan University

### Career Opportunities

#### Mission

- The Mission of the HFC Radiographer Program is to graduate competent, entry level radiologic technologists.
- HFC is dedicated to the education and enrichment of our students and community. The HFC Radiographer Program shares this value.

#### Goal 1. Graduates will be clinically competent

Learning Outcomes

Graduates will apply a common core of knowledge in:

- Patient Care;
- Radiographic Positioning;
- Equipment Operation;
- Radiation Protection;
- Image Production.

#### Goal 2. Graduates will think critically.

Learning Outcome

Graduates will integrate decision making skills into clinical practice.

#### Goal 3. Graduates will communicate effectively.

Learning Outcome

Graduates will communicate effectively.

#### Goal 4. Graduates will adopt the personal and professional behaviors of an entry level radiologic technologist.

Learning Outcome

Graduates will assume responsibility and respond positively to guidance.

#### Goal 5. Graduates will be employable and certified in sufficient number to meet the needs of the community.

#### The Profession

Radiologic Technology is a segment of medicine devoted to patient diagnosis through the use of ionizing radiation. Specifically, radiation is used to create images of tissues, organs, bones and vessels that comprise the human body. When requested by a physician, it is the radiographer who is responsible for creating these images in a safe and precise manner. The radiologist, a physician who is specifically trained in the interpretation of these images, performs diagnosis of the final image.

A major responsibility of the radiographer lies in the proper use of radiation. When not properly utilized, ionizing radiation has the potential to be damaging to both patient and user. Therefore, the radiographer is trained to understand radiation and be aware of its potential hazards. This knowledge serves to protect the patient and the radiographer, creating a safe work environment

#### Opportunities

The job market for radiographers in southeastern Michigan is becoming increasingly more competitive. Information regarding employment trends for radiographers in Michigan is available through the HFCC Placement Office (313) 845-9618.

A representative job profile for radiographer can be obtained through the Health Careers Office. Students requiring accommodation should directly contact the Assisted Learning Services at (313) 845-9617.

# Religious Studies

Associate in Arts

## Religious Studies

Associate in Arts

Program Code: RELIGSTUDIES.AA...

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

William Secrest • (313) 845-6441 • wsecrest@hfcc.edu • Liberal Arts • Room: L-104

## Program Information

### Description

Provides a broad overview of the worlds' religious traditions. Students explore the histories, beliefs, practices, and philosophies of these religions using the analytical principles of the social sciences and humanities. The program provides a foundation for transfer to universities where students can continue their studies in religion or other disciplines. The foundations of the program include courses in comparative world religions, the Bible as literature, and additional courses that address modes of religious experience, cultural myths, and symbols in religion. Additional courses provide in-depth study in either Western religious traditions of Judaism, Christianity, and Islam or the Eastern religions, particularly Hinduism and Buddhism. Additional required courses include study in philosophy, history, anthropology, and world regional geography. A variety of elective courses for the Religious Studies program consist of classes in archaeology, art, world languages, history, and the anthropology of the Middle East. Students must also complete all general education requirements that provide a foundation for writing and computer literacy.

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900

ENG-236: American Autobiography

ENG-237: American Literature Since 1900

CRJ-131: Introduction to Law Enforcement and Criminal Justice

HIST-151: American History I

HIST-152: American History II

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

CIS-221: Instructional Technology for Elementary Teachers

CIS-223: Instructional Technology for Secondary Teachers

HCS-131: Computers in Health Care

MFMT-103: Industrial Computer Application

TAFD-115: Computer Applications for Skilled Trades

CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research

or

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Complete one course from the Wellness Group:

COUN-114: Stress Management - A Personal Approach

HPE-140: Lifetime Wellness

HPE-142: Advanced First Aid

HPE-153: Nutrition

HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher

HPEA-117: Strength Training and Physical Conditioning /

HPEA-217: Strength Training and Physical Conditioning II

HPEA-126: Aerobic Dance

HPEA-155: Relaxation Techniques for Stress Management

# Religious Studies

Associate in Arts

Complete 8 Humanities credits from courses in:

Art, Dance, English (except ENG-131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 8 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 8 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

ENG-245: The Bible as Literature

WR-131: Religious Traditions in the World

Complete one of the following courses:

WR-130: Introduction to the Academic Study of Religion

WR-240: Myths and Symbols: Deciphering the Messages of Sacred Traditions

Complete one of the following courses:

WR-232: Western Religions: Judaism, Christianity, and Islam

WR-233: Eastern Religions

Minimum Credit Hours: ..... 12.0

## Required Support Courses

ANTH-131: Introduction to Anthropology

ENG-132: College Writing and Research

GEOG-132: World Regional Geography

HIST-111: Ancient World History

PHIL-133: History of Philosophy to the 18th Century

Complete one of the following courses:

POLS-131: Introduction to American Government and Political Science

SOC-131: Introduction to Sociology

SSC-131: Survey of the Social Sciences

Complete one of the following courses:

BCA-140: Software Applications

CIS-100: Introduction to Information Technology

Minimum Credit Hours: ..... 21.0

## Elective Courses

These courses are suggestions for electives:

ANTH-152: Middle Eastern Peoples and Cultures

ANTH-153: Introduction to Archaeology

ARA-131: Elementary Arabic I

ART-224: Art of Islam

GER-131: Elementary German I

HIST-112: Medieval-Early Modern World History

PHIL-131: Introduction to Logic

PHIL-135: History of Modern Philosophy

POLS-200: Introduction to Peace and Conflict Studies

SSC-131: Survey of the Social Sciences

SWC-131: Science in Western Culture

Minimum Credit Hours: ..... 27.0

Complete as many General Education, Degree Specific, and Elective credits as necessary to meet the minimum number of credit hours to receive your associate degree.

## Minimum Number Of Credits To Graduate

60.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Central Michigan University

Madonna University

Marygrove College

Concordia University in Ann Arbor

Wayne State University

University of Michigan - Dearborn



# Respiratory Therapist

Associate in Applied Science



## Respiratory Therapist

Associate in Applied Science

Program Code: RESTH.AAS...

## Contact

Health Careers • (313) 845-9877 • [healthcareers@hfcc.edu](mailto:healthcareers@hfcc.edu) • Health Careers Education Ctr • Room: H-132

Debra Szymanski • (313) 317-6580 • [dszyman@hfcc.edu](mailto:dszyman@hfcc.edu) • Health Careers Education Ctr • Room: H-133F

## Program Information

### Description

Prepare individuals for employment as entry-level Respiratory Therapists. Graduates of the program are awarded an Associate in Applied Science Degree and are eligible to apply for the National Board of Respiratory Care (NBRC) examination(s) leading to the national credential designation of Registered Respiratory Therapist (RRT) and state licensure as a Respiratory Therapist. The program provides a blend of classroom, laboratory and clinical experiences. The first year of the program involves completion of technical and support courses. Beginning with the spring semester and throughout the second year of the program, students are required to complete advanced technical courses and a wide variety of clinical rotations. Core courses are offered during the day and only in the semester as indicated in the Course Sequence. Support courses are usually offered in a variety of semesters and times.

## Learning Outcomes

Evaluate a patient's current condition and response to therapy using physical exam, laboratory data, and other clinical information

Develop a treatment plan specific to the needs of the patient

Recommend additional procedures and therapy to treat the patient, and modifications to treatment plan

Administer oxygen therapy according to standard protocol

Administer aerosolized medication therapy according to standard protocol

Administer bronchial hygiene and lung volume expansion therapy according to standard protocol

Recommend initiation, modifications, and liberation from life support

Administer mechanical ventilation and life support according to standard protocol

Educate patients and family members concerning disease processes and self-care, and the public on preventative medicine

## Accreditation

The Respiratory Therapist program is accredited by the Commission on Accreditation for

Respiratory Care (CoARC). Student/Graduate outcomes for respiratory therapy programs can be

found on the CoARC website at: <http://www.coarc.com/47.html>.

Commission on Accreditation for Respiratory Care (CoARC)

1248 Harwood Road, Bedford, Texas 76021-4244

817-283-2835, [www.coarc.com](http://www.coarc.com)

## Admission Requirements / Eligibility

Students who meet all admission requirements are considered qualified and are admitted once a year in the fall semester on a "first-qualified first admitted" basis. Acceptance into the college does not constitute nor guarantee admission to the program. Final approval to enroll in the program comes from the Respiratory Therapist Program Director. Students interested in this program are to select the program Associate in Science with a specialization in Pre-Respiratory Therapist degree and meet with the Health Careers Advisor/Admissions Specialist in the Welcome Center.

1. Minimum College GPA of 2.7 (4.0 scale) - (if student has completed at least 12 credit hours excluding lower than 100 level courses).

2. COMPASS Reading score of 84 or better.

3. COMPASS Writing score sufficient for placement in ENG 131.

This requirement may also be fulfilled by successful completion of required developmental English courses or completion of ENG 131 or its equivalent with a C grade or better.

4. MATH proficiency as demonstrated by successful completion of MATH 080 with a C grade or better OR COMPASS Algebra score of 46 or better.

5. Successful completion of BIO 233 – Anatomy and Physiology I, with a C grade or better.

6. Successful completion of AH 100 – Medical Terminology, with a C grade or better.

7. Successful completion of CHEM 131 – Principles of Chemistry, with a C grade or better.

Individuals new to the field of Respiratory Therapy may find it helpful to job shadow a Respiratory Therapist. This will give new students the ability to see first-hand the wide variety of responsibilities that are part of the profession. Contact your local Respiratory Care department to arrange for this opportunity.

### \*\* The Program Admission Process \*\*

It is recommended that students interested in a health career meet with the Health Careers Admissions Assistant/Advisor in the Welcome Center or (313)845-9877 to discuss program options and then create an academic plan to qualify for the selected program.

# Respiratory Therapist

Associate in Applied Science

## Step 1 - Apply to the program

- First time applicants to HFC will indicate the program by selecting an Associate of Science with a specialization in Pre-Respiratory Therapist degree on the application to the college.
- Current HFC students must complete a program change form indicating the new program as an Associate of Science with a specialization in Pre-Respiratory Therapist degree. College applications and change forms must be submitted to the Records and Registration Office located in the Welcome Center.

## Step 2 - Qualifying for admission

- Complete all program admission requirements.

## Step 3 - Deliver information and track applicant status

- It is the student's responsibility to make certain official transcripts are sent to: Henry Ford College, Transfer Evaluation, 5101 Evergreen Road, Dearborn, MI 48128-2407
- It is the student's responsibility to make certain all necessary records are submitted to the Admission Assistant of Health Careers in the Welcome Center.
- Students are responsible to monitor their program admission progress via the WebAdvisor Program Evaluation link.

## Step 4 - Qualifying and admission

- Students are qualified when all of the program's admission criteria have been satisfied.
  - Applicants are admitted on a "first-qualified, first-admitted" basis. Application date may be used to determine placement on the qualified list if necessary.
  - Students will only be contacted via the contact information provided through WebAdvisor. It is imperative that all student contact information such as phone numbers and addresses are kept current. If we are unable to contact you, we then will move to the next qualified applicant.
- \* Final approval to enroll in the program comes from the Respiratory Therapist Program Director.

Due to the number of credit hours required for program completion and the intensity of the program students are encouraged to complete as many of the Support and General Education classes as possible prior to entering the program. The first courses that a student should complete are those required for program admission followed by the required Support and General Education courses.

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

# Respiratory Therapist

Associate in Applied Science



## Degree-Specific Requirements

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Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

### Required Core Courses

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- RTH-100: Principles of Respiratory Care
- RTH-125: Respiratory Care Procedures I
- RTH-160: Respiratory Therapy Pharmacology
- RTH-175: Respiratory Care Procedures II
- RTH-180: RT Clinical Sciences
- RTH-195: Introduction to Clinical Therapeutics
- RTH-210: Ventilator Management I
- RTH-220: Respiratory Care in Neonates and Pediatrics
- RTH-240: Cardiopulmonary Diagnostics
- RTH-250: Advanced Mechanical Ventilation
- RTH-270: Therapeutic Clinical Management
- RTH-285: Advanced Respiratory Concepts
- RTH-293: Advanced Clinical Therapy
- RTH-292: Clinical Practicum
- RTH-294: Advanced Clinical Practicum

Minimum Credit Hours: .....51.5

### Required Support Courses

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- BIO-233: Anatomy and Physiology I This course is an admission requirement for this program. Students must earn a C or better
- AH-100: Medical Terminology This course is an admission requirement for this program. Students must earn a C or better
- CHEM-131: Principles of Chemistry This course is an admission requirement for this program. Students must earn a C or better
- BIO-234: Anatomy and Physiology II
- HCS-131: Computers in Health Care
- ENG-131: Introduction to College Writing  
Complete one of the following courses:
  - ENG-132: College Writing and Research
  - ENG-135: Business and Technical Writing and ResearchComplete one of the following
- POLS-131: Introduction to American Government and Political Science
- SSC-131: Survey of the Social Sciences

Minimum Credit Hours: .....28.0

## Elective Courses

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### Minimum Number Of Credits To Graduate

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79.5 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

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#### Prior to starting the Program

Applicants are invited and must attend informational and orientation meetings scheduled by the Program Director for Respiratory Therapy.

#### CPR--AHA Basic Life Support Healthcare Provider

American Heart Association: Evidence of CPR completed within two months of beginning the RT program by providing current AHA, BLS Healthcare Provider card.

#### Program Supplies

Students must purchase clinical uniforms and supplies including stethoscopes and electronic devices (i.e. iPod Touch) for electronic clinical documentation. Do NOT purchase in advance. Specific directions will be given during orientation meeting.

#### Program Deposit

At the time of formal admission to the program, each applicant must pay a \$100 fee to secure a place in the program. This fee is refunded only if the student is still active in the program Oct. 15 of Fall Term 1. Required core courses can be taken only after acceptance into the RTH program through the Health Careers Office.

#### Health Appraisal

Students in the RTH program are expected to meet the same physical and mental health requirements as a respiratory therapist. A representative RTH Job Profile listing these requirements, as well as environmental conditions of this occupation, is available through the Health Careers Office.

Final acceptance and continuation in the RTH program is contingent upon fulfilling and maintaining minimum program requirements and proof of the following by specified deadline dates:

Physical examination (must meet job profile requirements as determined by a physician and validated on health form)

Required titers from previous immunizations and needed immunizations from titer results, if necessary. Evidence of titers must be provided by submission of current lab copies

Tuberculosis screening

# Respiratory Therapist

Associate in Applied Science

Vaccinations as required by health care community

Health Insurance coverage throughout program

## **Criminal Background Check and Drug Screen**

Consistent with Section 20173 of the Michigan Public Health Code and the requirements of our clinical affiliates, a Criminal Background Check and Drug Screen are required for all students in the RTH program prior to beginning clinical assignments.

Students who are not cleared for clinical through the Health Appraisal, Criminal Background Check and Drug Screen will not be able to complete the RTH program.

## **Other Requirements**

All RTH courses taken at HFC must be successfully completed with a "C" or better. Students are responsible for their own transportation to clinical sites and any expenses incurred.

## **Program Duration Limits / Updates / Changes**

Program is twenty-one months in length. Students must complete all RTH courses within three years of beginning the formal program.

Each Respiratory Therapist course may be repeated only once.

The College continuously attempts to improve each program and as a result, courses and/or requirements may be modified. Curriculum, course content, and admission criteria are subject to change by action of the College faculty and administration. Contact the Health Careers Office for any current program updates or visit [www.hfcc.edu](http://www.hfcc.edu) for any current updates.

## **Requirements are Subject to Change**

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## **Other Information**

### **Occupational Exposure / Risk**

Applicants considering a career in Respiratory Therapy should be aware that during their course of study and in subsequent employment in the field, they are likely to work in situations where exposure to infectious disease is possible. This is an occupational risk for all health care workers.

Persons should not become health care workers unless they recognize and accept this risk. Proper education and strict adherence to well established infection-control guidelines, can reduce the risk to a minimum. Thorough education in infection control procedures is an important part of the respiratory therapist program of study.

## **Latex Allergies**

Early recognition of sensitization to natural rubber latex (NRL) is crucial to prevent the occurrence of life-threatening reactions in sensitized healthcare workers. The program faculty strongly advises that students sensitized or allergic to latex consult a physician for guidance on the merits of continuing in a health care career. NRL sensitized students who choose to continue in the Respiratory Therapist program must notify the program director.

## **Registry / Certification / Licensure Exam Information**

Successful completion of the program of study qualifies graduates to receive an Associate of Applied Science degree, become eligible to sit for the national accreditation exams for the designation of the Registered Respiratory Therapist (RRT) and apply for statelicensure as a respiratory therapist. The national examinations consist of the Therapist Multiple-Choice Examination (TCM) and the Clinical Simulation Examination offered by the National Board of Respiratory Care (NBRC). Information on the exam process is available through the NBRC at [www.nbrc.org](http://www.nbrc.org).

## **Transfer Information**

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Siena Heights University  
University of Michigan - Dearborn

# Respiratory Therapist

Associate in Applied Science

## Career Opportunities

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### The Profession

Respiratory therapists are health care professionals, dedicated to providing life-supporting, life-enhancing care to newborns, children, adults and the elderly. Respiratory therapists work under qualified medical direction to assess, treat, manage, provide diagnostic evaluation, educate and care for patients with deficiencies and abnormalities associated with the cardiopulmonary system.

Therapists work throughout hospitals, most often in intensive care units and emergency settings.

Therapists are a special blend of patient-centered caregivers and technically sharp, analytical thinkers. Some therapists concentrate on pulmonary rehabilitation and continuing care in patient homes or extended care facilities while others specialize in pediatric/neonatal care. The respiratory therapist may also work in areas such as cardiopulmonary diagnostics, medical equipment sales, management and education.

### Opportunities

The outlook for RTs has never been better. According to the Bureau of Labor Statistics, employment is expected to increase faster than average through the year 2022. The American Association for Respiratory Care (AARC) offers a wide variety of information on a career in Respiratory Therapy at [www.aarc.org](http://www.aarc.org).

# Restaurant Service

## Certificate of Achievement

### Restaurant Service

Certificate of Achievement

Program Code: HRSER.CSGL...

### Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Eric Gackenbach • (313) 317-1572 • epgackenbach@hfcc.edu • Bldg  
ID Retired 12/23/2014 • Room: C-163E

### Program Information

#### Description

Provides a variety of skills that are necessary to address the opportunities and challenges found within the different types of dining operations. An emphasis is placed on remarkable service from servers, managers, and restaurant owners that can lead to winning and retaining customers.

Courses in the Restaurant Service Certificate Program may be applied toward an Associate in Applied Science Degree in Culinary Arts and/or an Associate in Applied Science Degree in Hotel/Restaurant Management.

#### Accreditation

The Associate in Applied Science in Culinary Arts at HFCC is fully accredited by the Accrediting Commission of the American Culinary Federation Educational Foundation.

#### Admission Requirements / Eligibility

A score of 43 or above on the ASSET reading test, or 82 or above on the COMPASS test, or satisfactory completion of ENG 081.

### Degree Specific Requirements

#### Required Core Courses

HOSP-101: Wines of the World  
HOSP-103: Major Wines Grape Varieties  
HOSP-105: Applied Food Service Sanitation  
HOSP-107: Artisanal Cheese and Craft Beer  
HOSP-109: Banquets and Catering  
HOSP-110: Introduction to the Hospitality Industry  
HOSP-150: Dining Room Service and Operation  
HOSP-225: Dining Room Captain

Official chef's uniform required to be purchased prior to beginning class for culinary lab courses. Visit the Hospitality Department in C-163 in the Culinary Arts & Student Center building, or online at <https://culinary.hfcc.edu/> for uniform ordering information.

#### Required Support Courses

#### Elective Courses

#### Minimum Number Of Credits To Graduate

17.0 (Including Options/Electives)

### Program Requirements

#### Additional Program Requirements

Chef's uniform required for culinary lab courses.

#### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Science

Area of Study

## Contact

Math and Science Division • (313) 845-9631 • math@hfcc.edu •  
Health Careers Education Ctr • Room: H-122

Brian Kirchner • (313) 317-1527 • bkirchner@hfcc.edu • Bldg ID  
Retired 12/23/2014 • Room: S-106F

## Program Information

### Description

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Courses in this area are interdisciplinary. SCI 131-Revolutions in Science is a non-lab science

course that takes students behind the scenes of great scientific discoveries. SCI 210 and SCI 213 are

inquiry-based courses intended for students planning to major in education.

## Degree Specific Requirements

### Required Core Courses

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### Required Support Courses

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### Elective Courses

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## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Small Business Management & Entrepreneurship

Certificate of Achievement

## Small Business Management & Entrepreneurship

Certificate of Achievement

Program Code: SMBUSMGMT.CA

### Contact

Business and Computer Technology Division • (313) 845-9804 • business@hfcc.edu • Technology Bldg • Room: T-211

Corinne Asher • (313) 845-9867 • casher@hfcc.edu • Liberal Arts • Room: L-325

### Program Information

#### Description

Prepares students who are contemplating starting their own business or who currently own and operate their own business. This certificate focuses on accounting and finance, customer service, marketing, and management. Students will prepare a business plan for a business of their choice. The Small Business Management & Entrepreneurship certificate may be used as a building block towards earning an associate's degree in Management.

## Degree Specific Requirements

### Required Core Courses

BBA-131: Introduction to Business

BBA-153: Customer Service

BBA-252: Principles of Marketing

BFN-141: Personal Finance

CIS-100: Introduction to Information Technology

MGT-230: Principles of Management

MGT-231: Supervision and Teambuilding

MGT-241: Small Business Management and Entrepreneurship

Complete one of the following courses:

BAC-110: Practical Accounting Or

BAC-131: Introduction to Financial Accounting

Complete one of the following courses:

BAC-141: Computerized Accounting—Quickbooks Or

BAC-146: Computerized Accounting—Peachtree

Minimum Credit Hours: ..... 31.0

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

31.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.



# Sociology

Area of Study



## Sociology

Area of Study

## Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

Brian Smith • (313) 845-9830 • bsmith@hfcc.edu • Learning Technology Center • Room: A-219

## Program Information

### Description

Sociology examines human societies, behavior, and culture. The field focuses on major areas of social life and institutions such as the economy, family, mass media, and religion. Sociology places an emphasis on the influence of economic class, race/ethnicity, and gender in understanding how people see the world and in how people have different levels of power within a society.

SOC 131-Introduction to Sociology provides an overview of the field. Students learn to analyze how societies and groups shape the ways that people act and think. For students wishing more in-depth exploration of sociology, the College offers SOC 132-Marriage and the Family, SOC 151-Contemporary Social Problems, SOC 152-Women, Men, and Society, SOC 251-Ethnic and Racial Diversity and SOC 254/PSY 254-Social Psychology.

Sociology courses at the 100 level or above fulfill the graduation requirements for Associate in Arts and Associate of Science degrees, in Group III - Social Sciences. SOC 131-Introduction to Sociology also fulfills the General Education Outcome on American Society, Events, Institutions and Cultures.

## Degree Specific Requirements

### Required Core Courses

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### Required Support Courses

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### Elective Courses

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## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Supervision

Certificate of Achievement

## Supervision

Certificate of Achievement

Program Code: SUPERVISION.CA

## Contact

Business and Computer Technology Division • (313) 845-9804 •  
business@hfcc.edu • Technology Bldg • Room: T-211

Corinne Asher • (313) 845-9867 • casher@hfcc.edu • Liberal Arts •  
Room: L-325

## Program Information

### Description

Assists in developing or improving managerial/supervisory skills. An understanding of basic supervisory principles is helpful in guiding and directing employees in every type of organization. The Supervision certificate may be used as a building block towards earning an associate's degree in Management.

## Degree Specific Requirements

### Required Core Courses

MGT-230: Principles of Management  
MGT-231: Supervision and Teambuilding  
MGT-240: Creative Problem Solving  
BBA-131: Introduction to Business  
BBA-133: Business Behavior and Communication

Minimum Credit Hours: ..... 16.0

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

16.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Surgical Technologist

Associate in Applied Science



## Surgical Technologist

Associate in Applied Science

Program Code: SURTC.AAS...

## Contact

Health Sciences Division • (313) 845-9635 • Health Careers Education Ctr • Room: H-132

Debra Szymanski • (313) 317-6580 • dszyman@hfcc.edu • Health Careers Education Ctr • Room: H-133F

## Program Information

### Description

Prepares individuals for employment as entry-level surgical technologists. In the first year of the program, students complete the basic technical and academic support courses. The second year focuses on advanced technical courses and the clinical component of the program. There are two major clinical courses in the second year of the program. Students will spend approximately 600 hours in a variety of diverse, quality clinical settings. Core courses in the program are offered only in the semester as indicated in the Course Sequence. This program meets the Standard Program Guidelines for Clinical Case Requirements.

### Learning Outcomes

- Select the items needed to open a sterile field for an operative procedure
- Create the sterile field including, gowning staff, setting up sterile equipment, instruments, and supplies and draping the surgical patient
- Maintain the sterile field throughout the surgical procedure
- Demonstrate handling of surgical instruments and sharps during the surgical procedure
- Demonstrate intraoperative handling of sterile medications used on the OR field
- Demonstrate accurate and appropriate surgical counts
- Communicate and collaborate with OR team members to deliver effective and efficient intraoperative care to the surgical patient
- Model professional behavior within the healthcare setting

### Accreditation

The Surgical Technology Program is accredited through the Commission on Accreditation of Allied

Health Education Programs (CAAHEP) upon recommendation of the Accreditation Review Council

on Education in Surgical Technology and Surgical Assisting 303-694-9262. CAAHEP can be

reached at [www.caahep.org](http://www.caahep.org).

### Admission Requirements / Eligibility

Students who meet all admission requirements are considered qualified and are admitted to the program once per year in the fall semester on a “first qualified first admitted” basis. Acceptance into the college does not constitute nor guarantee admission to the program. Final approval to enroll in the program comes from the Surgical Technology Program Director. Students who are interested in this program should select Associate of Science with a specialization in Pre-Surgical Technology degree, and meet with a Health Careers Advisor/Admissions Specialist in the Welcome Center.

Minimum high school grade-point average of 2.5 (4.0 scale), or if student has taken college courses, a minimum of 12 academic credits, excluding less than 100 level courses, HPE activity, studio and performance classes (if applicable)

COMPASS Reading score 84 or better

BIO 135 or college equivalent with C or higher

COMPASS Writing score sufficient for placement in ENG 131.

This requirement may also be fulfilled by successful completion of required developmental English courses.

### The Program Admission Process

It is recommended that students interested in a health career meet with a Health Careers Admissions Assistant/Advisor in the Welcome Center or (313) 845-9877 to discuss program options and then create an academic plan to qualify for the selected program.

#### Step 1 - Apply to the program

First time applicants to HFC will indicate the program by selecting an Associate of Science with a specialization in Pre-Surgical Technology degree on the application to the college.

Current HFC students must complete a program change form indicating the new program as an Associate of Science with a specialization in Pre-Surgical Technology degree. College applications and change forms must be submitted to the Records and Registration Office located in the Welcome Center.

#### Step 2 – Qualifying for admission

Complete all program admission requirements.

# Surgical Technologist

Associate in Applied Science

## Step 3 - Deliver information and track applicant status

It is the student's responsibility to make certain official transcripts are sent to: Henry Ford College, Transfer Evaluation, 5101 Evergreen Road, Dearborn, MI 48128-2407

It is the student's responsibility to make certain all necessary records are submitted to the Health Careers Admissions Assistant in the Welcome Center.

Students are responsible to monitor their program admission progress via the WebAdvisor Program Evaluation link.

## Step 4 - Qualifying and admission

Students are qualified when all of the program's admission criteria have been satisfied.

Applicants are admitted on a "first-qualified, first-admitted" basis. Application date may be used to determine placement on the qualified list if necessary.

Students will only be contacted via the contact information provided through WebAdvisor. It is imperative that all student contact information such as phone numbers and addresses are kept current. If we are unable to contact you, we then will move to the next qualified applicant.

Final approval to enroll in the program comes from the Surgical Technology Program Director.

Students are encouraged to complete as many of the Required Support/General Education courses as possible prior to entering the program. The first courses that a student should complete are those required for program admission followed by the other Required Support/General Education courses.

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

ENG-235: American Literature Before 1900  
 ENG-236: American Autobiography  
 ENG-237: American Literature Since 1900  
 CRJ-131: Introduction to Law Enforcement and Criminal Justice  
 HIST-151: American History I  
 HIST-152: American History II  
 POLS-131: Introduction to American Government and Political Science  
 SOC-131: Introduction to Sociology  
 SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

ART-275: Advanced Projects  
 BCA-140: Software Applications  
 CIS-100: Introduction to Information Technology  
 CIS-221: Instructional Technology for Elementary Teachers  
 CIS-223: Instructional Technology for Secondary Teachers  
 HCS-131: Computers in Health Care  
 MFMT-103: Industrial Computer Application  
 TAFD-115: Computer Applications for Skilled Trades  
 CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

ENG-131: Introduction to College Writing and ENG-132: College Writing and Research  
 or  
 ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Fulfill the Required Core, Required Support, and/or Elective Courses for this program.

## Required Core Courses

SRG-101: Introduction to Surgical Technology  
 SRG-120: Surgical Procedures I

# Surgical Technologist

Associate in Applied Science



- SRG-140: Surgical Techniques I
- SRG-150: Surgical Techniques II
- SRG-160: Surgical Pharmacology
- SRG-209: Surgical Externship I
- SRG-220: Surgical Procedures II
- SRG-240: Issues in Surgical Technology
- SRG-290: Clinical Externship II

Minimum Credit Hours: ..... 36.0

## Required Support Courses

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- AH-100: Medical Terminology
- AH-105: Basic Life Support for Healthcare Providers
- BIO-233: Anatomy and Physiology I
- BIO-234: Anatomy and Physiology II
- HCS-103: Employment Skills for Health Careers
- HCS-124: Basic Health Assessment
- HCS-131: Computers in Health Care
- ENG-131: Introduction to College Writing

Complete one of the following

- ENG-132: College Writing and Research
- ENG-135: Business and Technical Writing and Research

Complete one of the following courses:

- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: Survey of the Social Sciences

Minimum Credit Hours: ..... 26.5

## Elective Courses

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## Minimum Number Of Credits To Graduate

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66.5 (Including Options/Electives)

## Program Requirements

### Additional Program Requirements

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#### Prior to starting the program:

Qualified students are invited and must attend an informational meeting scheduled by the Program Director for Surgical Technology.

#### Program Deposit:

At the time of formal admission to the program, each applicant is required to pay a \$100 fee to secure a place in the program. This fee is refunded only if the student is still active in the program in late October of Fall Term I. Required core courses can be taken only after acceptance into the SRG Program through the Health Careers Division.

#### Health Appraisal

Students in the SRG program must meet the same physical and mental health requirements as a surgical technologist. A representative SRG job profile listing these requirements, as well as environmental conditions of this occupation, is available through the Health Careers Office. Students requiring accommodation should directly contact the HFC Assisted Learning Services.

Final acceptance and continuation in the SRG program is contingent upon fulfilling and maintaining minimum program requirements and proof of the following by specified deadline dates:

Physical examination (must meet job profile requirements as determined by a physician and validated on health form)

Required titers from previous immunizations and needed immunizations from titer results, if necessary. Evidence of titers must be provided by submission of current lab copies

Tuberculosis screening

Vaccinations as required by health care community

Current AHA, BLS Healthcare Provider card as evidence of CPR completion. Valid through two years of the program

Health insurance coverage for the clinical aspects of the program

Drug screening and criminal background check.

#### Criminal Background Check and Drug Screen

Consistent with Section 20173 of the Michigan Public Health Code and the requirements of our clinical affiliates, a Criminal Background Check and Drug Screen are required for all students in the SRG program prior to beginning clinical assignments. The cost for test is in addition to the basic tuition and fee schedule. For questions regarding this policy, contact the Health Careers Office.

Students who are not cleared for clinical through the Health Appraisal, Criminal Background Check and Drug Screen will not be able to complete the program.

#### Other Requirements

A minimum grade of C is required in all courses for successful completion of the program.

Students are responsible for their own transportation to clinical sites and any expenses incurred.

# Surgical Technologist

Associate in Applied Science

## Program Duration Limits / Updates / Changes

Program is twenty-one months in length. Students must complete all SRG courses within three years of beginning the formal program.

The College continuously attempts to improve each program and as a result, courses and/or requirements may be modified. Curriculum, course content, and admission criteria are subject to change by action of the College faculty and administration. Contact the Health Careers Office at 313-845-9877 for any current program updates or visit [www.hfcc.edu](http://www.hfcc.edu).

## Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Occupational Exposure / Risk

Applicants considering a career in Surgical Technology should be aware that during their course of

study and in subsequent employment in the field, they are likely to work in situations where

exposure to infectious disease is possible. This is an occupational risk for all health care workers.

Persons should not become health care workers unless they recognize and accept this risk. Proper

education and strict adherence to well established infection-control guidelines can reduce the risk

to a minimum. Thorough education in infection control procedures is an important part of the

Surgical Technology program of study.

### Latex Allergies

Early recognition of sensitization to natural rubber latex (NRL) is crucial to prevent the occurrence of life-threatening reactions in sensitized healthcare workers. The program faculty strongly advises that students sensitized or allergic to latex consult a physician for guidance on the merits of continuing in a health care career. NRL sensitized students who choose to continue in the Surgical Technology program must notify the program director

### Registry / Certification / Licensure Exam Information

Graduates of the program are eligible to sit for the National Certification exam offered by the

National Board of Surgical Technology and Surgical Assisting for the designation of Certified

Surgical Technologist (CST).

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

## Career Opportunities

Surgical technologists are allied health professionals who are an integral part of the team of medical practitioners providing surgical care to patients in a variety of settings. The surgical technologist works under medical supervision to facilitate the safe and effective conduct of invasive surgical procedures. This individual works under the supervision of a surgeon to ensure that the operating room environment is safe, that equipment functions properly, and that the operative procedure is conducted under conditions that maximize patient safety.

A surgical technologist possesses expertise in the theory and application of sterile and aseptic technique and combines the knowledge of human anatomy, surgical procedures and implementation tools and technologies to facilitate a physician's performance of invasive herapeutic and diagnostic procedures. Surgical technologists work in operating and delivery rooms, emergency room facilities and the ambulatory care areas of hospitals and other medical institutions. They may also work in clinics and physicians' offices. Many surgical technologists are employed directly by surgeons and specialize in fields such as orthopedics, etc. A representative job profile for a surgical technologist can be obtained through the Health Careers Office.

Helpful qualities for surgical technologists include:

- a strong sense of responsibility
- an ability to work well with others
- emotional stability
- an ability to respond quickly
- an ability to be orderly and work quickly
- an ability to work well under stress.

## Opportunities

Demand for surgical technologists should remain strong due to the rising population of older persons, the segment of the population with the greater frequency of health care needs. Information regarding career placement and job success is available through either the Health Careers Office or the HFC Career Services Office.

# Telecommunication

Associate in Arts

## Telecommunication

Associate in Arts

Program Code: TELEC.AA...

## Contact

Communications Division • (313) 845-9624 • english@hfcc.edu • Liberal Arts • Room: L-201

Susan McGraw • (313) 845-9842 • scmccraw@hfcc.edu • Fine Arts Bldg • Room: F-129

## Program Information

### Description

Designed for the student interested in the career areas of advertising, public relations, journalism, and program production for radio, television, film, and multimedia. Both classroom academic knowledge and creative skills are combined with real-world assignments and experience so as to provide a solid foundation for the completion of a four-year mass communication degree at a transfer institution.

## Learning Outcomes

- Assess the issues relating to media literacy and standard ethical responses using conventional practices of media criticism
- Demonstrate telecommunication skills including media writing, script analysis, audio and video performance, and criticism
- Demonstrate the use of industry-standard software and hardware to produce and edit audio and video works
- Debate and describe historical and contemporary issues as they apply to the legal aspects of the telecommunication industry
- Argue and solve problems while working in a live field environment to lead a team effort in performing, producing, editing or directing a telecommunication project
- Collaborate effectively with team members in an ensemble performance or production scenario when applicable

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Degree-Specific Requirements

Complete one course from the Wellness Group:

- COUN-114: Stress Management - A Personal Approach
- HPE-140: Lifetime Wellness
- HPE-142: Advanced First Aid
- HPE-153: Nutrition
- HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher
- HPEA-117: Strength Training and Physical Conditioning / HPEA-217: Strength Training and Physical Conditioning II
- HPEA-126: Aerobic Dance
- HPEA-155: Relaxation Techniques for Stress Management

# Telecommunication

Associate in Arts

Complete 8 Humanities credits from courses in:

Art, Dance, English (except ENG-131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 8 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 8 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

## Required Core Courses

TCM-131: Introduction to Telecommunication  
 TCM-132: Film History and Criticism  
 TCM-151: Digital Audio Editing  
 TCM-157: Digital Video Editing  
 TCM-241: Media Writing  
 TCM-243: Media Performance  
 TCM-251: Audio Production  
 TCM-257: Video Production I  
 TCM-261: Broadcast Journalism

Minimum Credit Hours: .....23.0

## Required Support Courses

Complete one of the following courses:

SPC-131: Fundamentals of Speaking  
 SPC-145: Interpersonal Communication

Complete 6 credit hours of Business area course requirements from courses with the following course prefixes:\*

BAC, BBA, BCA, BCO, BEC, BFN, BLW, BMA, LGA, and/or MGT.

Minimum Credit Hours: .....9.0

## Elective Courses

These courses are suggestions for electives:

BBA-131: Introduction to Business  
 BBA-252: Principles of Marketing  
 BLW-253: Business Law and the Legal Environment

Minimum Credit Hours: .....4.0

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree.

## Minimum Number Of Credits To Graduate

60.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Davenport University  
 Lawrence Technological University  
 Siena Heights University  
 University of Michigan - Dearborn

## Career Opportunities

Management: Producer, Director, or Promotions Coordinator

Production: Writer, Director, Camera Operator, or Audio/Video Editor

Talent: Announcer, Broadcast Journalist, or Performer



# Theatre

## Associate in Arts

### Theatre

Associate in Arts

Program Code: DRTHE.AA...

### Contact

Social Science, Arts, and Fitness Division • (313) 845-9625 • social-science@hfcc.edu • Fine Arts Bldg • Room: F-140

George Popovich • (313) 845-6478 • popovich@hfcc.edu • Fine Arts Bldg • Room: F-127

### Program Information

#### Description

Provides a sound basis for understanding the theory and practice of acting, directing, or technical aspects of the theatrical arts. Offers experiences designed to prepare successful students for acceptance into prestigious acting and technical theatre schools in the United States and abroad. Within the 60 credit degree program choose one nine-credit emphasis from among acting, directing, or technical theatre.

#### Learning Outcomes

- Create research papers and reviews using writing skills and research methods in the field of Theatre Arts
- Evaluate theatre productions using standardized criteria
- Describe the historical context of theatre, including how it relates to contemporary society and culture
- Perform, direct, manage, or design a theatrical production
- Work collaboratively to produce a theatrical production
- Illustrate the specialized vocabulary within the Theatrical arts
- Apply time management skills to accomplish theatrical production tasks

#### Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

#### General Education Requirements

Complete 24 credits from:

American Society, Events, Institutions and Cultures Outcome: Complete at least one course:

- ENG-235: American Literature Before 1900
- ENG-236: American Autobiography
- ENG-237: American Literature Since 1900
- CRJ-131: Introduction to Law Enforcement and Criminal Justice
- HIST-151: American History I
- HIST-152: American History II
- POLS-131: Introduction to American Government and Political Science
- SOC-131: Introduction to Sociology
- SSC-131: A Survey of the Social Sciences

Computer Literacy Outcome: Complete at least one course:

- ART-275: Advanced Projects
- BCA-140: Software Applications
- CIS-100: Introduction to Information Technology
- CIS-221: Instructional Technology for Elementary Teachers
- CIS-223: Instructional Technology for Secondary Teachers
- HCS-131: Computers in Health Care
- MFMT-103: Industrial Computer Application
- TAFD-115: Computer Applications for Skilled Trades
- CLT-100: Computer Literacy Test

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: Take either English sequence:

- ENG-131: Introduction to College Writing and ENG-132: College Writing and Research
- or
- ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

#### Degree-Specific Requirements

Complete one course from the Wellness Group:

- COUN-114: Stress Management - A Personal Approach
- HPE-140: Lifetime Wellness
- HPE-142: Advanced First Aid
- HPE-153: Nutrition
- HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher
- HPEA-117: Strength Training and Physical Conditioning / HPEA-217: Strength Training and Physical Conditioning II
- HPEA-126: Aerobic Dance
- HPEA-155: Relaxation Techniques for Stress Management

Complete 8 Humanities credits from courses in:

Art, Dance, English (except ENG-131, 132, 135), Foreign Language, Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theatre, World Religion

Complete 8 Science and Mathematics credits from courses in:

Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Complete 8 Social Science credits from courses in:

Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

### Required Core Courses

THEA-131: Theatre Appreciation  
 THEA-132: Acting I  
 THEA-142: Theatrical Production  
 THEA-150: Stagecraft  
 THEA-238: Theatre History  
 THEA-256: Directing  
 THEA-281: Theatre Capstone Must be taken in the semester the student will graduate.

Minimum Credit Hours: ..... 19.0

### Required Support Courses

Choose one emphasis from the following: Acting, Directing, or Technical Theatre and complete 3 classes under that emphasis.

#### ACTING

THEA-144: Improvisation for the Actor  
 THEA-232: Acting II  
 THEA-260: Acting III

#### DIRECTING

THEA-134: Technical Theatre Specialties: Rotating Skills  
 THEA-144: Improvisation for the Actor  
 THEA-232: Acting II

#### TECHNICAL THEATRE

THEA-133: Technical Theatre  
 THEA-134: Technical Theatre Specialties: Rotating Skills  
 And one from the following list:  
 THEA-135: Introduction to Stage Makeup  
 THEA-138: Stage Costuming  
 THEA-255: Lighting

Minimum Credit Hours: ..... 9.0

### Elective Courses

THEA-140: One-Act Play Production  
 THEA-138: Stage Costuming  
 THEA-134: Technical Theatre Specialties: Rotating Skills  
 THEA-133: Technical Theatre

Complete one of the following that is NOT part of your emphasis:

THEA-145: Stage Combat  
 THEA-150: Stagecraft  
 THEA-232: Acting II  
 THEA-233: Advanced Technical Theatre  
 VTL-268: Film Acting I  
 THEA-242: Advanced Theatrical Production  
 THEA-255: Lighting  
 THEA-257: Pantomime and Physical Techniques for the Actor  
 THEA-259: Experimental Theatre Production  
 THEA-260: Acting III This course is specifically for students transferring to four-year schools and majoring in Theatre.  
 THEA-270: Advanced Experimental Theatre Production  
 THEA-271: Advanced One-Act Play Production  
 THEA-272: Improvisation II  
 THEA-273: Voice for the Actor  
 THEA-2901: Directed Study  
 VTL-150: Special and Visual Effects for Stage and Screen  
 VTL-235: Science Fiction, Fantasy, and Horror Films  
 VTL-262: Introduction to Motion Capture  
 VTL-263: Intermediate Motion Capture  
 VTL-264 : Advanced Motion Capture Application  
 VTL-265: Introduction to Motion Capture Body Performance for Stage  
 VTL-266: Green Screen Visual Effects for Stage and Screen  
 VTL-267: Stereoscopic Cinematography for Stage and Screen  
 VTL-268: Film Acting I

Minimum Credit Hours: ..... 3.0

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. Five (5) additional elective credits may need to be taken depending on the Degree Requirements courses that are selected.

### Minimum Number Of Credits To Graduate

60.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Eastern Michigan University  
Wayne State University  
Oakland University

# Welding Technology

Associate in Applied Science

## Welding Technology

Associate in Applied Science

Program Code: 48.0508

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Kevin Ridge • (313) 317-4136 • karidge@hfcc.edu • Technology Bldg • Room: T-160

## Program Information

### Description

The Welding Technology program prepares students for a career as a welder in the areas of maintenance, construction, manufacturing, or to further their education toward a four year degree program. The program emphasizes the development of real, hands-on welding, layout, and fitting skills with extensive exposure to welding principles and practices. In addition to covering SMAW, GMAW, and GTAW welding processes, the Welding Technology program also examines how to operate the plasma arc cutting and oxy/fuel cutting processes, and exposes students to the areas of metallurgy and weld inspection procedures.

### Learning Outcomes

1. Analyze cutting and welding processes to identify and apply appropriate safe work practices.
2. Communicate effectively within the industrial welding profession.
3. Recognize, set-up, and operate hand and power tools common to the welding and fabricating trades.
4. Interpret industrial 2-D and 3-D drawings and symbology.
5. Operate electrical and thermal cutting processes.
6. Set-up and perform welding operations with the appropriate process on various metals in different situations.
7. Analyze, in relation to specific welding processes, welding flaws, weld integrity, and appearance.
8. Develop and analyze weld test results using the American Welding Society's (AWS) standard test procedures.

## Degree Specific Requirements

All students receiving an Associate Degree are required to meet Degree-Specific Requirements AND General Education Requirements. Courses listed in the Required Core and/or Required Support Courses may also be used to fulfill Degree-Specific and General Education Requirements. Developmental courses (those numbered below 100) cannot be used to fulfill these requirements.

Attention: It is the student's responsibility to review the entire program form before making course selections for registration purposes. The College recommends that students meet with an advisor or counselor well in advance of registration deadlines and before making course selections.

## General Education Requirements

Complete 15 credits from:

American Society, Events, Institutions and Cultures Outcome: The following course is required in this program and satisfies this General Education Outcome for this program. Students who change their program will need to confirm in advance that they are completing all required courses for their specific program of study, including additional General Education courses

SOC-131: Introduction to Sociology

Computer Literacy Outcome: The following course is required in this program and satisfies this General Education Outcome for this program. Students who change their program will need to confirm in advance that they are completing all required courses for their specific program of study, including additional General Education courses:

CIS-100: Introduction to Information Technology

Critical Thinking Outcome: Complete at least one non-activity based course numbered 100 or higher

Information Literacy and Written Communication Outcome: The following courses are required in this program and satisfies this General Education Outcome for this program. Students who change their program will need to confirm in advance that they are completing all required courses for their specific program of study, including additional General Education courses

ENG-131: Introduction to College Writing and ENG-135: Business and Technical Writing and Research

## Required Core Courses

CIMWD-100: Weld Joint Design and Preparation (Safety/Joint Design)

CIMWD-101: Weld Joint Design and Preparation (Welding Code, Weld Measurement, and Hand Tools)

CIMWD-102: Weld Joint Design and Preparation (Material Cutting, Grinding, and Fabrication)

CIMWD-110: Shielded Metal Arc Welding (Flat and Horizontal Welding)

CIMWD-111: Shielded Metal Arc Welding (Vertical Welding)

CIMWD-112: Shielded Metal Arc Welding (Overhead Welding)

# Welding Technology

Associate in Applied Science



- CIMWD-120: Gas Tungsten Arc Welding (Safety and Technology)
- CIMWD-121: Gas Tungsten Arc Welding (Steel and Stainless Steel-Flat and Horizontal Welding)
- CIMWD-122: Gas Tungsten Arc Welding (Steel and Stainless Steel Vertical)
- CIMWD-123: Gas Tungsten Arc Welding (Aluminum)
- CIMWD-130: Gas Metal Arc Welding (Flat and Horizontal)
- CIMWD-131: Gas Metal Arc Welding (Vertical and Overhead Welding)
- CIMWD-140: Weld Metallurgy (Ferrous Metals)
- CIMWD-141: Weld Metallurgy (Non-Ferrous Metals)
- CIMWD-142: Weld Metallurgy (Weld Testing)
- CIMWD-210: Pipe Welding (2G and 5G Welding)
- CIMWD-211: Pipe Welding (6G Welding)
- CIMWD-212: Pipe Welding (Socket and Flange Welding)
- CIMWD-220: Tool and Die Welding (Technology)
- CIMWD-221: Tool and Die Welding (GTAW)
- CIMWD-222: Tool and Die Welding (SMAW)
- CIMWD-230: Shielded Metal Arc Welding AWS Certification (Preparation and Practice)
- CIMWD-231: Shielded Metal Arc Welding AWS Certification (Practical)
- CIMWD-240: Gas Tungsten Arc Welding AWS Certification (Preparation and Practice)
- CIMWD-241: Gas Tungsten Arc Welding AWS Certification (Practical)
- CIMWD-250: Gas Metal Arc Welding AWS Certification (Preparation and Practice)
- CIMWD-251: Gas Metal Arc Welding AWS Certification (Practical)
- CIMWD-260: Welding Fabrication Project (Planning and Design)
- CIMWD-261: Welding Fabrication Project (Fabricate)
- CIMWD-262: Welding Fabrication Project (Assembly)

Minimum Credit Hours: ..... 30.0

## Required Support Courses

- TAFD-120: Industrial Safety Awareness
- MATH-100: Basic Technical Mathematics

Minimum Credit Hours: ..... 6.0

## Elective Courses

- CIMEL-100: Intro to Basic Electricity
- CIMEL-101: Instruments
- CIMEL-102: Control Circuits and Components
- CIMEL-103: Solid State Devices
- CIMEL-104: Controls and Instrumentation—Fundamentals
- CIMEL-105: Sensors and Photoeyes
- CIMEL-106: Calibration and Loop Training
- CIMEL-107: Final Control Elements
- CIMEL-108: Introduction to PLCs
- CIMEL-109: PLC Hardware and Software
- CIMEL-110: Programming PLCs
- CIMEL-111: PLC Communication
- CIMEL-112: Introduction to Robotics
- CIMEL-113: Programming/Editing Robots
- CIMEL-114: Robot Maintenance and PM
- CIMEL-115: Error Codes and Troubleshooting
- CIMEL-116: Integration of PLCs and Robots
- Or
- CIMTA-102: Hoists and Cranes
- CIMTA-103: Rigging Awareness and Fundamentals
- CIMTA-106: Basic Mechanical Power Systems
- CIMTA-107: Flexible Drives
- CIMTA-108: Couplings and Alignment
- CIMTA-109: Bearing, Shafts, and Seals
- CIMTA-110: Brakes and Clutches
- CIMTA-111: Gears and Cams
- CIMMT-100: Intro to Machining Operations
- CIMMT-101: Measuring and Layout Tools
- CIMMT-102: Hand and Power Tools
- CIMMT-103: Power Saws and Drill Presses
- CIMMT-104: Engine Lathe Operation
- CIMMT-105: Vertical Mill Operations

Minimum Credit Hours: ..... 14.0

Students may select the electrical or mechanical track to satisfy their electives.

## Minimum Number Of Credits To Graduate

62.0 (Including Options/Electives)

# Welding Technology

Associate in Applied Science

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

## Other Information

### Occupational Exposure / Risk

What are some health and safety hazards associated with being a welder? Hazards typically fall into one of six general categories as listed below. For more information on that issue, prevention, or how to work safely with a chemical or material, click on the links where provided.

#### Biological

While it depends on the workplace itself, welders do not normally encounter biological hazards.

#### Chemical

Welding can create fumes which are a complex mixture of metallic oxides, silicates, and fluorides. Fumes are formed when metal or other materials such as flux or solvents are heated above its boiling point and its vapors condense into very fine particles (solid particulates). Welding fumes normally contain oxides of the materials being welded and of the electrodes being used. If the metal has a coating or paint, these too can decompose with the heat and become part of the fumes. Care should be taken when working near these fumes as health effects can be both immediate, or occur at a later time.

Welders also often work with and around:

- Flammable and combustible liquids.
- Compressed gases.
- Asbestos.

#### Ergonomic

Many injuries to welders are the result of strains, sprains and work-related musculoskeletal disorders (WMSDs). Welders often have to:

- Lift or move heavy objects.
- Work in awkward positions for long periods of time.
- Handle and hold heavy welding guns.
- Perform repetitive motions.

See OSH Answers document on Welding - Ergonomics for more information.

#### Physical

- Welders can be exposed to:
  - Excessive noise levels.
  - Excessive heat or cold.
  - Electromagnetic fields.
  - Laser light.
  - Radiation.

Welding arcs and flames can emit intense visible (VIS), ultraviolet (UV) and infrared (IR) radiation. Gamma- or x-rays can be emitted by inspection equipment or welding machines. Skin and eye damage such as “welder’s eye” or cataracts can result to certain types of radiation.

#### Safety

Welders often have to work:

- At heights.
- In confined spaces.
- Could experience electrical shock or electrocution.

#### Other safety hazards include:

Flying particles which can enter the eye or skin.

Cuts and stabs from sharp metal edges.

Injury from other equipment (e.g., using power tools such as grinders, chippers, drills, etc.).

Slips, trips or falls due to location or environment near the job.

Burns from hot surfaces, flames, sparks, etc.

Fires from sparks, flames or hot metals (a special situation includes when the surrounding atmosphere becomes oxygen enriched and thus easier to ignite.) Fires may also result from flashbacks or equipment failure. Please note that clothes soiled with oils or grease can burn more easily. In addition, sleeves or cuffs that are folded or rolled up can “catch” sparks and increase the risk of fire.

#### Psychological

Work demands and deadlines may contribute to stress felt on the job. In addition, some welders may be required to work shifts or extended work days which can have health effects.

# Welding Technology

## Associate in Applied Science

### Transfer Information

The College has articulation agreements and/or transfer guides to help students who want to transfer to other institutions once they have completed their studies at HFC. Articulation agreements ensure that graduates from HFC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFC. Transfer guides denote the transferability of HFC coursework toward specific degree programs at other institutions. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides to ensure the transferability of the courses they take to the institution they plan to attend. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (313-845-9612, [counseling@hfcc.edu](mailto:counseling@hfcc.edu), Learning Resource Center). Some of the institutions students enrolled in this program frequently transfer to include:

Ferris State University

### Career Opportunities

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Structural Steel Welder  
Pipe Welder  
Maintenance Welder  
Fabricator  
Welding Engineer

# Welding Technology — Advanced for Certification

Certificate of Achievement

## Welding Technology — Advanced for Certification

Certificate of Achievement

Program Code: TAEDMJFWLD.CMLT...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Kevin Ridge • (313) 317-4136 • karidge@hfcc.edu • Technology Bldg • Room: T-160

## Program Information

### Description

Develops skills necessary for people interested in becoming welders qualified in a specific welding area. Such welders are known as Certified Welders. The two primary agencies used by welders for certification are the American Society of Mechanical Engineers (ASME) and the American Welding Society (AWS). Students will perform the qualifying procedures in the college welding lab, and when completed, test pieces will be processed at a local private testing lab.

## Degree Specific Requirements

### Required Core Courses

TADV-100: Basic Print Reading  
TAFD-150: Applied Technology  
TAIM-100: Industrial Materials  
TAMA-110: Industrial Applications of Basic Mathematical Principles  
TAMJ-110: Welding Fundamentals  
TAMJ-115: Advanced Welding Techniques  
TAMJ-120: Welding: Gas Tungsten Arc Welding (GTAW) and Gas Metal Arc Welding (GMAW) Techniques  
TAMJ-125: Welding: AWS Pipe Welding  
TAMJ-145: Welding: Advanced Gas Torch Techniques  
TAMJ-230: Welding: AWS Pipe and Pressure Vessel Certification  
TAMJ-235: Welding: GTAW and GMAW Certification  
TAMJ-240: Welding: Tool and Die Welding

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

28.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.



# Welding Technology — Basic

Certificate of Achievement



## Welding Technology — Basic

Certificate of Achievement

Program Code: TAEDMJFAB.CSGL...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Kevin Ridge • (313) 317-4136 • karidge@hfcc.edu • Technology Bldg • Room: T-160

## Program Information

### Description

Focuses on the skills needed in Electric Arc Welding, MIG Welding, and Oxygen Fuel Gas Cutting. Students will learn to weld in all four positions (flat, horizontal, vertical, and overhead) using the latest technology and equipment. Upon successful completion of this certificate, the student will have the skills necessary for a job entry position in the manufacturing and service industries where they could use welding as a means to build and repair products.

## Degree Specific Requirements

### Required Core Courses

- TADV-100: Basic Print Reading
- TAMA-110: Industrial Applications of Basic Mathematical Principles
- TAMJ-110: Welding Fundamentals
- TAMJ-115: Advanced Welding Techniques
- TAMJ-145: Welding: Advanced Gas Torch Techniques

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

11.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Welding Technology — GTAW/GMAW

Certificate of Achievement

## Welding Technology — GTAW/GMAW

Certificate of Achievement

Program Code: TAEDMJGWLD.CMLT..

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Kevin Ridge • (313) 317-4136 • karidge@hfcc.edu • Technology Bldg • Room: T-160

## Program Information

### Description

Extends the skills learned in the Welding Technology — Basic Certificate of Achievement to include one of the most advanced welding techniques required in the manufacture and repair of products made from materials requiring special fabricating procedures. The skills acquired will enable the student to pursue welding jobs that require advanced knowledge and skills and that offer higher pay.

## Degree Specific Requirements

### Required Core Courses

TADV-100: Basic Print Reading

TAFD-150: Applied Technology

TAMA-110: Industrial Applications of Basic Mathematical Principles

TAMJ-110: Welding Fundamentals

TAMJ-115: Advanced Welding Techniques

TAMJ-145: Welding: Advanced Gas Torch Techniques

TAMJ-120: Welding: Gas Tungsten Arc Welding (GTAW) and Gas Metal Arc Welding (GMAW) Techniques

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

16.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Welding Technology — Tool and Die

Certificate of Achievement

## Welding Technology — Tool and Die

Certificate of Achievement

Program Code: TAEDMJTWLD.CMLT...

## Contact

Industrial Technology Division • (313) 845-9656 • technology@hfcc.edu • Technology Bldg • Room: T-172

Kevin Ridge • (313) 317-4136 • karidge@hfcc.edu • Technology Bldg • Room: T-160

## Program Information

### Description

Extends the knowledge and skill development acquired from the Welding Technologies — Basic Certificate and Welding Technology — GTAW/GMAW certificates. This certificate covers welding alloys, steels, and cast irons that are used in the tool and die industries. All manufacturing and service companies required tooling and dies that perform specific functions. These objects require special materials for their construction and require sophisticated welding procedures to ensure successful production and repair.

## Degree Specific Requirements

### Required Core Courses

TADV-100: Basic Print Reading

TAFD-150: Applied Technology

TAIM-100: Industrial Materials

TAMA-110: Industrial Applications of Basic Mathematical Principles

TAMJ-110: Welding Fundamentals

TAMJ-115: Advanced Welding Techniques

TAMJ-120: Welding: Gas Tungsten Arc Welding (GTAW) and Gas Metal Arc Welding (GMAW) Techniques

TAMJ-145: Welding: Advanced Gas Torch Techniques

TAMJ-240: Welding: Tool and Die Welding

### Required Support Courses

### Elective Courses

### Minimum Number Of Credits To Graduate

22.0 (Including Options/Electives)

## Program Requirements

### Requirements are Subject to Change

The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# World Languages

Area of Study

## World Languages

Area of Study

## Contact

Communications Division • (313) 845-9624 • english@hfcc.edu •  
Liberal Arts • Room: L-201

Lori Slaber • (313) 845-6499 • lslaber@hfcc.edu • Liberal Arts •  
Room: L-204

## Program Information

### Description

The College offers four-semester sequences in French, Modern Standard Arabic, and Spanish, a three-semester sequence in German, as well as a two-semester sequence in Mandarin Chinese and Italian. Beginning classes are designed for students with no previous experience. All courses develop not only the students' abilities with oral and written language but also their understanding of a foreign culture. Textbook-based written assignments and exercises are complimented by in-class oral practice, as well as by a variety of technologies, media, and other supplementary materials. Students also have access to HFCC's state-of-the-art World Languages Center, comprised of a Language Lab, individual study stations, satellite television, a media library, and foreign language periodicals.

Students planning to transfer to a four-year institution that requires a foreign language for graduation can fulfill that requirement at HFCC before transferring. Employees of companies that do business abroad also take these courses to enhance their professional credentials by improving their knowledge of language and culture.

### Single-semester enrichment courses

ARA 141-Eementary Conversation in Arabic

FRE 141-Eementary Conversation in French

GER 141-Eementary Conversation in German

ITAL 131-Eementary Conversation in ItalianNote: (These courses emphasize improved oral facility, increased vocabulary and introduction to the culture.)

Students who have taken courses in high school or at another college should consult with an instructor in order to determine proper placement. For further information, students should call Lori Slaber at 313-845-6499.

## Degree Specific Requirements

### Required Core Courses

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### Required Support Courses

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### Elective Courses

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## Program Requirements

### Requirements are Subject to Change

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The information represented here is for the current catalog year. If you were admitted prior to this year, please check your requirements under the Program Evaluation section of WebAdvisor.

# Courses



## **ACT-101: Fundamentals of Architecture**

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Credit Hours: ..... 4.00  
Contact Hours: ..... 5.00

An introduction to the building professions, including architecture, construction, and interior design. Utilizes a wide range of media and technology to explore various topics related to the architecture/construction industry. Covers architectural history, building codes, sketching, geometric construction, floor plans, elevations, building sections, details, residential and commercial blue print reading, estimating, space planning, and sustainability.

Prerequisites: ..... None

## **ACT-104: Community Construction Applications**

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Credit Hours: ..... 4.00  
Contact Hours: ..... 5.00

Covers the design and construction of residential projects, such as wood decks/patios, sheds, garages, or other community service-related projects. Evaluates the influence and structural characteristics of various materials along with functional, aesthetic, climatic, and cost considerations. Students participate in the actual construction of a typical project at a predetermined residential site.

Prerequisites: ..... None

## **ACT-108: Deconstruction**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Introduces green demolition concepts. Focuses on determining how to remove a building from a site while recovering the maximum amount of material. Also emphasizes conventional construction demolition practices and alternative methods of building disassembly. Covers principles of construction, deconstruction, re-use, recycling, and current trends in architectural salvage.

Prerequisites: ..... None

## **ACT-109: Residential Energy Efficiency and Sustainability**

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Credit Hours: ..... 4.00  
Contact Hours: ..... 5.00

Introduces the principles of energy consumption and the sustainable design and construction of residential structures. Focuses on evaluating the energy efficiency and sustainability of a traditionally constructed home using current design analysis software and, upon reviewing the data, recommending a new sustainable design strategy and evaluating the impact on the home's performance. Examines a variety of current and proposed energy sources with regard to residential construction, geographical location, efficiency, and sustainability. Also covers standard and sustainable construction materials, methods, and residential terminology.

Prerequisites: ..... None

## **ACT-112: Computers in Architecture**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00

Introduces the basic components of a CAD workstation. Topics include the use of network access, the Windows operating system, drive and directory structures, output, file management techniques in Windows and AutoCAD, Internet access, email, flatbed scanners, and digital cameras. Presents information related to the CAD workstation through utilizing AutoCAD.

Prerequisites: ..... None

## **ACT-116: Basic Architectural CAD**

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Credit Hours: ..... 4.00  
Contact Hours: ..... 5.00

An entry-level course presenting computer-aided drafting using AutoCAD and AutoCAD Architecture software (CAD). Emphasizes the efficient use of CAD to draw floor plans, elevations, and other related architectural details. Covers drawing and editing commands, layering, hatching, dimensioning, model and paper space, blocks, and printing. Also covers three-dimensional wall, door, window, and roof creation using AutoCAD Architecture software. ACT 101 is a recommended co-requisite.

Prerequisites: ..... None

**ACT-124: Construction Systems 1**

Credit Hours: ..... 4.00  
Contact Hours: ..... 5.00

Introduces residential construction materials and proper installation methods with reference to geographical location, cost, and material selection. Focuses on reading and working from blueprints, and working with traditional hand and power tools. Covers building layout procedures using the level and transit as well as foundation, floor, wall framing materials, and systems. Lab work includes small-scale concrete construction and rough frame construction of a wood frame house in a controlled environment. Utilizes software to research building materials and building codes.

Prerequisites: ..... None

**ACT-128: Visual Communications 1**

Credit Hours: ..... 4.00  
Contact Hours: ..... 5.00

Covers various digital presentation techniques, freehand architectural sketching, combined use of various manual and electronic drawing media, and color. Coursework explores multiple software applications including, but not limited to, AutoCAD, Google® SketchUp, Photoshop, and PowerPoint. Also discusses 3-dimensional (3-D) modeling, how to control lighting, shade and shadow, scene creation, rendering, the use of digital images for presentation displays, and the use of presentation software.

Prerequisites: ..... None

**ACT-136: Intermediate Architectural CAD**

Credit Hours: ..... 4.00  
Contact Hours: ..... 5.00

Introduces building information modeling (BIM) using Revit Architecture software, parametric software which is a complete design and documentation solution that supports all phases of design, drawing production, and schedule development for a given project. Topics include setup, drawing and editing commands, view creation, styles, dimensioning, annotation, sections, detailing, walls, doors, windows, roofs, three-dimensional (3-D) presentation, rendering, families, and printing.

Prerequisites: ..... ACT 101 and ACT 116

**ACT-150: Residential Detailing**

Credit Hours: ..... 3.00  
Contact Hours: ..... 5.00

Continues the study and drawing of residential construction documents. Emphasizes completing architectural details according to current building codes and accepted industry practice. Typical details include building sections, wall sections, door and window details, stair details, site plans, and other typical residential construction details. Utilizes AutoCAD and AutoCAD Architecture (ACA) software to complete the details.

Prerequisites: ..... ACT 101 and ACT 116

**ACT-175: Environmental Building Systems**

Credit Hours: ..... 4.00  
Contact Hours: ..... 5.00

Introduces residential environmental building systems including mechanical, electrical, and plumbing (MEP). Emphasizes sustainable design. Topics include heating systems, heat-loss calculations, supply and return air systems, water supply and disposal systems, service panels, wiring, lighting, and switch requirements. Also covers preparation of typical mechanical, electrical, and plumbing drawings using the appropriate design data and building codes. Discusses materials, fixtures, and practical shop installation as they relate to each topic area.

Prerequisites: ..... ACT 101 and ACT 116

**ACT-190: Co-op in Architecture Construction Technology**

Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a “co-op,” provides academic credit for structured employment experience. Work experience must be directly related to the student’s declared major to be eligible.

To register for this course, a student must have completed 50% of core coursework, maintain an overall GPA of 2.0 and a program specific GPA of 2.5.

Prerequisites: ..... Career Services Officer or Co-op Job Developer Permission

# Courses



## **ACT-205: Advanced Architectural CAD**

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Credit Hours: ..... 4.00  
Contact Hours: ..... 5.00

Focuses on utilizing parametric Computer-Aided Design (CAD) software. Emphasizes using the software efficiently to complete and present architectural concepts. Topics include creating and editing wall styles, manipulating door and window styles, drawing three-dimensional roof systems, extracting schedule data, generating elevation and section views, and three-dimensional presentation techniques.

Prerequisites: ..... ACT 136

## **ACT-211: Commercial Construction Systems**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 5.00

Focuses on small and large commercial building construction systems, techniques, materials and methods, including soils, foundations, structural systems, wall/cladding assemblies, roofs, and interior building systems. The investigation of building uses and the consideration of materials, equipment, and services are integral parts of this course.

Prerequisites: ..... ACT 121

## **ACT-222: Sustainable Residential Design**

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Credit Hours: ..... 4.00  
Contact Hours: ..... 5.00

Focuses on developing a residential design for an assigned site and client while following good design and sustainability principles. Includes site analysis and planning, building programming and design, and a set of presentation drawings along with a partial set of construction documents. Along with freehand sketching, course utilizes multiple software applications including, but not limited to, AutoCAD, Google® SketchUp, Photoshop, and PowerPoint.

Prerequisites: ..... ACT 128, ACT 136, and ACT 150

## **ACT-224: Construction Systems 2**

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Credit Hours: ..... 4.00  
Contact Hours: ..... 5.00

Focuses on residential construction materials with reference to geographic location, cost, and proper installation techniques. Topics include reading and evaluating blueprints, and working with traditional hand and power tools. Also covers roof shingle selection and installation, proper insulation techniques, selection and installation of interior finishes, and finish carpentry skills. Lab activities examine roofing, drywall, insulation, door and window installation, and finish flooring. Course utilizes digital resources to research materials and building codes.

Prerequisites: ..... ACT 124

## **ACT-228: Visual Communications 2**

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Credit Hours: ..... 4.00  
Contact Hours: ..... 5.00

Presents various digital rendering and animation techniques. Explores multiple software applications for rendering, animation, and graphic production including: 3-D Studio Max, Sketchup, and Photoshop. Utilizes software tools to design and assemble a basic portfolio.

Prerequisites: ..... None

## **ACT-233: Commercial Detailing**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 5.00

Explores methods used in developing and drawing details for a commercial building. Details include site, foundation, structural, and wall and roof conditions. Also covers window and door details, commercial stairs, and other typical commercial details. Completion of or concurrent enrollment in ACT 211 is strongly recommended.

Prerequisites: ..... ACT 150

**ACT-246: Construction Estimating**

Credit Hours: ..... 4.00  
Contact Hours: ..... 5.00

Covers the estimation of residential and commercial construction costs using the quantity survey method. Discusses the importance of using construction documents for accurate construction cost estimating related to material and labor. Course utilizes spreadsheet applications for preparing cost estimating forms for material, labor, and other costs. Construction experience or ACT 141 and MATH 100 are recommended.

Prerequisites: ..... ACT 110

**ACT-260: Commercial Design Development**

Credit Hours: ..... 3.00  
Contact Hours: ..... 5.00

Explores how to develop a commercial building for an assigned building site and use. Emphasizes the transition from design to construction documents. Covers site planning, design development, and a partial set of construction documents with plans, elevations, sections, and details.

Prerequisites: ..... ACT 136, ACT 220, and ACT 233

**ACT-290: Co-op in Architecture Construction Technology**

Credit Hours: ..... 2.00  
Contact Hours: ..... 9.87

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a “co-op,” provides academic credit for structured employment experience. Work experience must be directly related to the student’s declared major to be eligible.

To register for this course, a student must have completed 50% of core coursework, maintain an overall GPA of 2.0 and a program specific GPA of 2.5.

Prerequisites: ..... Permission from Career Services Officer or Job Developer in the Office of Career Services

**ACT-297: Special Topics in Architecture/Construction**

Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00

Explores selected topics as determined by the academic department and the instructor with emphasis on current Architecture/Construction trends. Specific special topic are announced together with the prerequisites each term. Course can be repeated when different topics are offered, allowing students to earn credit for each different topic. May be used toward fulfilling the specific degree requirements for an associate degree or certificate.

Prerequisites: ..... As appropriate

**ACT-298: Special Topics in Architecture/Construction**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Explores selected topics as determined by the academic department and the instructor with emphasis on current Architecture/Construction trends. The specific special topic will be announced together with the prerequisites each term. Course can be repeated when different topics are offered, allowing students to earn credit for each different topic. May be used toward fulfilling the specific degree requirements for an associate’s degree or certificate.

Prerequisites: ..... As appropriate

**AH-100: Medical Terminology**

Credit Hours: ..... 4.00  
Contact Hours: ..... 4.00

Presents health and disease medical terminology in relation to human structure and function. Introduces key elements in the formation and modification of medical terms which then is applied to specific body systems.

Note: since the textbook for this course presents at an 11th grade reading level, it is strongly recommended that a student have a minimum score of 82 on the Compass Reading Test.

Prerequisites: ..... None



# Courses



## **AH-105: Basic Life Support for Healthcare Providers**

Credit Hours: .....0.50  
Contact Hours: .....0.50

Designed for individuals working in healthcare or for health career and nursing students preparing for their clinical assignments. Course introduces the theory and skills of CPR for victims of all ages. Features ventilation with a barrier device, a bag-mask device, supplemental oxygen, use of automated external defibrillator (AED), and relief of foreign-body airway obstruction. Upon successful completion of the course, including both written and skills testing, the student receives an American Heart Association healthcare provider card (valid for two years).

Prerequisites:.....None

## **AH-116: Interpreting Medical Lab Reports**

Credit Hours: .....3.00  
Contact Hours: .....3.00

For health career and nursing students who need to recognize normal and abnormal values of the commonly used diagnostic tests. Presents values of common medical laboratory diagnostic tests and relates them to the common disorders or diseases.

Prerequisites:.....None

## **AH-120: Pharmacology for Allied Health**

Credit Hours: .....3.00  
Contact Hours: .....3.00

Primarily for students in the health career and/or nursing programs in order to establish a foundation in basic pharmacology. Course presents a rationale for understanding current drug therapy involving the common disorders of the major body systems. Administration and dosage calculations are not components of this course.

Note: AH 100-Medical Terminology or its equivalent is a highly recommended prerequisite for this course.

Prerequisites:..... ENG 131 with a C grade or better

## **AH-128: Dynamics of Dementia**

Credit Hours: .....3.00  
Contact Hours: .....3.00

Provides insight regarding the progressive disease process of dementia. Focuses on identifying those affected, and recognizing the co-morbidities associated with dementia. Includes learning strategies to approach individuals exhibiting thought or behavioral disturbances related to dementia, and the coordinating of resources with assistance of healthcare providers.

Prerequisites:.....None

## **AH-131: Medico Legal Principles for Health Care Practitioners**

Credit Hours: .....3.00  
Contact Hours: .....3.00

Provides a core foundation of the basic legal issues specific to the health care practitioner. Focuses upon laws related to the delivery of care as well as health care employment issues.

Prerequisites:.....None

## **AH-135: Fundamental Concepts of Cancer and Cancer Care**

Credit Hours: .....3.00  
Contact Hours: .....3.00

Provides a general overview of the fundamental concepts of cancer development, diagnosis, treatment, and prevention.

Note: BIO 131 or equivalent is strongly recommended as a prerequisite for this course.

Prerequisites:..... AH 100

**AH-141: Introduction to Public Health**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Provides a broad overview of the various aspects of public health in the United States. Presents applications, stakeholders, and methods of public health in a way that allows for the identification of strengths and limitations of the current model of care delivery. Also offers an overview of careers available in the area of public health.

Prerequisites: ..... None

**AH-145: Culture-Sensitive Healthcare**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Assists healthcare providers in understanding the needs, expectations, and behaviors of multicultural patient populations and the barriers to effective patient care. Focuses upon health care practices directly related to the African American, Asian, Hispanic, Middle Eastern, and Eastern European patients.

Prerequisites: ..... None

**ANTH-131: Introduction to Anthropology**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Introduces physical and cultural anthropology, archaeology, and linguistics. Topics include human evolution, race and human variation, cultural evolution, and the Neolithic. In addition, covers the anthropological concept and various facets of cultures, including religion, economics, myth, social and political organization, kinship, and culture change.

Prerequisites: ..... ENG 079 eligible

**ANTH-151: Cultures of North America**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Traces the culture and history of Native Americans from their earliest origins in the New World through the consequences of American colonization. Also addresses current issues that face Native American populations. Several cultures from various regions of North America will be studied in depth through mediums such as ethnography, biography, fiction, and film.

Prerequisites: ..... ENG 131 eligible

**ANTH-152: Middle Eastern Peoples and Cultures**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Introduces the richness and variety of Middle Eastern cultures, with an emphasis on Arab culture and the role of Islam in shaping the history and culture of the region. Arabs in the United States and in Dearborn, Michigan, are also examined, as well as American cultural perceptions of Arabs, Islam, and the Middle East.

Prerequisites: ..... ENG 092 or ENG 093 eligible

**ANTH-153: Introduction to Archaeology**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Introduces the field of archaeology and provides an overview of world prehistory. Initially explores what archaeologists do, including discussions of excavation, survey, dating techniques, artifact analysis, and cultural interpretation. Then covers what archaeologists have discovered about our ancient human ancestors beginning with our earliest human ancestors and continuing through the development of early state level societies such as those of Ancient Egypt.

Prerequisites: ..... ENG 092 or 093 eligible

# Courses



## **ANTH-154: Food, Culture, and Economy**

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Credit Hours:.....3.00

Contact Hours:.....3.00

All people have to eat to live, but food is a cultural celebration that embraces much more than human survival. Explores the rich cross-cultural variety of food traditions and the ways that food in all cultures creates group identity; marks class status and ethnicity; and involves religion, gender, economics, politics, power, and more. Students are introduced to the structure of global food systems in order to better understand the social, cultural, and political implications of US food traditions in relation to those of other cultures.

Prerequisites:.....ENG 131 eligible

## **ARA-130: Pre-Elementary Arabic**

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Credit Hours:.....3.00

Contact Hours:.....3.00

ARA 130 introduces Modern Standard Arabic: the alphabet, vocabulary, pronunciation, grammar, and listening/speaking skills. Covers basic conversational skills and provides exposure to Arabic culture and customs of polite society. NOTE: Not open to native speakers of Arabic, or students with ARA 131 credit or its equivalent.

Prerequisites:.....None

## **ARA-131: Elementary Arabic I**

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Credit Hours:.....4.00

Contact Hours:.....4.00

ARA131 teaches elementary reading, writing, speaking, and listening skills in Modern Standard Arabic, focusing on communication in a cultural context. Covers vocabulary and explores the pronunciation and grammatical principles necessary for comprehending and expressing simple ideas in both spoken and written Modern Standard Arabic.

Prerequisites:..... ARA 130 with a grade of C or better OR in one semester of high school Arabic OR instructor permission (Note: A C- grade is not transferrable and is not accepted by some programs at HFC.)

## **ARA-132: Elementary Arabic II**

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Credit Hours:.....4.00

Contact Hours:.....4.00

ARA 132 further builds reading, writing, speaking, and listening skills in Modern Standard Arabic, focusing on communication in a cultural context. Students continue to expand their knowledge of vocabulary, pronunciation and grammatical principles in order to comprehend and express everyday ideas in both spoken and written Modern Standard Arabic.

Prerequisites:.....A grade of C or better in ARA 131 or in one year of high school Arabic, or instructor permission (Note: a C- grade is not transferrable and is not accepted by some programs at HFC.)

## **ARA-141: Elementary Arabic Conversation**

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Credit Hours:.....3.00

Contact Hours:.....3.00

An enrichment course, ARA 141 is conducted almost entirely in Arabic and is designed for students wishing to expand their active vocabulary and improve their facility in speaking and listening. Class discussions are based on assigned readings, student reports, and current events. This course is transferable but is not a substitute for a basic language requirement. It may be taken concurrently with Arabic 132, 231 or 232.

Prerequisites:..... C grade or better in ARA 131 or in one year of high school Arabic, or instructor permission (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

## **ARA-231: Second-Year Arabic III**

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Credit Hours:.....4.00

Contact Hours:.....4.00

ARA 231 follows ARA 132 and is the first of two intermediate-level Modern Standard Arabic courses focusing on communication in a cultural context. Students continue to develop their reading, writing, speaking, and listening skills in Modern Standard Arabic, expand their vocabulary, and deepen their knowledge of pronunciation and grammatical principles in order to comprehend and express essential ideas in both spoken and written Modern Standard Arabic.

Prerequisites:..... A grade of C or better in ARA 132 or in two years of high school Arabic, or instructor permission (Note: a C- grade is not transferrable and is not accepted by some programs at HFC.)

**ARA-232: Second-Year Arabic IV**

Credit Hours: .....4.00  
Contact Hours: .....4.00

ARA 232 is the second of two intermediate-level Modern Standard Arabic courses focusing on communication in a cultural context. Students further develop their reading, writing, speaking, and listening skills in Modern Standard Arabic, expand their vocabulary, and deepen their knowledge of pronunciation and grammatical principles in order to comprehend and express a wide range of ideas in both spoken and written Modern Standard Arabic.

Prerequisites:..... C or better in ARA 231 or in three years of high school Arabic, or instructor permission (Note: a "C-" grade is not transferrable and is not accepted by some programs at HFC.)

**ARA-290: Study Abroad in Arabic Language and Culture**

Credit Hours: .....3.00  
Contact Hours: .....3.00

ARA 290 takes students to study Arabic language and culture in an Arabic-speaking country under the direction of a member of the Communications Division faculty. Prior to departure, students meet with the instructor for basic language and cultural lessons and to choose an individual topic of research in the area of Arabic language, literature, or culture. While overseas, students put their knowledge of language and culture into practice. On their return, students reflect on their study abroad experience, develop their topic of special interest, and present it in the form of a paper, portfolio, or project. Specific travel information will be announced at least one semester prior to departure.

Prerequisites:..... A Grade of C or better in ARA 131, 132, 231, or 232 or equivalent or Instructor permission (Note that a grade of C- is not transferrable and is not accepted by some programs at HFC.)

**ARA-295: Directed Study in Arabic**

Credit Hours: .....1.00  
Contact Hours: .....1.00

ARA 295 offers advanced study under the direction of a Communications Division faculty member. This course may be taken only after consultation with the instructor to determine the course content (a topic of special interest in the area of Arabic language, literature, or culture) and the credit hours appropriate for the chosen project. This class may be repeated once for credit.

Prerequisites:..... A grade of C or better in ARA 131, 132, 231, or 232 or equivalent (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

**ARA-296: Directed Study in Arabic**

Credit Hours: .....2.00  
Contact Hours: .....0.87

Offers advanced study under the direction of a Communications Division instructor. Course may be taken only after consultation with the instructor to determine specific course content (a topic of special interest in the area of Arabic language, literature, or culture) and the credit hours appropriate for the chosen project. This course may be repeated once for credit.

Prerequisites:..... C grade or better in ARA 131, 132, 231, or 232 or equivalent (Note: C- grade is not transferrable and is not accepted by some programs at HFC)

**ARA-297: Directed Study in Arabic**

Credit Hours: .....3.00  
Contact Hours: .....0.87

Offers advanced study under the direction of a Communications Division faculty member. Course may be taken only after consultation with the instructor to determine the course content (a topic of special interest in the area of Arabic language, literature, or culture) and the credit hours appropriate for the chosen project. This class may be repeated once for credit.

Prerequisites:..... C grade or better in ARA 131, 132, 231, or 232 or equivalent (Note: C- grade is not transferrable and not accepted by some programs at HFC).

# Courses



### ART-101: Two-Dimensional Design

Credit Hours: ..... 3.00  
 Contact Hours: ..... 6.00  
 Introduces the basic elements and principles of design, a wide range of visual problem solving strategies, and theoretical guidelines regarding two-dimensional composition. Covers a variety of art media and processes, formal art and design vocabulary, and basic color theory.  
 Prerequisites: ..... None

### ART-102: Drawing I

Credit Hours: ..... 3.00  
 Contact Hours: ..... 6.00  
 An introductory-level course focusing on the fundamental concepts and skills involved in drawing a range of subject matter from direct observation. Explores line, value, and linear perspective studies in a variety of drawing media.  
 Prerequisites: ..... None

### ART-105: Three-Dimensional Design

Credit Hours: ..... 3.00  
 Contact Hours: ..... 6.00  
 Explores design fundamentals, techniques, materials, and principles of organization as applied to three-dimensional art.  
 Prerequisites: ..... None

### ART-107: Photoshop

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 Provides an introductory-level study of digital imaging with Photoshop.  
 Prerequisites: ..... None

### ART-108: Flash

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 Offers an in-depth study of interactive design and animation using Flash.  
 Prerequisites: ..... ART 107

### ART-110: InDesign

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 Offers an in-depth study of designing for print using InDesign.  
 Prerequisites: ..... ART 107

### ART-112: Drawing II

Credit Hours: ..... 3.00  
 Contact Hours: ..... 6.00  
 Stresses drawing fundamentals through working with a variety of subject matter observed firsthand. Covers a variety of drawing media.  
 Prerequisites: ..... ART 102 with a "C" grade or better

### ART-113: Life Drawing I

Credit Hours: ..... 3.00  
 Contact Hours: ..... 6.00  
 Introduces how to draw the human figure. Discusses proportion and anatomy through direct observation, and explores a variety of media.  
 Prerequisites: ..... ART 102 or Instructor permission

**ART-115: Intermediate Perspective**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 6.00  
 Emphasizes the application of the theories of linear perspective introduced in ART 102. Discusses how theories are used to create three dimensional illusion through the use of the system of linear perspective.  
 Prerequisites: ..... ART 102

**ART-116: Painting I**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 6.00  
 Explores a broad range of traditional and contemporary approaches to painting.  
 Prerequisites: ..... ART 101 and 102 or Instructor permission

**ART-118: Watercolor I**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 6.00  
 Presents a broad range of techniques in watercolor including both transparent and opaque approaches.  
 Prerequisites: ..... ART 101 and 102

**ART-119: Art Education for the Elementary Teacher**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 A course for classroom teachers which emphasizes the integration of art into the general classroom procedures to enhance learning. Explores how to develop an understanding of the child's mental and creative growth through art, an awareness of art, and an awareness of art in its various contemporary and cultural contexts.  
 Prerequisites: ..... None

**ART-121 : Art History Survey I (Ancient to Medieval)**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 A survey of the development of the visual arts from prehistoric to the end of medieval period.  
 Prerequisites: ..... None

**ART-122: Art History Survey II**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 A continuation of ART 121 from the Renaissance through modern times. ART 121 is recommended as a prerequisite.  
 Prerequisites: ..... None

**ART-123: History of Modern Art**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 Surveys the major visual art movements, styles, trends, and influential artists and personalities of nineteenth and twentieth/twenty-first century. Also explores architecture, sculpture, painting, printmaking, graphic design, and non-traditional art forms of the post-modern era.  
 Prerequisites: ..... None

**ART-130: History of Graphic Design**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 Studies the evolution of the letter form, the emergence of type and printing, and the history of design and illustration. Also explores design through the ages and the various contexts in which it developed.  
 Prerequisites: ..... ENG 131

# Courses



### **ART-135: Art Appreciation**

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Credit Hours:.....3.00  
Contact Hours:.....3.00  
Discusses the history and development of visual arts. Explains the historic periods along with the technical information associated with each branch and throughout history. May require a field trip.  
Prerequisites:.....None

### **ART-141: Ceramics 1**

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Credit Hours:.....3.00  
Contact Hours:.....6.00  
A beginning course in ceramic materials and form. Covers various hand-building techniques, wheel throwing, basic glazing, and kiln firing.  
Prerequisites:.....None

### **ART-142: Ceramics 2**

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Credit Hours:.....3.00  
Contact Hours:.....6.00  
Emphasizes functional pots and the wheel as the primary technique of construction. Introduces the history of functional ceramics as an idea source for functional designs and includes instruction in kiln stacking and firing.  
Prerequisites:..... ART 141 or Instructor permission

### **ART-150: Introduction to Digital Photography**

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Credit Hours:.....3.00  
Contact Hours:.....6.00  
An introductory-level course on the basics of digital imaging where creativity is emphasized. Offers key concepts such as (manual) camera capture, basic file management, 'non-destructive' image processing, and printing which help foster the foundations for visual communications, new media disciplines, or a fine art practice. A student may wait until the first class meeting to make arrangements to buy/use a camera.

### **ART-165: Typography**

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Credit Hours:.....3.00  
Contact Hours:.....6.00  
Covers typography, typesetting, and layout design including history, anatomy, and use in design. Introduces Adobe Illustrator. Suggested prerequisite: ART 107 Photoshop.  
Prerequisites:..... ART 101 and 102

### **ART-172: Color Theory**

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Credit Hours:.....3.00  
Contact Hours:.....3.00  
Offers an in-depth study of the principles and applications of color. Covers subtractive and additive color systems including traditional paint and computer application.  
Prerequisites:.....ART 101 and ART107

### **ART-209: Maya**

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Credit Hours:.....3.00  
Contact Hours:.....3.00  
Offers an in-depth study of 3-D graphics using Maya. Covers modeling, surfacing, dynamics, animation, and rendering.  
Prerequisites:..... ART 107

### **ART-213: Life Drawing II**

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Credit Hours:.....3.00  
Contact Hours:.....6.00  
Provides an advanced exploration of proportion and anatomy through direct observation. Also examines a variety of media.  
Prerequisites:..... ART 113 or Instructor permission

**ART-216: Painting II**

Credit Hours: ..... 3.00  
Contact Hours: ..... 6.00

Explores a broad range of traditional and contemporary approaches to painting.

Prerequisites:.....ART 101, 102, and 116 or Instructor permission

**ART-221: Medieval Art**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Provides a comprehensive overview of medieval life, art, and architecture from the late antiquity to the late Gothic period in Europe and the Mediterranean region. Covers the flourishing art and culture of about 1000 years (400-1400 CE) including Late Roman, Early Christian, Byzantine, Romanesque, Islamic and Gothic art. Also offers multiple perspectives on the development, exchange, interaction, and influence between all these cultures, especially in the architectural design and structures. Mandatory field trip.

Prerequisites:.....None

**ART-224: Art of Islam**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Presents a comprehensive study of the history and development of Islamic art from its birth in the seventh century to the present time. Explains basic characteristics of Islamic art as experienced through major architectural monuments, painting, calligraphy, and other forms of art. Emphasizes the relationship between the theology of Islam as a faith and its arts.

Prerequisites:.....None

**ART-225: Asian Art: Art of India and Southeast Asia**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Offers a global view on art, culture, and history by exploring the major monuments, traditions, and civilizations of India, China, Japan, Korea, and Southeast Asia. Emphasizes the names of important Asian artists and historical figures, artistic terms, sites, and time periods. Covers artworks and architecture in terms of social and historical context, and its political and religious functions. Coursework also analyzes and distinguishes among various styles of art, and examines how and why certain styles are characteristic of specific times and places.

Prerequisites:.....None

**ART-226: African and Afro American Art**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Provides a broad overview of the history of visual culture in different regions of Africa. Covers different civilizations which flourished in different parts of Africa from the Ancient Egyptians in 3000 BCE to the present time. Studies different native spiritual and ritualistic beliefs along with objects associated with and used in these various rituals and involved visual materials such as masks, helmets, costumes, weapons, and other symbolic objects. Also discusses African art in the Diaspora, focusing on African artists in the Americas and the new emerging African American art in North America. Mandatory field trip to the Detroit Institute of Arts (DIA).

Prerequisites:.....None

**ART-227: History of Arab Art and Architecture**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Presents a global view of the art, architecture, culture, and history of the Arab world. Examines the history and development of Arab visual art, architecture, and culture from the early period around 500 BCE to the present time. Also explores the relationship between the artistic forms of Arab art in relation to the different religious and political factors as well as the impact of different cultures on the identity of Arab art. Mandatory field trip to the Detroit Institute of Arts (DIA).

Prerequisites:.....None



# Courses



## **ART-234: Topics in Art**

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Credit Hours:.....3.00  
Contact Hours:.....3.00

Provides special study in the area of art, organized by discipline or other criteria. This course may be taken twice for credit, six hours maximum. Specific topics and any prerequisites are listed in the current semester's class schedule or may be obtained through the departmental office.

Prerequisites:.....None

## **ART-242: Ceramics 3**

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Credit Hours:.....3.00  
Contact Hours:.....6.00

An advanced-level course stressing refinement of ceramic construction techniques and design, kiln stacking, and firing. Also offers the opportunity for individual exploration of ceramic glaze and surface possibilities.

Prerequisites:..... ART 141 and 142 or Instructor permission

## **ART-245: Interactive Design**

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Credit Hours:.....3.00  
Contact Hours:.....6.00

Explains how to use Dreamweaver and offers a review of Photoshop, HTML, and CSS. Explores how to design and produce interactive web designs using Photoshop, HTML, CSS, and Dreamweaver.

Prerequisites:..... ART107, ART165, and CIS126

## **ART-250: Intermediate Digital Photography**

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Credit Hours:.....3.00  
Contact Hours:.....6.00

Emphasizes how to refine lighting and post-production techniques. Expands on the concept of aesthetics for seeing, thinking, constructing, and manipulating various photographic forms and meanings.

Prerequisites:..... ART 151

## **ART-255: Animation Basics**

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Credit Hours:.....3.00  
Contact Hours:.....6.00

Explains how to plan and produce animations and motion graphics from conceptual storyboard through final digital output.

Prerequisites:.....ART 102, 107, and 108

## **ART-261: Intermediate Black and White Photography**

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Credit Hours:.....3.00  
Contact Hours:.....6.00

Emphasizes how to refine darkroom techniques and the aesthetics of the photographic experience.

Prerequisites:..... ART 161

## **ART-265: Illustration**

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Credit Hours:.....3.00  
Contact Hours:.....6.00

Emphasizes traditional and digital drawing and painting techniques used by illustrators to create commercial illustrations for print and digital media. Presents effective techniques when using Adobe Photoshop and Illustrator.

Prerequisites:.....ART 107, 112, and 165

## **ART-275: Advanced Projects**

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Credit Hours:.....3.00  
Contact Hours:.....6.00

Focuses on individualized, advanced projects in the student's area of concentration, one of which is for self-promotion (resume or portfolio).

Prerequisites:..... ART 245 or 265 or Instructor permission

**ART-2901: Directed Study Art History**

Credit Hours:..... 1.00

Contact Hours:..... 1.00

An individualized advanced-level course study of a topic or project under the direction of a faculty member who, together with the student, designs the format of the study or project. Must have completed the appropriate sequence of courses offered by the department. Course may be taken twice for credit, but subject matter must be different.

Prerequisites:.....

**ART-2902: Directed Study Art History**

Credit Hours:..... 2.00

Contact Hours:..... 2.00

An individualized advanced-level course study of a topic or project under the direction of a faculty member who, together with the student, designs the format of the study or project. Must have completed the appropriate sequence of courses to be offered by the department. May be taken twice for credit, and course subject must be different.

**ART-290: Study Abroad in Art History**

Credit Hours:..... 3.00

Contact Hours:..... 3.00

Offers an overseas experience to explore first hand major historical and art works in architecture, sculpture, painting, and other forms of visual arts. Also focuses on original archeological sites complemented by visits to museums, universities, and other cultural sites. Course requires travel to foreign country/countries. Prior to leaving for destination, students must meet in class on campus to receive intensive instruction on the materials of the visit. Specific travel information will be announced at least one semester prior to leaving for the country/countries.

Prerequisites:.....None

**ART-2913: Directed Study in Painting**

Credit Hours:..... 3.00

Contact Hours:..... 3.00

An individualized, advanced-level course conducted under the direction of a faculty member who, together with the student, designs the format of the study or project. Students requesting directed study will have completed the appropriate sequence of courses offered by the department.

Prerequisites:..... ART 116, ART 216, and Instructor permission

**ART-2923: Directed Study in Watercolor**

Credit Hours:..... 3.00

Contact Hours:..... 3.00

An individualized, advanced-level course study of a topic or project under the direction of a faculty member who, together with the student, designs the format of the study or project. Students requesting directed study will have completed the appropriate sequence of courses offered by the department.

Prerequisites:.....ART 101 and ART 102

**ART-2933: Directed Study in Drawing**

Credit Hours:..... 3.00

Contact Hours:..... 3.00

An individualized advance-level course under the direction of a faculty member who, together with the student, designs the format of the study or project. Students requesting directed study are required to complete the appropriate sequence of courses offered by the department.

Prerequisites:.. ART 102, ART 112, ART 113, ART 213, ART 115, and Instructor permission

# Courses



## **ART-2936: Topics in Studio Art**

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Credit Hours:.....3.00

Contact Hours:.....6.00

Provides special study in the area of studio art organized by discipline or other criteria. May be taken twice for credit, six hours maximum. Specific topics and any prerequisites are listed in the current semesters class schedule or may be obtained through the departmental office. This studio course meets six hours per week.

Prerequisites:.....None

## **ART-2953: Directed Study in Ceramics**

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Credit Hours:.....3.00

Contact Hours:.....6.00

An individualized advanced-level course study of a topic or project under the direction of a faculty member who, together with the student, designs the format of the study or project. Must have completed the appropriate sequence of courses offered by the department.

Prerequisites:.....ART 141, ART 142, and ART 242

## **ART-2973: Directed Study in Black and White Photography**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Prerequisites:.....ART 161 and ART 261

## **ASTR-131: Descriptive Astronomy**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Consists of a non-mathematical introduction to elements of the astronomical universe by means of lecture and planetarium demonstrations. Covers the major units of the universe and their interrelation. Scientific background not necessary.

Prerequisites:.....None

## **ASTR-133: Introductory Astronomy Laboratory**

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Credit Hours:.....1.00

Contact Hours:.....1.00

Emphasizes experimental work with the scientific concepts important in astronomy, including planetarium observation and computer simulations of astronomical events. This course combined with ASTR 131 provides the student with a four-hour laboratory science credit. Two hours of laboratory per week.

Prerequisites:.....None

## **ASTR-231: General Astronomy**

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Credit Hours:.....3.00

Contact Hours:.....3.00

An alternative to and not a continuation of ASTR 131 that offers a more in-depth look at astronomical concepts. Covers light, motions in the sky, gravity, the solar system, stars, galaxies, and cosmology. Recommended prerequisite: one year high-school algebra.

## **ATMS-131: Weather and Climate**

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Credit Hours:.....3.00

Contact Hours:.....3.00

A non-mathematical introduction to the behavior of the atmosphere and its causes. Topics include atmospheric structure, earth-sun relationships, heat, humidity, clouds, wind, storms, forecasting, pollution, and climate. Offers students without scientific background an interesting look into the atmosphere and weather that surround them.

Prerequisites:.....None

**AUSV-135: Shop Mathematics**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Covers basic mathematics skills specific to automotive situations as well as examining measurement aspects beginning with angle and linear measurement.

Prerequisites: ..... None

**AUTO-101: Automotive Fundamentals**

Credit Hours: ..... 4.00  
Contact Hours: ..... 4.00

Provides an introduction to the major automotive systems covered in greater detail in other automotive technology specific system classes. Explores how to perform preventive maintenance routines, such as oil changes, tire rotations on standard systems as well as on vehicles equipped with TPMS (Tire Pressure Monitoring System); brake and suspension system inspections; and how to service the cooling system. This is the only course allowed for Secondary Partnership transfer credit (4 credit hours) from approved high school programs.

Prerequisites: ..... None

**AUTO-102: Related Technical Automotive**

Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00

A course for all ASSET students focusing on the inter-workings of a Ford, Lincoln Mercury or Mazda Dealership. Covers dealer practices of writing warranty reports, work orders, and parts ordering. Introduces general preventative maintenance routines such as oil changes, cooling system service, tire service, and tire pressure monitoring system (TPMS) diagnosis.

Prerequisites: ..... None

**AUTO-105: Internal Combustion Engines**

Credit Hours: ..... 3.00  
Contact Hours: ..... 6.00

Introduces four-stroke engines by exploring principles of operation, compression ratio, piston displacement, operating tolerances, valve timing, horsepower and torque development along with adjustments, inspection, and troubleshooting procedures. Course topics help students prepare for ASE certification exams and State of Michigan licensure, but these exams/licensure are not included in this course. Laboratory activities.

Prerequisites: ..... None

**AUTO-108: Basic Automotive Electricity**

Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00

A study of basic automotive electricity theory and principles. Covers voltage, amperage, Ohm's law, accessories, and lighting as well as series and parallel circuits. Also discusses the various meters that are used in the service of automobiles. Emphasizes circuit diagnosis and troubleshooting.

Prerequisites: ..... None

**AUTO-110: Automotive Electrical Systems**

Credit Hours: ..... 3.00  
Contact Hours: ..... 6.00

A basic automotive electricity and electronics course, including the study of the fundamentals of and operation and service required for batteries, cranking motors, alternators, regulators, and certain accessories used on current-production automobiles. NOTE: Course topics and laboratory experiences help the student prepare for ASE certification and State of Michigan licensure in automotive electrical systems, but certification/license are not included in this course.

Prerequisites: ..... None

# Courses



## **AUTO-120: Automotive Fuel Management Systems**

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Credit Hours: .....2.00  
Contact Hours: .....4.00

Introduces the types of fuels and air/fuel ratio requirements of the various fuels used in current automotive engines, along with the construction and operation of fuel delivery systems. Discusses fuel pumps, fuel lines, fuel filters, and storage tanks. Fuel system types include returnable electronic fuel injection, returnless electronic fuel injection, and gasoline direct fuel injection. Also discusses elements of automotive emissions and their control, use of scan tools, PVT, 5-gas analyzer, and DSO and ASE performance tests.

Prerequisites:.....None

## **AUTO-131: Automotive Ignition Systems**

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Credit Hours: .....2.00  
Contact Hours: .....2.00

An intermediate-level course covering the operating principles, construction, troubleshooting and maintenance of units of the automotive ignition system, including distributors, coils, electronic controls and advance mechanisms. Studies ignition timing, wiring, and ignition malfunctions as well as electronic ignition systems and ignition-related emission controls.

Prerequisites:.....None

## **AUTO-132: Computer Ignition Systems**

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Credit Hours: .....2.00  
Contact Hours: .....2.00

An intermediate-level course on computer-controlled ignition systems. Studies systems currently in use as well as newer systems available in the future. Laboratory activities.

Prerequisites:.....AUTO 131

## **AUTO-140: Automotive Transmissions Systems**

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Credit Hours: .....3.00  
Contact Hours: .....6.00

Covers both automatic and manually shifted transmissions and transaxles. Emphasizes the operating principles, construction, adjustments, troubleshooting, and maintenance of both types of transmissions. Also examines clutches, drivelines, rear axles, and differential units.

Prerequisites:.....None

## **AUTO-142: Electronically Controlled Transmission/Transaxles**

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Credit Hours: .....2.00  
Contact Hours: .....2.00

Delves deeper into topics covered in AUTO 140 with additional experiences in the service and repair operations related to the current electronically controlled transaxle units. Emphasizes electronic control systems.

Prerequisites:.....AUTO 140 or Instructor permission

## **AUTO-145: Manual Transmissions and Transaxles**

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Credit Hours: .....4.00  
Contact Hours: .....4.00

Explores the theory of operation, construction, diagnosis, maintenance, and service of automobile manual transmissions, transaxles, and clutches. Emphasizes how to disassemble, inspect, and measure various transmissions.

Prerequisites:.....None

**AUTO-150: Automotive Diagnosis and Engine Evaluation**

Credit Hours: .....2.00  
Contact Hours: .....4.00

An advanced-level course in the application of diagnosing, locating, and correcting trouble encountered in automotive service, using various types of testing equipment. Engine diagnosis includes variable cam timing and variable displacement engine systems. Electrical diagnosis includes computer-controlled charging systems, battery, and starting systems, including one-touch and remote-start systems. Fuel system diagnosis includes pressure and injector tests using active commands and relative flow analysis. Coursework also explores various common problems that occur in the servicing of the modern automobile.

Prerequisites:..... AUTO 100, AUTO 110, AUTO 120, or Instructor permission

**AUTO-160: Automotive Chassis Units**

Credit Hours: .....2.00  
Contact Hours: .....4.00

A study of the construction, operation, and maintenance of the various chassis units. Examines steering, suspension systems, and alignment as well as disc and drum braking systems.

Prerequisites:.....None

**AUTO-162: Antilock Brake Systems**

Credit Hours: .....3.00  
Contact Hours: .....4.00

Covers the theory and operation of Antilock Brake Systems (ABS) and traction control systems. Includes the design, construction, and types of ABS braking systems. Diagnostic techniques, troubleshooting, and repair of ABS, along with service techniques and hands-on experiences are an integral component of the coursework.

Prerequisites:.....AUTO 160

**AUTO-165: Electronic Steering and Suspension**

Credit Hours: .....4.00  
Contact Hours: .....4.00

Introduces the theory and operation of electronic steering and electronic or active suspension systems. Also covers theory and operation of steering and suspension multiplexing, diagnosis and repair procedures, and alignment concepts. Lab activities are an integral component of the coursework.

Prerequisites:.....AUTO 160

**AUTO-167: Brake Clinic**

Credit Hours: .....2.00  
Contact Hours: .....2.00

Reviews braking systems, including introduction to anti-lock braking systems (ABS), as well as diagnosis and troubleshooting experiences. Recommend prerequisite of AUTO 160.

Prerequisites:.....None

**AUTO-181: Technical Automotive Welding**

Credit Hours: .....4.00  
Contact Hours: .....4.00

An entry-level welding course in electric welding processes and cutting processes relating to the repair and maintenance of the automobile.

Prerequisites:.....None

**AUTO-187: Automotive Engine Tune-up**

Credit Hours: .....2.00  
Contact Hours: .....2.00

Explains how to perform engine tune-up and maintenance procedures. Discusses ignition system operation along with basic computer engine control. Devotes laboratory time to performing actual on-car procedures using appropriate test equipment.

Prerequisites:.....None

# Courses



### AUTO-190: Co-op in Automotive Technology

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a “co-op” provides academic credit for structured employment experience. Work experience must be directly related to the student’s declared major to be eligible.

To register for this course, a student must have completed 50% of core coursework, maintain an overall GPA of 2.0 and a program specific GPA of 2.5.

### AUTO-191: Automotive Service Co-op

Credit Hours:..... 2.00  
Contact Hours:..... 21.20

Designed to offer practical work experience within the Automotive Technology and Service field through participation in a supervised cooperative education program. This course integrates work experience with classroom and Lab instruction.

Prerequisites:..... Requires permission from ASSET Program Coordinator

### AUTO-192: Automotive Service Co-op

Credit Hours:..... 2.00  
Contact Hours:..... 21.20

Designed to offer practical work experience within the Automotive Technology and Service field through participation in a supervised cooperative education program. This course integrates work experience with classroom and lab instruction.

Prerequisites:..... Requires permission of ASSET Program Coordinator

### AUTO-215: Automotive Engine Dynamometer

Credit Hours:..... 2.00  
Contact Hours:..... 2.00

An advanced-level course in the purpose, construction, and operation of the automotive engine dynamometer. Presents how to conduct engine tests of horsepower and torque, and covers test cell setup of various sensor types and adaptation.

Prerequisites:.... AUTO 105, AUTO 120, and AUTO 131 or Instructor permission

### AUTO-217: Automotive Alignment Clinic

Credit Hours:..... 2.00  
Contact Hours:..... 2.00

Examines the types of front and rear suspension systems used on today’s vehicles. Emphasizes the inspection, repair, and alignment of a variety of suspension systems.

Prerequisites:.....None

### AUTO-224: Automotive Air Conditioning

Credit Hours:..... 2.00  
Contact Hours:..... 2.00

Studies automotive air conditioning systems, including components, functions, and types of service equipment. Also discusses safety protocols and environmental regulations.

Prerequisites:.....None

### AUTO-225: Automotive Air Conditioning

Credit Hours:..... 2.00  
Contact Hours:..... 2.00

A beginning course covering basic refrigeration and automotive heating, ventilation, air management, and air conditioning systems. Emphasizes identification of systems, diagnosis, repair, and responsible handling of common automotive refrigerants.

Prerequisites:.....None

**AUTO-227: Automotive Air Conditioning Clinic**

Credit Hours: .....2.00  
Contact Hours: .....2.00

Covers automotive air conditioning systems using extensive laboratory activities. Focuses on electronic controls, refrigeration components, and cooling system performance as it applies to the proper diagnostics and repairs of the automotive HVAC system. Covers more controls and auto temp than AUTO 225. Recommended prerequisite AUTO 225.

**AUTO-230: Automotive Diesel Principles**

Credit Hours: .....2.00  
Contact Hours: .....2.00

Explains the operating principles of the four-stroke diesel engine used in the automobile, including the construction, service, and diagnosis of the various engine systems. Laboratory activities.

Prerequisites:.....AUTO 105 or Instructor permission

**AUTO-231: Diesel Engine Performance and Diagnosis**

Credit Hours: .....4.00  
Contact Hours: .....4.13

Offers a comprehensive overview of the operating principles of the diesel engine, including the construction, service, and diagnosis of the various engine systems and sub-systems. Covers the latest technological advancements in electronic fuel delivery systems, their diagnosis, and service along with the most recent advances in diesel fuel and Bio-diesel technology. Extensive laboratory activities.

Prerequisites:.....None

**AUTO-237: Computerized Engine/Vehicle Emission Control**

Credit Hours: .....2.00  
Contact Hours: .....2.00

Explains the operating principles, diagnosis, and laboratory testing of computer controlled fuel management systems. Emphasizes diagnosis and testing with hand-held scanners and on-board digital fault systems. Topics include sensor, actuator, and computer functions in maintaining catalyst stoichiometry. Also covers state test procedures and five-gas analysis as related to computer control. Laboratory activities.

Prerequisites:.....None

**AUTO-247: Automotive Emission Controls**

Credit Hours: .....2.00  
Contact Hours: .....2.00

Explains the operating principles, diagnosis, and laboratory testing of traditional emission control systems. Topics include positive crankcase ventilation, timing control systems, exhaust gas recirculation, air injection, and two-and three-way catalysts. Also covers tune-up, five-gas analysis, and oscilloscope diagnosis on appropriate vehicle systems.

Prerequisites:.....None

**AUTO-260: Alternative Automotive Propulsion Systems**

Credit Hours: .....3.00  
Contact Hours: .....4.00

An intermediate-level course covering alternative automotive propulsion systems that are presently being developed for the automobile transportation industry. Includes theory of operation and service of alternative propulsion systems, with emphasis on safety issues and concerns regarding the servicing of these systems. Also covers hybrid systems (both series and parallel), plug-in hybrids, electric vehicles including battery types, fuel cell vehicles, hydrogen-ICE vehicles, alternative fuels and flex fuel vehicles, and supplemental assist vehicles (capacitive, hydraulic, and inertial units).

Prerequisites:.. High School Chemistry or equivalent (recommended)  
High School Algebra I or equivalent (recommended)



# Courses



## **AUTO-267: Small Engines**

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Credit Hours:.....1.00

Contact Hours:.....1.00

Covers two-stroke and four-stroke cycle engines. Examines maintenance issues, diagnosing, testing, and repair of a small engine's ignition, fuel, governor, and mechanical systems.

Prerequisites:.....None

## **AUTO-287: Advanced Automotive Tune-up**

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Credit Hours:.....1.00

Contact Hours:.....1.00

Covers operating principles of electronic ignition systems. Topics include high energy systems, control modules, waste spark ignition, and all related ignition components. Diagnosis and testing utilize oscilloscope patterns and hand-held scanners. Also covers performance tuning, special problems, and low-emission tune-ups. Laboratory activities.

Prerequisites:.....None

## **AUTO-290: Co-op in Automotive Technology**

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Credit Hours:.....2.00

Contact Hours:.....9.87

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a "co-op," provides academic credit for structured employment experience. Work experience must be directly related to the student's declared major to be eligible.

To register for this course, a student must have completed 50% of core coursework, maintain an overall GPA of 2.0 and a program specific GPA of 2.5.

Prerequisites:.....Permission from Career Services Officer or Job Developer in the Office of Career Services

## **AUTO-291: Automotive Service Co-op**

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Credit Hours:.....2.00

Contact Hours:.....21.20

Designed to offer practical work experience within the Automotive Technology and Service field through participation in a supervised cooperative education program. This course integrates work experience with classroom and Lab instruction

Prerequisites:.....Requires permission from the ASSET Program Coordinator

## **AUTO-292: Automotive Service Co-op**

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Credit Hours:.....2.00

Contact Hours:.....21.20

Offers practical work experience within the automotive technology and service field through participation in a supervised cooperative education program. Integrates work experience with classroom and lab instruction.

Prerequisites:.....ASSET Program Coordinator permission

## **AUTO-293: Automotive Technology-Service Experience Laboratory I**

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Credit Hours:.....4.00

Contact Hours:.....8.13

Provides real world work experiences and develops entry-level skills in diagnosis and repair of basic engine service, basic electrical, brake systems, suspension systems, and steering systems. Also covers general preventative maintenance procedures such as oil changes and tire rotation. Laboratory activities.

Prerequisites:..... AUTO 105, AUTO 110, and AUTO 160; or Department permission

**AUTO-294: Automotive Technology-Service Experience Laboratory II**

Credit Hours:.....4.00  
Contact Hours:.....8.13

Explores diagnosis and repair of major engine service, electrical/electronic systems, fuel/emission systems, ignition/engine control systems, ABS/traction control systems, active suspension systems, manual transmission, automatic transmission, driveline, and HVAC systems.

Prerequisites:.....AUTO 105, AUTO 110, AUTO 120, AUTO 150, and AUTO 160; or Department permission

**AUTO-297: Special Topics in Automotive Technology**

Credit Hours:.....1.00  
Contact Hours:.....1.00

This course explores selected topics as determined by the academic department and the instructor with emphasis on current automotive technology trends. Specific special topics are announced together with the prerequisites each term. The student can repeat the course when different topics are offered, earning credit for each different topic. This course may be used toward fulfilling the specific degree requirements for an associate degree or certificate.

Prerequisites:..... As appropriate

**AUTO-298: Special Topics in Automotive Technology**

Credit Hours:.....2.00  
Contact Hours:.....2.00

This course explores selected topics as determined by the academic department and the instructor with emphasis on current automotive technology trends. Specific special topics are announced together with the prerequisites each term. The student can repeat the course when different topics are offered, earning credit for each different topic. This course may be used toward fulfilling the specific degree requirements for an associate degree or certificate.

Prerequisites:..... As appropriate

**BAC-110: Practical Accounting**

Credit Hours:.....4.00  
Contact Hours:.....4.00

Offers practical knowledge of bookkeeping principles, including small-business accounting practices. Introduces the accounting cycle, the specialized journals employed by merchandising firms, and payroll accounting.

Prerequisites:.....  
MATH 074 with a C grade or better (or a Score of 39 on Pre-Algebra COMPASS test) and Reading Score of 82 on COMPASS test

**BAC-112: Bookkeeping**

Credit Hours:.....4.00  
Contact Hours:.....4.00

Covers such topics as basic accounting and financial record keeping with an emphasis on small businesses, adjusting entries, correcting entries, payroll, depreciation, and inventory. Emphasizes how to prepare for the Certified Bookkeeper exams offered by the American Institute of Professional Bookkeepers (AIPB). NOTE: Course topics help students prepare for the AIPB exams, but the exams are not included in this course.

Prerequisites:BAC 110 or BAC 131 - with a C grade or better in either course

**BAC-131: Introduction to Financial Accounting**

Credit Hours:.....4.00  
Contact Hours:.....4.00

Introduces basic financial accounting principles including the accounting cycle; merchandise accounting; income, asset, and liability measurements; and preparation and evaluation of financial statements.

Prerequisites:... MATH 074 with a C grade or better (or score of 39 on Pre-Algebra Compass Test) and reading score of 82 on Compass Test.

# Courses



## **BAC-132: Introduction to Managerial Accounting**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

Builds on content presented in BAC 131. Covers in-depth financial statement analysis as well as managerial accounting. Also examines cost behavior, cost-volume profit analysis, business planning and accounting controls, and how accounting information is used in managerial decision-making.

Prerequisites: ..... BAC 131 with a C grade or better

## **BAC-141: Computerized Accounting—Quickbooks**

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Credit Hours: ..... 2.00

Contact Hours: ..... 2.00

Introduces the QuickBooks computerized-accounting software package. Covers how to design a company's accounting system for financial recordkeeping and how to enter data for the general journal, special journals, accounts receivable, accounts payable, payroll, and inventory.

Prerequisites: BAC 110 with a C grade or better OR BAC 131 with a C grade or better OR Instructor permission

## **BAC-146: Computerized Accounting—Peachtree**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Introduces the Peachtree computerized-accounting software package. Discusses how to design a company's accounting system for financial recordkeeping and how to enter data for the general journal, special journals, accounts receivables, accounts payable, payroll, and inventory.

Prerequisites: ..... BAC 131 with a C grade or better OR Instructor permission

## **BAC-231: Asset Accounting**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

Provides a detailed study of specialized phases of accounting such as the treatment of cash and temporary investments, receivables, inventories, investments, plant and equipment, intangibles, deferred charges, liabilities, and financial statements.

Prerequisites: ..... BAC 132 with a C grade or better

## **BAC-234: Equity Accounting**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

Offers a detailed study of specialized phases of equity accounting such as the treatment, disclosure, and analysis of debts, income-tax deferrals, treasury stock, revenues, pensions, earnings, dividends, leases, investments, and changes in financial position.

Prerequisites: ..... BAC 231 with a C grade or better OR Instructor permission

## **BAC-235: Tax Accounting**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Examines the basic application and rationale of the federal income tax law and provides training through specific problem assignments. Emphasizes tax preparation for individuals.

Prerequisites: ..... BAC 131 with a C grade or better

## **BAC-262: Cost Accounting**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Explores the process by which companies control and plan the costs of doing business.

Prerequisites: ..... BAC 132 with a C grade or better

**BBA-110: Business Language Skills**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 Emphasizes language skills that are commonly applied to documents constructed or edited in the business environment. Covers business grammar, proofreading skills, and parts of speech in proper context.  
 Prerequisites: ..... Eligibility for ENG 081

**BBA-131: Introduction to Business**

Credit Hours: ..... 4.00  
 Contact Hours: ..... 4.00  
 Presents an integrated examination of the American business system and the operations of business organizations. Covers theories of management and their application, production, operations, marketing, and financial management of firms.  
 Prerequisites: ..... None

**BBA-133: Business Behavior and Communication**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 Introduces the basics of appropriate behavior and communication in a business environment. Discusses personal, interpersonal, and group behaviors as well as etiquette, culture and gender issues, interview skills, and effective problem solving techniques. Also examines how to use various communication styles in interactions with superiors, peers, subordinates, and clients.

**BBA-153: Customer Service**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 Examines the principal functions of a customer service representative, the skills needed to succeed in the workplace, and the knowledge to advance into a leadership role within the service industry. Emphasizes effective communication skills, positive attitudes, problem solving, strategies for coping with challenging and dissatisfied customers, retention of customers, methods of measuring customer satisfaction, technology and customer service, and motivational techniques. NOTE: Upon successful completion of this course, students may choose to take the exam for National Professional Certification in Customer Service from the National Retail Federation (NRF) Foundation. This exam is not included in this course.  
 Prerequisites: ..... None

**BBA-159: Contact Center/Help Desk Practicum**

Credit Hours: ..... 2.00  
 Contact Hours: ..... 2.00  
 Presents the components, job roles, and performance factors of today's contact center/help desk. Discusses techniques to handle incoming customer inquiries regarding products, services, accounts, and equipment; how to respond to customer inquiries, requests, and complaints; and how to troubleshoot with empathy for the customer, with prompt and courteous service, and professionalism. Course utilizes a call center software package to simulate real-life scenarios.  
 Prerequisites: ..... BBA 153, BCA 140

**BBA-164: Introduction to Industrial Distribution**

Credit Hours: ..... 2.00  
 Contact Hours: ..... 2.00  
 Offers an overview of the industrial distribution business model, the role distributors play in the supply chain, and their relationships with suppliers and end-users. Explores topics such as marketing, customer service, and inventory control as they relate to industrial distribution. Also examines the importance of pricing and markup.  
 Prerequisites: ..... None

# Courses



## **BBA-170: Contemporary Selling**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Presents the theory of professional selling. Covers topics such as listening and observation, communication skills, problem solving, customer-relationship building, merchandising, assessing customer satisfaction, and utilizing current technologies to enhance sales.

Prerequisites: ..... None

## **BBA-231: Business Office Communications**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Examines written, oral, and listening skills as used in a business environment with a major focus on how to properly construct and edit both internal and external documents. Presents proven theories to utilize principles and styles of effective written communication to analyze case studies; to create appropriate documents; and to compose business letters, memos, and employment-related documents. Methods to develop proper planning, organizing, and outlining skills are presented.

Prerequisites: ..... BBA 110 with a C grade or better

## **BBA-235: Office Administration Practicum**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

Covers records management, telephone techniques, processing of mail, basic banking and accounting procedures, effective written communication skills and public relations, meeting and conference planning, and travel arrangements.

Prerequisites: ...BCA 143 with a C grade or better and BCA 145 with a C grade or better

## **BBA-250: International Business**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Focuses on the risks and opportunities of conducting business in the global economy. Examines the cultural, country, currency, and commercial risks associated with international trade. Also discusses international theory; ethics; political, economic, and legal systems; government intervention; currency fluctuations; foreign market assessment; and market strategies in the global marketplace.

Prerequisites: .... BBA 131 (C grade or better) or Instructor permission

## **BBA-252: Principles of Marketing**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Focuses on marketing functions and institutions, the policies of marketing agencies, and current marketing channels. Also covers the retailing and wholesaling of consumer goods and raw materials, pricing policies and practices, anti-competitive practices, recent governmental activities affecting marketing, and the individual creation of a marketing plan.

Prerequisites: ..... BBA 131 with a C grade or better AND eligibility for ENG 131

## **BBA-254: Logistics and Supply Chain Management**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Introduces supply chain management and the impact of globalization, technological change, and customers on the supply chain. Also presents logistics, materials management, physical distribution, supply chain management strategies, flow of information, and political and economic issues typically involved in the supply chain.

Prerequisites: ..... BBA 131 with a C grade or better or Instructor permission

**BBA-290: Study Abroad in International Business**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Prepares students for success in a rapidly changing, diverse, and global environment by travel to a foreign country/countries to observe business and cultural protocols and the political, legal, and economic issues of doing business in that foreign country/countries. Prior to leaving for the country/countries, Instructor facilitates a mandatory student discussion involving current events and news pertaining to the selected country/countries. Once students are in the country/countries, emphasis will be on business, manufacturing and service, culture, and other influences on United States businesses operating in the visited country/countries. Specific travel information will be announced at least one semester prior to leaving for the country/countries.

Prerequisites:.....BBA 131 or Instructor permission

**BCA-090: Basic Elements of Computers and Software**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

A developmental course in the use of computers and computer software designed for students with little or no computer experience. Provides interactive, hands-on experience by including use of online and computer-based tutorials, videos, and activities. Focuses on how to become comfortable with computers in order to be successful in BCA140 and other college courses that require computer usage. This course does not meet the General Education requirements for computer literacy, and the credits for this course will not fulfill graduation requirements. Utilizes a version of Microsoft Office and Windows.

**BCA-101: Computer Keyboarding**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Teaches touch keyboarding skills. Covers the alpha, number, and symbol keys; terminology; and basic formatting. Emphasizes accuracy and speed as the semester progresses.

**BCA-125: Introduction to the Internet and Web Pages**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Introduces the Internet and the creation and design of web pages with the focus on maintenance and modification of web pages. Covers popular Internet topics such as communicating online, portals, research and reference tools, and shopping sites. Uses Web-page software to design and create web pages.

Prerequisites:..... Completion of BCA or CIS class OR Completion of high school computing course

**BCA-140: Software Applications**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Covers the fundamentals of computer literacy with an emphasis on software usage. Offers hands-on training in Microsoft Office including word processing, spreadsheet, and presentation software.

Prerequisites:..... Ability to type 25 words a minute

**BCA-143: Word Processing**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Presents the essential features of Microsoft Word and word processing in preparing and editing documents. Examines how to enhance and customize documents by applying formatting; creating headers and footers; working with columns; inserting page and section breaks; applying themes; inserting hyperlinks; adding graphical elements; and creating footnotes, endnotes, citations, and bibliographies. Also focuses on how to create tables, merge documents, use styles, and prepare and protect shared documents.

Prerequisites:.....BCA 140 with a C grade or better

# Courses



## **BCA-145: Spreadsheets**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Covers the essential features of Microsoft Excel and spreadsheets to prepare and format worksheets. Examines how to insert formulas and functions, create charts and diagrams, insert graphical elements, create and modify tables, perform advanced formatting and functions, track changes, protect and share worksheets, import and export data, and interpret and integrate data.

Prerequisites:.....BCA 140 with a C grade or better

## **BCA-147: Database Applications**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Explores the essential features of Microsoft Access and databases. Studies how to create and modify databases, create queries and forms, create reports and charts, add graphics to forms and reports, import and export data, create macros and command buttons to run macros, and integrate databases.

Prerequisites:.....BCA 140 or CIS 100

## **BCA-152: Presentation Software**

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Credit Hours:.....2.00

Contact Hours:.....2.00

Presents the essential features of Microsoft PowerPoint and presentations. Covers how to create and modify a PowerPoint presentation; add and format visual elements such as SmartArt, WordArt, tables, and charts; import data; add animation effects; customize the layout of slides; apply backgrounds; add speaker notes; copy slides between presentations; create photo albums; and share presentations.

Prerequisites:.....BCA 140 with a C grade or better

## **BCA-165: Microsoft Project Software for Business Solutions**

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Credit Hours:.....2.00

Contact Hours:.....2.00

Introduces the basics of using Microsoft Project to help manage projects and to keep track of deadlines, resources, task distribution, constraints, and contingencies. Emphasizes how to set up a project and how to use the software to accomplish tasks in the most efficient manner.

Prerequisites:.....BCA 140 with a C grade or better OR Instructor permission

## **BCO-190: Co-op in Business**

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Credit Hours:.....1.00

Contact Hours:.....1.00

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a “co-op,” provides academic credit for structured employment experience. Work experience must be directly related to the student’s declared major to be eligible.

To register for this course, a student must have completed 50% of core coursework, maintain an overall GPA of 2.0 and a program specific GPA of 2.5.

Prerequisites:.....Permission from Career Services Officer or Job Developer in the Office of Career Services

## **BCO-191: Co-op in Business**

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Credit Hours:.....1.00

Contact Hours:.....1.00

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a “co-op,” provides academic credit for structured employment experience. Work experience must be directly related to the student’s declared major to be eligible.

To register for this course, a student must have completed 50% of core coursework, maintain an overall GPA of 2.0 and a program specific GPA of 2.5.

Prerequisites:.....Permission from Career Services Officer or Job Developer in the Office of Career Services

**BCO-290: Co-op in Business**

Credit Hours: ..... 2.00  
Contact Hours: ..... 9.87

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a “co-op” provides academic credit for structured employment experience. Work experience must be directly related to the student’s declared major to be eligible.

To register for this course, a student must have completed 50% of core coursework, maintain an overall GPA of 2.0 and a program specific GPA of 2.5.

Prerequisites:.....Permission from Career Services Officer or Job Developer in the Office of Career Services

**BEC-133: Basic Economics**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Offers an overview of macroeconomics and microeconomics. Discusses markets, supply and demand equilibrium, firm decision making, aggregate output, monetary and fiscal policy, and the principles of international trade.

**BEC-151: Principles of Macroeconomics**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Examines the theoretical operation of the economy as a whole. Covers the elements of a free market system, the measurement of macroeconomic performance, the creation and control of money, alternative models of government intervention to impact business cycles, economic growth, and international trade.

Prerequisites:..... ENG 131 eligibility

**BEC-152: Principles of Microeconomics**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Examines how decision makers address the central economic problem of scarcity through markets and other mechanisms. Covers price theory, the elements of a market system, consumer behavior, production theory, market structures, labor markets, market imperfections, and government intervention.

Prerequisites:.. Eligibility for ENG 131 (COMPASS test scores of 51 or higher on reading and 78 or higher on writing OR ASSET test scores of 33 or higher on reading and 44 or higher on writing)

**BFN-130: Principles of Investing**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Introduces the principles of investing by examining the security selection process. Covers an examination of cash equivalent, debt, and equity asset classes as well as other investment options. Discusses how to select securities and mutual funds to build investment portfolios; the mechanics involved with setting up accounts; the buying and selling of securities; tax consequences; and the psychology of investing.

**BFN-141: Personal Finance**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Examines common financial concerns such as budgeting, obtaining and managing credit, buying insurance, planning for taxes, purchasing a car and/or home, and saving for retirement. Discusses stocks, bonds, and mutual funds. Also provides information on career planning and employee benefits.



# Courses



## **BFN-253: Principles of Finance**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Introduces the fundamentals of financial management, financial statements, time value of money, interest rates, and stocks and bonds. Also examines capital budgeting models, cash flow analysis, working capital management, financial ratio analysis, and firm performance.

Prerequisites: BAC 131 with a C grade or better AND BBA 131 with a C grade or better

## **BIO-110: Biotechnology and Human Affairs**

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Credit Hours:.....4.00

Contact Hours:.....4.00

Introduces biotechnology concepts to the general education student. Investigates the science of biotechnology and its applications in fields of human endeavor, and the ethical implications of this rapidly-expanding technology. Topics include crime scene forensics, genetically modified organisms, stem cell research, gene therapy, medical diagnosis and genetic screening, and bioterrorism, among others. Especially relevant for non-scientists interested in medicine, law, journalism, or education. Integrated lecture and lab gives students the opportunity to have hands-on experience in biotechnology techniques.

Prerequisites:.... Completion of ENG 081 or higher, or a test score that allows placement in ENG 131.

## **BIO-130: Evolution and Behavior**

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Credit Hours:.....4.00

Contact Hours:.....4.00

Introduces principles of evolution and animal behavior (including human). Considers genetic, physiological, and evolutionary explanations of behaviors. Topics include evolution and natural selection, genetic inheritance, DNA structure and function, basic cell structure and function, innate behaviors, learning, motivation, communication, aggression, sexual behavior, territoriality, play, vestigial behaviors, selfishness, and altruism.

Prerequisites:.....None

## **BIO-131: Introduction to Biology**

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Credit Hours:.....4.00

Contact Hours:.....6.00

A study of living organisms including: cell biology, genetics, plant structure and function emphasizing flowering plants, ecology and evolution, and animal structure and function emphasizing human digestion, respiration, circulation, excretion, and reproduction. Lecture and laboratory work are coordinated. Three hours of lecture and three hours of lab a week.

Prerequisites:.... Completion of ENG 081 or higher, or a test score that allows placement in ENG 131.

## **BIO-134: Essentials of Anatomy and Physiology**

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Credit Hours:.....5.00

Contact Hours:.....6.00

A comprehensive study of all body systems in the time-frame of a one-semester course. Emphasizes how anatomy, chemistry, and cell biology all permit the specific functioning of organs and systems. BIO 134 does not substitute for the BIO 233/234 sequence required by HFC's Nursing, Respiratory Therapist, Surgical Technologist, Radiographer, and Physical Therapist programs. Four hours of lecture and two hours of lab per week.

Prerequisites:.....None

## **BIO-135: Microbiology for the Allied Health Sciences**

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Credit Hours:.....4.00

Contact Hours:.....5.00

For health service personnel not needing the extensive laboratory experience involved in BIO 251. Emphasizes the biology of microbes, epidemiology and disease transmission, sterile technique, basics of immunity, the microbiology of wounds, and current regulations regarding blood-borne pathogens and bio-hazardous wastes. Three hours of lecture and two hours of lab per week.

Prerequisites:.... Completion of ENG 081 or higher, or a test score that allows placement in ENG 131

**BIO-138: Environmental Science Lecture**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Explores environmental science, an interdisciplinary study which combines ideas and information from the natural sciences (such as biology, chemistry, and geology) and the social sciences (such as economics, politics, and ethics) to present a general idea of how nature works and how everything in nature is interconnected. Emphasizes human modification of natural systems and strategies for promoting environmental health. Also discusses current environmental concerns.

Prerequisites:.... Completion of ENG 081 or higher, or a test score that allows placement in ENG 131

**BIO-139: Environmental Science Laboratory**

Credit Hours: ..... 2.00

Contact Hours: ..... 2.87

Current environmental concerns are investigated. Included are field trips to local sites during the lab period. Particular focus will be given to the Rogue Riverwater shed. This course meets once a week for three hours of lab work.

Prerequisites:.... Completion of ENG 081 or higher, or a test score that allows placement in ENG 131.

**BIO-143: Zoology**

Credit Hours: ..... 4.00

Contact Hours: ..... 6.00

Examines the structure and function of various animal groups. Emphasis is on the taxonomic relationships, evolution, embryology and natural history of the major animal groups, from the single-celled protozoa to the vertebrates. Lecture and lab work are coordinated. Three hours of lecture and three hours of lab per week.

Prerequisites:..... BIO 131

**BIO-150: Biology: Organisms, Genes, and Ecology**

Credit Hours: ..... 4.00

Contact Hours: ..... 6.00

Covers introductory biology concepts. Course is designed to meet the needs of students interested in transferring to four-year institutions and majoring in biological sciences or related fields, as well as students interested in entering programs in pharmacy, medicine, veterinary medicine, dentistry, and related areas. Lectures focus on the nature of science, the diversity and the unity of life, evolution, inheritance, ecology, plant structure, animal physiology, and animal development. Laboratory investigations enhance student learning of cognitive and laboratory skills and provide experience with model organisms used in many areas of biological research. Three hours of lecture and three hours of lab per week.

Prerequisites:..... College preparatory-level high school biology with a grade of B or better or BIO 131 or BIO 152 with a grade of C or better or permission of instructor. Completion of ENG 081 or higher, or a test score that allows placement in ENG 131.

**BIO-152: Cells and Molecular Biology**

Credit Hours: ..... 4.00

Contact Hours: ..... 6.00

One semester of a two-semester sequence in introductory biology, designed to meet the needs of students interested in transferring to a four-year institution with a major or minor in biology, including pre-pharmacy, pre-medical, and pre-dental programs. Lectures focus on the diversity and unity of patterns of living organisms from the perspectives of molecular and cell biology. Laboratory experiments and investigations enhance student learning of cognitive and laboratory skills. Three hours of lecture and three hours of lab per week.

Prerequisites:..... College preparatory biology with a grade of B or better, or BIO 131 or BIO 150 with a C or better and CHEM 131 (CHEM 141 recommended for biology majors) with a grade of C or better or Instructor permission

# Courses



## **BIO-233: Anatomy and Physiology I**

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Credit Hours:.....4.00

Contact Hours:.....5.00

Covers the principles and underlying concepts of chemistry, cell biology, histology, articulations, bones, muscles, and the nervous system. Labs reinforce these lecture units. BIO 233 and BIO 234 are a two-semester sequence designed for the student who plans to pursue a career in a health field. Three hours of lecture and two hours of lab per week.

Prerequisites: BIO 131 or BIO 150 or BIO 152 or the equivalent (with a C grade or better)

## **BIO-234: Anatomy and Physiology II**

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Credit Hours:.....4.00

Contact Hours:.....5.00

Covers special senses, endocrine, circulatory, lymphatic, immunity, respiratory and digestive systems, metabolism and energetics, urinary system, fluid, electrolyte and acid/base balance, and the reproductive system. Labs are sequenced with lecture and reinforce the lecture content. Three hours of lecture and two hours of lab per week.

Prerequisites:... BIO 233 at HFC with a C grade or better or Instructor permission

## **BIO-251: Microbiology**

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Credit Hours:.....5.00

Contact Hours:.....8.00

Introduces microbes and their activities. Covers a wide range of material in lecture and laboratory exercises, including structure and function of diverse microbes, nutrition, growth, metabolism, microbial genetics, and the role of microbes in disease, immunity, and other selected applied areas. Emphasizes the biology of microbes and their interaction with humans and the environment, and in learning the techniques used to safely work with bacteria, viruses, and fungi. Recommended for students anticipating further study in biological or biomedical sciences. Three hours of lecture and five hours of lab each week.

Prerequisites: BIO 131, or BIO150, or BIO 152, or the equivalent, with a C grade or better; CHEM 131 (CHEM 141 recommended)

## **BIO-261: Nucleic Acids**

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Credit Hours:.....5.00

Contact Hours:.....7.00

Focuses on the structure and function of nucleic acids along with chemical and physical techniques commonly used when working with these molecules. Also emphasizes the principles and applications of modern biochemical analyses used in biotechnology and related genomic fields. Course satisfies the requirements of the Biotechnology program; a C grade or better is required to satisfy the requirements of the Biotechnology program. Seven hours of integrated lecture and laboratory per week.

Prerequisites:..... CHEM 141, BIO 152, and ENG 131 with C grades or better

## **BIO-262: Proteins**

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Credit Hours:.....5.00

Contact Hours:.....7.00

Focuses on the structure and function of proteins along with chemical and physical techniques commonly used when working with these molecules. Lectures and laboratories emphasize the principles and applications of modern biochemical analyses used in biotechnology and related proteomic fields. This course is designed to satisfy the requirements of the Biotechnology Program; a grade of C or better is required to satisfy the requirements of the Biotechnology Program. Seven hours of integrated lecture and laboratory per week.

Prerequisites:..... CHEM 141, BIO 152, ENG 131 with grades of C or better

## **BIO-263: Biotechnology Internship**

Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

A minimum 120 hour unpaid internship experience in a biotechnology laboratory designed to provide the student with an off-campus experience in an actual work environment and to facilitate future employment possibilities. The intern may work in one or a variety of tasks and positions, depending on the student's background and interests, and defined by competency goals agreed upon by the sponsoring laboratory and HFC Biotechnology Faculty. This course is designed to satisfy the requirements of the Biotechnology Program.

Prerequisites:.....  
Completion of BIO 261, BIO 262, and CHEM 151 with grades of C or better, demonstrated competence in laboratory skills, admission to the Biotechnology Program, and permission of the Director of the Biotechnology Program.

## **BIO-296: Directed Study in Biology**

Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Offers students possessing fundamental knowledge of biology the opportunity to study an advanced topic in greater depth, working individually with an instructor of biology. Students will use the methodologies of the discipline. Class may be repeated once for credit.

Prerequisites:..... Consent of instructor

## **BIO-297: Directed Study in Biology**

Credit Hours: ..... 2.00

Contact Hours: ..... 4.00

Offers students possessing fundamental knowledge of biology the opportunity to study an advanced topic in greater depth, working individually with an instructor of biology. Students will use the methodologies of the discipline. Class may be repeated once for credit.

Prerequisites:..... Consent of instructor

## **BLW-253: Business Law and the Legal Environment**

Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

Introduces the American legal system, including the court system, constitutional authority to regulate business, business torts and crimes, contracts, liability, corporations, partnerships, and other business entities. Focuses on understanding the legal and ethical environment affecting business.

Prerequisites:..... ENG 131 with a C grade or better

## **BMA-110: Business Math**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Presents basic math problems from a business person's point of view. Coursework offers a short review of addition, subtraction, multiplication, and division principles, and then moves onto decimals, percentages, fractions, and the relationships among them. Also covers payroll, discounts, markup, interest, loans, and depreciation.

Prerequisites: MATH 074 with a C grade or better (or a score of 39 on Pre-Algebra COMPASS test) and Reading Score of 82 on COMPASS test AND Eligibility for ENG 081

## **CHD-201: Child Development: Introduction to Creative Child Care**

Credit Hours: ..... 3.00

Contact Hours: ..... 0.07

This course is the first in a two-course sequence designed to help candidates acquire skills and knowledge for the Child Development Associate (CDA) credential. The CDA is a national performance-based credential awarded to caregivers who work with children from birth to age five. Topics include children's developmental stages, planning developmentally appropriate activities for young children, developing curriculum for young children, behavior management, and introduction to CDA credentialing process.

Prerequisites:.....None

# Courses



## **CHD-202: Child Development CDA Portfolio/Assessment Preparation**

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Credit Hours: ..... 3.00

Contact Hours: ..... 0.07

This is the second in a two-course sequence designed to help candidates acquire skills, knowledge and documentation for the Child Development Associate (CDA) credential. The CDA is a national performance-based credential awarded to caregivers that work with children from birth to age five. Topics include the CDA credentialing process, knowledge and skills in working with parents, families, and communities, knowledge of the six Competency Goals of the 13 Functional Areas of the CDA process, and preparation of necessary material for the CDA credential.

Prerequisites: ..... CHD 201

## **CHD-205: Infant/Toddler Care and Development**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Explores the physical, social, cognitive and emotional environments necessary for quality care of infants and toddlers. Child Development Associate (CDA) functional areas taught in this course are as follows: safety, health, learning environment, infant development, and observing children's behavior as they pertain to infants and toddlers. Addresses the intellectual development of children when their basic needs are met and when they are educated and cared for in settings that support their emotional well-being.

Prerequisites: ..... None

## **CHD-231: Inquiry-Based Preschool Curriculum**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Designed for present and future teachers, administrators, and the general public who participate in decisions relating to early childhood curriculum. Course examines inquiry-based learning and how it relates to a child-centered, integrated preschool curriculum. Integrates the Michigan Department of Education (MDE) Early Childhood Standards of Quality and the National Association for the Education of Young Children's (NAEYC) position statements and guidelines for instruction into class discussions to help students gain insight into the best practices with young children.

Prerequisites: ..... ENG 132 and PSY 152

## **CHD-232: Observation and Assessment in Early Childhood Education**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Examines a variety of formal and informal assessment techniques used in early childhood classrooms. Emphasizes the importance of observing young children and how to use these observations. The Michigan Department of Education (MDE) Early Childhood Standards of Quality (ECSQ) and the National Association for the Education of Young Children (NAEYC) guidelines for assessment will be integrated into class discussions to help students gain insight into the best practices with young children. Designed for present and future teachers, administrators and the general public who participate in decisions relating to early childhood assessment. Students in CHD 232 must enroll concurrently in CHD 233: Observation and Assessment in Early Childhood Education Practicum.

Prerequisites: ..... ENG 132 and PSY 152

## **CHD-233: Observation and Assessment in Early Childhood Education Practicum**

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Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

During this practicum experience, students will apply knowledge gained from CHD 232. They will observe and engage with young children individually and in small groups in an early childhood classroom. Students will implement activities approved by the lead teacher and use formal and informal assessment techniques with children. Observation strategies and recording objective anecdotal notes will be emphasized. Students will analyze observations individually, with classroom staff and classmates to build relationships with children, determine children's strengths, suggest support activities and for assisting the lead teacher in communicating children's development with families.

Prerequisites: ..... ENG 132 and PSY 152

**CHD-241: Developmentally-Appropriate Practices in Child Care Center Administration**

Credit Hours: .....3.00

Contact Hours: .....3.00

Examines the role of the child care administrator in directing successful early childhood centers in a diverse and democratic society, following developmentally-appropriate practices. Topics include: diversity, policy development, personnel management, ethical decision-making, safety, community resources, childcare licensing regulations, communication strategies, professionalism, and appropriate business practices. Students will focus on critical conditions affecting families and explore ways to utilize school and community resources to develop meaningful home-school-community partnerships. Child Development Associate (CDA) functional areas covered in this course are as follows: Safe, Healthy, Learning Environment, Professionalism, and Program Management.

Prerequisites:..... ENG 131, CHD 201, or CDA Credential

**CHEM-091: Preparatory Chemistry**

Credit Hours: .....2.00

Contact Hours: .....2.00

Explores introductory chemistry. Includes the study of chemical terminology, the periodic table, chemical nomenclature, equation writing, the pH scale, and chemical problem solving. This course is designed for students with no high school chemistry who would benefit from further preparation for the standard general chemistry sequence required in their programs. It satisfies the high school chemistry admission requirement for some Nursing and Health Career programs.

Prerequisites:.....MATH 070 or the equivalent

**CHEM-095: Chemical Skills**

Credit Hours: ..... 3.00

Contact Hours: .....3.00

Includes the study of atomic structure; stoichiometry; molarity, enthalpy, chemical periodicity; bonding and structure; reactions and equations; and properties of gases. This course is for students majoring in science, engineering, mathematics, pharmacy, or other pre-professional programs who would benefit from further preparation for the standard general chemistry sequence required in these programs. May not be used to satisfy elective requirements in the Associate in Science degree in Pre-Professional Chemistry program. Students in other programs should consult with their program advisor about eligibility for use as an elective. Three hours of lecture demonstration per week.

Prerequisites:..... One year of high school algebra or the college equivalent.

**CHEM-111: Chemical Skills for Pre-Professional Programs**

Credit Hours: .....4.00

Contact Hours: .....5.00

Includes the study of dimensional analysis; atomic structure; stoichiometry; molarity; the periodic table; nomenclature; reactions and equations, and properties of gases. This course is for students majoring in science, engineering, mathematics, pharmacy, or other pre-professional programs who would benefit from further preparation for the standard general chemistry sequence required in these programs. May not be used to satisfy elective requirements in the AS in Pre-Professional Chemistry program. Students in other programs should consult with their program advisor about eligibility for use as an elective. Three hours of lecture and two hours of laboratory per week.

Prerequisites:.....One year of high school algebra or MATH 080 or higher, or an equivalent score on the math placement test.

# Courses



## **CHEM-131: Principles of Chemistry**

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Credit Hours: .....4.00

Contact Hours: .....5.00

Introduces general inorganic chemistry. Major topics include measurements, atomic structure, bonding, chemical periodicity, stoichiometry, gas laws, solution chemistry, oxidation/reduction, acid/base chemistry and equilibrium. The course is designed to meet requirements in Nursing and Health Careers Programs and is a prerequisite for admission to the HFC Nursing Program. The class is also popular among the Liberal Arts students who wish to take a science laboratory class. Three hours of lecture and two hours of laboratory per week.

Prerequisites: One year high school algebra or equivalent (passing the college math placement test or taking and passing Math 080)

## **CHEM-132: Principles of Organic and Biological Chemistry**

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Credit Hours: .....4.00

Contact Hours: .....6.00

This is the second course in a traditional two-semester General, Organic, and Biochemistry (GOB) sequence. Emphasizes nomenclature and functional group reactivity. Addresses the structure, function and metabolism of lipids, carbohydrates, proteins, and nucleic acids at an introductory level. There are three hours of lecture and three hours of laboratory each week.

Prerequisites: ..... CHEM 131 or CHEM 141 or the equivalent

## **CHEM-141: Principles of General and Inorganic Chemistry I**

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Credit Hours: .....5.00

Contact Hours: .....7.00

Includes the study of atomic structure; stoichiometry, molarity, enthalpy, chemical periodicity, bonding and structure, reactions and equations, and properties of gases. This course is for students majoring in science, engineering, mathematics, pharmacy, or other pre-professional programs. Three hours of lecture and four hours of laboratory per week.

Prerequisites: (Passing grade on chemistry pretest or CHEM 111 with C grade or better) AND (completion of MATH 080 with a C grade or an equivalent score on the Math placement test).

## **CHEM-142: Principles of General and Inorganic Chemistry II**

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Credit Hours: .....5.00

Contact Hours: .....7.00

Emphasizes properties of liquids and solutions, reaction rates, chemical equilibria, thermodynamics, electrochemistry, acid/base chemistry, nuclear chemistry and descriptive chemistry of the more common elements (as time allows). Three hours of lecture and four hours of laboratory per week.

Prerequisites: .....CHEM 141 with a grade of C or better. MATH 175 recommended.

## **CHEM-151: Chemical Instrumentation and Laboratory Techniques**

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Credit Hours: .....3.00

Contact Hours: .....4.00

Presents fundamentals of chemical laboratory measurements and techniques. Includes collection and interpretation of meaningful data, statistical analysis of data, and documentation; proper use and calibration of glassware; preparation of solutions, including buffers. Emphasizes use and calibration of instruments, including analytical balances, pH meters, conductivity meters, spectrophotometers, and high-performance liquid chromatographs (HPLC). This course is designed to satisfy the requirements of the Biotechnology Program; a grade of C or better is required to satisfy the requirements of the Biotechnology Program. Four hours of integrated lecture and laboratory per week.

Prerequisites: .....CHEM 141 with a grade of C or better

**CHEM-241: Organic Chemistry I**

Credit Hours: ..... 4.00

Contact Hours: ..... 4.27

Introduces organic chemistry. Emphasizes structural theory, stereochemistry, physical properties, reaction mechanisms, and functional group chemistry. This course covers the first semester of a full year course. Is a lecture course designed to meet the requirements for science majors, pre-professional biology, pre-professional chemistry, as well as premedical, pre-dental, pre-pharmacy, pre-veterinary, and chemical engineering students. Students should check requirements for organic chemistry at their intended transfer institution. Four hours of lecture per week without lab.

Prerequisites:..... CHEM 141 with a C grade or better or permission of the instructor

**CHEM-242: Organic Chemistry II**

Credit Hours: ..... 4.00

Contact Hours: ..... 4.27

Builds on the concepts introduced in CHEM 241. Emphasizes acid-base chemistry, spectroscopy, and retrosynthetic analysis. Reaction mechanisms and physical properties of the following functional groups will be explored: carbonyl chemistry (aldehydes, ketones, and carboxylic acid derivatives); carboxylic acids; amines; carbohydrates; lipids; amino acids, proteins; and nucleotides. This course is designed to meet the requirements for science majors, pre-professional biology, pre-professional chemistry, as well as premedical, pre-dental, pre-pharmacy, veterinary, and chemical engineering students. Four hours of lecture per week without lab.

Prerequisites:..... CHEM 241 with a grade of C or better.

**CHEM-243: Microscale Organic Chemistry Laboratory I**

Credit Hours: ..... 2.00

Contact Hours: ..... 4.27

Microscale glassware and analytical techniques are used to study fundamental organic reactions and the synthesis of organic compounds. Techniques include distillation (simple, fractional, and steam), crystallization, and extraction. Analysis of compounds includes melting points, boiling points, refractive indices, infrared spectroscopy, and chromatography (gas, thin layer, column). Approximately one hour of lecture and three hours of laboratory per week. This meets the Organic Laboratory requirement necessary to enter into Pharmacy, Medical, Dental, and Veterinary schools. Science major transfers will also need to take CHEM 244. Approximately one hour of lecture and three hours of lab per week.

Prerequisites:..... CHEM 141 or the equivalent and CHEM 241

**CHEM-244: Microscale Organic Chemistry Laboratory II**

Credit Hours: ..... 2.00

Contact Hours: ..... 4.27

Microscale glassware and analytical techniques are used in this follow-up course to CHEM 243. The primary focus of this course is multi-step organic syntheses and proper research techniques. Practical techniques from the previous course will be applied towards the synthesis of a novel polyaromatic hexaphenylbenzene, an antibacterial drug sulfanilamide, the flavoring agent cinnamic acid, and the fragrance 2'-bromostyrene. Products will be analyzed (melting point/boiling point, infrared analysis, chromatographic properties (TLC, GC), solubility, refractive index) and compared to literature values to verify their veracity. Research will involve a critical analysis of competitive synthetic methods. The sequence CHEM 241, 242 (Lecture I and II) and CHEM 243, 244 (Laboratory I and II) will transfer to all Michigan universities to meet their Organic Chemistry requirements for Science Majors. Approximately one hour of lecture and three hours of lab per week.

Prerequisites:..... CHEM 243 and CHEM 242 (CHEM 242 can be a co-requisite with instructor's permission).



# Courses



## **CHN-130: Pre-Elementary Mandarin Chinese**

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Credit Hours: .....4.00

Contact Hours: .....4.00

Introduces Mandarin Chinese: Chinese characters, Pinyin transcriptions, vocabulary, pronunciation, grammar, and listening/speaking skills. Teaches basic conversational skills and presents Chinese culture and customs of polite society.

Prerequisites:.....None

## **CHN-131: Elementary Mandarin Chinese**

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Credit Hours: .....4.00

Contact Hours: .....4.00

CHN 131 teaches elementary reading, writing, speaking, and listening skills in Mandarin Chinese, focusing on communication in a cultural context. Covers vocabulary and explores the pronunciation and grammatical principles necessary for comprehending and expressing simple ideas in both spoken and written Mandarin Chinese.

Prerequisites:.....A grade of C or better in CHN 130 or in one year of high school Chinese, or instructor permission (Note: a C- grade is not transferrable and is not accepted by some programs at HFC.)

## **CHN-132: Elementary Mandarin Chinese II**

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Credit Hours: .....4.00

Contact Hours: .....4.00

CHN 132 further builds reading, writing, speaking, and listening skills in Mandarin Chinese, focusing on communication in a cultural context. Students continue to expand their knowledge of vocabulary, pronunciation and grammatical principles in order to comprehend and express everyday ideas in both spoken and written Mandarin Chinese.

Prerequisites:.....C grade or better in CHN 131 or in two years of high school Chinese, or instructor permission (Note: a C- grade is not transferable and is not accepted by some programs at HFC.)

## **CHN-141: Elementary Chinese Conversation**

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Credit Hours: .....3.00

Contact Hours: .....3.00

An enrichment course, CHN 141 is conducted almost entirely in Chinese and is designed for students wishing to expand their active vocabulary and improve their facility in speaking and listening. Class discussions are based on assigned readings, student reports, and current events. This course is transferable but is not a substitute for a basic language requirement. It may be taken concurrently with Chinese 132.

Prerequisites:.....A grade of C or better in CHN 131 or in one year of high school Chinese, or instructor permission (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

## **CHN-295: Directed Study in Chinese**

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Credit Hours: .....1.00

Contact Hours: .....1.00

CHN 295 allows advanced study under the direction of a member of the English and World Languages Division faculty. This course may be taken only after consultation with the instructor to determine the course content (a topic of special interest in the area of Chinese language, literature, or culture) and the credit hours appropriate for the chosen project. This class may be repeated once for credit.

Prerequisites:..... A grade of C or better in CHN 131, 132, 231, or 232 or equivalent (Note that a grade of C- is not transferrable and is not accepted by some programs at HFCC)

## **CHN-296: Directed Study in Chinese**

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Credit Hours: .....2.00

Contact Hours: .....0.87

CHN 296 allows advanced study under the direction of a member of the English and World Languages Division faculty. This course may be taken only after consultation with the instructor to determine the course content (a topic of special interest in the area of Chinese language, literature, or culture) and the credit hours appropriate for the chosen project. This class may be repeated once for credit.

Prerequisites:..... A grade of C or better in CHN 131, 132, 231, or 232 or equivalent (Note that a grade of C- is not transferrable and is not accepted by some programs at HFCC)

**CHN-297: Directed Study in Chinese**

Credit Hours:..... 3.00  
Contact Hours:..... 0.87

CHN 297 allows advanced study under the direction of a member of the English and World Languages Division faculty. This course may be taken only after consultation with the instructor to determine the course content (a topic of special interest in the area of Chinese language, literature, or culture) and the credit hours appropriate for the chosen project. This class may be repeated once for credit.

Prerequisites:..... A grade of C or better in CHN 131, 132, 231, or 232 or equivalent (Note that a grade of C- is not transferrable and is not accepted by some programs at HFCC)

**CIMEL-100: Intro to Basic Electricity**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces the various elements of basic electricity including the identification of electrical symbols as well as interpretation of schematics, cross referencing prints, tracing circuits, interpreting sequential function charts, line drawings and time charts.

Prerequisites:..... N/A

**CIMEL-101: Instruments**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces electrical measurement instruments, including digital and analog multimeters, clamp-on ammeters, megohmmeters, and the oscilloscope. Emphasizes safe measuring techniques. Covers additional devices such as pressure gauges, chart recorders, heat sensors, and chain stretch monitor. Lab activities.

Prerequisites:..... CIMEL 100 or Instructor permission

**CIMEL-102: Control Circuits and Components**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces control logic components and circuit function. Examines combinational and sequential ladder logic designs with attention to reliability of function. Involves construction of various circuits that demonstrate key component functionality concepts. Introduces troubleshooting using analytical techniques, multimeters, chart recorders, and oscilloscopes.

Prerequisites:..... CIMEL 101 or Instructor permission

**CIMEL-103: Solid State Devices**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces the basic concepts of solid state devices and applications: semiconductor theory, the operational characteristics of devices such as the diode bipolar junction transistors (BJT) and field effect transistors (FET), polarity, biasing, rectification, and amplification. Introduces the basic DC power supply. Also includes discussion of camera-type vision systems, barcode readers, and laser etchers as common solid state devices found in industry.

Prerequisites:..... CIMEL 102 or Instructor permission

**CIMEL-104: Controls and Instrumentation—Fundamentals**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Explores soldering techniques and Electromagnetic/Static considerations when handling, replacing, and repairing of electronic components. Also discusses various troubleshooting methodologies.

Prerequisites:..... CIMEL 103 or Instructor permission

**CIMEL-105: Sensors and Photoeyes**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Presents common circuits and sensors to perform the measurement of process flow variables such as pressure, level, temperature, flow, and analytic characteristics. Also develops positional sensors.

Prerequisites:..... CIMEL 104 or Instructor permission

# Courses



### **CIMEL-106: Calibration and Loop Training**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00  
Evaluates the common methods of process control including Proportional/Integral/Derivative (PID) control. Discusses transmitter setup and calibration. Covers how plant prints are evaluated in order to understand P and I diagrams.  
Prerequisites: ..... CIMEL 105 or Instructor permission

### **CIMEL-107: Final Control Elements**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00  
Explores automation output devices including AC, DC, and servo motors, variable speed drives, relays, motor starters, and sizing of components for various applications.  
Prerequisites: ..... CIMEL 106 or Instructor permission

### **CIMEL-108: Introduction to PLCs**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00  
Introduces various elements of basic PLCs including the identification of programmable logic control systems as well as overview of PLC system architectures. Provides instruction in basic numbering systems, computer terminology, PLC functions, program structures, and point addressing basics.  
Prerequisites: ..... CIMEL 107 or Instructor permission

### **CIMEL-109: PLC Hardware and Software**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00  
Introduces memory and project organization within a PLC processor, the installation, wiring and configuration of I/O modules, as well as how to start a new project.  
Prerequisites: ..... CIMEL 108 or Instructor permission

### **CIMEL-110: Programming PLCs**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00  
Introduces various elements of programming PLC and routines. Illustrates how to program using ladder logic, structured text, sequential function chart, and function block languages.  
Prerequisites: ..... CIMEL 109 or Instructor permission

### **CIMEL-111: PLC Communication**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00  
Introduces various elements of industrial communications using PLCs. Addresses common types of control communications in an industrial environment. Includes discussion of PLC addressing used in communications.  
Prerequisites: ..... CIMEL 110 or Instructor permission

### **CIMEL-112: Introduction to Robotics**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00  
Introduces industrial robotic safety standards, historic time line of industrial robots, industrial classification of robots, common industrial applications of robots, basic system components found in industrial robot applications, robotic motion concepts, and common robot terms and definitions used in computer integrated manufacturing (CIM).  
Prerequisites: ..... CIMEL 111 or Instructor permission

### **CIMEL-113: Programming/Editing Robots**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00  
Introduces robotic systems and programming. Emphasizes the fundamentals of robot control. Reviews robotic system application, automated system safety, robotic system composition, robotic motion control, fundamental programming commands, and program editing.  
Prerequisites: ..... CIMEL 112 or Instructor permission

**CIMEL-114: Robot Maintenance and PM**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

For operators, technicians, engineers, or programmers. Examines how to master the preventive maintenance techniques required for a robot and its backup systems.

Prerequisites:..... CIMEL 113 or Instructor permission

**CIMEL-115: Error Codes and Troubleshooting**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Examines the basic recovery procedures needed to interpret robot error codes and perform a safe recovery start-up procedure on robotics equipment.

Prerequisites:..... CIMEL 114 or Instructor permission

**CIMEL-116: Integration of PLCs and Robots**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces concepts associated with integrating robotic applications in a PLC-controlled, automated system. Includes discussion of the standard safety and interface signals associated with integrated systems, as well as various types of robotic applications along with the interface signals typically associated with each application. Stresses the programming concepts that support optimizing cycle time.

Prerequisites:..... CIMEL 115 or Instructor permission

**CIMHP-100: Electrohydraulics/Pneumatics Fundamentals**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Explains the fundamental concepts of fluid power. Covers the principles of fluid power, calculations of physical properties of fluids and their ability to do work. Introduces the various fluid power components, symbols, circuits. Introduces troubleshooting of fluid power components and systems with an emphasis on safety.

Prerequisites:..... N/A

**CIMHP-101: Reservoirs, Fluids, Filters**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces functions of hydraulic/pneumatic reservoirs and reservoir components. Addresses properties and requirements for fluids, as well as how filters are used to maintain cleanliness in fluid power systems.

Prerequisites:..... CIMHP 100 or Instructor Permission

**CIMHP-102: Fluid Conductors**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces various types of conductors that carry fluid through a system. Focuses on fittings, hose, and steel tubing used in fluid power systems.

Prerequisites:..... CIMHP 101 or Instructor Permission

**CIMHP-103: Pumps, Actuators, Accumulators**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces the different types of pumps, actuators and accumulators used in fluid power systems which create flow, change fluid power systems which create flow, change fluid power into mechanical power and devises that store energy in the system.

Prerequisites:..... CIMHP 102 or Instructor Permission

**CIMHP-104: Valves**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Explains hydraulic and pneumatic directional control, pressure control and flow control valves.

Prerequisites:..... CIMHP 103 or Instructor Permission

# Courses



### **CIMHP-105: Electrohydraulics/Pneumatics**

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Credit Hours:..... 1.00  
Contact Hours:..... 1.00  
Introduces the fundamentals of electro-fluid power, including basic electrical principles, basic fluid power principles, electro-fluid power limit devices, common electro-fluid power troubleshooting principles and practices.  
Prerequisites:..... CIMHP 104 or Instructor Permission

### **CIMHP-106: Systems Troubleshooting**

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Credit Hours:..... 1.00  
Contact Hours:..... 1.00  
Introduces troubleshooting of hydraulic/pneumatic systems, including tracing out systems, isolating problems, safely testing and inspecting systems that use combination circuits and combined electro-hydraulic/pneumatic systems.  
Prerequisites:..... CIMHP 105 or Instructor Permission

### **CIMHP-111: Fundamentals of Fluid Power and Electrohydraulics/Pneumatics**

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Credit Hours:..... 1.00  
Contact Hours:..... 1.00  
Explains the fundamental concepts of fluid power. Covers the principles of fluid power, calculations of physical properties of fluids, and their ability to do work. Introduces the various fluid power components, symbols, and circuits. Introduces troubleshooting of fluid power components and systems with an emphasis on safety.

### **CIMHP-112: Flow, Directional, and Pressure Control Valves**

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Credit Hours:..... 1.00  
Contact Hours:..... 1.00  
Explains hydraulic and pneumatic directional control, pressure control, and flow control valves.  
Prerequisites:..... CIMHP 111 or Instructor permission

### **CIMHP-113: Pumps, Actuators, and Accumulators**

---

Credit Hours:..... 1.00  
Contact Hours:..... 1.00  
Introduces the different types of pumps, actuators, and accumulators used in fluid power systems which create flow, change fluid power into mechanical power, and devices that store energy in the system.  
Prerequisites:..... CIMHP 112 or Instructor permission

### **CIMHP-114: Reservoirs, Fluids, and Filters**

---

Credit Hours:..... 1.00  
Contact Hours:..... 1.00  
Introduces functions of hydraulic/pneumatic reservoirs and reservoir components. Addresses properties and requirements for fluids, as well as how filters are used to maintain cleanliness in fluid power systems.  
Prerequisites:..... CIMHP 113 or Instructor permission

### **CIMHP-115: Hose, Piping, and Tubing**

---

Credit Hours:..... 1.00  
Contact Hours:..... 1.00  
Introduces various types of conductors that carry fluid through a system. Focuses on fittings, hose, and steel tubing used in fluid power systems.  
Prerequisites:..... CIMHP 114 or Instructor permission

### **CIMHP-116: Electrohydraulics/Pneumatics**

---

Credit Hours:..... 1.00  
Contact Hours:..... 1.00  
Introduces the fundamentals of electro-fluid power, including basic electrical principles, basic fluid power principles, electro-fluid power limit devices, and common electro-fluid power troubleshooting principles and practices.  
Prerequisites:..... CIMHP 115 or Instructor permission

**CIMHP-117: Systems and System Troubleshooting**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces troubleshooting of hydraulic/pneumatic systems, including tracing out systems, isolating problems, safety testing, and inspecting systems that use combination circuits and combined electro-hydraulic/pneumatic systems.

Prerequisites:..... CIMHP 116 or Instructor permission

**CIMMT-100: Intro to Machining Operations**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Focuses on the safe application of the most common machining procedures and machines used by multi-skilled industrial maintenance technicians.

Prerequisites:..... N/A

**CIMMT-101: Measuring and Layout Tools**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces measuring and layout tools commonly found in industrial environments. Emphasizes the safe application of the most common tools used by multi-skilled industrial maintenance technicians.

Prerequisites:.....CIMMT 100 or Instructor permission

**CIMMT-102: Hand and Power Tools**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces safe and effective use of hand and power tools. Emphasizes the application of tools most commonly used by multi-skilled industrial maintenance technicians.

Prerequisites:.....CIMMT 101 or Instructor permission

**CIMMT-103: Power Saws and Drill Presses**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces safe operation of drill presses, primarily the sensitive drill press. Emphasizes drilling operations most commonly performed by multi-skilled industrial maintenance technicians. Addresses the various types of drilling machines used in industry, their component parts, and associated safety precautions.

Prerequisites:.....CIMMT 102 or Instructor permission

**CIMMT-104: Engine Lathe Operation**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces safe operation of lathes in the area of engine and tool room lathes. Emphasizes the most common lathe operations required by multi-skilled industrial maintenance technicians. Reviews the types of lathes used in industry, their component parts, and associated safety precautions.

Prerequisites:.....CIMMT 103 or Instructor permission

**CIMMT-105: Vertical Mill Operations**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces the safe operation of milling machines in the area of vertical milling machines. Emphasizes the most common milling operations required by multi-skilled industrial maintenance technicians. Addresses the various types of milling machines used in industry, their component parts, and associated safety precautions.

Prerequisites:.....CIMMT 104 or Instructor permission

**CIMPR-100: Drafting Fundamentals**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces the fundamental information in drafting necessary to retrieve read, manipulate, and understand a mechanical part print. Discusses how to identify and analyze different types of prints.

Prerequisites:.....None

# Courses



### **CIMPR-101: Orthographic Interpretation**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Explores the recognition, identification, description, and relation to the components used in schematics, along with their symbols and connectors, to describe electrical, electronics, pneumatics, hydraulics, and piping circuits, as well as welding and joining symbols interpretation.

Prerequisites:..... CIMPR 100 or Instructor permission

### **CIMTA-100: Basic OSHA Safety**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces OSHA and the OSHA regulations that apply to the auto manufacturing industry.

Prerequisites:.....None

### **CIMTA-101: First Aid, CPI, and AED**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces how to sustain life and minimize the consequences of injury or sudden illness until advanced medical help arrives on the scene. Includes first aid, CPR, and AED lessons to meet the various training needs of those in workplace, school or community settings.

Prerequisites:.....None

### **CIMTA-102: Hoists and Cranes**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces the basic concepts and safety rules and issues related to the use of overhead cranes and hoists.

Prerequisites:.....None

### **CIMTA-103: Rigging Awareness and Fundamentals**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces the basic concepts, safety rules, and issues related to the use of rigging equipment, attachment components, calculating sling angle stresses, and safe lifting and turning loads.

Prerequisites:.....None

### **CIMTA-104: Basic Preventive Maintenance**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces how routine work is done to keep equipment in good working order and to optimize efficiency and accuracy. Addresses regular routine cleaning, lubricating, testing, intermittent checking for wear and tear, and when to replace components in order to avoid breakdown.

Prerequisites:..... CIMTA 103 or Instructor permission

### **CIMTA-105: Advanced Technologies**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces various types and styles of predictive and preventive maintenance components, principles, and practices used in industrial applications.

Prerequisites:.....None

### **CIMTA-106: Basic Mechanical Power Systems**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Introduces the basic concepts of mechanical power transmission. Addresses the principles of power transmission, calculations of speed and force, and how they affect a power transmission systems ability to perform work. Emphasizes the basics of mechanical drawing, safe work practices for working around machinery, common hand tools associated with maintenance work, and some of the more common terms and definitions.

Prerequisites:.....None

**CIMTA-107: Flexible Drives**

Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00  
 Introduces various types and styles of flexible belt and chain drives, including V-belts, chains, sprockets, and components.  
 Prerequisites: ..... None

**CIMTA-108: Couplings and Alignment**

Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00  
 Introduces types and functions of couplings used in industrial power transmissions, including how to install, align, and maintain shaft couplings.  
 Prerequisites: ..... None

**CIMTA-109: Bearing, Shafts, and Seals**

Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00  
 Introduces basic types and functions of bearings, shafts and seals found on mechanical drive systems commonly used in industry.  
 Prerequisites: ..... None

**CIMTA-110: Brakes and Clutches**

Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00  
 Introduces various types and styles of braking systems and clutch components used in industrial applications.  
 Prerequisites: ..... None

**CIMTA-111: Gears and Cams**

Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00  
 Introduces various types and styles of gears and cam follower components used in industrial applications.  
 Prerequisites: ..... None

**CIMTA-112: System Technology**

Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00  
 Provides an overview of the technology found in the integrated systems of today's manufacturing facilities. Examines the symbols, functions, and circuits associated with fluid power, electrical, mechanical, control, and communications found in modern integrated systems.  
 Prerequisites: ..... None

**CIMWD-100: Weld Joint Design and Preparation (Safety/ Joint Design)**

Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00  
 Covers safety rules for the welding lab and issues such as dealing with ultraviolet rays, burns, fumes, and electrical hazards. Introduces the print symbols and terminology used in fabricating and welding basic joints that are commonly seen on blueprints.  
 Prerequisites: ..... None

**CIMWD-101: Weld Joint Design and Preparation (Welding Code, Weld Measurement, and Hand Tools)**

Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00  
 Introduces welding codes and standards, identification of welding flaws, and the tools used to measure aspects of the weld. Emphasizes safety protocols and proper usage of hand tools in a welding lab.  
 Prerequisites: ..... CIMWD 100 or Instructor permission



# Courses



### **CIMWD-102: Weld Joint Design and Preparation (Material Cutting, Grinding, and Fabrication)**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00  
Explores the set-up and use of the Oxy/Fuel cutting torch, the Oxy/Fuel line cutter, Plasma Arc cutting, safety protocols, and proper use of power tools in the welding lab. Also explores how to assemble various weld joints. Laboratory activities.  
Prerequisites: ..... CIMWD 101 or Instructor permission

### **CIMWD-110: Shielded Metal Arc Welding (Flat and Horizontal Welding)**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00  
Examines the theory and practical operation of shielded metal arc welding in both a flat and horizontal welding position. Emphasizes safety protocols, machine settings, and filler metals.  
Prerequisites: ..... CIMWD 102 or Instructor permission

### **CIMWD-111: Shielded Metal Arc Welding (Vertical Welding)**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00  
Explores the theory and operation of shielded metal arc welding in a vertical welding position.  
Prerequisites: ..... CIMWD 110 or Instructor permission

### **CIMWD-112: Shielded Metal Arc Welding (Overhead Welding)**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00  
Discusses theory and operation of shielded metal arc welding. Emphasizes safety protocols and working specifically in the overhead welding position.  
Prerequisites: ..... CIMWD 111 or Instructor permission

### **CIMWD-120: Gas Tungsten Arc Welding (Safety and Technology)**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00  
Covers theory and operation of gas tungsten arc welding equipment. Emphasizes safety protocols, machine settings, and filler metals.  
Prerequisites: ..... CIMWD 102 or Instructor permission

### **CIMWD-121: Gas Tungsten Arc Welding (Steel and Stainless Steel-Flat and Horizontal Welding)**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00  
Discusses theory and operation of gas tungsten arc welding. Emphasizes safety protocols, and flat and horizontal welding positions while using mild and stainless steel.  
Prerequisites: ..... CIMWD 120 or Instructor permission

### **CIMWD-122: Gas Tungsten Arc Welding (Steel and Stainless Steel Vertical)**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00  
Covers theory and operation of gas tungsten arc welding. Emphasizes proper safety protocols and vertical welding position using mild steel and stainless steel.  
Prerequisites: ..... CIMWD 121 or Instructor permission

### **CIMWD-123: Gas Tungsten Arc Welding (Aluminum)**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00  
Covers theory and operation of gas tungsten arc welding. Emphasizes safety protocols, flat welding position, horizontal welding position, and vertical welding position using aluminum.  
Prerequisites: ..... CIMWD 122 or Instructor permission

**CIMWD-130: Gas Metal Arc Welding (Flat and Horizontal)**

Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00  
 Covers theory, machine settings, filler metals, and operation of gas metal arc welding. Emphasizes safety protocols, flat welding position, and horizontal welding position using mild steel.  
 Prerequisites:.....CIMWD 103 or Instructor permission

**CIMWD-131: Gas Metal Arc Welding (Vertical and Overhead Welding)**

Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00  
 Presents the theory and operation of gas metal arc welding. Emphasizes safety protocols, and proper vertical welding and overhead welding positions using mild steel and aluminum.  
 Prerequisites:.....CIMWD 130 or Instructor permission

**CIMWD-140: Weld Metallurgy (Ferrous Metals)**

Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00  
 Covers the mechanical and physical properties and the crystalline structures of ferrous metals. Also explores heat treating of ferrous metals.  
 Prerequisites:.....None

**CIMWD-141: Weld Metallurgy (Non-Ferrous Metals)**

Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00  
 Examines the mechanical and physical properties, and the crystalline structures of non ferrous metals. Also covers alloying and phase diagrams associated with non-ferrous metals like aluminum and copper.  
 Prerequisites:.....CIMWD 140 or Instructor permission

**CIMWD-142: Weld Metallurgy (Weld Testing)**

Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00  
 Introduces the destructive and nondestructive testing equipment and procedures used in the evaluation of welds. Covers how to evaluate the results against a welding standard and write a report on those findings.  
 Prerequisites:.....CIMWD 141 or Instructor permission

**CIMWD-210: Pipe Welding (2G and 5G Welding)**

Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00  
 Introduces safety protocols and the proper preparation used to weld pipe. Emphasizes pipe welding in 2G and 5G welding positions.  
 Prerequisites:.....CIMWD 111 or Instructor permission

**CIMWD-211: Pipe Welding (6G Welding)**

Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00  
 Introduces safety protocols and weld pipe preparation. Focuses on pipe welding in 6G welding position using the shielded metal arc and the gas tungsten arc welding processes.  
 Prerequisites:.....CIMWD 210 or Instructor permission

**CIMWD-212: Pipe Welding (Socket and Flange Welding)**

Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00  
 Introduces safety protocols and proper weld pipe preparation. Focuses on alignment and pipe welding with socket joints and flange joints.  
 Prerequisites:.....CIMWD 211 or Instructor permission

# Courses



## **CIMWD-220: Tool and Die Welding (Technology)**

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Credit Hours:..... 1.00

Contact Hours:..... 1.00

Covers safety protocols, preparation, and the proper welding techniques used to weld tool steel used in tools and dies.

Prerequisites:..... CIMWD 111 and 122 or Instructor permission

## **CIMWD-221: Tool and Die Welding (GTAW)**

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Credit Hours:..... 1.00

Contact Hours:..... 1.00

Introduces safety protocols, proper preparation procedures, and welding techniques used to weld tool steel used in tools and dies. Focuses on using the gas tungsten arc welding (GTAW) process.

Prerequisites:..... CIMWD 220 or Instructor permission

## **CIMWD-222: Tool and Die Welding (SMAW)**

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Credit Hours:..... 1.00

Contact Hours:..... 1.00

Covers safety protocols, preparation procedures, and welding techniques used to weld tool steel used in tools and dies. Focuses on using the shielded metal arc welding process.

Prerequisites:..... CIMWD 221 or Instructor permission

## **CIMWD-230: Shielded Metal Arc Welding AWS Certification (Preparation and Practice)**

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Credit Hours:..... 1.00

Contact Hours:..... 1.00

Covers the proper preparation needed to perform an American Welding Society certification weld.

Prerequisites:..... CIMWD 111 or Instructor permission

## **CIMWD-231: Shielded Metal Arc Welding AWS Certification (Practical)**

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Credit Hours:..... 1.00

Contact Hours:..... 1.00

For the student who would like to obtain an American Welding Society certification using the Shielded Metal Arc Welding process.

Prerequisites:..... CIMWD 230 or Instructor permission

## **CIMWD-240: Gas Tungsten Arc Welding AWS Certification (Preparation and Practice)**

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Credit Hours:..... 1.00

Contact Hours:..... 1.00

Presents how to perform an American Welding Society certification weld.

Prerequisites:..... CIMWD 123 or Instructor permission

## **CIMWD-241: Gas Tungsten Arc Welding AWS Certification (Practical)**

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Credit Hours:..... 1.00

Contact Hours:..... 1.00

For the student who would like to obtain an American Welding Society certification using the Gas Tungsten Arc Welding process.

Prerequisites:..... CIMWD 240 or Instructor permission

## **CIMWD-250: Gas Metal Arc Welding AWS Certification (Preparation and Practice)**

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Credit Hours:..... 1.00

Contact Hours:..... 1.00

Presents how to properly perform an American Welding Society certification weld.

Prerequisites:..... CIMWD 131 or Instructor permission

**CIMWD-251: Gas Metal Arc Welding AWS Certification (Practical)**

Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

For the student who would like to obtain an American Welding Society certification using the Shielded Metal Arc Welding process.

Prerequisites:..... CIMWD 250 or Instructor permission

**CIMWD-260: Welding Fabrication Project (Planning and Design)**

Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

This capstone course for the welding technology program emphasizes the critical thinking aspects of developing, designing, and planning a fabrication project.

Prerequisites:..... CIMWD 222 or Instructor permission

**CIMWD-261: Welding Fabrication Project (Fabricate)**

Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

This capstone course for the Welding Technology program emphasizes the critical thinking aspects of cutting, machining, preparation, and welding of a one off fabrication project.

Prerequisites:..... CIMWD 260 or Instructor permission

**CIMWD-262: Welding Fabrication Project (Assembly)**

Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Serves as one of three capstone courses for the Welding Technology program. Provides the required assessment of knowledge and skills for students in their last semester of course work. Emphasizes critical thinking aspects of the components used in a one off project, the quality control aspect of the project, and the final assembly of the fabrication project.

Prerequisites:..... CIMWD 261 or Instructor permission

**CIS-100: Introduction to Information Technology**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Survey the field of computer technology and information management. Covers computer hardware, the use of the Internet for communication, e-commerce, information retrieval, the social impact of technology, computer security, networking, and industry-related careers. Also introduces students to the Windows operating system, Internet browsers, e-mail, word processing, spreadsheets, and presentation software using computer laboratory sessions. This course satisfies the HFC Computer Literacy Requirement.

Prerequisites:..... None

**CIS-105: Desktop Operating System Concepts**

Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

An introductory-level course focusing on client side desktop operating systems, including installing, using, maintaining, and securing the system. Covers customizing the system, file management, using help, working with applications, Internet connections, file system security, account set-up for multiple users, and for various types of users. Also provides an overview of system configuration, troubleshooting, and system maintenance.

Prerequisites:..... CIS-100

**CIS-109: Apple Support**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

An introductory-level course focusing on using and supporting Apple products with primary emphasis on the Macintosh Operating System (OS), including installing, configuring, using, maintaining, troubleshooting, and securing the system. Demonstrates installing and configuring the Mac OS, working with applications, file management, security, network connections, peripherals, and cross-platform compatibility. Also examines Mobile Apple products and iOS. Suitable for end-users seeking an in-depth knowledge of the Mac OS or help desk specialists/computer technicians who will be supporting Apple products and the Mac OS within an organization.

Prerequisites:..... CIS 100

# Courses



## **CIS-111: SQL for Database Development**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00

An intermediate-level course familiarizing the student with the SQL language used to retrieve and modify tables and data within a SQL Server database management system. Covers outer joins, summary queries, and subqueries. Also discusses using normalization techniques to design and create database structures, views, scripts, stored procedures, scalar functions, and triggers.

Prerequisites: CIS 122 or CIS 125 or CIS 130 or CIS 170 or Instructor permission

## **CIS-112: Introduction to Networking**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

An introductory-level course covering the basics of Local and Wide Area Networking. Discusses the OSI model, network protocols, media architecture, and networking hardware. Also covers WANs, remote connectivity, TCP/IP and the Internet as well as how to troubleshoot common network problems.

Prerequisites: ..... None

## **CIS-113: Wireless LANs**

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Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

An intermediate-level course covering Wireless Networking. Discusses the IEEE 802.11 standards and the relationship to the OSI model. Also covers the planning, installation, configuration, troubleshooting, and securing of Wireless Networking products.

Prerequisites: ..... CIS 112

## **CIS-114: Introduction to Novell NetWare Administration**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00

Introduces the basics of Novell NetWare Administration. Presents file system setup, user administration, security configuration, connecting client workstations, eDirectory Services management, system monitoring, and maintenance as well as the configuration of network printing.

Prerequisites: ..... CIS 112 or CNT 110

## **CIS-121: Introduction to the Internet**

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Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Introduces the Internet - how it was created, how it works, and its impact on daily life. Presents the resources, services and tools available; such as e-mail, search engines, and directories; Web 2.0 and user-generated content; social and business networks; and e-commerce. Also evaluates ethical and legal implications of the Internet and Web, including how to safeguard themselves and computers from security, malware, and privacy threats.

Prerequisites: ..... None

## **CIS-122: Web Internet Technologies**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

An introductory-level course covering website usability, web page authoring, the Internet, networking, and security fundamentals. Skills demonstrated will include beginning Web programming and development in HTML, CSS, and PHP.

Prerequisites: ..... None

**CIS-123: Web Pages**

Credit Hours: .....2.00  
Contact Hours: .....2.00

A beginning course that explores current web page development techniques and methodologies. Also discusses graphical web development tools, formatting, layout, navigation, database integration, accessibility, and browser compatibility. Includes the development and publishing of a professional website.

Prerequisites:.....None

**CIS-124: Introduction to Windows Server Administration**

Credit Hours: .....3.00  
Contact Hours: .....4.00

An introductory-level course that explores the installation and configuration of the Windows Server operating system, connecting client workstations, Active Directory and Server management, system monitoring and maintenance as well as the configuration of network printing.

Prerequisites:.....CIS 112 or CNT 110

**CIS-125: Principles of Programming Logic**

Credit Hours: .....4.00  
Contact Hours: .....4.00

An introductory-level course presenting programming logic techniques. Emphasizes structured methods of programming. Also covers pseudocode and flowcharting, input/output, selection, loops, arrays, data validation, functions, and modules. A computer lab is used for compilation and testing.

Prerequisites:.....None

**CIS-126: XHTML/HTML/CSS Web Programming**

Credit Hours: .....4.00  
Contact Hours: .....4.00

Covers HyperText Markup Language (HTML) coding practices for both current and future browsers. Uses HTML5, XHTML, Cascading Style Sheets (CSS) extensively, and validates according to the guidelines of the World Wide Web Consortium (W3C). Introduces JavaScript language. Includes the creation and publishing of a website using HTML5 and CSS.

Prerequisites:.....None

**CIS-129: Introduction to UNIX with Shell Scripting**

Credit Hours: .....4.00  
Contact Hours: .....4.00

An intermediate-level course covering the fundamentals of the UNIX Operating System, including the file system, email, editor, and standard UNIX utilities. Emphasizes how the UNIX shell operates, and also presents advanced forms of utilities, regular expressions, and shell scripts.

Prerequisites:..... CIS 125

**CIS-130: Visual Basic.Net Programming**

Credit Hours: .....3.00  
Contact Hours: .....4.00

An intermediate programming course using Visual Basic.Net for Windows application development. Covers coding and debugging techniques for an object oriented environment. Also creates common Windows form controls used in a graphical user interface application.

Prerequisites:.....CIS 125 or Permission of Instructor

# Courses



### CIS-132: Active Server Pages.Net Programming

Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00

An intermediate-level course covering the advanced technologies of a scripting language used for Web programming. Covers multi-page web applications, working with server and validation controls, master pages, and database programming with GridView, DetailsView, and FormView controls.

Prerequisites: ..... CIS 130

### CIS-157: A+ Hardware

Credit Hours: ..... 4.00  
Contact Hours: ..... 4.00

Explores the hardware section of the CompTIA A+ certification exam in detail. Also covers installation, configuration, and troubleshooting of various hardware. Includes hands-on lab activities with actual hardware components.

Prerequisites: ..... CIS 100

### CIS-158: A+ Operating Systems

Credit Hours: ..... 4.00  
Contact Hours: ..... 4.00

Explores the software section of the CompTIA A+ certification exam in detail. Covers various operating systems from a PC repair technician perspective, and discusses how the operating system interacts with the PC's hardware, the boot process, troubleshooting, and interaction with application software. Requires hands-on lab activities with various operating systems and application installations.

Prerequisites: ..... CIS 100

### CIS-160: COBOL Programming

Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00

Emphasizes software maintenance in COBOL and the software development life cycle. Covers why and how program modifications are necessary, and how to analyze, code, test, and debug existing programs.

Prerequisites: ..... CIS 125

### CIS-162: Perl Programming

Credit Hours: ..... 4.00  
Contact Hours: ..... 4.00

An intermediate-level course that probes the benefits of a powerful scripting language. Examines basic Perl program structure, flow control fundamentals used under different platforms, search and replace techniques, short cuts, associative arrays, normalizing, sorting lists using multiple sort orders, and file manipulation. Also covers data types, pattern matching and subroutines, including exploration of popular modules such as DBI and Apache, introduces CGI (Common Gateway Interface) and ActivePerl programming.

Prerequisites: ..... CIS 129

### CIS-170: C Programming

Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00

An intermediate-level course which familiarizes the student with a compiler and the "C" programming language. Emphasizes designing, coding, testing, and debugging programs using the "C" language through laboratory exercises and detailed lectures.

Prerequisites: ..... CIS 125 or MATH 180

**CIS-171: Java Programming**

Credit Hours:.....3.00  
Contact Hours:.....4.00

An intermediate-level course which examines Java programming language and its various components. Emphasizes designing, coding, testing, and debugging programs using the Java language through laboratory exercises and detailed lectures.

Prerequisites:..... CIS 170

**CIS-172: JavaScript**

Credit Hours:.....3.00  
Contact Hours:.....4.00

An intermediate-level course which explores the JavaScript programming language and its various components. Emphasizes designing, coding, testing, and debugging programs using the JavaScript language through laboratory exercises and detailed lectures.

Prerequisites:..... CIS 122 or CIS 126 or Instructor permission

**CIS-186: Game Programming**

Credit Hours:.....4.00  
Contact Hours:.....4.00

An intermediate-level course which presents the process, concepts, and techniques of game programming. Discusses game engines, game scripting and programming languages, game authoring systems, game physics, rendering, level, model and terrain editors, interactivity, special effects, and networking.

Prerequisites:..... CIS 125

**CIS-211: Web Server Administration**

Credit Hours:.....2.00  
Contact Hours:.....2.00

Introduces the installation, configuration, and management of web server software. Offers hands-on experience in installing and administering the two dominant web server software platforms: Apache web server and Microsoft Internet Information Server (IIS). Covers web server security, performance monitoring and tuning, virtual hosting, proxy servers, and supporting database and dynamic content. Intended for network, server, or web administration; web development; or computer information system students.

Prerequisites:..... CIS 129

**CIS-212: Networking II**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Covers additional Local and Wide Area Networking topics that help prepare the student for the CompTIA Network+ certification test. Examines Network Operating System basics (NetWare, Unix, Windows Server); maintaining and upgrading networks; ensuring integrity and availability; network security; network design; implementation; and advanced troubleshooting techniques.

Prerequisites:..... CIS 112 or CNT 110

**CIS-215: Advanced Visual Basic.Net Database Programming**

Credit Hours:.....3.00  
Contact Hours:.....4.00

This advanced-level course focuses on writing Windows application forms that interface with a database management system using the VB.Net language. Covers using data sources and datasets for Rapid Application Development, three-layer Windows Forms applications, using reporting features of Visual Studio, and how to use LINQ.

Prerequisites:..... (CIS 111 or CIS 270) and CIS 130



# Courses



## **CIS-220: Systems Analysis and Design**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

A capstone course involving the study of techniques used by the systems analyst to design and implement computerized business information systems. Emphasizes written and oral communication skills necessary for the information technology professional through participation in a systems project designed to reinforce course material.

Prerequisites:..... CIS 111 and 125 and (CIS 122 or CIS 130 or CIS 170)

## **CIS-221: Instructional Technology for Elementary Teachers**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Covers basic computer literacy, including Microsoft Office and the Internet. Also introduces future teachers to educational software, technology devices, and technology resources. Includes the development of an electronic portfolio of assignments which demonstrate ways of incorporating technology in the classroom environment. This course is designed as the first course in Instructional Technology for the pre-elementary education student and fulfills the HFC general education graduation requirement in Computer Literacy.

Prerequisites:.....None

## **CIS-222: Web Database Development with PHP**

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Credit Hours: ..... 4.00  
Contact Hours: ..... 4.00

An intermediate-level course in which a database-backed web site using PHP and MySQL is developed. Also covers HTML, CSS, PHP, database design, MySQL, XML, and security.

Prerequisites:..... CIS 122

## **CIS-223: Instructional Technology for Secondary Teachers**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Covers basic computer literacy, including Microsoft Office and the Internet. Also introduces future teachers to educational software, technology devices, and technology resources. Includes the development of an electronic portfolio of assignments which demonstrates ways of incorporating technology in the classroom environment. This course is designed as the first course in Instructional Technology for pre-secondary education students and fulfills the HFC general education graduation requirement in Computer literacy.

Prerequisites:.....None

## **CIS-227: Web Authoring**

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Credit Hours: ..... 4.00  
Contact Hours: ..... 4.00

A web authoring course which focuses on the theory, design, and construction of Web pages and sites. Explores information architecture concepts, usability, layout, template development, multimedia integration, interactivity, site management, and web project management. Also introduces the industry leading web authoring and content management software to build and publish a web site.

Prerequisites:..... CIS 126 and ART 107

## **CIS-229: UNIX System Administration**

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Credit Hours: ..... 4.00  
Contact Hours: ..... 4.00

Covers the effective administration of a UNIX/Linux system and the knowledge and tasks required of the Linux+ certification exams. Discusses the architecture and internals of the UNIX and Linux Operating Systems along with laboratory exercises that include the installation and package management, device management, Linux file systems, files system hierarchy standards, shell scripting and data management, user interfaces and desktops, administrative tasks, essential system services, networking fundamentals, and security.

Prerequisites:..... CIS 129

**CIS-230: C++ Programming**

Credit Hours: ..... 3.00

Contact Hours: ..... 4.00

An advanced-level course expanding upon arrays, pointers, structures, and file I/O. Covers theory and application in areas such as the standard template library, object oriented constructs, data and classes, and migrating from “C” to “C++.”

Prerequisites: ..... CIS 170

**CIS-232: C# Programming**

Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

An advanced-level course expanding upon arrays, pointers, structures, and object oriented programming in greater detail. Emphasizes C# program structure, language syntax, and implementation details. Covers how to develop C# applications for the Microsoft .NET Platform.

Prerequisites: ..... CIS 170 or CIS 171 or CIS 230

**CIS-235: Advanced Flash**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Provides instruction and hands-on laboratory experience on advanced Flash development. Discusses topics necessary for careers in web multimedia development. Covers Flash games, audio and video file integration, complex animations, ActionScript programming, interactivity, ActionScript controlled motion, preloaders, form processing, external content, and document management.

Prerequisites: ..... ART 108

**CIS-242: Voice Over IP (VoIP)**

Credit Hours: ..... 2.00

Contact Hours: ..... 2.00

An intermediate-level course focusing on IP Telephony devices and Voice Over IP (VoIP). Emphasizes terminology, concepts, installing, configuring, using, maintaining, and troubleshooting a digital voice system. Covers the installation and configuration of a Digital PBX system through laboratory exercises.

Prerequisites: ..... CIS 112 or CNT 110

**CIS-244: NAS and Virtualization**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

An intermediate-level course focusing on Network Attached Storage (NAS) devices and Server OS Virtualization. Emphasizes terminology, concepts, installing, configuring, using, maintaining, and troubleshooting of an iSCSI NAS device and OS Virtualization on those devices.

Prerequisites: ..... CIS 124

**CIS-270: Oracle Database Administration**

Credit Hours: ..... 3.00

Contact Hours: ..... 4.00

An advanced-level course familiarizing the student with the Oracle Database Management System covering database terminology, data structure design, data retrieval, and manipulation. Includes database server installation, configuration, Oracle components and architecture, user administration and security, performance monitoring, client application access, and backup and recovery through laboratory exercises.

Prerequisites: ..... CIS 111 or Instructor permission

# Courses



## **CIS-271: Advanced Java**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

An advanced-level course which examines advanced Java features including Java EE/J2EE, data structures, file I/O, database connectivity, Servlets, networking, Java Beans, Java Server Pages (JSP), Struts, and Java Frameworks. Covers practical programming exercises and compilers.

Prerequisites: ..... CIS 171

## **CIS-272: Project Management**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

An advanced-level course which studies project management techniques that provide a foundation for the CompTIA IT Project+ certification and Project Management Body of Knowledge (PMBOK). Also covers project integration, scope, time, cost, quality, human resources, communications, risk, and procurement management. Utilizes Microsoft Project software to manage a project.

Prerequisites: ..... CIS 220 or Instructor permission

## **CIS-280: Information Assurance and Security**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

An intermediate-level course that provides a comprehensive understanding of Information Assurance and Security as defined in the National Training Standard for Information Systems Security Professionals. Emphasizes Information Assurance Skills that are necessary to address government and industry security needs.

Prerequisites: ..... CIS 112

## **CIS-295: Network Design and Implementation**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

A capstone course covering the design, implementation, and support of a Local Area Network (LAN). Examines basic LAN design methods and tools, Network Operating Systems, LAN implementation considerations, LAN hardware, and network troubleshooting techniques. Includes the design and implementation of a LAN in a lab setting complete with file servers, system backups, wireless and wired clients, printing, Internet Access, configuration of switches, VLANs, VPNs, routers, and firewalls.

Prerequisites: ..... CNT 110 and CNT 120 and CNT 210 and CNT 220 and at least two of the following: CIS 114, CIS 124 or CIS 229

## **CIS-296: Information Assurance Methodology**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

A capstone course providing hands-on experiences in the planning, implementation, and maintenance of Information Security systems. Covers security technologies and tools, footprinting, scanning and enumeration, web browser security, access control, data management and recovery, log security issues, network intrusion detection systems, virtual private networks, encryption and malware prevention, and defense. Analyzes and implements information security techniques through laboratory exercises.

Prerequisites: CRJ 131, CRJ 134, CIS 158, CIS 272, CIS 280, and CNT 260

## **CIS-297: Special Topics in Computer Information Systems**

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Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Explores selected topics as determined by the academic department and the instructor with emphasis on current Computer Information System trends. The specific special topic will be announced together with the prerequisites each term. Student can repeat the course when different topics are offered, earning credit for each different topic.

Prerequisites: ..... As appropriate

**CIS-298: Special Topics in Computer Information Systems**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Explores selected topics as determined by the academic department and the instructor with emphasis on current Computer Information System trends. The specific special topic will be announced together with the prerequisites each term. Student can repeat the course when different topics are offered, earning credit for each different topic.

Prerequisites: ..... As appropriate

**CIS-299: Special Topics in Computer Information Systems**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Explores selected topics as determined by the academic department and the instructor with emphasis on current Computer Information System trends. The specific special topic will be announced together with the prerequisites each term. Student can repeat the course when different topics are offered, earning credit for each different topic.

Prerequisites: ..... As appropriate

**CLT-100: Computer Literacy Test**

Credit Hours: ..... 0.00  
Contact Hours: ..... 0.00

Successfully passing the CLT-100 test satisfies HFCs General Education Computer Literacy Requirement, and depending on the program requirements of some/certain concentrations, the test may replace a requirement to take an actual course to meet the Computer Literacy Requirement. Note: Before deciding to take the CLT-100 test, a student is responsible for checking their program on WebAdvisor to see what computer-related course(s) must be taken to meet specific program requirements.

**CNT-103: Network Infrastructure**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

For those interested in the physical aspects of network cabling and installation. Provides an overview of cabling and networking industry standards as well as emerging cabling technologies. Offers information about the industry and its worldwide standards, types of media and cabling, physical and logical networks, and signal transmission. Hands-on laboratory activities.

Prerequisites: ..... None

**CNT-106: IT Essentials**

Credit Hours: ..... 4.00  
Contact Hours: ..... 4.00

Introduces the computer hardware and software skills required for entry-level information and communication technology (ICT) professionals. Topics include the fundamentals of PC technology, networking, and security and provides an introduction to advanced concepts.

Prerequisites: ..... None

**CNT-110: CCNA: Networking I**

Credit Hours: ..... 4.00  
Contact Hours: ..... 4.00

The first in a series of four courses designed to help prepare students for CCNA (Cisco Certified Network Associate) certification. Introduces students to the architecture, structure, functions, components, and models of computer networks. Emphasizes building simple LANs, performing basic configurations for routers and switches, and implementing IP addressing schemes. Strongly recommended that students be very familiar with working within a Windows environment and using a Web browser before taking this course. Note: Course topics help students prepare for the CCENT/CCNA Routing and Switching certification exams, but the exams are not included in this course. Industry certification exams are administered by an independent testing agency.

Prerequisites: ..... None

# Courses



## **CNT-120: CCNA: Networking II**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

The second in a series of four courses designed to help prepare students for CCNA (Cisco Certified Network Associate) certification. Describes the architecture, components, and operations of routers and switches in a small network. Emphasizes configuring and troubleshooting routers and switches and resolving common issues with various routing protocols, virtual LANs, and inter-VLAN routing in IP networks through laboratory exercises and detailed lectures. Note: course topics help students prepare for the CCENT/CCNA Routing and Switching certification exams, but the exams are not included in this course. Industry certification exams are administered by an independent testing agency.

Prerequisites: ..... CNT 110 – CCNA: Networking I

## **CNT-210: CCNA: Networking III**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

The third in a series of four courses designed to help prepare students for CCNA (Cisco Certified Network Associate) certification. Describes the architecture, components, and operations of routers and switches in a larger and more complex network. Emphasizes configuring and troubleshooting routers and switches and resolving common issues with Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), Spanning Tree Protocol (STP), and Virtual Local Area Network (VLAN), VLAN Trunking Protocol (VTP) in both Internet Protocol version 4 (IPv4) and Internet Protocol version 6 (IPv6) networks through laboratory exercises and detailed lectures. NOTE: Course topics help students prepare for the CCNA Routing and Switching certification exam, but the exam is not included in this course. Industry certification exams are administered by an independent testing agency.

Prerequisites: ..... CNT 120 - CCNA: Networking II

## **CNT-215: Health Information Networking**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

Focuses on in-depth knowledge and skills that can be applied toward entry-level specialist careers in healthcare networking. HIN is a blended curriculum with both online and classroom learning. Presents principles and practicalities needed for information technology professionals who aim to specialize in healthcare network implementations.

Prerequisites: ..... CNT 210

## **CNT-220: CCNA: Networking IV**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

The last in a series of four courses designed to help prepare students for CCNA (Cisco Certified Network Associate) certification. Discusses the wide area network (WAN) technologies and network services required by converged applications in a complex network. Covers the selection criteria of network devices and WAN technologies to meet network requirements, how to configure and troubleshoot network devices and resolve issues with data link protocols, and explores how to implement Internet Protocol Security (IPsec) and virtual private network (VPN) operations in a complex network through laboratory exercises and detailed lectures. NOTE: Course topics help students prepare for the CCNA Routing and Switching certification exam, but the exam is not included in this course. Industry certification exams are administered by an independent testing agency.

Prerequisites: ..... CNT 210

## **CNT-260: Network Security**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

Introduces network security. Emphasizes security terminology and concepts, network security design, security threats and vulnerabilities, security assessment tools and techniques, application, host, and data security, access control concepts and implementation, risk management and business continuity, and basic cryptography through laboratory exercises and detailed lectures. Course topics typically help students prepare for the CompTIA Security+ certification exam. NOTE: This exam is not included in this course. Industry certification exams are administered by an independent testing agency.

Prerequisites: ..... CNT 120 or CIS 112; or Instructor permission

**CNT-270: CCNA Security**

Credit Hours:.....4.00  
Contact Hours:.....4.00

For students with Cisco Certified Entry Networking Technician (CCENT) training and/or equivalent experience interested in the technologies Cisco uses in its security infrastructure. Covers securing Cisco routers and switches including their installation, troubleshooting, and monitoring of network devices to maintain integrity, confidentiality, and availability of data and devices. Also includes recognizing network threats and vulnerabilities, and mitigating security threats. Laboratory activities. NOTE: Course topics help students prepare for the CCNA Security certification exam, but the exam is not included in this course. Industry certification exams are administered by an independent testing agency.

Prerequisites:..... CNT 220 with a C grade or better or CCNA Certification or Instructor permission

**CNT-291: CCNP - Routing**

Credit Hours:.....4.00  
Contact Hours:.....4.00

One of three courses leading to the Cisco Certified Network Professional (CCNP) designation. Topics include how to implement, monitor, and maintain routing services in an enterprise network. Presents planning, configuring, and verifying the implementation of complex enterprise LAN and WAN routing solutions, using a range of routing protocols in IPv4 and IPv6 environments. Also covers the configuration of secure routing solutions to support branch offices and mobile workers. Comprehensive labs emphasize hands-on learning and practice to reinforce configuration skills. NOTE: Course topics help students prepare for the CCNP ROUTE certification exam, but the exam is not included in this course. Industry certification exams are administered by an independent testing agency.

Prerequisites:..... CNT 220 or CCNA certification or Instructor permission

**CNT-293: CCNP - Switching**

Credit Hours:.....4.00  
Contact Hours:.....4.00

One of three courses designed to prepare students for the Cisco Certified Networking Professional (CCNP) certification. Covers advanced skills required for building enterprise-class switched networks with integrated voice and wireless applications. Other topics include campus networks, VLAN implementation, Spanning Tree Protocol, inter-VLAN routing, network redundancy, wireless LANs, VoIP, and switch security issues. NOTE: Course topics help students prepare for the CCNP SWITCH certification exam, but the exam is not included in this course. Industry certification exams are administered by an independent testing agency.

Prerequisites:..... CNT 220 or CCNA Certification or Instructor permission

**CNT-295: CCNP - Network Troubleshooting**

Credit Hours:.....4.00  
Contact Hours:.....4.00

One of three courses leading to the Cisco Certified Network Professional (CCNP) designation. Covers how to monitor and maintain complex, enterprise routed and switched IP networks. Focuses on the planning and execution of regular network maintenance, as well as support and troubleshooting using technology-based processes and best practices, in a systematic and IT Infrastructure Library (ITIL)-compliant approach. Topics include planning maintenance for complex network, troubleshooting processes for complex enterprise networks, using maintenance and troubleshooting tools and applications, maintaining and troubleshooting campus switched solutions, maintaining and troubleshooting routing solutions, troubleshooting addressing services, troubleshooting network performance issues, troubleshooting converged networks, and maintaining and troubleshooting network security implementations. NOTE: Course topics help students prepare for the CCNP TSHOOT certification exam, but the exam is not included in this course. Industry certification exams are administered by an independent testing agency.

Prerequisites:..... CNT 291 and CNT 293

# Courses



## **COLL-101: College Success**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Presents techniques to help students achieve academic success, including how to navigate the college environment and embrace diversity. Covers note taking, time management, and career decision-making.

Prerequisites:.....None

## **COLL-105: Language Skills for College Success**

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Credit Hours:.....3.00

Contact Hours:.....3.00

A course designed for Dual Enrollment high school students, emphasizing reading strategies and skills that help prepare students for success in college level content-area and English composition courses, including those measured by a standardized placement test. Covers how to make connections with a variety of authentic texts, practice strategies needed for critical reading, and expand academic vocabulary. Requires students to complete online assignments that complement classroom activities and COMPASS pre- and post-testing. COLL 105 does not substitute for any required English course. This course may be repeated once for credit.

Prerequisites:.....Specified scores on PLAN, ACT, or a comparable standardized reading test. Permission of the high school counselor is required for enrollment

## **COMM-190: Co-op in Communications**

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Credit Hours:.....1.00

Contact Hours:.....1.00

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a “co-op,” provides academic credit for structured employment experience. Work experience must be directly related to the student’s declared major to be eligible.

To register for this course, a student must have completed 50% of core coursework, maintain an overall GPA of 2.0 and a program specific GPA of 2.5.

Prerequisites:.....Permission from Career Services Officer or Job Developer in the Office of Career Services

## **COMM-290: Co-op in Communications**

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Credit Hours:.....2.00

Contact Hours:.....9.87

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a “co-op,” provides academic credit for structured employment experience. Work experience must be directly related to the student’s declared major to be eligible.

To register for this course, a student must have completed 50% of core coursework, maintain an overall GPA of 2.0 and a program specific GPA of 2.5.

Prerequisites:.....Permission from Career Services Officer or Job Developer in the Office of Career Services

## **COUN-110: Human Potential Seminar**

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Credit Hours:.....2.00

Contact Hours:.....2.00

Examines how to identify and apply positive life skills in order for each individual to discover and use their strengths, talents, and abilities. Covers empathy, peak experiences, internal and external motivational factors, goal setting, and values clarification.

Prerequisites:.....None

## **COUN-111: Advanced Human Potential Seminar**

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Credit Hours:.....2.00

Contact Hours:.....2.00

Use the group process and the tools developed in COUN 110 to further develop life skills that enable each individual to discover his or her potential, and to deal more effectively and efficiently with conflicts, blocks, failures, and life-style problems.

Prerequisites:.....COUN 110 or Instructor permission

**COUN-114: Stress Management - A Personal Approach**

Credit Hours:.....2.00

Contact Hours:.....2.00

Offers a supportive group setting for students to examine their own personal sources of stress, how these stress factors are affecting them, and what they can do to develop more effective coping strategies.

Prerequisites:.....None

**COUN-115: Assertiveness Training**

Credit Hours:.....1.00

Contact Hours:.....1.00

Examines how to improve communication and behavior. Also discusses how to differentiate between assertiveness, passiveness, and aggressiveness.

Prerequisites:.....None

**COUN-116: Assertiveness in Daily Living**

Credit Hours:.....1.00

Contact Hours:.....1.00

An advanced course in assertiveness focusing on communication problems with parents, siblings, friends, relatives, and strangers, including specific assertive strategies of successful communication with difficult people. Emphasizes how to refuse a request, ask for a favor, respond to criticism, and manage one's anger.

Prerequisites:.....None

**COUN-118: Assertiveness at Work**

Credit Hours:.....1.00

Contact Hours:.....1.00

Discusses how to get the most out of one's work environment. Covers how to apply for a job, ask for a raise, and negotiate salary. Examines how to apply assertiveness training techniques to handle both criticism from colleagues and a performance review from a supervisor.

Prerequisites:.....None

**COUN-119: Issues in Personal Growth**

Credit Hours:.....2.00

Contact Hours:.....2.00

Examines how to identify barriers to personal growth and how to overcome those barriers to find friendship, love, and happiness.

Prerequisites:.....None

**COUN-120: Career Exploration**

Credit Hours:.....1.00

Contact Hours:.....1.00

Examines how to perform a career assessment, create a genogram, and research potential career opportunities.

Prerequisites:.....none

**COUN-125: Life Work Planning**

Credit Hours:.....3.00

Contact Hours:.....3.00

Examines and analyzes one's own resources, strengths, and constraints to determine what is realistic for future change. Covers decision-making tools which can be utilized for effective planning resulting in alignment between one's life and work goals. Potential challenges are examined through problem-solving techniques.

Prerequisites:.....None

**COUN-127: Job Interview Counseling**

Credit Hours:.....1.00

Contact Hours:.....1.00

Offers successful strategies to fight job interview anxiety. Presents creative measures to secure an interview, how to dress appropriately for the interview, how to field questions, what to ask the interviewer, and post-interview follow-up. Resume required.

Prerequisites:.....None



# Courses



## **COUN-128: Active Parenting**

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Credit Hours: .....2.00

Contact Hours: .....2.00

Explores how to apply the basic principles of active parenting to both children and teens. Also discusses topics such as, but not limited to: how to parent children at different developmental states, the development of a child's ethnic identity, effective punishment strategies, challenges faced by working parents, stepfamilies, and communication patterns.

Prerequisites:.....None

## **COUN-129: Personality Type and Success**

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Credit Hours: .....2.00

Contact Hours: .....2.00

Covers personality theory/personality type, how to utilize the Myers-Briggs Type Indicator (MBTI) to develop a greater understanding and appreciation of self and others, and how to manage one's personality and accept the personality of others as it relates to relationships, employment, education, communication, lifestyle, and decision-making.

Prerequisites:.....None

## **CRJ-126: Introduction to Homeland Security**

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Credit Hours: .....3.00

Contact Hours: .....3.00

Provides students with a comprehensive overview of Homeland Security policies, practices, and programs. Also discusses local, state, and federal initiatives, as well as the restructuring of the Department of Homeland Security.

Prerequisites:.....English 079 eligible

## **CRJ-131: Introduction to Law Enforcement and Criminal Justice**

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Credit Hours: .....3.00

Contact Hours: .....3.00

An overview of the criminal justice system in the U.S. Topics covered are: the history of law enforcement: the political, sociological, and philosophic, and background of police functions; and the criminal courts. Constitutional problems as they relate to the police function are surveyed, and the use of recent technology in criminal justice is discussed.

Prerequisites:.....English 079 eligible

## **CRJ-132: Police Administration – Staff and Line Operations**

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Credit Hours: .....3.00

Contact Hours: .....3.00

Focuses on uniformed police operations, both patrol and traffic, as well as principles of organization, management, planning, and crime prevention.

Prerequisites:.....CRJ 131

## **CRJ-134: Criminal Investigation**

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Credit Hours: .....3.00

Contact Hours: .....3.00

Introduces criminal investigation and the techniques of forensic science. Topics include information accumulation, specific crimes, and preparation for purposes of prosecution.

Prerequisites:.....CRJ 131

**CRJ-135: Juvenile Justice**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Covers the legal and philosophical basis of the juvenile justice process along with a review of the juvenile court procedures in Michigan. Discusses problems related to delinquency and its control.

Prerequisites:.....CRJ 131

**CRJ-136: Introduction to Corrections**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Explores the history and philosophy of corrections. Covers probation, parole, and the impact of prisoner rights law on the system as a whole.

Prerequisites:.....English 079 eligible

**CRJ-138: Probation and Parole**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Covers treatment of convicted law violators by correctional field services before and after prison, analysis of the role of probation and parole officers, and evaluation of community resources applied to the correctional task.

Prerequisites:.....CRJ 136

**CRJ-140: Identity Theft: Prevention and Awareness**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Provides an overview of the identity theft problem in America. Includes current statistics from around the nation, profiles of specific cases, various prevention techniques, and steps to take if victimized.

Prerequisites:.....CRJ 131

**CRJ-141: Corrections Clients – Human Growth and Development**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Investigates human development and its relationship to criminal patterns, stressing the role of environment and family as influences on behavior. Specific problems such as substance abuse and mental pathologies are reviewed, and intervention strategies and treatment alternatives are discussed.

Prerequisites:.....CRJ 136

**CRJ-234: Criminalistics: Criminal Investigation Laboratory Techniques**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Offers laboratory experience in the fundamentals of investigation, including fingerprinting techniques and the examination of hair, fiber, glass, firearms, and tool marks.

Prerequisites:.....CRJ 134

**CRJ-235: Computer Forensics and Cyber Crime Investigations**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Introduces the fundamental principles of computer investigations. Emphasizes computer forensics tools, information protection, professional development and security. Explores various types of cyber crime and investigative techniques applicable to them. Students will examine emerging technologies used in law enforcement in relation to computer-related crime.

Prerequisites:.....CRJ 134 and CIS 100

# Courses



## CRJ-251: Criminal Law

Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

A study of the basic elements of criminal law with particular emphasis on definitions of Michigan crimes.

Prerequisites: ..... CRJ 131

## CRJ-252: Criminal Procedure

Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

Expands on the concepts presented in CRJ 251, emphasizing criminal procedure, including the laws of arrest and search and seizure, the rights of the accused; and the roles of the prosecutor, judge, jury and defense counsel in the judicial process. Also discusses both Michigan and federal constitutional issues.

Prerequisites: ..... CRJ 251

## CRJ-253: Legal Issues in Corrections/Probation and Parole

Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

Introduces constitutional issues relating to corrections. Focuses on court processes with particular emphasis on major cases affecting corrections, including probation and parole.

Prerequisites: ..... CRJ 136 or Instructor permission

## CRJ-285: Topics in Criminal Justice/Law Enforcement

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

An exit course covering a series of critical issues facing law enforcement personnel. Examines the diverse roles of the public police and how to achieve effective community policing.

Prerequisites: ..... ENG 131, CRJ 131, and one 3-credit hour class in Criminal Justice

## CRJ-286: Topics in Corrections/Probation and Parole

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

An exit course covering a series of critical issues facing corrections, probation, and parole personnel. The primary goals are to help the student understand the diverse roles of corrections, probation, and parole personnel and prepare for the job environment.

Prerequisites: ..... ENG 131, CRJ 136, and one 3-credit hour class in Criminal Justice.

## CRJ-287: Police Academy

Credit Hours: ..... 21.00

Contact Hours: ..... 21.87

Covers the proper techniques of investigation, crime scene process, patrol procedures, operations and techniques. Emphasizes conflict mediation, report writing, and detention and prosecution of prisoners. First aid, investigations, evidence collection, disaster control, civil disorders and tactical operations will also be covered.

Prerequisites: ..... Instructor permission

# Courses

## **CRJ-291: Criminal Justice Internship 1**

Credit Hours: ..... 3.00  
Contact Hours: ..... 9.20

This is an internship program that provides the student with field experience with municipal, county, state, and local criminal justice agencies and related agencies in the private sector. This includes but is not limited to: District, Circuit, and Juvenile Courts, halfway houses, detention centers, local, county and state police agencies, the FBI, U.S Marshall Service, Drug Enforcement Agency and Homeland Security. The internship is available to students in both the Probation/ Corrections and Parole and the Criminal Justice programs. Students will perform all of the duties of professionals in the given area at the staff level. Students will not have arrest authority or be authorized to carry guns but may perform ride alongs, shadow criminal justice personnel, work in crime labs, interview probation clients, and perform other administrative work. Students will receive hands on experience in their chosen field working alongside with and performing the duties of criminal justice professionals.

The internship requires a minimum of 9 hours of work each week off campus at a criminal justice site. Students are also required to meet on campus with the HFC faculty member on a weekly basis by arrangement. This class can only be taken once.

Prerequisites:..... GPA of 2.8, Completion of 12 hours of CRJ courses, and written consent of CRJ director before registration.

## **CRJ-292: Criminal Justice Internship 2**

Credit Hours: ..... 3.00  
Contact Hours: ..... 9.20

This is a continuation of the internship started in CRJ 291 and can only be taken as part of a year-long internship. Students will continue to gain field experience with municipal, county, state, and local criminal justice agencies and related agencies in the private sector. This includes but is not limited to: District, Circuit, and Juvenile Courts, halfway houses, detention centers, local, county and state police agencies, the FBI, U.S Marshall Service, Drug Enforcement Agency and Homeland Security. The internship is available to students in both the Probation/Corrections and Parole and the Criminal Justice programs. Students will perform all of the duties of professionals in the given area at the staff level. Students will not have arrest authority or be authorized to carry firearms but may perform ride alongs, shadow criminal justice personnel, work in crime labs, interview probation clients, and perform other administrative work. Students will receive hands on experience in their chosen field working alongside with and performing the duties of criminal justice professionals.

The internship requires a minimum of 9 hours of work each week off campus at a criminal justice site. Students are also required to meet on campus with the HFC faculty member on a weekly basis by arrangement. This class can only be taken once.

Prerequisites:... Successful completion of CRJ 291 and written consent of CRJ director before registration

## **DNCA-121: Beginning Tap**

Credit Hours: ..... 2.00  
Contact Hours: ..... 3.00

Introduces the basic rhythms, steps, and simple combinations of tap, a dance form derived from a combination of syncopated African rhythms, Irish clogging, and folk dance. First class meeting discusses proper footwear.

Prerequisites:.....None

## **DNCA-131: Beginning Latin and Ballroom Dance**

Credit Hours: ..... 2.00  
Contact Hours: ..... 3.00

Provides the basics of ballroom in the American and International styles in a group setting. Students will be able to recognize and execute basics of American Smooth and International Standard styles of Waltz, Foxtrot, Cha Cha, Rumba and East Coast Swing. Technique, rhythms and leading and following are studied and practiced.

Prerequisites:.....None

# Courses



## **DNCA-132: Intermediate Latin and Ballroom Dance**

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Credit Hours: .....2.00

Contact Hours: .....3.00

Continues dances learned in DNCA 131 with more complex patterns. Basics of three Latin dances, Mambo, Bolero and Jive, and two Ballroom dances, Tango and Viennese Waltz, are added. Technique, rhythm, leading and following are studied and practiced.

Prerequisites:..... DNCA 131 or Instructor permission

## **DNCA-133: Advanced Latin and Ballroom Dance**

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Credit Hours: .....2.00

Contact Hours: .....3.00

Continues the study and practice of dances learned in DNC 132 with more complex patterns with a partner. Basics of Latin dances, Paso Doble and Samba; and a Ballroom dance, Quickstep, are added. Rhythm, technique, and leading and following are studied and practiced.

Prerequisites:..... DNCA 132 or Instructor permission

## **DNCA-141: Beginning Ballet**

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Credit Hours: .....2.00

Contact Hours: .....3.00

Introduces ballet movement and ballet movement vocabulary in French. Fundamental barre exercises are learned through the identification, execution, and understanding of their purpose. Students will learn technique at the barre, at the centre, and through the dance space.

Prerequisites:.....None

## **DNCA-142: Intermediate Ballet**

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Credit Hours: .....2.00

Contact Hours: .....3.00

Continues the study of ballet via an expanded and more challenging movement vocabulary. More complex combinations at the barre, at the centre and through the dance space are explored. Skill is also acquired through the understanding of skeletal-muscular anatomy and function involved in dance. Care of the body and conditioning for dance is emphasized.

Prerequisites:..... DNCA 141 or Instructor permission

## **DNCA-143: Advanced Ballet**

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Credit Hours: .....2.00

Contact Hours: .....3.00

Presents advanced-level ballet concepts via more complex and challenging adagio and allegro combinations, as well as excerpts from the classical ballet repertory. Also covers career opportunities in dance, and examines an abbreviated historical perspective of the classical excerpts offered.

Prerequisites:..... DNCA 142 or Instructor permission

## **DNCA-151: Beginning Modern Dance**

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Credit Hours: .....2.00

Contact Hours: .....3.00

Explores Modern Dance as an art form that has a limitless way to express oneself in human movement. Primary emphasis is on developing technique of the basic Modern movement vocabulary. Course also covers skeletal muscular anatomy and function as it applies to dance movement, and an introduction to improvisation and composition.

Prerequisites:.....None

# Courses

## **DNCA-152: Intermediate Modern Dance**

Credit Hours:.....2.00

Contact Hours:.....3.00

Further explores Modern Dance as an art form that offers a limitless way to express oneself in human movement. Primary emphasis is on building beyond basic Modern movement vocabulary to more complex phrases in the center and through the dance space.

Prerequisites:.....DNCA 151 or Instructors' permission

## **DNCA-153: Advanced Modern Dance**

Credit Hours:.....3.00

Contact Hours:.....3.00

Explores the finer points of Modern Dance. Primary emphasis is on performing advanced movement phrases along with the study and practice of specific Modern Dance techniques. Course also supports the development of choreographic skill and stage presence.

Prerequisites:..... DNCA 152 or Instructor permission

## **DNCA-161: Beginning Jazz Dance**

Credit Hours:.....2.00

Contact Hours:.....3.00

Explores theatre style jazz dance. Primary emphasis is on developing knowledge of and experience in basic jazz movement vocabulary and technique accompanied by jazz and popular music. Course also includes study of music rhythms, a brief history of jazz, and the body instrument from an anatomical perspective.

Prerequisites:.....None

## **DNCA-162: Intermediate Jazz Dance**

Credit Hours:.....2.00

Contact Hours:.....3.00

Further explores the characteristic movements of jazz dance via the use of more intricate footwork, movement phases, and combinations than those performed in basic jazz dance.

Prerequisites:..... DNCA 161-Beginning Jazz Dance or consent of instructor

## **DNCA-163: Advanced Jazz Dance**

Credit Hours:.....2.00

Contact Hours:.....3.00

Emphasizes advanced rhythmic complexity and movement combinations, in depth practice of specific styles of Jazz dance, and proper body conditioning for the dancer. Also offers an overview of careers in dance and an introduction to choreography.

Prerequisites:..... DNCA 162 or Instructor permission

## **DNCA-221: College Dance Company I**

Credit Hours:.....3.00

Contact Hours:.....3.00

This is the first of four semesters of College Dance Company, providing opportunities to perform in a wide variety of genres and venues with different choreographers. Dance forms performed include, but are not limited to, classical, modern, jazz, tap, ballroom and Latin. In addition, HFC Full Circle Dance Company students have an opportunity to attend dance festivals, master classes, professional dance company concerts, and to have their choreography presented. Two or more performances of a final concert are scheduled on campus as well as other performances, both on and off campus. This course is open to college students and high school juniors and seniors by audition and interview. New dance students may audition in one of several scheduled group auditions or may schedule an individual audition with the director. A strong dance background is required.

Prerequisites:..... Admission by audition each term

# Courses



### **DNCA-222: College Dance Company II**

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Credit Hours:.....3.00  
Contact Hours:.....3.00

This is the second of four semesters of College Dance Company, providing opportunities to perform in a wide variety of genres and venues with different choreographers. Dance forms performed include, but are not limited to, classical, modern, jazz, tap, ballroom and Latin. In addition, HFC Full Circle Dance Company students have an opportunity to attend dance festivals, master classes, professional dance company concerts, and to have their choreography presented. Two or more performances of a final concert are scheduled on campus as well as other performances, both on and off campus. This course is open to college students and high school juniors and seniors by audition and interview. New dance students may audition in one of several scheduled group auditions or may schedule an individual audition with the director. A strong dance background is required.

Prerequisites:..... Admission by audition each term

### **DNCA-223: College Dance Company III**

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Credit Hours:.....3.00  
Contact Hours:.....3.00

This is the third of four semesters of College Dance Company, providing opportunities to perform in a wide variety of genres and venues with different choreographers. Dance forms performed include, but are not limited to, classical, modern, jazz, tap, ballroom and Latin. In addition, HFC Full Circle Dance Company students have an opportunity to attend dance festivals, master classes, professional dance company concerts, and to have their choreography presented. Two or more performances of a final concert are scheduled on campus as well as other performances, both on and off campus. This course is open to college students and high school juniors and seniors by audition and interview. New dance students may audition in one of several scheduled group auditions or may schedule an individual audition with the director. A strong dance background is required.

Prerequisites:..... Admission by audition each term

### **DNCA-224: College Dance Company IV**

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Credit Hours:.....3.00  
Contact Hours:.....3.00

This is the fourth of four semesters of College Dance Company, providing opportunities to perform in a wide variety of genres and venues with different choreographers. Dance forms performed include, but are not limited to, classical, modern, jazz, tap, ballroom and Latin. In addition, HFC Full Circle Dance Company students have an opportunity to attend dance festivals, master classes, professional dance company concerts, and to have their choreography presented. Two or more performances of a final concert are scheduled on campus as well as other performances, both on and off campus. This course is open to college students and high school juniors and seniors by audition and interview. New dance students may audition in one of several scheduled group auditions or may schedule an individual audition with the director. A strong dance background is required.

Prerequisites:..... Admission by audition each term

### **DNCA-230: Beginning Choreography**

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Credit Hours:.....3.00  
Contact Hours:.....3.00

Provides opportunities to use individual creativity through the composition of dance movement. Discover and practice manipulating movement using the dance elements of time, space, and energy to create and build a dance. Movement will mainly be composed for solo pieces.

Prerequisites:.....None

### **DNCA-253: Advanced Modern Dance**

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Credit Hours:.....2.00  
Contact Hours:.....3.00

Explores advanced modern dance. Primary emphasis is on performing advanced movement phrases and on developing choreographic skill and stage presence.

Prerequisites:..... DNCA 152 or Instructor permission

**DRAF-110: Introduction to Industrial Drafting**

Credit Hours: ..... 3.00  
Contact Hours: ..... 5.00

Introduces the use of drafting instruments, lettering technique, geometric construction, orthographic projection, pictorial drawing, basic dimensioning for manufacturing, sectioning, auxiliaries, an introduction to assembly drawings, print reading, and interpretation of drawings.

Prerequisites: ..... None

**DRAF-120: Introduction to CAD**

Credit Hours: ..... 4.00  
Contact Hours: ..... 6.00

Introduces Computer-Aided Drafting (CAD) techniques. Topics include: general computer operations, basic file management procedures, basic three-dimensional (3-D) solid modeling techniques, preparation of sketches for modeling, creating orthographic drawings, auxiliaries, sectioning, application of dimensions techniques, and assembly.

Prerequisites: ..... DRAF 110

**DRAF-122: SolidWorks Level I - Introduction**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Introduces SolidWorks and its functionality including the creation of a rough sketch of geometry and how to correctly define it. Explores how to set up drawing units, modify dimensions on a sketch, and complete a 3-dimensional (3D) solid model. Also covers features of SolidWorks including orthographic views and basic file management procedures.

Prerequisites: ..... DRAF 120, equivalent/CAD class, CAD work experience, or Instructor permission

**DRAF-123: Introduction to CATIA V5**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Introduces the basics of CATIA V5 and its functionality. Utilizes the part design, sketcher, drafting, and assembly design workbenches to make models that are properly constructed and constrained. Coursework explores how CATIA's tools and toolbars are used in these workbenches.

Prerequisites: ..... DRAF 120 or Instructor permission

**DRAF-124: SolidWorks Level II - Advanced**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Focuses on applying orthographic principles to mechanical drawings, using the SolidWorks software program. Provides instruction on how to develop section views, auxiliary views, and isometric projections; how to lay out detailed drawings, including advanced assembly procedures and manipulation of assembly components; and how to apply dimensions for manufacturing to orthographic views.

Prerequisites: ..... DRAF 122

**DRAF-125: CATIA V5 Level II**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Builds on the CATIA V5 concepts introduced in DRAF 123. Expands upon some workbenches demonstrated in the previous course and others will be introduced. Topics include: advanced part design, advanced assemblies, kinematics simulations, the use of the specification tree, creating design tables, and using component catalogs.

Prerequisites: ..... DRAF 123



# Courses



## **DRAF-126: SolidWorks Level III - Applications**

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Credit Hours: .....2.00

Contact Hours: .....2.00

An advanced industrial applications course utilizing 3-dimensional (3D) advanced construction tools. Focuses on how to apply key concepts from prior SolidWorks courses to real-world industrial projects. Also examines how to create, edit, and export bills of materials; apply assembly modeling procedures; create exploded views; edit components in an assembly; add and constrain mates; utilize simulation Xpress tool; and perform basic motion analysis.

Prerequisites:..... DRAF 124

## **DRAF-127: CATIA V5 Level III**

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Credit Hours: .....2.00

Contact Hours: .....2.00

Explores the use of the drafting workbench and surfacing. Covers the application of dimensions and tolerances, and the creation of advanced views. Instruction in surfacing includes extruding and the creation of simple and complex surfaces in the generative shape design workbench.

Prerequisites:..... DRAF 123

## **DRAF-130: Technical Descriptive Geometry**

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Credit Hours: .....3.00

Contact Hours: .....5.00

Covers advanced projection techniques. Utilizes auxiliary views to manipulate geometry and define relationships between points, lines, surfaces, and solids. Also covers revolution, intersections, solids, and developments.

Prerequisites:.....DRAF 110`

## **DRAF-131: UG NX Level I - Introduction**

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Credit Hours: .....2.00

Contact Hours: .....2.00

Introduces the basics of UG NX and its functionality. Utilizes modeling, sketch creation, drafting, and assembly task environments to create and edit models that are properly constructed and constrained.

Prerequisites:.....DRAF 120 or 123 or related work experience or Instructor permission

## **DRAF-132: UG NX Level II - Intermediate**

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Credit Hours: .....2.00

Contact Hours: .....2.00

Builds on UG NX concepts introduced in DRAF 131. Explores different task environments. Topics include part families, expressions, assembly simulation, animation, and functional application of dimensions in drafting techniques for manufacturing.

Prerequisites:..... DRAF 131

## **DRAF-133: UG NX Level III - Advanced**

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Credit Hours: .....2.00

Contact Hours: .....2.00

Builds on concepts presented in DRAF 132. Explores advanced techniques and topics, including manipulating, analyzing components, and creating new parts within existing assemblies as well as basic surfacing techniques.

Prerequisites:..... DRAF 132

## **DRAF-134: UG NX Level IV - Applications**

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Credit Hours: .....2.00

Contact Hours: .....2.00

An advanced-level industrial applications course that examines how to create 3-dimensional (3D) wireframe geometry, develop 3D models using surfacing functions, construct complex surfaces, create and operate kinematic simulations, and operate assembly simulations.

Prerequisites:..... DRAF 133

**DRAF-142: Industrial Detailing**

Credit Hours: ..... 4.00  
Contact Hours: ..... 6.00

Explores the making of working drawings using proper dimensioning techniques. Showing necessary views, placement of dimensions, use of different dimensioning styles, and calculation of tolerances are the basis of instruction. The function and relationship of mating parts in an assembly are considered when dimensioning to insure proper fit and function. Threads, fasteners, and common manufacturing operations are applied and dimensioned. Standard and commercial parts are selected from catalogs. Setup and application of CAD dimensioning styles and tolerances are utilized.

Prerequisites:..... DRAF 110 and 120

**DRAF-210: Die Design**

Credit Hours: ..... 3.00  
Contact Hours: ..... 5.00

Focuses on advanced drawing techniques in the layout and design of production press work dies. Typical dies covered are blank, cam pierce, form, cutoff, draw, and progressive. Press computations and accessories are put in perspective as they relate to design problems. Drawing assignments are done extensively on CAD.

Prerequisites:..... DRAF 130, DRAF 142, and MATH 100 or above

**DRAF-220: Machine Element Drafting**

Credit Hours: ..... 2.00  
Contact Hours: ..... 3.00

Focuses on the study of mechanisms, their motion, and related skeletal construction. Calculations are made to determine size and capacity requirements in the design of machine elements. Industrial techniques are applied to detail drawing of various machine parts. Drawing assignments are done extensively on CAD.

Prerequisites:..... DRAF 130, DRAF 142, and MATH 100 or above

**DRAF-230: Jigs, Fixtures, and Tools**

Credit Hours: ..... 3.00  
Contact Hours: ..... 5.00

Covers advanced techniques in design, layout, and detail of production tooling. Consideration is given to locating, clamping, and tolerancing a jig and fixture for the manufacture of an industrial part. Standard parts catalogs and library reference materials are used to provide guidance in solving design problems. Drawing assignments are done extensively on CAD.

Prerequisites:..... DRAF 130, DRAF 142, and MATH 100 or above

**DRAF-240: Product Drawing**

Credit Hours: ..... 2.00  
Contact Hours: ..... 3.00

Examines the demands of product drafting. The design process is applied in the development of a product with consideration given to its function, fix, aesthetics, ergonomics, and its ability to be economically manufactured. Drawing assignments are done extensively on CAD.

Prerequisites:..... DRAF 130, DRAF 142, and MATH 100 or above

**DRAF-255: Advanced Techniques**

Credit Hours: ..... 4.00  
Contact Hours: ..... 6.00

Examines the use of Computer-aided design (CAD) in advanced operations of making three-dimensional models. Solids analysis and the manipulation of geometry is explored utilizing current CAD software. Concepts of parametric modeling, drafting principles are reviewed and developed as they relate to solid model geometry.

Prerequisites:..... DRAF 110 and DRAF 120

# Courses



## **DRAF-260: Advanced CAD Applications Solid Modeling**

Credit Hours:.....4.00

Contact Hours:.....6.00

Covers three-dimensional, feature-based parametric solid CAD. Students create complex three-dimensional parametric models and then generate two-dimensional views from those CAD models. Single parts and assemblies are developed, constrained, and manipulated in the modeling process.

Prerequisites:..... DRAF 110 and DRAF 120

## **DRAF-297: Special Topics in Industrial Drafting Technology**

Credit Hours:.....1.00

Contact Hours:.....1.00

Designed to explore selected topics as determined by the academic department and the instructor with emphasis on current drafting technology trends. The specific special topic will be announced together with the prerequisites each term. Students can repeat the course when different topics are offered, earning credit for each different topic.

Prerequisites:..... As appropriate

## **DRAF-298: Special Topics in Industrial Drafting Technology**

Credit Hours:.....2.00

Contact Hours:.....2.00

Designed to explore selected topics as determined by the academic department and the instructor with emphasis on current drafting technology trends. The specific special topic will be announced together with the prerequisites each term. Students can repeat the course when different topics are offered, earning credit for each different topic.

Prerequisites:..... As appropriate

## **EDU-201: Introduction to Education**

Credit Hours:.....3.00

Contact Hours:.....3.00

Covers the history of U.S. education, teacher certification process, professional organizations and their purpose, teaching methods, classroom management, diversity, reform movements, and school financing. Also addresses different philosophies of education, state standards, and high-stakes testing, and introduces lesson planning, instructional techniques, and classroom instruction. Assignments incorporated into students' e-portfolios, a program requirement.

EDU 201 is to be taken concurrently with the corresponding section of EDU 202-Introduction to Education Practicum, which involves placement in a classroom setting at the grade level at which the student wishes to teach. Course assignments in EDU 201 are coordinated with EDU 202.

This course is not to be taken concurrently with PSY 152.

Prerequisites:... ENG 131, ENG 132, PSY 131, and CIS 221 or CIS 223

## **EDU-202: Introduction to Education Practicum**

Credit Hours:.....1.00

Contact Hours:.....1.00

EDU 202 is a required 45-clock hour practicum, to be taken concurrently with the corresponding section of EDU 201 – Introduction to Education. Course assignments for students enrolled in EDU 202 will be coordinated between the EDU 201 instructor and the coordinating teacher assigned school practicum. Course topics include: the profession of teaching, the process of becoming an educator, managing a classroom, various career paths in education, teacher certification and endorsement. Activities allow students to interact with and use State resources located on the Michigan Department of Education website. (See EDU 201 for more information.)

This course is not to be taken concurrently with PSY 152. Field experience hours in PSY 152 do not count for pre-student teaching hours in EDU 202.

Prerequisites:.....ENG 131, ENG 132 and PSY 131

**EDU-260: History and Civics in Elementary Schools**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Explores topics in history, politics, and civics taught in grades K-8 and prepares students to teach these topics. Also presents a survey of Michigan and American history through Reconstruction, as well as early world history.

Prerequisites: ..... ENG 131 and ENG 132

**ELEC-103: Basic Electricity**

Credit Hours: ..... 4.00

Contact Hours: ..... 6.00

Covers the fundamentals of electricity as applied to the electrical field. Topics include the electron theory, Ohm's Law, circuits, magnetism, inductance, capacitance, and alternating current circuits. Utilizes voltmeters, ammeters, power supplies, signal generators, and oscilloscopes to construct circuits during lab activities. Also utilizes computer simulations.

Prerequisites: ..... None

**ELEC-106: Basic Electronics**

Credit Hours: ..... 3.00

Contact Hours: ..... 4.00

Introduces the fundamentals of solid-state components found in electronic circuits. Topics include solid state diodes, field effect transistors, and bipolar transistors. Discusses characteristics of these components and some basic circuits in which they are commonly used. Utilizes a software program to simulate various electronic circuits.

Prerequisites: ..... ELEC 103

**ELEC-115: Digital Circuits 1**

Credit Hours: ..... 3.00

Contact Hours: ..... 4.00

Introduces digital concepts; binary, hexadecimal, and BCD number systems; TTL and CMOS integrated circuit logic gate technology; Boolean algebra; logic tables; combinational logic; monostable and bistable multivibrators; storage registers; asynchronous counters; and the use of digital electronic simulation software. Extensive laboratory activities.

Prerequisites: ..... None

**ELEC-120: Basic Hydraulics**

Credit Hours: ..... 3.00

Contact Hours: ..... 4.00

Introduces basic hydraulic principles, laws, components, and symbols. Topics include: safety; the use of tools; and procedures in the design, building, testing, troubleshooting, and repair of industrial hydraulic systems. Includes demonstrations and laboratory activities.

Prerequisites: ..... None

**ELEC-145: AC/DC Rotating Machinery**

Credit Hours: ..... 3.00

Contact Hours: ..... 4.00

Focuses on theory and application of D.C. motors and generators, A.C. alternators, and single-phase and three-phase induction motors. Also covers single-phase and three-phase transformers. Includes laboratory activities with verification of several circuit principles.

Prerequisites: ..... ELEC 103

# Courses



## **ELEC-155: Analog Electronics I**

Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00  
Covers fundamental circuits and their characteristics. Focuses on rectifier circuits and amplifier systems. Laboratory work consists of experiments in rectification, filtering, amplification, and coupling.  
  
Prerequisites: ..... ELEC 106

## **ELEC-185: Pneumatics**

Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00  
Explores the principles of fluid power pneumatics as they apply to industrial systems. Examines various pneumatic components with respect to their functions within pneumatic power and control systems. Includes laboratory activities.  
  
Prerequisites: ..... None

## **ELEC-195: AC/DC Circuit Analysis**

Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00  
Focuses on D.C. single- and multi-source circuitry with the application of loop, node, and Thevenin's theorem. Also covers A.C. reactive circuits using both phasors and complex numbers for determining reactance, impedance, and power factor. Laboratory activities.  
  
Prerequisites: ..... ELEC 103

## **ELEC-200: Ladder Diagrams and Motor Controls**

Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00  
Covers the fundamentals of electrical ladder diagrams and motor control circuits. Presents ladder logic, as well as labels, documentation, and symbology of electrical drawing with the use of ladder diagrams for troubleshooting. Also discusses control circuits for three-phase motors and sequential control of electro-pneumatic devices. Several single phase control circuits are included in laboratory exercises. Also included in the lab exercises are sequencing electro-pneumatic devices. Introduces students to the variable frequency drive to control three phase motor speed.  
  
Prerequisites: ..... ELEC 103

## **ELEC-245: Programmable Controllers**

Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00  
Begins with a thorough discussion of the Allen Bradley Contrologix/ Compactlogix programmable controller system characteristics, followed by a detailed presentation on how to use the programmable controller to solve the automated control problem.  
  
Prerequisites: ..... None

## **ELEC-255: Instrumentation Systems**

Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00  
Introduces instrumentation systems in a laboratory setting. Covers transducers including LVDTs, strain gages, accelerometers, load cells, magnetic pickups, and temperature detectors. Utilizes computer-based data acquisition including LabVIEW® graphical programming language.  
  
Prerequisites: ..... ELEC 155

**ELEC-260: Automation Controls and Robotics**

Credit Hours:.....3.00  
Contact Hours:.....4.00

Utilizes control specifications written by the student for laboratory automation machines and industrial robots to implement controls for non-synchronous and synchronous operation of the machine. Covers techniques, terminology, and documentation currently used in automated manufacturing.

Prerequisites:..... ELEC 245

**ELEC-281: Automation/Robotics 2**

Credit Hours:.....3.00  
Contact Hours:.....4.00

Demonstrates how to navigate the RSLogix 5000 Design and Configuration software and utilize the fundamental features of RSLogix 5000, such as ladder logic editor, program and controller scoped tags, user-defined datatypes, and add-on instructions. Also covers how to structure, develop, and debug logic to meet a design specification for a machine sequence that will be simulated using an automation trainer. Laboratory activities.

Prerequisites:..... ELEC 103 with a C grade or better or Instructor permission

**ELEC-283: Instrumentation/LabVIEW 2**

Credit Hours:.....3.00  
Contact Hours:.....4.00

Focuses on Laboratory Virtual Instrumentation Engineering Workbench (LabVIEW), a system design platform and development environment for a visual programming language from National Instruments. Begins with basic LabVIEW principles and steadily advances to more complex functions. LabVIEW is used to build virtual instruments (VIs). Topics include: G Programming, creating VIs, VI hierarchy, controls, indicators, constants, terminals, wires, data types, arrays, clusters, the bundle function, case structure, sub VIs, loops, charts, graphs, and documenting and debugging codes.

Prerequisites:..... ELEC 103 with a C grade or better or Instructor permission

**ELEC-290: Co-op in Electrical Technology**

Credit Hours:.....2.00  
Contact Hours:.....9.87

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a “co-op,” provides academic credit for structured employment experience. Work experience must be directly related to the student’s declared major to be eligible.

To register for this course, a student must have completed 50% of core coursework, maintain an overall GPA of 2.0 and a program specific GPA of 2.5.

Prerequisites:.....Permission from Career Services Officer or Job Developer in the Office of Career Services

**ELEC-295: Microprocessor Systems**

Credit Hours:.....3.00  
Contact Hours:.....4.00

Focuses on the Motorola MC68HC11 microcontroller. Topics include: accumulator instructions, arithmetic and logic instructions, loops and timing instructions, indexed addressing, use of a cross assembler, interfacing with external devices, interrupts, analog-to-digital conversion, timer systems, input capture, EPROM Programming, and serial data exchange. Hands-on lab activities.

Prerequisites:..... ELEC 115

**ELEC-297: Special Topics in Electrical Technology**

Credit Hours:.....1.00  
Contact Hours:.....1.00

Explores selected topics as determined by the academic department and the instructor with emphasis on current electrical technology trends. Specific special topics and the prerequisites will be announced each term. Course may be repeated when different topics are offered, earning credit for each different topic.

Prerequisites:..... As appropriate

# Courses



## **ELEC-298: Special Topics in Electrical Technology**

Credit Hours: .....2.00  
Contact Hours: .....2.00

Explores selected topics as determined by the academic department and the instructor with emphasis on current electrical technology trends. The specific special topics and the prerequisites will be announced each term. Course may be repeated when different topics are offered, earning credit for each different topic.

Prerequisites:..... As appropriate

## **ELI-001: ELL Integrated Skills 1**

Credit Hours: .....6.00  
Contact Hours: .....9.00

ELI-001 is a non-transferable developmental course that emphasizes beginning college-preparatory reading, listening, speaking, writing, and grammar skills for non-native English speakers. Lab/online assignments that complement classroom activities will also be required. Satisfactory completion of this course will qualify students for ELI-002. This course does not count toward degree graduation requirements.

Prerequisites:.....None

## **ELI-002: ELL Integrated Skills 2**

Credit Hours: .....6.00  
Contact Hours: .....9.00

ELI-002 is a non-transferable developmental course that emphasizes basic college-preparatory reading, listening, speaking, writing, and grammar skills for non-native English speakers. Lab/online assignments that complement classroom activities will also be required. Satisfactory completion of this course will qualify students for ELI-003. This course does not count toward degree graduation requirements.

Prerequisites:.....  
A reading score of 38-51 and a grammar/usage score of 42-52 on the ESL COMPASS Test or successful completion of ELI-001

## **ELI-003: ELL Integrated Skills 3**

Credit Hours: .....6.00  
Contact Hours: .....9.00

ELI-003 is a non-transferable developmental course that emphasizes high-beginning college-preparatory reading, listening, speaking, writing, and grammar skills for non-native English speakers. Lab/online assignments that complement classroom activities will also be required. Satisfactory completion of this course will qualify students for ELI-004. This course does not count toward degree graduation requirements.

Prerequisites:.....  
A reading score of 52-64 and a grammar/usage score of 53-62 on the ESL COMPASS Test or successful completion of ELI-002

## **ELI-004: ELL Integrated Skills 4**

Credit Hours: .....6.00  
Contact Hours: .....9.00

ELI-004 is a non-transferable developmental course that emphasizes pre-intermediate college-preparatory reading, listening, speaking, writing, and grammar skills for non-native English speakers. Lab/online assignments that complement classroom activities will also be required. Satisfactory completion of this course will qualify students for ELI-005. This course does not count toward degree graduation requirements.

Prerequisites:.....  
A reading score of 65-72 and a grammar/usage score of 63-73 on the ESL COMPASS Test or successful completion of ELI-003

## **ELI-005: ELL Integrated Skills 5**

Credit Hours: .....6.00  
Contact Hours: .....9.00

ELI-005 is a non-transferable developmental course that emphasizes low-intermediate college-preparatory reading, writing, grammar, and study skills for non-native English speakers. Lab/online assignments that complement classroom activities will also be required. Satisfactory completion of this course will qualify students for ELI-006. This course does not count toward degree graduation requirements.

Prerequisites:.....  
A reading score of 73-79 and a grammar/usage score of 74-83 on the ESL COMPASS Test or successful completion of ELI-004

**ELI-006: ELL Integrated Skills 6**

Credit Hours: .....6.00

Contact Hours: .....9.00

ELI-006 is a non-transferable developmental course that emphasizes intermediate college-preparatory reading, writing, grammar, and study skills for non-native English speakers. Lab/online assignments that complement classroom activities will also be required. Satisfactory completion of this course will qualify students for ENG-082 and 092. This course does not count toward degree graduation requirements.

Prerequisites:.....  
A reading score of 80-86 and a grammar/usage score of 84-89 on the ESL COMPASS Test or successful completion of ELI-005

**ELI-101R: ELL Reading & Listening/Speaking 1**

Credit Hours: .....6.00

Contact Hours: .....9.00

ELI-101R is a non-transferable developmental course that emphasizes beginning college-preparatory reading and listening/speaking skills for non-native English speakers. Lab/online assignments that complement classroom activities will also be required. Satisfactory completion of this course will qualify students for ELI-102R. This course does not count toward degree graduation requirements.

Prerequisites:.....None

**ELI-101W: ELL Writing & Grammar 1**

Credit Hours: .....6.00

Contact Hours: .....9.00

ELI-101W is a non-transferable developmental course that emphasizes beginning college-preparatory writing and grammar skills for non-native English speakers. Lab/online assignments that complement classroom activities will also be required. Satisfactory completion will qualify students for ELI-102W. This course does not count toward degree graduation requirements.

Prerequisites:.....None

**ELI-102R: ELL Reading & Listening/Speaking 2**

Credit Hours: .....6.00

Contact Hours: .....9.00

ELI-102R is a non-transferable developmental course that emphasizes basic college-preparatory reading and listening/speaking skills for non-native English speakers. Lab/online assignments that complement classroom activities will also be required. Satisfactory completion of this course will qualify students for ELI-103R. This course does not count toward degree graduation requirements.

Prerequisites: A reading score of 38-51 on the ESL COMPASS Test or successful completion of ELI-101R

**ELI-102W: ELL Writing & Grammar 2**

Credit Hours: .....6.00

Contact Hours: .....9.00

ELI-102W is a non-transferable developmental course that emphasizes basic college-preparatory writing and grammar skills for non-native English speakers. Lab/online assignments that complement classroom activities will also be required. Satisfactory completion of will qualify students for ELI-103W. This course does not count toward degree graduation requirements.

Prerequisites: A grammar/usage score of 42-52 on the ESL COMPASS Test or successful completion of ELI-101W

**ELI-103R: ELL Reading & Listening/Speaking 3**

Credit Hours: .....6.00

Contact Hours: .....9.00

ELI-103R is a non-transferable developmental course that emphasizes high-beginning college-preparatory reading and listening/speaking skills for non-native English speakers. Lab/online assignments that complement classroom activities will also be required. Satisfactory completion of this course will qualify students for ELI-104R. This course does not count toward degree graduation requirements.

Prerequisites: A reading score of 52-64 on the ESL COMPASS Test or successful completion of ELI-102R



# Courses



## **ELI-103W: ELL Writing & Grammar 3**

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Credit Hours: .....6.00

Contact Hours: .....9.00

ELI-103W is a non-transferable developmental course that emphasizes high-beginning college-preparatory writing and grammar skills for non-native English speakers. Lab/online assignments that complement classroom activities will also be required. Satisfactory completion of this course will qualify students for ELI-104W. This course does not count toward degree graduation requirements.

Prerequisites: A grammar/usage score of 53-62 on the ESL COMPASS Test or successful completion of ELI-102W

## **ELI-104R: ELL Reading & Listening/Speaking 4**

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Credit Hours: .....6.00

Contact Hours: .....9.00

ELI-104R is a non-transferable developmental course that emphasizes pre-intermediate college-preparatory reading and listening/speaking skills for non-native English speakers. Lab/online assignments that complement classroom activities will also be required. Satisfactory completion of this course will qualify students for ELI-105R. This course does not count toward degree graduation requirements.

Prerequisites: A reading score of 65-72 on the ESL COMPASS Test or successful completion of ELI-103R

## **ELI-104W: ELL Writing & Grammar 4**

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Credit Hours: .....6.00

Contact Hours: .....9.00

ELI-104W is a non-transferable developmental course that emphasizes pre-intermediate college-preparatory writing and grammar skills for non-native English speakers. Lab/online assignments that complement classroom activities will also be required. Satisfactory completion of this course will qualify students for ELI-105W. This course does not count toward degree graduation requirements.

Prerequisites: A grammar/usage score of 63-73 on the ESL COMPASS Test or successful completion of ELI-103W

## **ELI-105R: ELL Reading & Study Skills 5**

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Credit Hours: .....6.00

Contact Hours: .....9.00

ELI-105R is a non-transferable developmental course that emphasizes low-intermediate college-preparatory reading and study skills for non-native English speakers. Lab/online assignments that complement classroom activities will also be required. Satisfactory completion of this course will qualify students for ELI-106R. This course does not count toward degree graduation requirements.

Prerequisites: A reading score of 73-79 on the ESL COMPASS Test or successful completion of ELI-104R

## **ELI-105W: ELL Writing & Grammar 5**

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Credit Hours: .....6.00

Contact Hours: .....9.00

ELI-105W is a non-transferable developmental course that emphasizes low-intermediate college-preparatory writing and grammar skills for non-native English speakers. Lab/online assignments that complement classroom activities will also be required. Satisfactory completion of this course will qualify students for ELI-106W. This course does not count toward degree graduation requirements.

Prerequisites: A grammar/usage score of 74-83 on the ESL COMPASS Test or successful completion of ELI-104W

## **ELI-106R: ELL Reading & Study Skills 6**

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Credit Hours: .....6.00

Contact Hours: .....9.00

ELI-106R is a non-transferable developmental course that emphasizes intermediate college-preparatory reading and study skills for non-native English speakers. Lab/online assignments that complement classroom activities will also be required. Satisfactory completion of this course will qualify students for ENG-082. This course does not count toward degree graduation requirements.

Prerequisites: A reading score of 80-86 on the ESL COMPASS Test or successful completion of ELI-105R

**ELI-106W: ELL Writing & Grammar 6**

Credit Hours:.....6.00  
Contact Hours:.....9.00

ELI-106W is a non-transferable developmental course that emphasizes intermediate college-preparatory writing and grammar skills for non-native English speakers. Lab/online assignments that complement classroom activities will also be required. Satisfactory completion of this course will qualify students for ENG-092. This course does not count toward degree graduation requirements.

Prerequisites:A grammar/usage score of 84-89 on the ESL COMPASS Test or successful completion of ELI-105W

**ELI-107T: ELL TOEFL Preparation**

Credit Hours:.....4.00  
Contact Hours:.....4.00

ELI-107T is a non-credit developmental course designed to prepare English Language Learners (ELL) to take the TOEFL (Test of English as a Foreign Language). In order to enroll, students must already have at least an intermediate-level of fluency in English. This course will focus on reading, writing, speaking, listening and test-taking skills. This course does not count towards degree graduation requirements.

Prerequisites:.....ELI Level 5 or equivalent

**EMS-100: EMT-Basic Fundamentals**

Credit Hours:.....9.00  
Contact Hours:.....9.00

Presents the technical knowledge and skills necessary for certification as a Basic Emergency Medical Technician (EMT-B). Focuses on Basic Life Support (CPR), airway management, medical emergencies, trauma, disaster management, shock and resuscitation, emergency childbirth, psychological emergencies, as well as extrications and more. Meets the recommendations of the United States Department of Transportation, National Traffic Safety Administration, National Emergency Medical Services Core Content, Scope of Practice Model, National Education Standards, and the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions Curriculum Supplement. NOTE: Successful completion of this course is required for individuals to be eligible to take the National Registry Certifying Exam for EMT-Basics, but this exam is not included in this course.

Prerequisites:..... COMPASS Reading score 82 or better. Writing score ENG 131 placement or successful completion of the required developmental English courses.

**EMS-106: EMT-Basic Procedures**

Credit Hours:.....2.50  
Contact Hours:.....2.50

This laboratory course helps develop overall patient management skills required for Basic EMT. Covers equipment, assessment, evaluation, treatment, documentation, communication and more. Course meets the practical recommendations of the United States Department of Transportation, National Traffic Safety Administration, National Emergency Medical Services Core Content, Scope of Practice Model, National Education Standards, and the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions Curriculum Supplement. Provides preparation for the National Registry standard practical examination.

Prerequisites:..... COMPASS Reading score of 82 or better. Writing scores sufficient for ENG 131 placement. Writing requirement may also be fulfilled by successful completion of the required developmental English courses.

**EMS-109: EMT-Basic Clinical Externship**

Credit Hours:.....2.00  
Contact Hours:.....3.00

Provides a structured clinical experience in the hospital and in the prehospital emergency medical service environment. Focuses on providing an opportunity to demonstrate learned assessment skills in real-life situations under appropriate supervision. Course meets the recommendations of the National Department of Transportation for EMT- Basics. NOTE: Successful completion of this course is required for individuals to be eligible to take the National Registry Certifying Exam for EMT-Basics, but the exam is not included in this course. (Due to the nature of this course, all students must have completed the Health Careers medical packet and provide proof of health insurance prior to attending clinical.)

Prerequisites:..... COMPASS Reading score of 82 or better. Writing scores sufficient for ENG 131 placement. Writing requirement may also be fulfilled by successful completion of the required developmental English courses.

# Courses



## **EMS-200: Paramedic I**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Provides an overview of preparatory EMS systems, injury prevention, medical, legal, and ethical issues as well as general patient assessment before progressing through advanced assessment in the areas of respiratory and neurologic conditions. Reviews life span development and public health for EMS. Course ends by focusing on pathophysiology as it relates to various body systems/functions in the presence of disease or injury.

Prerequisites:.....EMT Basic MI License, BIO 233, BIO 234, AH 100, AH 120, & AH 105-all with "C" or better. COMPASS algebra 46+ or MATH080 with "C" or better. COMPASS reading 82+. Writing score- ENG 131 eligible.

## **EMS-205: Paramedic Lab I**

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Credit Hours:.....3.00

Contact Hours:.....3.13

This laboratory course develops overall patient management skills. Covers equipment, assessment, evaluation, treatment, documentation, communication, and more. Lab activities focus on team building techniques, IV and medication administration, basic and advanced airway management, and ECG monitoring.

Prerequisites:.....EMT Basic MI License, BIO 233, BIO 234, AH 100, AH 120, & AH 105-all with "C" or better. COMPASS algebra 46+ or MATH080 with "C" or better. COMPASS reading 82+. Writing score- ENG 131 eligible.

## **EMS-210: Paramedic II**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Begins with an overview of basic pharmacology and then introduces students to advanced pharmacological concepts. Intravenous access with fluid and medication administration is presented along with airway management. This course leads into cardiac rhythm recognition and assessment of the cardiac patient.

Prerequisites:.....EMT Basic MI License; BIO 233, BIO 234, AH 100, AH 120, & AH 105-all with "C" or better. COMPASS Algebra 46+ or MATH 080 with "C" or better. COMPASS reading 82+. Writing score- ENG 131 eligible.

## **EMS-215: Paramedic Lab II**

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Credit Hours:.....4.00

Contact Hours:.....4.13

This laboratory course develops overall patient management skills. Covers equipment, assessment, evaluation, treatment, documentation, communication and more. Lab activities focus on the management of the cardiac patient, mega-code scenarios, spinal immobilization, traumatic injuries, and traumatic resuscitation.

Prerequisites:.....EMS 200, 210, 205, and 290

## **EMS-220: Paramedic III**

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Credit Hours:.....4.00

Contact Hours:.....4.00

Introduces the pathophysiology of respiratory disease and neurological emergencies, then integrates this knowledge with assessment findings to develop a field impression and deliver appropriate medical care, including an in-depth discussion of endocrine emergencies and the associated treatments. Significant course time details the anatomy, physiology, and pathophysiology of various types of trauma. The emphasis is on treating the "whole patient," avoiding treatment distractions of any singular injury.

Prerequisites:.....EMS 200, 205, 210, 290

## **EMS-225: Paramedic Lab III**

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Credit Hours:.....2.00

Contact Hours:.....2.00

Develops patient management skills. Covers equipment, assessment, evaluation, treatment, documentation, communication, and more. Subject matter is complementary to the student's corresponding lecture course in EMS 240. Lab focuses on pediatric, gynecological, and obstetric patients. Lab also emphasizes patient management that incorporates the use of all ALS skills presented in the program.

Prerequisites:EMS 200, EMS 210, EMS 205, EMS 290, EMS 220, EMS 230, EMS 215, and EMS 295

**EMS-230: Paramedic IV**

Credit Hours:.....4.00  
Contact Hours:.....4.00

Introduces pathophysiology of cardiovascular disease and discusses how to recognize and treat the associated dysrhythmias. Covers the following topics in a broad manner: anatomy and physiology (review), general pathophysiology, geriatric considerations, assessment and management of emergencies in the areas of hematology, gastroenterology, toxicology, substance abuse, urology and nephrology, behavioral and psychiatric disorders, and environmental emergencies.

Prerequisites:.....EMS 200, 210, 205, 290

**EMS-240: Paramedic V**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Covers specialty topics such as OB/GYN, newborn resuscitation, and pediatrics. Also covers 12-Lead ECG including application and interpretation.

Prerequisites:..... EMS 200, 205, 210, 215, 220, 230, 290, and 295

**EMS-290: Advanced Clinical I**

Credit Hours:.....4.00  
Contact Hours:.....11.87

Provides a structured clinical experience in hospital and field environments where designated tasks in specific topic areas must be completed. This set of clinical rotations emphasizes intravenous access and global patient management for patients in the operating room and the emergency department. Also covers a variety of cardiac diseases and dysrhythmias.

Prerequisites:.....EMT Basic MI License. BIO 233, BIO 234, AH 100, AH 120, & AH 105-all with "C" or better. COMPASS algebra 46+ or MATH080 with "C" or better. COMPASS reading 84+. Writing score-ENG 131 eligible.

**EMS-295: Advanced Clinical II**

Credit Hours:.....4.00  
Contact Hours:.....11.87

Provides a structural clinical experience in the hospital and field environments where designated tasks in specific topic areas must be completed. This set of clinical rotations emphasizes airway management skills in the operating room and in the field; global cardiac patient management in the cardiac cath. lab; and neurological assessments and trauma patient management in a variety of clinical settings.

NOTE: Due to the nature of this course, a student must have completed the Health Careers medical packet, drug screen, and criminal background clearance as required, and provide current ongoing proof of health insurance prior to attending advanced-level clinical.

Prerequisites:..... EMS 200, 205, 210 and 290 - all with a "C" grade or better

**EMS-299: Advanced Clinical III**

Credit Hours:.....4.00  
Contact Hours:.....11.87

This competency-based capstone course provides a clinical experience in the hospital and a field internship in order to develop team leadership. Students must complete designated tasks in specific topic areas and in team lead positions with EMS transports. Students continue to focus on pediatric and obstetrical/gynecological patients. Students who need extended rotations to complete tasks from earlier in the year (who received permission to continue on) can do so after the requisite skills for this rotation have been met. Each individual's program portfolio is completed and assessed this semester.

NOTE: Due to the nature of this course, all students must have completed the Health Careers medical packet, drug screen, and criminal background clearance as required, and provide current ongoing proof of health insurance prior to attending advanced level clinical.

Prerequisites:..... EMS 200, 205, 210, 215, 220, 230, 290, and 295

# Courses



## **ENG-074: Grammar Power**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

ENG-074 is designed to empower writers at various skill levels across the curriculum. Overall, the course is intended to introduce or to refresh students' knowledge of the rules governing acceptable English grammar, beginning with the study of the parts of speech and appropriate sentence structure. Students will apply these directly to writing and editing tasks, thereby developing a clear connection between a skill and the successful application of this skill in academic and professional writing. Equipped with these writing tools, students will be able to approach academic and professional writing tasks with more confidence and success. This course does not take the place of English 082, 088, 091, 092 or 093.

Prerequisites: ..... None

## **ENG-075: ELL Pronunciation and Conversation**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

ENG-075 is a non-transferable developmental listening and speaking course for non-native English speakers. It is designed to improve the pronunciation and conversational skills of English Language Learners (ELL) who already have at least an intermediate-level knowledge of English grammar and usage.

Prerequisites: ..... A reading score of at least 65 and/or a grammar/usage score of at least 63 on the ESL COMPASS Test or permission of instructor

## **ENG-079: Basic Reading**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

English 079 is a developmental course to prepare native English speakers to read at an acceptable level for English 081. Students will improve their reading comprehension skills by engaging with variety of fiction and non-fiction texts and focusing on vocabulary improvement. Learning lab and/or online work is required. Students who place into ENG 079 must have a minimum COMPASS Reading Test score of 25 and must take ENG 079 prior to or concurrently with their first developmental writing course.

Prerequisites: ..... Score of 25 or above on Reading Compass Placement Test

## **ENG-081: Developmental College Reading**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

A developmental course designed to prepare students to read at an acceptable level in English 131, 132 and 135. This course is required of students who must enroll in English 093 and whose score on the ASSET or COMPASS Reading Test is below the cut-off established by the English Division. Students required to take this course must pass it with a grade of S (Satisfactory) before taking English 131.

Prerequisites: ..... Students must score at or above a designated level on the placement tests or have passed English 078 and/or English 079

## **ENG-082: Academic Reading, Speaking, and Listening for the English Language Learner**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

English 082 is a three-credit hour, generally non-transferable reading course, emphasizing reading strategies and skills that will prepare English Language Learners for success in college level content-area and English composition courses. Students will learn how to make connections with a variety of authentic texts, practice strategies needed for critical reading, and expand their academic English vocabulary. Lab/online assignments that complement classroom activities will also be required. Students who are required to complete ENG 091 or 092 are strongly encouraged to take ENG 082 first or at the same time as the writing class.

Prerequisites: ..... Students must earn an ESL COMPASS reading test score between 82 – 87 or successfully complete ELI 006.

**ENG-086: College Writing Laboratory**

Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

This Learning Lab course can be elected autonomously to improve writing skills or can be taken to supplement HFC composition courses such as English 131. This independent study course, which accommodates the students' skill levels, is designed to improve writing proficiency. Students will receive individual attention in once-a-week conferences with the instructor and will work with computer-assisted materials, audiovisual programs, and teacher-prepared handouts to overcome rhetorical, stylistic, and grammatical problems with writing. Evaluation is based on successful completion of assigned work, improvement, and attendance. This course does not substitute for any other English courses at HFC.

Prerequisites: ..... None

**ENG-088: Basic Writing: Sentences to Paragraphs**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

English 088 is a developmental writing course required of students whose scores on the ASSET or COMPASS Writing Test indicate that skills need to be learned before they enroll in English 093. Students will learn several sentence patterns, some grammatical and mechanical skills, and various methods for developing and organizing paragraphs. Writing a short essay, supplemental laboratory work and conferences will be required. Students must earn a grade of S (Satisfactory) before enrolling in English 093.

Prerequisites: ..... COMPASS writing score at or below 24 or ASSET writing score at or below 31

**ENG-092: Basic Writing for the Non-native Speaker: Paragraphs to Essays**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

English 092 is a three-credit hour, generally non-transferable developmental writing course for English Language Learners. It is designed to prepare students to write compositions meeting English 131, 132, and 135 objectives. In addition to reviewing the types of skills taught in English 091 or English 088, students will learn more advanced grammatical, mechanical, and critical thinking skills and sentence patterns. Supplemental laboratory work and conferences will be required. Students must earn a grade of S (Satisfactory) before enrolling in English 131.

Prerequisites: ..... Students must earn an ESL COMPASS Writing test score between 71 and 85 or successfully complete ELI 006.

**ENG-093: Basic Writing: Paragraphs to Essays**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

This course is intended for students whose placement scores indicate the need for instruction or review in order for them to write acceptable college compositions in English 131. Various methods such as lectures, group discussions, textbook exercises, peer review, conferences, and lab work will be used to help students improve their expository writing and study skills. To facilitate mastery of writing, students will receive study skills instruction. This course does not substitute for English 131, 132, or 135. Students must earn a grade of S (satisfactory) before enrolling in English 131.

Prerequisites: Students must have writing skills scores of 32-43 on the ASSET Test or 23-77 on the Compass Test

**ENG-121: Assisting with Elementary Reading**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

This course is designed for individuals who are working in pre-K or elementary classrooms as paraprofessionals or who desire to be employed in that capacity. It introduces students to the different stages of reading development, various methodologies used to teach and assess elementary reading and acquaints them with basal series, content texts, trade books, and teacher-made materials. Various tutorial methods, techniques to aid English as Second Language learners, and methods to assist teachers will be studied.

Prerequisites: ... A satisfactory score on the English placement test or a grade of S in English 093 and a grade of S in English 081 is required

# Courses



## **ENG-131: Honors: Introduction to College Writing**

Credit Hours: ..... 3.00

ENG 131 (Honors) is the first college-level composition course in a two-semester sequence, emphasizing critical reading, critical thinking, and critical writing skills. Through readings, students will explore various topics and various types of writing. Through essays, written in and out of class, students will demonstrate the development of a clear main idea through well-organized supporting material, written in correct, effective English. To meet the above goals, a writing assignment integrating analysis and summary of an article and a persuasive paper incorporating limited outside information will be included. This assignment will focus on a theme related to the Honors Colloquium topic.

Prerequisites:..... A satisfactory score on the English placement test or a grade of S (Satisfactory) in ENG 092 or ENG 093, and a grade of S (Satisfactory) in ENG 081, if required.

## **ENG-131: Introduction to College Writing**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

English 131 is the first college-level composition course in a two-semester sequence, emphasizing critical reading, critical thinking, and critical writing skills. Through readings, students will explore various topics and various types of writing. Through essays, written in and out of class, students will demonstrate the development of a clear main idea through well-organized supporting material, written in correct, effective English. To meet the above goals, a writing assignment integrating analysis and summary of an article and a persuasive paper synthesizing multiple sources will be included.

Prerequisites:..... A satisfactory score on the English placement test or a grade of S in English 092 or English 093 and a grade of S in English 081 or 082, if required.

## **ENG-131H: (Honors): Introduction to College Writing**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

English 131 (Honors) is the first college-level composition course in a two-semester sequence, emphasizing critical reading, critical thinking, and critical writing skills. Through readings students will explore various topics and various types of writing. Through essays, written in and out of class, students will demonstrate the development of a clear main idea through well-organized supporting material, written in correct, effective English. To meet the above goals, a writing assignment integrating analysis and summary of an article and a persuasive paper incorporating limited outside information will be included. This assignment will focus on a theme related to the Honors Colloquium topic.

Prerequisites:..... A satisfactory score on the English placement test or a grade of S in English 092 or English 093 and a grade of S in English 081 if required

## **ENG-132: College Writing and Research**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

English 132 is the second course in the two-semester college-level reading and writing sequence that begins with English 131. The course further instructs students in the reading, writing, and critical thinking skills required at four-year colleges and universities, as well as in the workforce. Students will learn how to select, evaluate, analyze, synthesize, reference, and document source material, including a variety of literary works that explore diverse themes and cultural perspectives. Students will then use the source material to complete a college-level research paper.

Prerequisites:.....ENG 131 with a C- or better

# Courses

## **ENG-132H: (Honors): College Writing and Research**

Credit Hours:.....3.00

Contact Hours:.....3.00

English 132 (Honors) is the second course in the two-semester college-level reading and writing sequence that begins with English 131. The course further instructs students in the reading, writing, and critical thinking skills required at four-year colleges and universities and in the workforce. Students will learn how to select, evaluate, analyze, synthesize, reference, and document source material, including a variety of literary works that explore diverse themes and cultural perspectives relating to the Honors Colloquium topic. Students will then use the source material to complete a college-level research paper.

Note: this course meets the graduation requirement for General Education Outcome 4 and 5: Information Literacy and Written Communication.

Note: a grade of C- is not transferable and is not accepted by some programs at HFC.

Prerequisites:.....ENG 131 with a B grade or better

## **ENG-135: Business and Technical Writing and Research**

Credit Hours:.....3.00

Contact Hours:.....3.00

Designed for students interested in developing professional workplace communication and critical thinking skills, English 135 satisfies the Information Literacy and Written Communication General Education graduation requirements for many HFCC degree programs. Students design documents such as resumes, letters, memos, instructions, proposals, and an extensive, research-based documented report for the kinds of readers they will address as professionals. This course should be especially valuable for students pursuing careers in business, computer science, automotive technology, allied health, and other technical fields. It transfers to many four-year institutions.

Prerequisites:.....C- or better in English 131 (Note that a grade of C- is not transferrable and is not accepted by some programs at HFCC)

## **ENG-139: Creative Writing**

Credit Hours:.....3.00

Contact Hours:.....3.00

An elective writing course that provides students, at any level of experience, with a firm grasp of the fundamentals of imaginative self-expression. The assignments are diverse, ranging from traditional to contemporary forms of poetry, fiction, and drama, and imaginative non-fiction, in order to offer students a broad range of new opportunities for development of their own chosen subjects, and new ways to polish their own personal style. At the end of the course, the student should be able to comprehend the differences between forms, to analyze forms for imagistic language, and to evaluate peers' writing, as well as, his or her own creative writing.

Prerequisites:... A satisfactory score on the English placement test or a grade of S in English 093 and a grade of S in English 081, if required

## **ENG-231: Introduction to Literature: Poetry and Drama**

Credit Hours:.....3.00

Contact Hours:.....3.00

Focuses on reading, discussion, and written analysis of poems and plays in order to develop an understanding and enjoyment of various authors and works. The poems are mostly British and American, but may, as well, be drawn from other literary traditions; the plays range from ancient Greek tragedy to Shakespeare and modern drama. Video and audio recordings may supplement readings and lectures.

Prerequisites:ENG 131 with a C grade or better (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

## **ENG-232: Introduction to the Short Story**

Credit Hours:.....3.00

Contact Hours:.....3.00

Focuses on reading, discussion, and written analysis of short stories in order to develop an understanding and enjoyment of various authors and works. Stories are drawn from various literary traditions, although emphasis may be placed on the American tradition, which has been especially productive and influential. Emphasis may also be placed on the historical development of the short story as a distinct literary genre.

Prerequisites:.....ENG 131 with a C or better (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)



# Courses



## **ENG-233: Introduction to the Novel**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Examines how novels both reflect and contribute to the development of the novel as a genre. Students will read major novelists primarily from the nineteenth and twentieth centuries. The titles chosen exemplify important developments and themes in prose fiction, each discussed as a statement of a particular author, a reflection of the times in which the work was written, and an enduring expression of human experience.

Prerequisites: ENG 131 with a C grade or better (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

## **ENG-234: Topics in Literature**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

A course in literature organized around a specific theme, genre, or field of inquiry. The student may take the course twice for credit, six hours maximum, but only if the topic is different.

Prerequisites: ...ENG 131 with a C grade or better (Note: A C- grade is not transferrable and is not accepted by some programs at HFC)

## **ENG-235: American Literature Before 1900**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Through discussion and written analysis, English 235 encourages the reading of literary works in their entirety in an attempt to understand the meaning of the texts and their relation to the development of American thought and tradition. Authors include Emerson, Thoreau, Hawthorne, Melville, Dickinson, Whitman, Twain, and Crane. Biographical and critical information is obtained through lectures and reference reading.

Prerequisites: ...ENG 131 with a C grade or better (Note: A C- grade is not transferrable and is not accepted by some programs at HFC)

## **ENG-236: American Autobiography**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

This course will introduce students to published essays, narratives, autobiographies, memoirs, journals and/or diaries by Americans who have significantly influenced the social, cultural, and political composition of America. The course will also examine issues such as gender inequality and religious institutions that compose American society.

Prerequisites: ...ENG 131 with a C grade or better (Note: A C- grade is not transferrable and is not accepted by some programs at HFC)

## **ENG-237: American Literature Since 1900**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Through discussion and written analysis, English 237 encourages the habit of reading literary works in their entirety in an attempt to understand the meaning of the texts and their relation to the development of American thought and tradition. Themes include alienation, materialism, race relations, identity, conformity/rebellion, technology, environment, and war. Biographical and critical information is obtained through lectures and reference reading.

Prerequisites: ...ENG 131 with a C grade or better (Note: A C- grade is not transferrable and is not accepted by some programs at HFC)

## **ENG-239: Reading in Modern American Poetry**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

A survey of modern American poetry emphasizing the period since World War II and including such poets as Robert Frost, Wallace Stevens, William Carlos Williams, Frank O'Hara, Elizabeth Bishop, Anne Sexton, Imamu Amiri Baraka, Gary Snyder, and Allen Ginsberg. Covers the techniques and strategies American poets developed to write powerfully of the vast social and cultural changes affecting modern Americans' lives.

Prerequisites: ENG 131 with a C grade or better (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

**ENG-241: Shakespeare**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

An introduction to the works of William Shakespeare, this course includes reading, discussion, and written analysis of six to eight of Shakespeare's comedies, histories, and tragedies. Readings can also include Shakespeare's non-dramatic poetry. Students also have the opportunity to observe, analyze, and evaluate his works in performance, either live or on film. Secondary readings, such as literary criticism and historical context, may also be introduced.

Prerequisites: ENG 131 with a C grade or better (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

**ENG-243: Women's Lives in Literature**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Women's Lives in Literature is a course emphasizing the reading and analysis of writing by (or perhaps about) women from the Middle Ages to the present. The materials include drama, poetry, novels, short stories, diaries, memoirs, letters, fantasy, and others. Students will have the opportunity to explore the interaction of dominant and marginal cultures as reflected in literature and the relationship of their individual experiences to women's lives as portrayed in literature.

Prerequisites: ENG 131 with a C grade or better (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

**ENG-245: The Bible as Literature**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Reading, discussion, and written analysis of major literary selections from the Old and New Testaments. The Bible will be studied not as a religious document but as a source of ideas and style reflected in various works of world literature.

Prerequisites: ENG 131 with a C grade or better (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

**ENG-246: Introduction to Children's Literature**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Introduces the forms, themes, history, and uses of literature written for children ages three to twelve. Students learn to evaluate and select literature critically and understand its use in preschool, elementary, and middle school classrooms. Genres to be studied include traditional fiction/folktales, contemporary realistic fiction, picture books, fantasy/science fiction, historical fiction, biography, nonfiction, and poetry/verse.

Prerequisites: ...ENG 132 with a C grade or better (Note: A C- grade is not transferable and is not accepted by some programs at HFC.)

**ENG-248: African American Literature**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

A survey of African American Literature from its eighteenth-century beginnings to the modern era, emphasizing reading and analysis of representative texts in all genres, including poetry, slave narrative, fiction, essay, and drama.

Prerequisites: ENG 131 with a C grade or better (Note: A "C-" grade is not transferable and is not accepted by some programs at HFC.)

**ENG-295: Directed Study in English**

Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00

A course allowing advanced study under the direction of a member of the English Division faculty. This course may be taken only after consultation with the instructor to determine the course content and the credit hours appropriate for the chosen project.

Prerequisites: ..... ENG 131 with a C or better AND permission of the Associate Dean (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

# Courses



## **ENG-296: Directed Study in English**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

A course allowing advanced study under the direction of a member of the English Division faculty. This course may be taken only after consultation with the instructor to determine the course content and the credit hours appropriate for the chosen project.

Prerequisites:..... ENG 131 with a C or better AND permission of the Associate Dean (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

## **ENG-297: Directed Study in English**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

A course allowing advanced study under the direction of a member of the English Division faculty. This course may be taken only after consultation with the instructor to determine the course content and the credit hours appropriate for the chosen project.

Prerequisites:..... ENG 131 with a "C" or better AND permission of the Associate Dean (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

## **ENGR-101: Introduction to Engineering Design (IED)**

Credit Hours: ..... 3.00  
Contact Hours: ..... 5.00

An introductory course in which the student studies the design engineering process and its application. Through hands-on projects, students apply engineering standards and document their work. Students use industry standard 3D modeling software to help them design solutions to solve proposed problems, document their work using an engineer's notebook, and communicate solutions to peers and members of the professional community.

Prerequisites:..... none

## **ENGR-102: Principles of Engineering (POE)**

Credit Hours: ..... 3.00  
Contact Hours: ..... 5.00

A survey course discussing major topics covered in a post-secondary engineering course of study, including mechanisms, energy, statics, materials, and kinematics. Emphasizes how to develop effective problem-solving skills and apply research and design to create solutions to various challenges. Also discusses how to properly document work and communicate solutions.

Prerequisites:.....None

## **ENGR-103: Civil Engineering and Architecture (CEA)**

Credit Hours: ..... 3.00  
Contact Hours: ..... 0.27

Studies the design and construction of residential and commercial building projects. Introduces the varied factors involved in building, site design, and construction including building components and systems, structural design, storm water management, site design, utilities and services, cost estimation, and energy efficiency. Discusses design teams and teamwork, communication methods, building codes and ordinances, engineering design calculations, technical documentation, and career opportunities in the design and construction industry.

Prerequisites:.....ENGR 101 or 102

## **ENGR-104: Digital Electronics (DE)**

Credit Hours: ..... 3.00  
Contact Hours: ..... 0.27

Digital Electronics TM is the study of electronic circuits that are used to process and control digital signals. Digital electronics is the foundation of all modern electronic devices such as cellular phones, MP3 players, laptop computers, digital cameras, high definition televisions, etc. The major focus of the DE course is to expose students to the design process of combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation.

Utilizing the activity-project-problem-based (APPB) teaching and learning pedagogy, students will analyze, design and build digital electronic circuits. While implementing these designs students will continually hone their interpersonal skills, creative abilities and understanding of the design process.

Prerequisites:..... ENGR 101 OR ENGR 102

**ENGR-105: Biotechnical Engineering (BE)**

Credit Hours: ..... 3.00

Contact Hours: ..... 0.27

Exposes students to the diverse fields of biotechnology including bio-medical engineering, bio-molecular genetics, bioprocess engineering, and agricultural and environmental engineering. Lessons engage students in engineering design problems that can be accomplished in a high school setting related to biomechanics, cardiovascular engineering, genetic engineering, agricultural biotechnology, tissue engineering, biomedical devices, human interface, bioprocesses, forensics, and bio-ethics.

Prerequisites:.....ENGR 101 and 102

**ENGR-106: Computer Integrated Manufacturing (CIM)**

Credit Hours: ..... 3.00

Contact Hours: ..... 0.27

Presents the manufacturing approach of using computers to control the entire production process. Examines manufacturing history, individual processes, systems, and careers. In addition to technical concepts, the course also incorporates finance, ethics, engineering design, and focuses on how to analyze, design, and build manufacturing systems.

Prerequisites:.....ENGR 101 and 102

**ENGR-107: Aerospace Engineering**

Credit Hours: ..... 3.00

Contact Hours: ..... 0.27

Presents a type of engineering which develops new technologies for use in aviation, defense systems, and space exploration. Explores the evolution of flight, flight fundamentals, navigation and control, aerospace materials, propulsion, space travel, orbital mechanics, ergonomics, remotely operated systems, and related careers. Course also presents alternative applications for aerospace engineering concepts, and discusses how to analyze, design, and build aerospace systems. Final course activity is a multimedia project envisioning future professional accomplishments.

Prerequisites:.....ENGR 101 or 102

**ENGR-108: Engineering Design and Development**

Credit Hours: ..... 3.00

Contact Hours: ..... 0.27

A capstone course requiring the design and develop of an original solution to a valid, open-ended, technical problem by applying the engineering design process. The course applies and concurrently develops secondary level knowledge and skills in mathematics, science, and technology.

Students will perform research to choose, validate, and justify a technical problem. After carefully defining the problem, teams of students will design, build, and test their solution. Finally, student teams will present and defend their original solution to an outside panel. While progressing through the engineering design process, students will work closely with experts and will continually hone their organizational, communication and interpersonal skills, their creative and problem solving abilities, and their understanding of the design process.

Prerequisites:.....ENGR 101 or 102

**ENGR-130: Introduction to Engineering**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Introduces the engineering profession, problem solving fundamentals, applications, fields of study, career paths, teamwork skills, and ethics necessary in the engineering profession. Course work includes projects that deal with real world application of these aspects of engineering as related to engineering problems.

Prerequisites:.....Pre-engineering enrollment; MATH 109, MATH 110, MATH 112, or high school algebra and trigonometry

**ENGR-201: Science of Materials**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Introduces the science of engineering materials. The properties of metals, alloys, polymers, and ceramics are correlated with their internal structure (atomic, crystal, micro- and macro-) and service environment (mechanical, chemical, thermal, magnetic, and radiation effects).

Prerequisites:..... MATH 180 and CHEM 141 (with a C or better)

# Courses



## **ENGR-232: Statics**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00

Covers basic concepts and principles of statics including an introduction to the mechanics of materials. Also discusses vector algebra, equilibrium of mechanical systems, centroids, moments of inertia, stress and deflections of beams under load, statically indeterminate loads, and virtual work.

Prerequisites:..... MATH 180 and PHYS 231 with a C grade or better

## **ENGR-233: Dynamics**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00

Covers basic concepts and principles of dynamics with the application of Newton's laws of motion to engineering. Topics covered include kinematics, kinetics of particles and rigid bodies, equations of motion, impulse-momentum principles, impact and work-energy principles and oscillations.

Prerequisites:.....Completion of ENGR 232 with a C or better

## **ENT-100: Basic Workplace Skills**

Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00

Presents basic workplace skills for careers in the energy technology and facilities maintenance fields. Addresses on-the-job safety concerns including hazards associated with electrical maintenance, chemical use, hazardous and toxic materials, and confined space scenarios. Offers American Red Cross CPR/AED and Bloodborne Pathogens Training certificates as part of the successful completion of this course.

Prerequisites:.....None

## **ENT-101: Introduction to Energy Technology**

Credit Hours: ..... 2.00  
 Contact Hours: ..... 2.00

Introduces traditional sources of energy and provides an overview of the various forms of energy and their applications. Covers alternative, renewable, and traditional non-renewable sources of energy with consideration for energy conservation and use, energy transmission systems, measurement of energy, along with monitoring and analysis of applied energy to practical laboratory and field situations with hands-on experiences. Study of current and future applications of the energy are considered along with relevant environmental factors, economic drivers, and opportunities for careers in the energy field.

Prerequisites:.....None

## **ENT-103: AC and DC Electricity**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00

Covers the fundamentals of DC and AC circuits and circuit calculations. Examines electrical definitions, units of electrical measure, use of meters, series and parallel resistive circuits, capacitance, and inductance. Also explores basic wiring techniques and how to troubleshoot circuit faults.

Prerequisites:.....None

## **ENT-104: Heating Technology**

Credit Hours: ..... 4.00  
 Contact Hours: ..... 4.00

Prepares students to work on residential and light commercial gas, oil, and electric forced-air and hot-water heating systems and related equipment. Explains standard equipment and systems, how to provide service checks, and the preliminary skills needed to installation, repair, and replace heating equipment using appropriate service tools and instruments. Extensive laboratory activities.

Prerequisites:..... ENT 103 or ENT 103 concurrent or Instructor permission

**ENT-105: Introduction to Refrigeration, Air Conditioning, and Heating (RACH)**

Credit Hours: .....2.00

Contact Hours: .....2.00

An introductory course in refrigeration, air conditioning, and heating (RACH). Covers refrigeration components and operation of those components, the refrigeration charging and recovery process, and provides an orientation related to jobs in service and maintenance. Labs involve installing copper tubing, using test instruments, tools, and a variety of equipment.

Prerequisites:.....None

**ENT-106: Sheet Metal Fabrication**

Credit Hours: .....2.00

Contact Hours: .....2.00

Examines the process of layout and fabrication of standard sheet metal fittings and how to construct standard fittings. Also covers sheet metal hand and power tools, and proper safety protocols.

Prerequisites:.....None

**ENT-108: Introduction to Heating and Cooling Codes**

Credit Hours: .....2.00

Contact Hours: .....2.00

Introduces the Michigan Mechanical Code (International Mechanical Code) and AGA Gas Codes. Covers codes frequently required for entry-level jobs including how to quick-reference the codes. Also covers the procedures for pulling permits and inspection processes.

Prerequisites:.....None

**ENT-109: HVAC Installation and Start-Up**

Credit Hours: .....2.00

Contact Hours: .....2.00

Covers basic technical skills for installing and starting up an HVAC system. Emphasizes practical installation and start-up techniques. Provides hands-on simulations of projects that require knowledge of sheet metal construction and installation, basic electricity, principals of refrigeration, and the procedures and safety steps for effectively installing and starting up HVAC systems. Extensive laboratory activities.

Prerequisites:.....ENT 103, ENT 104, ENT 105, ENT 106, ENT 108, or Instructor permission

**ENT-113: Refrigeration Technology**

Credit Hours: .....4.00

Contact Hours: .....4.00

Prepares students as multi-level service technicians in the refrigeration field. Covers basic refrigeration system design and the components for various domestic, residential, and light commercial systems. Discusses refrigeration system tools, materials, and instruments. Also covers advanced electrical wiring, refrigeration characteristics, charging, evacuation, dehydration, and refrigerant recovery. Course work includes hands-on wiring and circuit troubleshooting related to both mechanical and electrical components. The EPA Section 608 Technician Certification test in refrigerant reclamation is given at the conclusion of the semester.

Prerequisites:..... ENT 103, ENT 105, or Instructor permission

**ENT-119: Air Conditioning Technology**

Credit Hours: .....4.00

Contact Hours: .....4.00

Prepares students to be multi-level service technicians for residential HVAC equipment. Emphasizes hands-on troubleshooting and maintaining residential total systems. Covers a combination of heating and air-conditioning systems including system design and layout, equipment selection, duct sizing, venting, air balancing and adjustments, air quality control, psychometrics of air conditioning systems, applied installation, and repair of total systems. Also discusses electrical diagrams.

Prerequisites:.....ENT 101, ENT 103, ENT 104, ENT 105, ENT 113 or Instructor permission

# Courses



### **ENT-124: Construction Blueprint Reading**

Credit Hours: .....2.00  
Contact Hours: .....2.00  
Explores mechanical (HVAC), architectural, and electrical drawings required for energy technology, plumbing and pipefitting, electrical, and construction related trades. Covers print reading, interpreting common symbols, working notes, views, and title blocks. Introduces project management and estimating. Note: Basic measurement and math skills required for print reading section.  
Prerequisites:.....None

### **ENT-125: Steam and Hot Water Heating Systems**

Credit Hours: .....2.00  
Contact Hours: .....2.00  
A pipefitting-plumbing course for those in technical construction, apprentices, and those interested in seeking basic hydronic HVAC, pipefitting-plumbing skills. Introduces principles of steam and hydronic systems, converter trap sizing, steam traps, and skimming boilers. Offers information on the proper selection, sizing, and installation of pipe and fittings related to hydronic and steam systems. Discusses how to design and layout typical systems. Lab activities.

### **ENT-141: Power Engineering I Energy Conversion Fundamentals**

Credit Hours: .....2.00  
Contact Hours: .....2.00  
A course in applied power and facilities plants fundamentals designed to provide introductory practical science studies for students entering the power, facilities, HVAC, and process operation and maintenance fields. Covers basic thermodynamics, operation and maintenance fundamentals, energy conversion, and conservation. Coursework and laboratory activities meet or exceed requirements of National Skill Standards for heat, power, process, HVAC, and facilities technicians and engineers. Mandatory plant visits. Laboratory activities.  
Prerequisites:.....None

### **ENT-145: Power Engineering II Boilers and Auxiliaries**

Credit Hours: .....4.00  
Contact Hours: .....4.00  
An applied technology course designed to prepare learners to take necessary boiler-steam licensing exams and prepare them to function effectively as multi-skilled power or process plant engineers, boiler operators, stationary engineers, or heating plant operators. Learners study the operation and maintenance of boilers and auxiliaries and are required to operate, service, and maintain boiler and auxiliary equipment in a state-of-the-art cogeneration, heating-power plant laboratory. Field trips, power plant tours, and hands-on experiences on live power plant equipment systems are required to pass this course.  
Prerequisites:.....None

### **ENT-196: Energy Technology Independent Study**

Credit Hours: .....2.00  
Contact Hours: .....2.00  
An advanced energy technology course open to students who have completed two-thirds of various Energy Technology Associate degrees or advanced certificate. Course work activities are determined through consultation between student and instructor, but must include a documented plan of work with specific deadlines, objectives, and specific laboratory assignments.  
Prerequisites:.....Department approval

### **ENT-212: Commercial Heating**

Credit Hours: .....3.00  
Contact Hours: .....3.00  
An advanced heating course covering large commercial-industrial burners, light commercial rooftop units, building and plant commercial-industrial heating controls, equipment, and systems. Discusses manufacturer's equipment and instructions, planned service checking, and troubleshooting. Also covers repair and replacement of components using appropriate service tools and instruments. Extensive laboratory activities.  
Prerequisites:.....ENT 103

**ENT-216: Light Commercial Refrigeration**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

An advanced-level course covering service installation of light commercial refrigeration and air conditioning units. Covers installation, repair, and replacement of major and minor components, and troubleshooting of terminal air conditioning units, rooftop units, ice machines, walk-in coolers, and retail store cooling equipment. Discusses usage of electrical schematic diagrams, manufacturers' service information, service tools, equipment, and instruments. Extensive laboratory activities.

Prerequisites:.....ENT 103, ENT 104, ENT 105, ENT 113, or Instructor permission

**ENT-219: RACH Light Commercial Systems**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

An advanced-level course in light commercial heating and air conditioning systems. Covers lash-up, installation, and troubleshooting of controls and control packages. Discusses possible functions, operations, and components related to pneumatic, electronic, and direct digital control (DDC) building control systems. Also addresses use of controls to optimize energy savings. Laboratory activities.

Prerequisites:.....ENT 103, ENT 105, ENT 104, ENT 113, ENT 119, or Instructor permission

**ENT-230: Michigan Mechanical Contractor - License Preparation**

Credit Hours: ..... 4.00  
Contact Hours: ..... 4.00

Helps advanced-level technicians prepare for the State of Michigan Mechanical Contractor License exam. Reviews rules, regulations, heating service, refrigeration service, and air conditioning service. Note: this license exam is not included in this course.

Prerequisites:.....ENT 100 and 200, verifiable working experience with registered Michigan mechanical contractor, apprenticeship or Instructor permission.

**ENT-235: Power-Facilities Controls Calibration**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Advanced instrumentation course applying the principal aspects of instrument and control measurement, tuning and calibration for commercial and industrial building and facilities equipment and systems, for heating plant, power production and generation plant and co-generation plant systems and equipment. Emphasizes situations using computer simulations, industrial controls, and standard instrument practices. Requires students to complete activities associated with practical field instrumentation experience such as actual lab activities, virtual lab exercises, or similar types of field activities to pass the course. Laboratory activities.

Prerequisites:.....MFMT 224 or Instructor permission

**ENT-252: Green Building Strategies**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Covers green technologies used in residential and commercial buildings. Discusses green building strategies that reduce the environmental impact, carbon footprint, and energy use of the building. Also covers how green building practices apply to the design, construction, and operation of buildings including electrical systems, HVAC equipment, site design, water consumption, and transportation connectivity among others.

Prerequisites:.....None

**ENT-255: Green Building Certification Preparation**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Provides preparation for the U.S. Green Building Council's LEED Green Associate exams. Covers the different categories and systems used by LEED to evaluate buildings, including electrical production and usage, heating and cooling distribution and control, site consciousness including disruption, destruction, and conservation, water saving strategies, and basic architectural planning strategies. Focuses on how a conscious approach to building design and engineering can reduce negative impacts on the environment, energy consumption, and waste production. Note: the Green Associate exam is not included in this course.

Prerequisites:.....None



# Courses



## **ENT-256: Power Engineering III Steam Plant Systems-Equipment**

Credit Hours:.....4.00

Contact Hours:.....4.00

Prepares students to take boiler and steam licensing exams and to function effectively as power or process plant engineers. Covers operating and maintaining turbines, engines, power plant electrical equipment, air compressors, industrial-commercial cooling systems, advanced control systems, and related equipment. Laboratory activities duplicate workplace skills, meeting requirements of National Skill Standards. Mandatory plant visits. Suggested co-requisites: ENT 141 and ENT 145.

## **ENT-259: Power Engineering IV - Plant/Building Operations and Maintenance**

Credit Hours:.....2.00

Contact Hours:.....2.00

A course covering the necessary building-plant maintenance procedures and process skills, knowledge and competencies for persons seeking positions as building and plant multi-skilled facilities or power plant technicians. Electrical, mechanical equipment, and systems in building and plants are covered for management of maintenance with hands-on interfacing to plan projects and the required maintenance, upgrading, commissioning - re-commissioning, sustainability, energy management and repair, along with continuing oversight to insure safety, efficiency along with economical continuity of operation. Plant visits may be required.

Prerequisites:.....None

## **ENT-260: Energy Systems Management**

Credit Hours:.....4.00

Contact Hours:.....4.00

Presents the technical, economic, and regulatory aspects of energy efficient building energy management. Explores the latest energy and cost-reduction strategies. Focuses on laboratory exercises designed to simulate residential and commercial energy systems.

Prerequisites:.....ENT 103, ENT 104, ENT 105, ENT108, ENT 119, or Instructor permission

## **ENT-265: Energy Systems Design**

Credit Hours:.....5.00

Contact Hours:.....5.00

Examines the design principles of heating, cooling, and hydronic systems. Topics include both residential and commercial heat loss and gain, equipment selection, duct design, piping design, and air terminal selection.

Prerequisites:.....ENT 101, ENT 104, ENT 105, ENT 106, ENT 108, or Instructor permission

## **ENT-269: Energy Technology Project Management**

Credit Hours:.....2.00

Contact Hours:.....2.00

Examines how to manage multiple aspects of a mechanical construction project management including, but not limited to, planning, scheduling, budgeting, and quality control and quality assurance. Discusses the principles of lean management. Also explores best practices, organizational principles, and group dynamics.

Prerequisites:.....None

## **ENT-297: Special Topics in Energy Technology**

Credit Hours:.....1.00

Contact Hours:.....1.00

Explores selected topics as determined by the academic department and the instructor with emphasis on current energy technology trends. Specific special topics are announced together with the prerequisites each term. The student can repeat the course when different topics are offered, earning credit for each different topic. Course may be used toward fulfilling the specific degree requirements for an associate degree or certificate.

Prerequisites:.....As appropriate

**ENT-298: Special Topics in Energy Technology**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Explores selected topics as determined by the academic department and the instructor with emphasis on current energy technology trends. Specific special topics will be announced together with the prerequisites each term. The student can repeat the course when different topics are offered, earning credit for each different topic. Course may be used toward fulfilling the specific degree requirements for an associate degree or certificate.

Prerequisites: ..... As appropriate

**FRE-131: Elementary French I**

Credit Hours: ..... 4.00  
Contact Hours: ..... 4.00

Teaches elementary reading, writing, speaking, and listening skills in French, focusing on communication in a cultural context. Students will learn vocabulary and explore the pronunciation and grammatical principles necessary for comprehending and expressing simple ideas in both spoken and written French. Note: A "C-" grade is not transferable and is not accepted by some programs at HFC.

Prerequisites: ..... None

**FRE-132: Elementary French II**

Credit Hours: ..... 4.00  
Contact Hours: ..... 4.00

FRE 132 further builds reading, writing, speaking, and listening skills in French, focusing on communication in a cultural context. Students continue to expand their knowledge of vocabulary, pronunciation and grammatical principles in order to comprehend and express everyday ideas in both spoken and written French.

Prerequisites: ..... A grade of C or better in FRE 131 or in one year of high school French, or instructor permission (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

**FRE-141: Elementary French Conversation**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

An enrichment course, FRE 141 is conducted almost entirely in French and is designed for students wishing to expand their active vocabulary and improve their facility in speaking and listening. Class discussions are based on assigned readings, student reports, and current events. This course is transferable but is not a substitute for a basic language requirement. It may be taken concurrently with French 132, 231 or 232.

Prerequisites: A grade of C or better in FRE 131 or in one year of high school French, or permission of instructor (Note that a grade of C- is not transferrable and is not accepted by some programs at HFCC)

**FRE-231: Second-Year French III**

Credit Hours: ..... 4.00  
Contact Hours: ..... 4.00

FRE 231 follows FRE 132 and is the first of two intermediate-level French courses focusing on communication in a cultural context. Students will continue to develop their reading, writing, speaking, and listening skills in French, expand their vocabulary, and deepen their knowledge of pronunciation and grammatical principles in order to comprehend and express essential ideas in both spoken and written French.

Prerequisites: ..... A grade of C or better in FRE 132 or in two years of high school French, or instructor permission (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

# Courses



## **FRE-232: Second-Year French IV**

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Credit Hours: ..... 4.00  
Contact Hours: ..... 4.00

FRE 232 is the second of two intermediate-level French courses focusing on communication in a cultural context. Students will further develop their reading, writing, speaking, and listening skills in French, expand their vocabulary, and deepen their knowledge of pronunciation and grammatical principles in order to comprehend and express a wide range of ideas in both spoken and written French.

Prerequisites:..... A grade of C or better in FRE 231 or in three years of high school French, or instructor permission (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

## **FRE-295: Directed Study in French**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00

FRE 295 offers advanced study under the direction of a Communications Division faculty member. This course may be taken only after consultation with the instructor to determine the course content (a topic of special interest in the area of French language, literature, or culture) and the credit hours appropriate for the chosen project. This class may be repeated once for credit.

Prerequisites:..... A grade of C or better in FRE 131, 132, 231, or 232 or equivalent (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

## **FRE-296: Directed Study in French**

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Credit Hours: ..... 2.00  
Contact Hours: ..... 0.87

FRE 296 offers advanced study under the direction of a Communications Division faculty member. This course may be taken only after consultation with the instructor to determine the course content (a topic of special interest in the area of French language, literature, or culture) and the credit hours appropriate for the chosen project. This class may be repeated once for credit.

Prerequisites:..... A grade of C or better in FRE 131, 132, 231, or 232 or equivalent (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

## **FRE-297: Directed Study in French**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 0.87

FRE 297 offers advanced study under the direction of a Communications Division faculty member. This course may be taken only after consultation with the instructor to determine the course content (a topic of special interest in the area of French language, literature, or culture) and the credit hours appropriate for the chosen project. This class may be repeated once for credit.

Prerequisites:..... A grade of C or better in FRE 131, 132, 231, or 232 or equivalent (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

## **GEOG-131: Principles of Physical Geography**

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Credit Hours: ..... 4.00  
Contact Hours: ..... 4.00

An overview examining the spatial distribution of the physical environment and major earth systems including plate tectonics, climate, land forms, vegetation, and natural hazards with emphasis on the ways humans utilize and alter the earth's surface.

Prerequisites:..... None

## **GEOG-132: World Regional Geography**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

An overview examining the spatial distribution of people and places around the world, with emphasis on the cultural, political, social, and economic aspects of regions. Topics are explored by examining ways that humans interact with the environment and one another. Emphasis is placed on the spatial variation of human activities at all scales from local to global.

Prerequisites:..... None

**GEOG-138: Geography of Michigan**

Credit Hours:.....3.00  
 Contact Hours:.....3.00  
 Examines the spatial distribution of the human and environmental landscapes of Michigan. Places particular attention on the historical geography of settlement and human use of the natural environment.  
 Prerequisites:.....None

**GEOG-231: Introduction to Geographic Information Systems**

Credit Hours:.....3.00  
 Contact Hours:.....3.00  
 An overview introducing spatial analysis and the basic concepts, techniques, and applications of geographic information systems (GIS). Examines how to create spatial data files using GIS software and how to manipulate and analyze data.  
 Prerequisites:.....None

**GEOL-131: Physical Geology**

Credit Hours:.....4.00  
 Contact Hours:.....5.00  
 Introduces the materials, processes, and concepts of geology. Topics include minerals, rocks, plate tectonics, earthquakes, volcanism, erosion, water, wind, glaciers, and geologic time. Laboratory work is devoted to hands-on projects involving geologic materials and processes, including rocks and minerals, maps, folds and faults, and dating of geologic features and events. This is a four (4) credit course with three (3) hours of lecture and two (2) hours of laboratory per week.  
 Prerequisites:.....None

**GER-131: Elementary German I**

Credit Hours:.....4.00  
 Contact Hours:.....4.00  
 GER 131 teaches elementary reading, writing, speaking, and listening skills in German, focusing on communication in a cultural context. Covers vocabulary and explores the pronunciation and grammatical principles necessary for comprehending and expressing simple ideas in both spoken and written German.  
 Prerequisites:.....None

**GER-132: Elementary German II**

Credit Hours:.....4.00  
 Contact Hours:.....4.00  
 GER 132 further builds reading, writing, speaking, and listening skills in German, focusing on communication in a cultural context. Students continue to expand their knowledge of vocabulary, pronunciation and grammatical principles in order to comprehend and express everyday ideas in both spoken and written German.  
 Prerequisites:..... A grade of C or better in GER 131 or in one year of high school German, or instructor permission (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

**GER-141: Elementary German Conversation**

Credit Hours:.....3.00  
 Contact Hours:.....3.00  
 An enrichment course, GER 141 is conducted almost entirely in German and is designed for students wishing to expand their active vocabulary and improve their facility in speaking and listening. Class discussions are based on assigned readings, student reports, and current events. This course is transferable but is not a substitute for a basic language requirement. It may be taken concurrently with German 132, 231 or 232.  
 Prerequisites:..... A grade of C or better in GER 131 or in one year of high school German, or permission of instructor (Note that a grade of C- is not transferrable and is not accepted by some programs at HFCC)

# Courses



## **GER-231: Second-Year German III**

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Credit Hours: .....4.00

Contact Hours: .....4.00

GER 231 follows GER 132 and is the first of two intermediate-level German courses focusing on communication in a cultural context. Students continue to develop their reading, writing, speaking, and listening skills in German, expand their vocabulary, and deepen their knowledge of pronunciation and grammatical principles in order to comprehend and express essential ideas in both spoken and written German.

Prerequisites:..... A grade of C or better in GER 132 or in two years of high school German, or instructor permission (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

## **GER-232: Second-Year German IV**

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Credit Hours: .....4.00

Contact Hours: .....4.00

GER 232 is the second of two intermediate-level German courses focusing on communication in a cultural context. Students further develop their reading, writing, speaking, and listening skills in German, expand their vocabulary, and deepen their knowledge of pronunciation and grammatical principles in order to comprehend and express a wide range of ideas in both spoken and written German.

Prerequisites:.....A grade of C or better in GER 231 or in three years of high school German, or instructor permission (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

## **GER-295: Directed Study in German**

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Credit Hours: .....1.00

Contact Hours: .....1.00

GER 295 allows advanced study under the direction of a member of the English and World Languages Division faculty. This course may be taken only after consultation with the instructor to determine the course content (a topic of special interest in the area of Germanic language, literature, or culture) and the credit hours appropriate for the chosen project. This class may be repeated once for credit.

Prerequisites:..... A grade of C or better in GER 131, 132, 231, or 232 or equivalent (Note that a grade of C- is not transferrable and is not accepted by some programs at HFCC)

## **GER-296: Directed Study in German**

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Credit Hours: .....2.00

Contact Hours: .....0.87

GER 296 allows advanced study under the direction of a member of the English and World Languages Division faculty. This course may be taken only after consultation with the instructor to determine the course content (a topic of special interest in the area of Germanic language, literature, or culture) and the credit hours appropriate for the chosen project. This class may be repeated once for credit.

Prerequisites:..... A grade of C or better in GER 131, 132, 231, or 232 or equivalent (Note that a grade of C- is not transferrable and is not accepted by some programs at HFCC)

## **GER-297: Directed Study in German**

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Credit Hours: .....3.00

Contact Hours: .....0.87

GER 297 allows advanced study under the direction of a member of the English and World Languages Division faculty. This course may be taken only after consultation with the instructor to determine the course content (a topic of special interest in the area of Germanic language, literature, or culture) and the credit hours appropriate for the chosen project. This class may be repeated once for credit.

Prerequisites:..... A grade of C or better in GER 131, 132, 231, or 232 or equivalent (Note that a grade of C- is not transferrable and is not accepted by some programs at HFCC)

## **GIS-131: Geospatial Technologies**

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Credit Hours: .....4.00

Contact Hours: .....4.00

Introduces several aspects of geospatial technologies. Topics include cartography and map design, geospatial data and the global positioning system (GPS), geographic information systems (GIS), remote sensing (RS), and geospatial applications. Four hours of integrated lecture/lab per week. Home computer access recommended.

Prerequisites:.....None

**GIS-231: Geographic Information Systems**

Credit Hours:.....4.00  
Contact Hours:.....4.00

Introduces the basic principles and application of geographic information systems (GIS), map design and interpretation, and the nature and use of spatial data. Students gain hands-on experience in the various uses of geographic information and the methods for collection, management, exploration, analysis and presentation of vector and raster data. Utilizes mainstream commercial software. Four hours of integrated lecture / lab per week. Home computer access is recommended.

Prerequisites:.....GIS 131

**GIS-232: Remote Sensing**

Credit Hours:.....4.00  
Contact Hours:.....4.00

Introduces concepts and procedures used in aerial and satellite image processing. Covers sensor properties, image analysis and classification, image transformations and enhancement, and applications and integration with GIS. Students utilize commercial software to perform basic image manipulation, analysis, and display. Four hours of integrated lecture / lab per week. Home computer access is recommended.

Prerequisites:.....GIS 131

**GIS-233: Field Methods in GIS**

Credit Hours:.....4.00  
Contact Hours:.....4.00

Introduces concepts and techniques of field mapping and data collection using Global Positioning Systems (GPS) and Mobile GIS, including a detailed study of the technology and applications of GPS. Covers the fundamentals of operating a hand-held GPS unit. Pre-planning, field, and post-processing procedures are utilized to create GIS data. Course work emphasizes methods for maximizing data quality and accuracy. Also covers how to create, test, and publish mobile GIS applications that work across multiple platforms, including smartphones and tablet displays. ArcGIS and ArcPad software, along with Trimble GPS hardware and software are used. Lab exercises focus on fieldwork and teamwork. Four hours of integrated lecture / lab per week

Prerequisites:.....GIS 131 or Instructor permission

**GIS-270: Advanced GIS Applications**

Credit Hours:.....4.00  
Contact Hours:.....4.00

Explores the practice of using a geographic information system (GIS) to perform advanced geoprocessing to solve spatial problems and support decision making. Topics include a review of underlying geographic concepts (coordinate systems and projections), map design and outputs, geodatabases, importing spatial and attribute data, geocoding, spatial data processing, and advanced spatial analysis. Additional topics include map algebra, modeling, geostatistical and network analysis, and 3-D display. Students will be able to customize their lab exercises by choosing projects using real-world data taken from several disciplines. Students will follow a structured workflow using commercial GIS software to examine data, develop process summary, perform analyses, create maps, and write reports that communicate results successfully to a broad audience. Four hours of integrated lecture / lab per week. Home computer access is recommended.

Prerequisites:.....GIS 231 or Instructor permission

# Courses



## **GIS-271: GIS Customization and Programming**

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Credit Hours:.....4.00

Contact Hours:.....4.00

Introduces design, coding, and implementation of GIS-based software and models to GIS users who have no prior programming experience. Covers the fundamentals of geoprocessing, ModelBuilder, and the Python language. Also examines how to write scripts that work with spatial data, run tools in Python, and automate tasks in ArcGIS. Topics include map scripting, debugging and error handling, and the creation of Python functions and object classes. Integrated lab exercises offer an opportunity to gain hands-on experience using commercial GIS software to process real-world data. Students will conceptualize, plan, implement, and document the results of GIS mapping applications, customizations, automations and extensions. Four hours of integrated lecture / lab per week. Home computer access is recommended.

Prerequisites:..... GIS 131 or Instructor permission

## **GIS-272: Web GIS/GeoDatabase Design**

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Credit Hours:.....4.00

Contact Hours:.....4.00

Introduces the fundamental concepts underlying the geodatabase, the various approaches for representing and managing geographic information, and how geodatabases are used in cloud and server GIS applications. Explores how to survey database models, spatial data, and spatial database systems. Other topics include vector modeling and topography, linear modeling and referencing, geocoding, cell modeling, surface modeling, temporal modeling, and multiuser geodatabase editing. Also examines Web GIS system architecture, geospatial web services, mashups, customized web-based mapping applications, Mobile GIS, and the development of distributed web services for GIS. Integrated lab exercises offer an opportunity to gain hands-on experience using commercial GIS software to plan, create and implement a Web GIS application. Four hours of integrated lecture / lab per week. Home computer access is recommended.

Prerequisites:..... GIS 131 or Instructor permission

## **HCS-103: Employment Skills for Health Careers**

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Credit Hours:.....1.00

Contact Hours:.....1.00

Explores the transition from campus to the workplace. Discusses career planning, workplace basics, and employer expectations. Also covers job search skills, networking, communication skills, interview techniques, organization systems, relationships, and management/employee issues. Emphasizes how to develop marketing strategies for health care positions and how to complete a resume package.

Prerequisites:.....None

## **HCS-124: Basic Health Assessment**

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Credit Hours:.....1.00

Contact Hours:.....1.00

Focuses on theory and techniques involved in basic patient assessment using vital signs. Addresses the areas of medical asepsis, standard precautions, proper body mechanics, and patient transportation. Laboratory activities.

Prerequisites:.....None

## **HCS-131: Computers in Health Care**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Presents the fundamentals of computer technology and specific applications that are important to the delivery of health care. Also examines legal and ethical considerations in the processing of confidential patient and medical information. Lab activities.

Prerequisites:.....None

**HIST-111: Ancient World History**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Covers the rise of civilization to the decline of major world civilizations in the early Common Era (c. 200 CE to c. 500 CE). Studies the ancient civilizations of Mesopotamia, Egypt, India, China, and the Greco-Roman world.

Prerequisites: ..... ENG 081 or ENG 082 eligible

**HIST-112: Medieval-Early Modern World History**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Presents world civilizations during the transition from the Ancient classical times to the Modern Period, i.e., the Medieval and Early Modern periods (c. 500 CE - c. 1650 CE). The world civilizations include China from the Sui to the early Qing dynasties; Japan from its origins to the early Tokugawa Shogunate; early Arabia, the rise of Islam, and the Umayyad, Abbasid, Seljuk, and Ottoman empires; the Mongol Empire; the Aztec and Incan civilizations; and the European Middle Ages, Renaissance, and Reformation.

Prerequisites: ..... ENG 081 or ENG 082 eligible

**HIST-113: Modern World History**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Studies world civilizations from the seventeenth century to the present. Emphasizes the Scientific, Political, and Industrial Revolutions and their global impact. Also explores cultural and political events that have affected national or international politics, such as the Enlightenment, nationalism, imperialism, and communism.

Prerequisites: ..... ENG 081 or ENG 082 eligible

**HIST-151: American History I**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Covers Colonial America and the United States through the Civil War Period.

Prerequisites: ..... ENG 081 or ENG 082 Eligible

**HIST-152: American History II**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Covers the United States since the Civil War Period

Prerequisites: ..... English 081 or ENG 082 Eligible

**HIST-222: History of Rome, 753 BCE-500 CE**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

By exploring the social, political, economic, and military aspects of Roman civilization, this course seeks to explain: 1) how Rome rose from a small central-Italian city-state to the ruler of the Mediterranean world; 2) how it administered and ruled its diverse populations; and 3) the circumstances surrounding the end of the Roman Empire.

Prerequisites: ..... ENG 131 eligible

**HIST-226: History of England to 1688**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Surveys the history of England and the surrounding countries from the time of the Celts to the time of the Stuarts, with attention to the economic, religious, social, constitutional, and political developments.

Prerequisites: ..... ENG 131 eligibility



# Courses



## **HIST-239: Colonial America**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Covers the history of Colonial North America, in multiple dimensions and in a variety of contexts, from the 1490s to the 1770s. Explores North American history as broadly as possible from American Indian, European, European-American, African, and African-American perspectives.

Prerequisites: ..... ENG 131 eligibility

## **HIST-243: African-American History**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Presents an overview of Africans and African-Americans in the Colonies and the United States from African beginnings to the present. Emphasizes the conditions of slavery and on the cultural development of African-American peoples since the Emancipation.

Prerequisites: ..... ENG 131 eligibility

## **HIST-248: Coming to the New World: American Ethnic and Immigration History from First Nations to the Present**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Traces the history of immigrants to North America and the United States from before Columbus to the present. Focuses on issues of cultural contact and conflict in American society, and issues of immigrant assimilation and acceptance into mainstream American cultures.

Prerequisites: ..... ENG 131 eligible

## **HIST-250: American Labor History**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Traces the history of American laborers in the contexts of social group character, industrial unionism, and the responses to the changing conditions of the broader American society.

Prerequisites: ..... ENG 131 eligible

## **HIST-252: History of Women in the United States**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Examines changes in the ideas about women and in the lives of women from Colonial times to the present, looking at various classes and ethnic and racial groups. Also describes the activities and accomplishments of women in the building of the United States.

Prerequisites: ..... ENG 131 eligible

## **HIST-254: History of Michigan**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Presents a general survey of the historical development of Michigan from French exploration to the present. Studies the economic, social, and political development of the state as part of the history of the United States.

Prerequisites: ..... ENG 131 eligible

**HIST-256: Sea Power! A History of the U.S. Navy and American Maritime Heritage**

Credit Hours:.....3.00  
Contact Hours:.....3.00

This course takes an in-depth look at the principles, concepts, and elements of United States Sea Power. The course focuses on the historical, present, and future applications of sea power regarding the United States. There will be a particular emphasis on the role played by the US Navy, Marine Corps, Coast Guard and Merchant Marine in shaping the polices and culture of the United States.

Prerequisites:..... Eligibility for ENG 131

**HIST-258: The Revolutionary War Era**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Offers a study of the American Revolutionary War, including the causes, personalities, social groups, military aspects, founding documents, and the legacy of America’s formative period, 1754-1791.

Prerequisites:.....ENG 131 eligible

**HIST-261: The Modern Middle East**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Proceeding from the traditional civilizations in the Middle East, coursework examines the impact of the industrialized powers, nationalism, industrialization, and religious and cultural change on the lands of the Middle East.

Prerequisites:.....ENG 131 eligible

**HIST-268: The History of Sports in America**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Provides an investigation of the influence of sports in America from the founding of Jamestown and Plymouth Plantation in the early 17th Century to the present.

Prerequisites:.....ENG 131 eligible

**HIST-270: The American Civil War**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Examines the American Civil War, including the causes, personalities, soldiers, social groups, significant battles, and legacy of America’s defining conflict from 1820-1877.

Prerequisites:..... ENG 131 eligible

**HIST-273: American Social History Since 1875**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Explores the social history of the United States since the late nineteenth century, with special attention to changes resulting from industrialization and urbanization.

Prerequisites:.....ENG 131 eligible

**HIST-281: The Global Cold War, 1917-1991**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Traces the development and evolution of the Cold War from a global perspective, including its roots before and during World War II, through the postwar to the 1991 collapse of the Soviet state.

Prerequisites:.....ENG 131 eligible

# Courses



## **HIST-283: The United States and the Cold War, 1917-1991**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Traces the development and evolution of the Cold War from a primarily US perspective, including its roots before and during World War II, through the postwar period to the collapse of the Soviet state in 1991.

Prerequisites:.....ENG 131 eligible

## **HIST-285: The United States and the Second World War**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Studies the United States during World War II, including the causes, politicians and personalities, military aspects, home front, and legacy of the war that defined the latter half of the 20th century and established the US as a world leader (1935-1945).

Prerequisites:.....ENG 131 eligible

## **HIST-286: The United States and the Vietnam War**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Traces the causation factors leading to the escalation of U.S. involvement in the Vietnam conflict from 1945 until 1975. Emphasizes the political, diplomatic, and military strategy of the United States within the historical context of colonial rule over Vietnam, as well as the struggle for Vietnamese nationalism.

Prerequisites:.....ENG 131 eligible

## **HIST-295: Directed Study**

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Credit Hours:.....1.00

Contact Hours:.....1.00

Offers the opportunity to study a particular topic or issue in greater depth, working individually with an instructor of history. Explores the methodologies of the discipline including the use of primary sources or source criticism. The amount of work and expected outcomes reflect the number of credit hours

Prerequisites:.....ENG 131 eligible

## **HIST-296: Directed Study**

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Credit Hours:.....2.00

Contact Hours:.....1.87

Offers students the opportunity to study a particular topic or issue in greater depth, working individually with an instructor of history. Examines the methodologies of the discipline, such as the use of primary sources or source criticism. The amount of work and expected outcomes reflect the number of credit hours.

Prerequisites:..... Instructor permission and ENG 131 eligible

## **HIST-297: Directed Study**

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Credit Hours:.....3.00

Contact Hours:.....2.87

Offers students the opportunity to study a particular topic or issue in greater depth, working individually with an instructor of History. Students will begin to learn the methodologies of the discipline, such as the use of primary sources or source criticism. The amount of work and expected outcomes reflect the number of credit hours.

Prerequisites:.....Any two history classes AND written consent of instructor AND ENG 131 eligible

**HIT-150: Basic Coding: Theory and Practice**

Credit Hours:.....3.00  
Contact Hours:.....4.00

An intermediate-level coding class that incorporates hands-on practice in the assignment of insurance codes using case studies and medical record simulations. Presents theory and practice of coding diseases and procedures using ICD-9-CM and introduction of ICD-10-CM for inpatient facilities. Explores the Prospective Payment System (PPS) and the significance of Diagnosis Related Groupings (DRG). Also utilizes electronic and paper-based medical documentation to serve as resources for coding for inpatient reimbursement, and the application of all federal laws related to patient health information in the process of medical business practices.

Prerequisites:..... AH 100, MOA 100, MOA 110 and BCA 140 with a C or better; and Health Careers Typing Test proficiency of at least 30 words/minute

**HIT-230: Ambulatory Coding**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Examines the theory and practice of coding techniques of coding systems used to capture billing data for care given to patients in settings other than acute care. Settings include but may not be limited to ambulatory surgery, emergency care, outpatient care, long term care, observation, and care rendered by health care practitioners especially physicians.

Prerequisites:..MOA 100, MOA 110, and HIT 150 - all with a C grade or better

**HON-151: Honors Colloquium**

Credit Hours:.....3.00  
Contact Hours:.....3.00

An interdisciplinary humanities course that examines a given topic or problem from a variety of approaches.

Prerequisites:..... Honors Program Acceptance

**HON-231: Honors Directed Study**

Credit Hours:.....1.00  
Contact Hours:.....1.00

Challenges sophomore students to apply knowledge and research skills acquired in their freshman year in the Honors Program. Students work individually with a faculty member of their choice on a mutually-agreed-upon study topic. Coursework includes presenting a research summary before a meeting of Honors Program students and faculty at the end of each semester.

Prerequisites:..... ENG 131 and 132 Honors; Honors Colloquium 151 with a C grade or better

**HON-232: Honors Directed Study**

Credit Hours:.....1.00  
Contact Hours:.....1.00

In this sophomore-level directed study, students are challenged to apply the knowledge and research skills acquired in their freshman year in the Honors Program. Students work individually with a faculty member of their choice on a mutually-agreed-upon study topic. Students present summaries of their research before a meeting of Honors Program students and faculty held at the end of each semester.

Prerequisites:English 131 & 132 Honors; Honors Colloquium 151 (C or better)

**HON-233: Honors Directed Study**

Credit Hours:.....1.00  
Contact Hours:.....1.00

In this sophomore-level directed study, students are challenged to apply the knowledge and research skills acquired in their freshman year in the Honors Program. Students work individually with a faculty member of their choice on a mutually-agreed-upon study topic. Students present summaries of their research before a meeting of Honors Program students and faculty held at the end of each semester.

Prerequisites:.....HON 231 & 232 with a "C" grade or better

# Courses



## **HON-234: Honors Directed Study**

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Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

In this sophomore-level directed study, students are challenged to apply the knowledge and research skills acquired in their freshman year in the Honors Program. Students work individually with a faculty member of their choice on a mutually-agreed upon study topic. Students present summaries of their research before a meeting of Honors Program students and faculty held at the end of each semester.

Prerequisites: ..... HON 231 & 232

## **HON-251: Great Works**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Introduces seminal works from a range of disciplines, including literature, philosophy, history, religion, anthropology, psychology, and science. Explores each great work in terms of its capacity not only to assess issues crucial to its own era but also in terms of its power to illuminate the parameters of ethical, social, and cultural principles in the modern world.

Prerequisites:.. English 131 Honors (C or better); Honors Colloquium 151 [for Honors Students] (C or better)

## **HOSP-101: Wines of the World**

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Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Examines the major grape varieties, the effect of soil and climate, classification system, and the unique methods of various wine makers. Also focuses on the major wine producing areas, giving complete guidelines for reading a wine label as well as purchasing, storing, and serving.

Prerequisites: .....None

## **HOSP-103: Major Wines Grape Varieties**

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Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Examines varietal wines from many broad geographical areas, including vintage and specialty wines. Covers how to identify alcohol, acid, sugar, and tannin in wines. Also discusses the challenges of wine service in today's hospitality industry.

Prerequisites: .....None

## **HOSP-105: Applied Food Service Sanitation**

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Credit Hours: ..... 2.00

Contact Hours: ..... 2.00

Explores food contaminants, bacterial growth, safe food storage, and safe food handling procedures, as well as procedures for scheduling, cleaning, sanitizing, and pest control for facilities and equipment.

NOTE: As part of this course, the National Restaurant Association Educational Foundation exam is included. Students who successfully pass the exam earn the ServSafe Food Protection Manager Certificate. This certificate is recognized by the state health department.

Prerequisites: ..... A score of 43 or above on the ASSET Reading test, or 82 or above on the COMPASS test, or satisfactory completion of ENG 081

## **HOSP-107: Artisanal Cheese and Craft Beer**

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Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Covers introductory techniques used to bring cheese and craft beer together in a cohesive pairing. Examines the production, flavors, and origin of eight styles of cheese and four styles of beer.

Prerequisites: .....None

**HOSP-110: Introduction to the Hospitality Industry**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Surveys career opportunities in the hospitality industry. Presents hospitality as a single yet inter-related industry, emphasizing problem-solving tools rather than answers, and points out trends both past and present. Course explores marketing, franchising, food service operations, hotel operations, and tourism.

Prerequisites:..... A score of 43 or above on the ASSET Reading Test, or 82 or above on the COMPASS Test, or satisfactory completion of ENG 081 Developmental College Reading

**HOSP-115: International Cooking**

Credit Hours: ..... 4.00  
Contact Hours: ..... 4.00

Presents a comprehensive overview of cuisines throughout the world. Explores how demographic changes and the accessibility of travel have altered America's cultural and culinary perspectives of the world at large.

Prerequisites:.....  
HOSP 105. A score of 43 or above on the ASSET Reading Test, or 82 or above on the COMPASS Test, satisfactory completion of ENG 081 Developmental College Reading

**HOSP-121: Introduction to Baking and Cooking**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Introduces basic concepts in food and baking preparation, and techniques used in the food service operation. Covers culinary terminology, proper use of tools and equipment, interpretation of recipes, and formulas and production methods. Emphasizes proper safety and sanitation protocols.

Prerequisites:..... A score of 43 or above on the ASSET Reading Test, or 82 or above on the COMPASS Test, or satisfactory completion of ENG 081 Developmental College Reading

**HOSP-124: Introduction to Professional Cooking - Lab**

Credit Hours: ..... 3.00  
Contact Hours: ..... 4.50

Introduces basic concepts in food preparation and techniques in the food service operations. Explores proper use of kitchen procedures with hands-on food production methods, and discusses how to utilize the principles, standards, and practices involved in professional quantity food production. Instructor rotates students in the following production areas: pantry, soups, stocks, sauces, vegetables, and the entree department.

Prerequisites:..... A score of 43 or above on the ASSET Reading Test, or 82 or above on the COMPASS Test, or satisfactory completion of ENG 081 - Developmental College Reading

**HOSP-125: Introduction to Professional Baking - Lab**

Credit Hours: ..... 3.00  
Contact Hours: ..... 4.50

Covers the basic concepts, standards, and practices involved in professional quantity baking production. Examines the preparation and techniques used in bakery operations. Instructor rotates students through various production areas, which will include but is not limited to: quick breads, cookies, yeast products, layered dough, pies, basic cakes, cheesecakes, simple pastries, and doughnuts.

Prerequisites:..... A score of 43 or above on the ASSET Reading Test, or 82 or above on the COMPASS Test, or satisfactory completion of ENG 081 Developmental College Reading

**HOSP-130: Food and Nutrition**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Examines basic concepts of nutrition, food composition, food technology, controversies in nutrition, and marketing nutrition in the food service business. Covers carbohydrates, fats, protein, vitamins, RDA, food labeling, menu planning, weight management, cardiovascular disease, nutrition and cancer, and modifying recipes for health and lower calorie content.

Prerequisites:.....None

# Courses



## **HOSP-140: Advanced Food Preparation**

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Credit Hours:.....8.00

Contact Hours:.....10.00

Provides practical experience in all areas of quality food preparation by rotating throughout each station of the a la carte kitchen. Students explore the proper techniques of broiling, sautéing, meat cutting, dessert presentation, buffet preparation, and cold food stations in the on campus, student-run restaurant.

Prerequisites:.....HOSP 105, 125, or 285

## **HOSP-145: Ice Carving and Design**

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Credit Hours:.....3.00

Contact Hours:.....4.00

Explores techniques used to shape, round, and sculpt ice displays with the use of hand and power tools. Also covers safety procedures related to ice handling; tools and equipment used in carving; qualities of the ice; and proper care and sharpening of tools. Final project involves carving an ice sculpture from a single block of ice.

Prerequisites:.....None

## **HOSP-150: Dining Room Service and Operation**

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Credit Hours:.....3.00

Contact Hours:.....4.00

Applies basic principles of table service in the production dining room. Emphasis is placed upon effective serving procedures and techniques, including cordial and prompt attention to customers, proper dress and grooming practices, and in-depth knowledge of menu items.

Prerequisites:.....None

## **HOSP-160: Hospitality Purchasing**

---

Credit Hours:.....3.00

Contact Hours:.....3.00

Explains standard procedures for purchasing food, beverages and services for hotels, restaurants, and institutions. Emphasizes distribution, product line, government regulations, packaging, comparative versus price buying, yields, inventory, and quality controls.

Prerequisites:.....None

## **HOSP-170: Food and Beverage Controls**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Emphasizes cost calculations of food, wine, spirits, supplies, and labor in order to understand a profit and loss statement. Presents the forecasting, production planning, inventory, and ordering cycle with the aid of MS Excel and web-based ordering systems. Also examines how buying decisions are made by utilizing calculations of yield and best value, along with government regulations and ethics.

Prerequisites:.. MTH 104 or higher, HOSP 140, successful completion of Computer Literacy Test or BCA 140 with a grade of "C" or better

## **HOSP-190: Co-op in Hospitality**

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Credit Hours:.....1.00

Contact Hours:.....1.00

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a "co-op," provides academic credit for structured employment experience. Work experience must be directly related to the student's declared major to be eligible.

To register for this course, a student must have completed 50% of core coursework, maintain an overall GPA of 2.0 and a program specific GPA of 2.5

Prerequisites:Permission from Career Services Officer or Cooperative Education Officer

## **HOSP-210: Hospitality Supervision and Leadership**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Explores topics such as, but not limited to: hotel marketing, management definition, management responsibilities, effective skills needed, effective communications, responsibilities for recruitment, selection, orientation and training employees, measuring labor productivity and controlling costs, evaluating and coaching employees, rules and regulations of discipline, structure of unions, and the collective bargaining process.

Prerequisites:..... HOSP 110

**HOSP-221: Front Office Procedures and Guest Services**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Presents a systematic approach to the front office procedures by detailing the flow of business in the lodging operation. Examines the various jobs in the hotel/motel front office, and emphasizes guest relations and services, night audit, and check-out procedures.

Prerequisites:..... Completed or concurrent enrollment in HOSP 110

**HOSP-225: Dining Room Captain**

Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00

Covers advanced principles of table service and managing the production dining room. Emphasizes effective management procedures and techniques including scheduling, table assignments, side work, reservations, expediting, and training of the HOSP 150 students.

Prerequisites:..... HOSP 150

**HOSP-231: Advanced Baking and Pastry**

Credit Hours: ..... 6.00  
Contact Hours: ..... 7.00

Offers advanced study of commercial baking techniques and procedures. Stresses the fundamentals of baking along with the production and presentation of cakes and pastries. Coursework provides in-depth instruction in designing, baking, and decorating wedding cakes, fondant cakes, European pastries, petit fours, and specialty desserts.

Prerequisites:..... HOSP 140

**HOSP-235: Ice Carving for the Professional**

Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00

Demonstrates how to carve ice sculptures in single and multi-block designs, custom-colored logo designs, and functional ice carvings used on culinary food buffets. Offers advanced techniques in the use of hand and power tools.

Prerequisites:..... HOSP 145

**HOSP-241: Garde Manger and Menu Planning**

Credit Hours: ..... 6.00  
Contact Hours: ..... 7.00

Emphasizes the art of food preparation with a focus on cold foods. Covers the preparation and presentation of salads, sandwiches, hors d'oeuvres, cold sauces and dressing, pâté/terrine, and sausage. Offers in-depth instruction in catering, menu planning, and American cuisine leading sauces and their respective small sauces.

Prerequisites:..... HOSP 231

**HOSP-245: Hotel and Restaurant Desserts**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Examines the specific principles of the baking process. Covers volume banquet desserts, chocolate decorating, sugar casting, and the intricacy of cake decoration. Also focuses on assembling and presenting desserts, including tortes, petit fours, French pastries, candies, frozen desserts, and decorative centerpieces. Emphasizes understanding formulas, proper weights, and measures.

Prerequisites:..... HOSP 105; a score of 43 or above on the ASSET Reading Test, or 82 or above on the COMPASS Test, or satisfactory completion of ENG 081 - Developmental College Reading

**HOSP-250: Hospitality and Travel Marketing**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Explores the need and value of a cooperative marketing effort among hotels, airlines, restaurants, travel agents, and other important industry groups. Discusses research and analysis, the development and implementation of marketing plans and strategies, advertising, promotions, public relations, and pricing structures.

Prerequisites:..... HOSP 110



# Courses



## **HOSP-255: Professional Cake Decorating**

Credit Hours: ..... 3.00

Contact Hours: ..... 4.00

Provides practical information for the individual serious about creating and producing high quality, decorated cakes from start to finish. Discusses many types of decorated cakes as well as the application of different kinds of icings, including buttercream icing and rolled fondant. Covers proper preparation of borders, variation of flowers, other decorations, the art of cake writing, wedding cakes, gumpaste flowers, and fondant work.

Prerequisites: ..... None

## **HOSP-270: Facilities Management**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Studies the critical roles of housekeeping, maintenance, and design and development in hotel, restaurant, and non-commercial facilities. Explores the impact of these roles on operating budgets, guest perception, and guest service.

Prerequisites: ..... HOSP 110

## **HOSP-290: Co-op in Hospitality**

Credit Hours: ..... 2.00

Contact Hours: ..... 9.87

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a "co-op," provides academic credit for structured employment experience. Work experience must be directly related to the student's declared major to be eligible.

To register for this course, a student must have completed 50% of core coursework, maintain an overall GPA of 2.0 and a program specific GPA of 2.5

Prerequisites: Permission from Career Services Officer or Cooperative Education Officer

## **HPE-140: Lifetime Wellness**

Credit Hours: ..... 2.00

Contact Hours: ..... 2.00

Focuses on how to prevent disease and death by following a positive lifestyle. Provides assessment of current level of wellness and introduces the tools necessary to improve healthier lifestyles choices throughout adulthood.

Prerequisites: ..... None

## **HPE-141: Introduction to Health and Wellness**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Assesses current level of wellness and provides the tools necessary to improve and motivate the student to practice healthier lifestyles throughout adulthood. Covers environmental, reproductive, and psychological health; stress management; infectious disease; nutrition; and physical fitness.

Prerequisites: ..... None

## **HPE-142: Advanced First Aid**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Covers how to identify life-threatening conditions and carry out emergency procedures at the scene of an accident. Part of the course work also allows students the option to meet the requirements for the American Red Cross Emergency Response certificate and the Basic Life Support certificate. NOTE: Certificates are only issued to students whose performance meets the required criteria.

Prerequisites: ..... None

## **HPE-150: Exercise Physiology**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Explores the basic physiological principles of exercise. Discusses what changes occur to the body during exercise and as a result of regular exercise. Emphasizes how applied exercise physiology improves health and fitness of the general population, and how to optimize performance.

Prerequisites: ..... None

**HPE-151: Methods for Teaching Exercise**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Provides a hands-on approach to demonstrating the skills that are necessary to lead group exercise instruction as well as personal training. Presents a variety of methods to lead exercise. NOTE: Also helps prepare students interested in taking industry certification exams (e.g. ACSM, ACE, and NSCA) in personal training, group exercise instruction, and weight management, but certification exams are not included in this course.

Prerequisites: ..... None

**HPE-152: Tests and Measurements**

Credit Hours: ..... 2.00

Contact Hours: ..... 2.00

Examines various tests and measurements in health and physical education, including methods for evaluating the health-related and skill-related components of physical fitness. Covers anthropometric measurement, stress testing, and posture evaluation. Also discusses how to evaluate and assess test results.

Prerequisites: ..... None

**HPE-153: Nutrition**

Credit Hours: ..... 2.00

Contact Hours: ..... 2.00

Emphasizes the importance of proper nutrition through the understanding of basic nutrition principles and their application to everyday life. Explains dietary requirements of protein, carbohydrates, fats, vitamins, and minerals. Other topics include digestion and metabolism; weight loss, weight gain and maintenance; water balance; and exercise.

Prerequisites: ..... None

**HPE-154: Facilities and Equipment**

Credit Hours: ..... 2.00

Contact Hours: ..... 2.00

Explains the planning and operation of an athletic or health club facility. Discusses swimming pool operations, the selection and care of exercise and strength equipment, and locker room management.

Prerequisites: ..... None

**HPE-156: Personal Training**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Offers preparation for the American Council on Exercise (ACE) Personal Trainer Certification Exam and other national exams. Covers the skill set and information necessary to provide personal training to clients in a fitness center as well as one-on-one instruction.

Prerequisites: ..... None

**HPE-158: Introduction to Nutrition**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Introduces how to evaluate nutrition information, plan nutritious diets, digestion issues, macro and micro nutrients, energy balance and weight control, food safety, and proper nutrition for a lifetime. Also examines how to assess nutritive content, spread of calories, and the calorie balance of various diets.

Prerequisites: ..... None

# Courses



## **HPE-192: Internship in Physical Education**

Credit Hours:.....2.00  
Contact Hours:.....2.00

This internship is for students nearing completion of the Fitness Leadership program. The student will complete 100 supervised hours in a work setting such as a community center, physical education classroom, physical therapy center or wellness center. A student is encouraged to choose internship sites that will provide important job opportunities as well as strengthen an area in which they are weak. The internship is unpaid and may be completed at times that are convenient for the student and the internship site.

Prerequisites:.....None

## **HPE-253: Nutrition for the Professional**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Introduces health care professionals to the basics of nutrition and its application to disease, growth, and development.

Prerequisites:.....None

## **HPE-260: Nutrition, Health, and Physical Education for the Classroom Teacher**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Provides training for the elementary classroom teacher to teach health, nutrition, safety, and physical education. Offers teaching strategies, projects, movement exercises, and games designed to engage the elementary student. Course emphasis is on providing learning experiences for children's development of positive lifestyle behaviors. Fulfills the objectives for the Michigan Model for Health.

Prerequisites:.....None

## **HPE-265: Sports Psychology**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Explores the application of sports psychology principles. Emphasizes the history and future of sports psychology, stress, anxiety, motivation, mental training, goal setting, and leadership. Also addresses imagery, group dynamics, sport socialization, well-being and self-efficacy. Investigates personality as it relates to athletic competition and competition in the real world.

Prerequisites:.....None

## **HPEA-104: Basketball I**

Credit Hours:.....2.00  
Contact Hours:.....2.00

Explores the fundamental skills of basketball with a comprehensive discussion and implementation of the rules and etiquette.

Prerequisites:.....None

## **HPEA-105: Bowling I**

Credit Hours:.....2.00  
Contact Hours:.....2.00

Examines the fundamental, intermediate, and advanced skills of bowling with a comprehensive discussion and implementation of the rules, etiquette, and terminology of the game.

Prerequisites:.....None

## **HPEA-106: Golf I**

Credit Hours:.....2.00  
Contact Hours:.....2.00

Provides instruction in the fundamental and intermediate skills of golf, including proper use of woods, irons, putting, and specialty shots. Also covers rules, terminology, and proper etiquette.

Prerequisites:.....None

**HPEA-109: Tennis I**

Credit Hours:.....2.00

Contact Hours:.....2.00

Provides instruction in the fundamental skills of tennis, including proper grips, ground strokes, volleys, and serves. Stresses rules, terminology, scoring, and etiquette.

Prerequisites:.....None

**HPEA-110: Volleyball I**

Credit Hours:.....2.00

Contact Hours:.....2.00

Covers the fundamental skills, strategy, history, rules, and values of volleyball. Discusses concept of team play and how to develop an appreciation for the sport as both player and spectator. Course also explores nutrition and health related fitness as it pertains to disease and weight prevention.

Prerequisites:.....None

**HPEA-117: Strength Training and Physical Conditioning I**

Credit Hours:.....2.00

Contact Hours:.....2.00

Introduces beginning and intermediate training techniques in strength and cardiovascular conditioning including evaluation of all components of physical fitness. Emphasizes flexibility, strength, cardiovascular conditioning, muscular endurance, and body composition. Course also includes information on nutrition and exercise as it relates to weight management and disease prevention, and discusses common risk factors.

Prerequisites:.....None

**HPEA-120: Lifetime Fitness**

Credit Hours:.....2.00

Contact Hours:.....2.00

Offers a rotating body conditioning method that allows for greater efficiency and ease of movement, strength, flexibility and muscle endurance, thereby helping to prevent chronic pain. Also provides information on overall body care and control through knowledge and practice of healthy lifestyle choices in terms of diet, exercise, weight management, and disease and injury prevention.

Prerequisites:.....None

**HPEA-121: Pilates**

Credit Hours:.....2.00

Contact Hours:.....2.00

Focuses on how to improve core strength and postural alignment. Studies Pilates exercises, breath control, basic skeletal-muscular anatomy, and function involved in the Pilates program.

Prerequisites:.....None

**HPEA-122: Yoga**

Credit Hours:.....2.00

Contact Hours:.....2.00

Explains how to improve overall body awareness and fitness while presenting specific techniques to manage stress through the practice of relaxation, meditation, and asanas (postures). Covers how to find stillness; to practice deep breathing and postures; to improve mind-body awareness and self confidence; and to make healthy lifestyle choices.

Prerequisites:.....None

# Courses



## **HPEA-126: Aerobic Dance**

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Credit Hours:.....2.00

Contact Hours:.....2.00

An exercise class covering the health related components of physical fitness, with an emphasis on cardiovascular endurance. Also explains how to make proper choices for a healthy diet; proper weight and stress management; and disease prevention. Requires no dance background.

Prerequisites:.....None

## **HPEA-127: Aquacise**

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Credit Hours:.....2.00

Contact Hours:.....2.00

Provides the opportunity to achieve physical fitness through water exercise. Covers safety protocols, importance of exercise for disease prevention, and proper food intake for maintaining a healthy weight. Exercise alignment and various creative exercises are incorporated in the class. No swimming skill is required.

Prerequisites:.....None

## **HPEA-155: Relaxation Techniques for Stress Management**

---

Credit Hours:.....2.00

Contact Hours:.....2.00

Covers stress and its effects on the body. Emphasizes ways to reduce stress such as Yogic breathing, meditation, and other relaxation techniques. Discusses time and money management; conflict resolution and effective communication; resolving anxiety; a healthy diet, and how to incorporate these into one's lifestyle.

Prerequisites:.....None

## **HPEA-204: Basketball II**

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Credit Hours:.....2.00

Contact Hours:.....2.00

Offers information on the fundamental, intermediate, and advanced skills of basketball. Also discusses rules and strategies.

Prerequisites:.....None

## **HPEA-205: Bowling II**

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Credit Hours:.....2.00

Contact Hours:.....2.00

Includes the fundamental, intermediate, and advanced skills of bowling with a comprehensive discussion and implementation of the rules, etiquette, and terminology of the game.

Prerequisites:.....None

## **HPEA-206: Golf II**

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Credit Hours:.....2.00

Contact Hours:.....2.00

Offers instruction in the fundamental, intermediate, and advanced skills of golf, including proper use of woods, irons, putting, and specialty shots. Covers rules, terminology, and etiquette.

Prerequisites:.....None

## **HPEA-209: Tennis II**

---

Credit Hours:.....2.00

Contact Hours:.....2.00

Provides instruction in the fundamental, intermediate, and advanced skills of tennis, including proper grips, ground strokes, volleys, and serves. Emphasizes rules, terminology, scoring, and etiquette.

Prerequisites:.....None

## **HPEA-210: Volleyball II**

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Credit Hours:.....2.00

Contact Hours:.....2.00

Covers both fundamental and advanced skills as well as strategy, history, rules, and values of volleyball. Student gains valuable social experience and develops a sense of team play along with an appreciation for the sport as a player and a spectator. Nutrition and health related fitness information is included as it pertains to disease prevention and weight control.

Prerequisites:.....None

**HPEA-217: Strength Training and Physical Conditioning II**

Credit Hours: ..... 2.00

Contact Hours: ..... 2.00

Explores the principles of intermediate and advanced strength and cardiovascular conditioning including evaluation of all components of physical fitness. Emphasizes flexibility, strength, cardiovascular conditioning, muscular endurance, and body composition. Also covers nutrition and exercise as it relates to weight management and disease prevention, and risk factors.

Prerequisites: ..... None

**HUM-101: Introduction to the Humanities**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Introduces the visual arts, music, and drama of Western and Non-Western societies. Focuses on the aesthetic and technical aspects of the arts, as well as the understanding of the arts in the light of historical and cultural conditions. Also offers a study of individual works.

Prerequisites: ..... ENG 131

**HUM-250: Visual and Performing Arts for Teachers**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

This course will teach the elementary education student how to incorporate the various visual and performing arts into everyday elementary education curricula. The course will cover the fundamental and formal elements, the major periods, styles and philosophies, as well as the functions and processes of the visual and performing arts, and how to effectively employ those creative processes through collaboration, communication, cooperation, and interaction in the elementary classroom. This is an interactive course where the instructor, guest speakers, and students present topics. Knowledge will be applied through small and large group discussions and projects. Students complete assignments both during and outside of class. Class participation, completion of assignments, quizzes, and attendance are all factored into the grading process. At least one field trip will be planned as an integral part of the course.

Prerequisites: ..... ENG 131

**ICO-190: Co-op in Industrial Technology**

Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a "co-op," provides academic credit for structured employment experience. Work experience must be directly related to the student's declared major to be eligible.

Prerequisites: ..... Permission from Career Services Officer or Job Developer in the Office of Career Services

**ICO-191: Co-op in Industrial Technology**

Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a "co-op," provides academic credit for structured employment experience. Work experience must be directly related to the student's declared major to be eligible.

Prerequisites: ..... Permission from Career Services Officer or Job Developer in the Office of Career Services

**ICO-290: Co-op in Industrial Technology**

Credit Hours: ..... 2.00

Contact Hours: ..... 9.87

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a "co-op," provides academic credit for structured employment experience. Work experience must be directly related to the student's declared major to be eligible.

To register for this course, a student must have completed 50% of core coursework, maintain an overall GPA of 2.0 and a program specific GPA of 2.5.

Prerequisites: ..... Permission from Career Services Officer or Job Developer in the Office of Career Services

# Courses



## **ICO-291: Co-op in Industrial**

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Credit Hours: .....2.00  
Contact Hours: .....4.87

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a "co-op," provides academic credit for structured employment experience. Work experience must be directly related to the student's declared major to be eligible.

Prerequisites:.....Permission from Career Services Officer or Job Developer in the Office of Career Services

## **INTR-120: Manual Architectural Drafting for Interior Designers**

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Credit Hours: .....3.00  
Contact Hours: .....6.00

Basic manual drafting course that introduces graphic tools, techniques, and conventions used for effective visual communication in interior design. Students develop skills in architectural drafting, lettering, line quality, symbols, and sheet organization in the creation of a full set of residential construction drawings.

Prerequisites:.....None

## **INTR-130: Intro to CAD for Interior Design**

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Credit Hours: .....3.00  
Contact Hours: .....6.00

An introduction to computer-aided design that focuses on translating the architectural hand-drafting skills to the computer.

## **INTR-131: Advanced CAD for Interior Design**

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Credit Hours: .....3.00  
Contact Hours: .....6.00

Studies advanced computer-aided design for interior design with emphasis on three-dimensional modeling.

Prerequisites:.....INTR130 or ACT 116 or equivalent

## **INTR-180: Design and User Needs**

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Credit Hours: .....3.00  
Contact Hours: .....3.00

Introduces human factors as they affect the design of interior environments including physiological, sociological, and psychological needs of users. Emphasizes the human factors of ergonomics, anthropometrics, universal design, and special populations as they relate to design standards, functionality, accessibility, and impact on the interior design practice.

Prerequisites:.....None

## **INTR-181: Principles of Design**

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Credit Hours: .....3.00  
Contact Hours: .....3.00

An introduction to the principles and elements of design that provide the foundation for aesthetic concepts in the interior design profession. Development of professional visual presentation techniques through the creation of interior design boards and models. Introduction to the design process and aesthetic conceptualization techniques.

Prerequisites:.....None

## **INTR-182 : Interior Design Materials and Components**

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Credit Hours: .....3.00  
Contact Hours: .....3.00

Investigates the characteristics, properties, and uses of materials, components and construction methods as specified by interior designers. Emphasizes performance, use, maintenance, and sustainability of materials and finishes. Also explores quantity calculations, installation methods, workroom practices, and resource development.

Prerequisites:.....None

# Courses

## **INTR-183: Perspective Drawing and Rendering**

Credit Hours: ..... 3.00

Contact Hours: ..... 6.00

Studies the basic principles of manual perspective drawing and rendering. Emphasis on various perspective drawing, sketching, and rendering techniques as a means to visually communicate interior spaces.

Prerequisites:..... ACT 110 or ART 181, or INTR 120 or Instructor permission

## **INTR-185: Kitchen and Bath Materials and Estimating**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Focuses on methodology utilized in the estimating and budgeting practices of the kitchen and bath industry, using cost analysis of materials, components, appliances, fixtures and finishes.

Prerequisites:.....None

## **INTR-187: Computer Drafting for Kitchen and Bath**

Credit Hours: ..... 2.00

Contact Hours: ..... 2.00

An introductory-level, computer-aided drafting course with particular emphasis on designing kitchen and bath environments. Two-dimensional and three-dimensional drawings will be developed using state-of-the-art software meeting industry standard drafting graphic presentation criteria.

Prerequisites:..... ACT 110 or ART 181 or INTR 120 or Instructor permission

## **INTR-250: Kitchen Design Studio**

Credit Hours: ..... 3.00

Contact Hours: ..... 6.00

A studio course integrating the interior design process into a large-scale kitchen design project focusing on functional and aesthetic elements and the integral relationship to user needs. Incorporates human factors and Universal Design principles.

Prerequisites:.....ACT 110 or ART 181 or INTR 120 or INTR 187 or equivalent

## **INTR-251: Bath Design Studio**

Credit Hours: ..... 3.00

Contact Hours: ..... 6.00

Course integrates the interior design process into large-scale residential and commercial bath design projects focusing on functional and aesthetic elements and the integral relationship to user needs, incorporating human factors and environmentally responsible design.

Prerequisites:.....ACT 110 or ART 181 or INTR 120 or INTR 187 or Instructor permission

## **INTR-255: Advanced Kitchen and Bath Studio**

Credit Hours: ..... 2.00

Contact Hours: ..... 4.00

A studio course wherein students apply advanced critical thinking and highly developed design skills to a national kitchen and bath design competition.

Prerequisites:..... INTR 250 or 251



# Courses



## **INTR-2626: Special Topics in Interior Design**

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Credit Hours:.....3.00

Contact Hours:.....6.00

Provides specialized study in the area of interior design organized by discipline or other criteria. This studio course may be taken twice for credit, six hours maximum. Specific topics and any prerequisites are listed in the current semester's class schedule or may be obtained through the departmental office. Course meets for six hours per week.

Prerequisites:.....None

## **INTR-280: History of Design - Antiquities to Present**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Surveys the chronological history of architecture, furniture, and interiors from Ancient Egypt to the present. Emphasizes the relationship between major cultural, political, social, and economic events upon significant movements in architecture and design.

Prerequisites:.....None

## **INTR-281: Residential Design Studio**

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Credit Hours:.....3.00

Contact Hours:.....6.00

Introduces the interior design process and development of functional and aesthetically pleasing environments. Emphasizes programming, ideation, analysis, concept development, space planning, design development, documentation, and graphic communication culminating in the presentation of a residential project.

Prerequisites:..... ACT 110 or ACT 116; or ART 181; or INTR 120 or equivalent

## **INTR-283 : Lighting and Environmental Systems for Interiors**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Introduces the fundamentals of lighting design and basic understanding of acoustical, electrical, plumbing, and climate control systems and their impact on environmental, energy and economic issues. Emphasizes lighting design process, principles and theories, light sources, lamps, and energy conservation.

Prerequisites:.....None

## **INTR-284: Commercial Design Studio**

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Credit Hours:.....3.00

Contact Hours:.....6.00

Explores how to integrate the interior design process into a small-scale, non-residential design project focusing on functional and aesthetic elements, and the integral relationship to user needs. Also discusses how to incorporate human factors, Universal Design principles, and building codes into the design process. Emphasizes environmentally responsible product selection and specification.

Prerequisites:..... INTR 281 or Instructor permission

## **INTR-285: Professional Practice for Interior Designers**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Exams the interior design profession, including the study of legal, financial, and ethical business practices with special emphasis on management, human resource practices, marketing, and advertising.

Prerequisites:.....None

**INTR-287: Interior Design Synthesis**

Credit Hours:.....3.00  
Contact Hours:.....6.00

A rigorous capstone experience which requires critical thinking and highly developed design skills to be applied to real life situations. The experience also involves updating design portfolios, developing a professional resume, and participating in mock employment interviews. Final studio project focuses on the development of an interior design project for a real client.

Prerequisites:..... INTR 284, or 281, or Instructor ermission

**INTR-294: Kitchen and Bath Internship**

Credit Hours:.....2.00  
Contact Hours:.....2.00

Offers practical work experience within the student's program of study through a 160-hour internship in the kitchen and bath industry. Must have completed most of the coursework in the Kitchen and Bath Design program before applying for this course.

Prerequisites:..... INTR 250 and 251

**INTR-2993: Directed Study in Interior Design**

Credit Hours:.....3.00  
Contact Hours:.....3.00

An individualized advanced course study of a topic or project under the direction of a faculty member who, together with the student, designs the format of the study or project. Students must have completed the appropriate sequence of courses offered by the department.

Prerequisites:.....INTR 120, INTR 180, INTR 181, INTR 182, and Instructor permission

**ITAL-131: Elementary Italian I**

Credit Hours:.....4.00  
Contact Hours:.....4.00

Teaches elementary reading, writing, speaking, and listening skills in Italian, focusing on communication in a cultural context. Covers vocabulary and explores the pronunciation and grammatical principles necessary for comprehending and expressing simple ideas in both spoken and written Italian.

Prerequisites:.....None

**ITAL-132: Elementary Italian II**

Credit Hours:.....4.00  
Contact Hours:.....4.00

ITAL 132 further builds reading, writing, speaking, and listening skills in Italian, focusing on communication in a cultural context. Students continue to expand their knowledge of vocabulary, pronunciation and grammatical principles in order to comprehend and express everyday ideas in both spoken and written Italian.

Prerequisites:..... A grade of C or better in ITAL 131 or in one year of high school Italian, or instructor permission (Note: a grade of C- is not transferrable and is not accepted by some programs at HFC.)

**ITAL-141: Elementary Italian Conversation**

Credit Hours:.....3.00  
Contact Hours:.....3.00

An enrichment course, ITA 141 is conducted almost entirely in Italian and is designed for students wishing to expand their active vocabulary and improve their facility in speaking and listening. Class discussions are based on assigned readings, student reports, and current events. This course is transferable but is not a substitute for a basic language requirement. It may be taken concurrently with Italian 132.

Prerequisites:.....A grade of C or better in ITA 131 or in one year of high school Italian, or instructor permission (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

# Courses



## **ITAL-290: Study Abroad in Italian Language and Culture**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Allows students to study Italian language and culture in Italy under the direction of a member of the Communications Division faculty. Prior to leaving for Italy, students meet with instructor for basic language and cultural lessons and to choose an individual topic of research in the area of Italian language, literature, or culture. While in Italy, students put their knowledge of language and culture into practice. On their return, students reflect on their study abroad experience, develop their topic of special interest, and present it in the form of a paper, portfolio, or project. Specific travel information will be announced at least one semester prior to leaving for Italy.

Prerequisites:.....C grade or better in ITAL 131, 132, or equivalent or Instructor permission (Note: a grade of C- is not transferrable and is not accepted by some programs at HFC.)

## **ITAL-295: Directed Study in Italian**

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Credit Hours:.....1.00

Contact Hours:.....1.00

ITAL 295 offers advanced study under the direction of a Communications Division faculty member. This course may be taken only after consultation with the instructor to determine the course content (a topic of special interest in the area of Italian language, literature, or culture) and the credit hours appropriate for the chosen project. This class may be repeated once for credit.

Prerequisites:..... A grade of C or better in ITA 131, 132, 231, or 232 or equivalent (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

## **ITAL-296: Directed Study in Italian**

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Credit Hours:.....2.00

Contact Hours:.....0.87

ITAL 296 offers advanced study under the direction of a Communications Division faculty member. This course may be taken only after consultation with the instructor to determine the course content (a topic of special interest in the area of Italian language, literature, or culture) and the credit hours appropriate for the chosen project. This class may be repeated once for credit.

Prerequisites:..... A grade of C or better in ITA 131, 132, 231, or 232 or equivalent (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

## **ITAL-297: Directed Study in Italian**

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Credit Hours:.....3.00

Contact Hours:.....0.87

ITAL 297 offers advanced study under the direction of a Communications Division faculty member. This course may be taken only after consultation with the instructor to determine the course content (a topic of special interest in the area of Italian language, literature, or culture) and the credit hours appropriate for the chosen project. This class may be repeated once for credit.

Prerequisites:.....A grade of C or better in ITA 131, 132, 231, or 232 or equivalent (Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.)

## **JOUR-131: News Writing**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Introduces news writing in its various forms such as news stories, thought-provoking opinion columns, and stimulating reviews. Students also read and analyze professional newspapers. Major assignments are required to be created using word processing software.

Prerequisites:.....None

**JOUR-134: Advertising**

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Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00

Introduces the advertising industry. Particular attention is given to the analysis of current and historical case studies that illustrate interesting demographic, social, psychological, and ethical aspects of the advertising world. Creative problem solving strategies are encouraged throughout the course and culminate during the development of an advertising campaign (term project). Major assignments are required to be created using word processing software.

Prerequisites: ..... None

**JOUR-295: Business Manager**

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Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00

Internship for student hired as the business manager for The Mirror News. Internship is under the direction of an instructor preferably in the Business and Economics Division. Class may be repeated for credit.

Prerequisites: ..... BBA 110 or BMA 110 with a B grade or better OR equivalent OR Instructor permission

**JOUR-296: Copy Editor**

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Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00

Internship for students hired to fulfill responsibilities of copy editor positions at The Mirror News. Internship is under the direction of an instructor in the respective discipline. Class may be repeated for credit.

Prerequisites: ..... JOUR 131

**JOUR-297: Layout Editor**

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Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00

Internship for students hired to fulfill the responsibilities of the designated position at The Mirror News. Internship is under the direction of an instructor in the respective discipline. Class may be repeated for credit.

Prerequisites: ..... ART 110 or ART 163 with a B grade or better OR equivalent OR Instructor permission

**JOUR-298: Online Editor**

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Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00

Internship for students hired to fulfill the responsibilities of the designated position at The Mirror News. Internship is under the direction of an instructor in the respective discipline. Class may be repeated for credit.

Prerequisites: ..... CIS 122 or CIS 126 with a B grade or better OR equivalent OR Instructor permission

**JOUR-299: Editor in Chief**

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Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00

Internship for student hired as the editor in chief of The Mirror News. Internship will be under the direction of the faculty advisor of The Mirror News. Class may be repeated for credit.

Prerequisites: ..... JOUR 131

**MATH-001: Math Learning Lab I**

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Credit Hours: ..... 1.00  
 Contact Hours: ..... 1.00

This non-enrollment course allows for the tracking of instructor load and, when appropriate, for the paying for one-hour Math Learning Lab assignments.

# Courses



## **MATH-003: Math Learning Lab III**

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Credit Hours: ..... 3.00

Contact Hours: ..... -0.13

This non-enrollment course allows for the tracking of instructor load and, when appropriate, for the paying for three-hour Math Learning Lab assignments.

## **MATH-064: Basic Mathematics**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Serves as preparation for MATH 074 or as a review of arithmetic. Covers place value, an introduction to fractions and decimals, arithmetic with whole numbers, and arithmetic with decimal numbers.

Prerequisites: ..... None

## **MATH-074: Prealgebra**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

Focuses on preparing students for algebra in MATH 080 or 100. Covers fractions, percents, measurement and geometry, signed numbers, linear equations and proportions. Includes techniques of problem solving and applications throughout the course. Requires a scientific calculator.

## **MATH-077: Preparation for Algebra**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

Prepares students for MATH 089 (or MATH 080) or MATH 100. Presents content at a pace that is appropriate for the individual with the assistance of computers. Covers arithmetic operations with whole numbers, integers, decimals, fractions, order of operations, proportions, percents, basic statistics, basic geometry and unit conversion. Also includes problem solving techniques and applications. Requires a scientific calculator, access to an online homework management system, and the associated textbook. Course does not count toward graduation requirements.

Prerequisites: ..... None

## **MATH-080: Beginning Algebra**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

A developmental course for students who need to develop skills in beginning algebra topics. Topics include solutions of linear equations and inequalities, an introduction to graphing linear equations, polynomial operations, factoring, properties of integer exponents, and solutions to quadratic equations by factoring. Utilizes techniques of problem solving and applications throughout the course. Requires a calculator and access to an online homework management system..

Prerequisites: ..... MATH 074 with a C or better or MATH 077 OR a satisfactory score on the placement test

## **MATH-081: Mathematical Literacy for College Students**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

Prepares students pursuing a liberal arts curriculum or a program without a specific mathematics requirement for MATH 131-Mathematics for the Modern World. Includes creating and interpreting various types of graphs; geometry, including area, volume and the Pythagorean Theorem; algebra; basic statistics; and arithmetic with signed numbers, fractions, and scientific notation.

Prerequisites: ..... S grade in ENG 081 or satisfactory score on the COMPASS reading placement exam

**MATH-089: Introduction to Algebra Part I**

Credit Hours:.....4.00

Contact Hours:.....4.00

A developmental course for students who need to develop skills in beginning algebra topics. Presents content to students at a pace that is appropriate for them with the help of computers. Topics include solutions of linear equations and inequalities, an introduction to graphing linear equations, solutions of systems of linear equations and inequalities, polynomial operations, and properties of integer exponents. Techniques of problem solving and applications are included throughout the course. This course does not count toward graduation requirements. Requires a scientific calculator, access to an online homework management system, and the associated textbook.

Prerequisites:..... MATH 077 with a C grade or better

**MATH-100: Basic Technical Mathematics**

Credit Hours:.....4.00

Contact Hours:.....4.00

For those in technology programs who have not completed one year of algebra and one year of geometry or who need to review beginning algebra and geometry. Covers a review of arithmetic; signed numbers; scientific notation; measurement conversions; and an introduction to beginning algebra, geometry, and statistics. Emphasizes practical technical applications and requires the use of a scientific calculator.

Prerequisites:..... A satisfactory score on the placement test

**MATH-101: Mathematics for Health Careers**

Credit Hours:.....4.00

Contact Hours:.....4.00

Explores the mathematical skills required for various careers in the health professions. Includes computational skills, essential algebraic concepts, problem-solving strategies, ratio and proportion, dimensional analysis, measurement and geometry, and an introduction to data analysis with problems chosen to represent those commonly encountered in health careers. Requires a scientific calculator.

Prerequisites:.....None

**MATH-103: Technical Mathematics**

Credit Hours:.....4.00

Contact Hours:.....4.00

For students in technology programs who have had MATH 100 or one year of Beginning Algebra. Covers functions and graphs, properties of lines, the trigonometric functions, systems of linear equations, rational expressions, quadratic equations, solution of right triangles, vectors, integer exponents, linear regression, complex numbers, and an introduction to the graphing calculator. Requires a graphing calculator with the TI-83/84 Plus recommended.

Prerequisites:..... MATH 100 with a C grade or better or a satisfactory score on the placement test

**MATH-104: Mathematics for Food Service Careers**

Credit Hours:.....4.00

Contact Hours:.....4.00

Explores the mathematical skills required for various careers in the food service profession. Topics include calculator usage, computational skills, ratio and proportion, percentages, measurement, dimensional analysis, and an introduction to data analysis with problems chosen to represent those commonly encountered in the food service profession. Requires a calculator.

**MATH-109: Introduction to Algebra Part II**

Credit Hours:.....4.00

Contact Hours:.....4.00

For students who need to develop skills in intermediate algebra topics. Content is presented to students at the pace that is appropriate for them with the help of computers. Covers solving quadratic, rational, and square-root equations, an introduction to functions, graphs of quadratic functions, rational expressions, radicals, and solving systems of linear equations. Also discusses problem solving techniques and applications. Requires a scientific calculator, access to an online homework management system, and the associated textbook.

Prerequisites:..... MATH 089 with a C grade or better

# Courses



## **MATH-110: Intermediate Algebra**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

Covers solving linear, quadratic, rational, and square root equations, solving linear and compound inequalities, an introduction to functions, graphs of linear and quadratic functions, rational expressions, exponents, radicals, and solving systems of linear equations. Includes techniques of problem solving and applications requiring the frequent usage of a graphing calculator. Graphic calculator required, with the TI-83/84 Plus recommended. Also requires access to an online homework management system.

Prerequisites:.....MATH 080 OR 089 with a C grade or better OR a satisfactory score on the placement test

## **MATH-112: Trigonometry**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

For students in a technical or science program that requires knowledge of trigonometry. Topics include angles, right triangle trigonometry, circular functions and their graphs, trigonometric identities and equations, the Laws of Sines and Cosines, vectors, and a variety of physical applications. Course does not satisfy the MATH 175 or 180 prerequisite. Requires a graphing calculator, with the TI-83/84 Plus recommended, and access to an online homework management system.

Prerequisites:.....  
MATH 100 OR MATH 103 OR MATH 109 OR MATH 110 with a C grade or better OR a satisfactory score on the placement test.

## **MATH-115: College Algebra**

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Credit Hours: ..... 5.00

Contact Hours: ..... 5.00

Covers analytic geometry, functions and their graphs, algebraic and graphical solutions of equations and inequalities, graphs and zeros of polynomial functions, conic sections, linear and polynomial modeling, systems of equations and inequalities, sequences and series, and the Binomial Theorem. Includes techniques of problem solving and applications. Requires a graphing calculator, with the TI-83/84 Plus recommended, and access to an online homework management system.

Prerequisites:..Math 109 OR Math 110 with a grade of C or better OR a satisfactory score on the placement test.

## **MATH-121: Mathematics for Elementary Teachers I**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

For students who are involved in a curriculum for elementary teachers. Includes problem solving, an introduction to logic, set theory, number theory, numeration systems, whole numbers, and fractions. Addresses concept development, communication skills, both oral and written, and problem solving skills in accordance with the NCTM Standards. Course integrates topics in algebra throughout.

Prerequisites:... Math 109 OR Math 110 with a C grade or better OR a satisfactory score on the placement test.

## **MATH-131: Mathematics for the Modern World**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

For students pursuing a liberal arts curriculum or a program without a specified mathematics requirement. Topics include linear and exponential growth; statistics; personal finance; and geometry, including scale and symmetry. Emphasizes techniques of problem-solving and application of modern mathematics to understanding quantitative information in the everyday world.

Prerequisites:.....  
Math 080 OR 081 OR 089 with a C grade or better OR a satisfactory score on the Math placement test AND ENG 081 with an S grade or a satisfactory score on the reading placement test

**MATH-141: Introduction to Statistics**

Credit Hours:.....4.00  
Contact Hours:.....4.00

Designed as a first course for students in business administration, education, social sciences, engineering, and other fields in which data are collected and predictions are made. Covers descriptive measures, the summarizing of data, an introduction to probability, discrete probability distributions, normal probability distributions, sampling distributions, estimation, confidence intervals, hypothesis testing, correlation, regression, chi square tests, one-way analysis of variance (ANOVA), and use of nonparametric tests. In addition, utilizes a statistical software package to conduct data analysis and solve applied problems. Requires a graphing calculator, with the TI-83/84 Plus recommended. Also requires access to an online homework management system as well as a statistical software package.

Prerequisites:..... MATH 109 OR 110 with a C grade or better OR a satisfactory score on the placement test

**MATH-150: Finite Mathematics**

Credit Hours:.....4.00  
Contact Hours:.....4.00

For students in business and the social sciences. Topics include mathematical models, functions and graphs, lines and inequalities, exponential and logarithmic functions, mathematics of finance, systems of linear equations and matrices, linear programming, sets, and probability. Explores the use of technology for business-related applications. Requires a graphing calculator, with the TI-83/84 Plus recommended.

Prerequisites:..... MATH 109 OR 110 with a C grade or better OR a satisfactory score on the placement test.

**MATH-153: Calculus for Business, Life Science, and Social Sciences**

Credit Hours:.....5.00  
Contact Hours:.....5.00

For students in business, life science, and the social sciences but not engineering, mathematics, or physical science majors. Introduces differential and integral calculus of algebraic, logarithmic, and exponential functions of one variable. Covers graphical, numerical, and algebraic determination of derivatives and definite integrals, applications of the derivative including minima and maxima, and integration and its applications. Includes applications throughout the course. Credit cannot be earned for both MATH 153 and 180. Includes the use of technology for business-related applications. Requires a graphing calculator with the TI-83/84 Plus recommended.

Prerequisites:.. MATH 115 or 150 or 175 - all with a C grade or better OR a satisfactory score on the placement test

**MATH-175: Precalculus**

Credit Hours:.....5.00  
Contact Hours:.....5.00

Topics include algebraic, graphical and numerical representations of functions, including composition and inverses of functions. Focuses on the study of rational functions, exponential and logarithmic functions, and trigonometric functions of real numbers and angles. Also includes analytic trigonometry and solutions of triangles. Techniques of problem solving and applications are included throughout the course requiring the frequent usage of graphing calculators. Requires a graphing calculator, with the TI-83/84 Plus recommended. Also requires access to an online homework management system.

Prerequisites:..... MATH 115 with a C grade or better or a satisfactory score on the placement test



# Courses



## **MATH-180: Calculus I**

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Credit Hours: ..... 5.00

Contact Hours: ..... 5.00

For students planning to pursue a course of study involving a concentration in mathematics. Topics include limits, continuity, the derivative, differentiation of algebraic, exponential, logarithmic, trigonometric and inverse trigonometric functions, applications of the derivative, antidifferentiation, and the definite integral. Numerical, graphical and algebraic approaches are used whenever possible. Credit cannot be earned for both MATH 153 and 180. Requires a graphing calculator, with the TI-83/84 Plus recommended. Also requires access to an online homework management system.

Prerequisites: MATH 175 with a C or better or a satisfactory score on the placement test

## **MATH-183: Calculus II**

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Credit Hours: ..... 5.00

Contact Hours: ..... 5.00

Topics include applications of the integral, techniques of integration, numerical integration, improper integrals, solutions of separable differential equations, infinite series, polynomial approximations of functions, power series, Taylor and MacLaurin series, and parametric and polar equations. Utilizes numerical, graphical, and algebraic approaches whenever possible. Includes applications throughout the course. Requires a graphing calculator, with the TI-83/84 Plus recommended, and access to an online homework management system.

Prerequisites: ..... MATH 180 with a C grade or better

## **MATH-221: Mathematics for Elementary Teachers II**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

For students involved in a curriculum for elementary teachers. Topics include the rational numbers, the integers, the real numbers, algebra, and topics from geometry. Utilizes Geometer's Sketchpad to develop geometry content. Addresses concept development, communication skills, both oral and written, and problem solving skills in accordance with the National Council of Teachers of Mathematics (NCTM) Standards.

Prerequisites: ..... MATH 121 and ENG 131 - both with a C or better

## **MATH-225: Mathematics for Elementary Teachers III**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

For students who are involved in a curriculum for elementary teachers. Topics include geometry, probability, and statistics. Utilizes Geometer's Sketchpad to develop geometry content and computer software to enhance the probability and statistics units. Addresses concept development, communication skills, both oral and written, and problem-solving skills in accordance with the National Council of Teachers of Mathematics (NCTM) standards.

Prerequisites: ..... MATH 221 with a C or better

## **MATH-275: Discrete Mathematics**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

For students in a computer engineering or computer science program. Covers logic, methods of proof, set theory, algorithms, recursion, correctness, relations, partial orderings, graphs, trees, Boolean algebra, grammars, and finite-state machines. Includes various applications throughout the course. Requires a graphing calculator, with the TI-83/84 Plus recommended.

Prerequisites: MATH 180 with a C or better, or a grade of C or better in MATH 175 and concurrent enrollment in MATH 180

## **MATH-280: Calculus III**

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Credit Hours: ..... 5.00

Contact Hours: ..... 5.00

Covers topics such as the calculus of vector-valued functions, the differential calculus of functions of more than one variable, directional derivatives, gradients, partial derivatives, multiple integration, vector fields, and line integrals. Various applications are covered throughout the course. Utilizes numerical, graphical, and algebraic approaches whenever possible. Requires a graphing calculator, with the TI-83/84 Plus recommended, and access to an online homework management system.

Prerequisites: ..... AMTH 183 with a C or better

# Courses

## **MATH-283: Linear Algebra**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Introduces matrix and linear algebra. Covers systems of linear equations, matrix operations and properties of matrices, determinants, the n-dimensional real vector space, general vector spaces, inner product spaces, linear transformations, and eigenvalues and eigenvectors. Presents various applications. Requires a graphing calculator with the TI-83/84 Plus recommended.

Prerequisites:..... MATH 183 with a C or better

## **MATH-289: Differential Equations**

Credit Hours: ..... 4.00  
Contact Hours: ..... 4.00

Introduces ordinary differential equations by means of numerical, graphical and algebraic analysis. Examines first order differential equations, second and higher order linear equations, methods for nonhomogeneous second order equations, series solutions, systems of first order equations, and Laplace transforms. Covers various applications throughout the course. Requires a graphing calculator with the TI-83/84 Plus recommended.

Prerequisites:..MATH 280 with a C or better OR MATH 183 with a C or better AND concurrent enrollment in MATH 280

## **MATH-291: Topics in Mathematics**

Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00

Explores selected topics as determined by an instructor. The specific topic or topics will be announced together with the prerequisites each term. The student can repeat the course when different topics are offered, earning credit for different topics. This course may not be used towards fulfilling the specific degree requirements for an associate degree.

Prerequisites:..... Instructor permission

## **MATH-292: Topics in Mathematics**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Explores selected topics as determined by an instructor. The specific topic or topics will be announced together with the prerequisites each term. The student can repeat the course when different topics are offered, earning credit for different topics. This course may not be used towards fulfilling the specific degree requirements for an associate degree.

Prerequisites:..... Instructor permission

## **MFMT-101: Energy Technology Applications**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Introduces energy conversion, the study of energy sources, basic energy conversion concepts, applied mechanics, and measurement of their basic quantities. Emphasizes how to identify and use basic methods for measuring, monitoring, and calculating energy as applied to energy conversion, conservation, and use in various simple machines and power systems.

Prerequisites:.....None

## **MFMT-115: Boiler Low Pressure Heating Plant Operation and Maintenance**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

An introductory-level course in boiler (low pressure) heating plant operation and maintenance covering the skills, knowledge, and competencies for persons employed as building engineers or seeking positions as building and plant multi-skilled facilities technicians. May require plant visits. Computer access is mandatory, and student must be literate with web browsers, word processing, spread sheets, e-mail, and other computer-online activities. NOTE: This course does not qualify a person to take a license exam. However, when taken in a certificate program or in combination with other power engineering courses, this course can be used to meet requirements for certificates which may result in meeting the qualification requirements for taking exams leading to a boiler license.

# Courses



## **MFMT-116: High Pressure Boiler-3rd Class License Preparation**

Credit Hours:.....2.00

Contact Hours:.....2.00

Covers advanced skills, knowledge, and competencies necessary for individuals employed as boiler operators, plant engineers, or those interested in a career within a high pressure boiler, power, or process plant operation or maintenance. May require plant visits/tours.

Prerequisites:.....None

## **MFMT-151: Power Engineering Stationary Steam Core Skills**

Credit Hours:.....5.00

Contact Hours:.....5.00

Prepares a student to function effectively as an entry-level Stationary Steam Engineer or in the capacity as introductory power plant personnel. Provides basic skills, knowledge, and familiarization with power, process, and heating-cooling plants through the study of basic principles and how they apply to the various types of equipment and systems found in such plants. Emphasizes the need for a hands-on approach where possible in a workplace laboratory setting and this is provided in the cogeneration lab with appropriate activities. Covers general workplace and personal safety along with hazardous or environmental concerns. Mandatory field trips and plant visits.

Prerequisites:.....None

## **MFMT-192: Power Facilities Practicum**

Credit Hours:.....2.00

Contact Hours:.....2.00

Provides various forms of field experience as required by licensing agencies. Participants are assigned to an industrial plant or field-type situation in order to observe and be exposed to the actual activities and tasks performed by power engineers. Course may be repeated in order increase field experience and/or qualify for a licensure exam.

Prerequisites:... Instructor permission - based upon courses/programs completed

## **MFMT-196: Power Engineering Independent Study**

Credit Hours:.....2.00

Contact Hours:.....2.00

Provides field experience based on the availability of equipment systems and field-oriented workstations as selected or determined by the instructor. Course may be repeated when different topics are available. Course may be used towards fulfilling requirements for associate degree or certificate programs or to qualify to take license exams.

Prerequisites:..... Permission from instructor based upon courses/ programs completed

## **MFMT-224: Automated Control Systems 1**

Credit Hours:.....2.00

Contact Hours:.....2.00

Provides practical application of repair and maintenance skills to automated control systems. Includes various commercial-industrial plant heating, power, process, building and facilities equipment and systems. Covers the fundamentals of instrumentation calibration, solid-state components, microprocessors, logic circuits, and programmable logic controllers (PLC) areas. Learners must be prepared to access simulation, computer interface, and similar materials online for completion of this course. Plant visits may be required.

Prerequisites:..... Instructor permission

**MFMT-241: Power Engineering/Refrigeration License Review**

Credit Hours: .....5.00

Contact Hours: .....5.00

Advanced-level course providing refrigeration system operators, refrigeration journeymen, refrigeration service, and maintenance technicians with a comprehensive review in preparation to take a 1st, 2nd, or 3rd Class Refrigeration Operator License exam, the Refrigeration Journeyman License exam, similar related exams or to prepare for commercial or industrial refrigeration operation and maintenance positions. Covers the fundamentals of refrigeration, identification, and functions of various refrigeration systems and equipment with special commercial and industrial refrigeration systems covered on the license exams. Access to computers is critical for the mandatory computer-aided field research which requires visits to current refrigeration industry web sites. Students must be computer literate with web browsers, word processing, spreadsheets, e-mail, and other computer-online activities. Laboratory activities. May require field trips. NOTE: License exams are not included in this course.

Prerequisites:.....Advanced refrigeration field experience or Instructor permission

**MFMT-248: Power Engineering - Steam License Review**

Credit Hours: .....5.00

Contact Hours: .....5.00

An advanced-level course for engineers seeking 1st or 2nd Class Steam License. Course reviews various power engineering subjects including boilers, basic thermodynamics, boiler operation, maintenance, plant efficiency, pumps, auxiliaries, power plant accessories, turbines, engines, electrical, compressors, internal combustion engines, and national, state and local steam and boiler codes. Explores how to solve typical power plant problems. Also offers information on how to study, sketch, analyze, and describe the function of systems and components on commercial-industrial power and process plant equipment and systems. NOTE: License exams are not included in this course.

Prerequisites:..... Instructor permission

**MGT-230: Principles of Management**

Credit Hours: .....3.00

Contact Hours: .....3.00

Examines the functions, principles, history, environments, and philosophy of modern management as well as the nature and structure of organizations. Emphasizes recent developments in organizational decision making, styles of managerial leadership, and the role of effective communication in management. Also explores motivating, managing, recruiting, and terminating employees.

Prerequisites:..Eligibility for ENG 131 and BBA 131 with a C grade or higher

**MGT-231: Supervision and Teambuilding**

Credit Hours: .....3.00

Contact Hours: .....3.00

Explores how to develop and improve supervisory skills. Covers effective leadership techniques, how to identify and evaluate various leadership styles, and development of teambuilding skills.

Prerequisites:.....None

**MGT-232: Human Resources Management**

Credit Hours: .....3.00

Contact Hours: .....3.00

Examines the functions of staffing, recruiting, selecting, placing, orienting, training, developing, motivating, evaluating, compensating, and terminating employees. Covers employee security and morale, the legal environment, unions and labor relations, and effective communication of organizational policies. Also explores how to prepare a job analysis and evaluate resumes.

Prerequisites: Eligibility for ENG 131 and MGT 230 with a C grade or better

# Courses



**MGT-237: Psychology in the Workplace**

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Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00

Introduces psychological theory, research, and practice in the business environment. Examines selection criteria and predictors, training and development, performance appraisal, employee motivation and satisfaction, and occupational health. Analyzes and evaluates effective teamwork strategies, leadership theories, and union-management relationships.

Prerequisites: Eligibility for ENG 131 and MGT 230 with a C grade or better

**MGT-238: Labor-Management Relations**

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Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00

Examines the principles underlying the labor-management relationship; analyzes the legal and institutional framework in which collective bargaining takes place; and probes the nature, content, and problems of the collective bargaining process. Analyzes and evaluates employee benefit plans as well as the principles and techniques of collective bargaining.

Prerequisites: Eligibility for ENG 131 and MGT 230 with a C grade or better

**MGT-240: Creative Problem Solving**

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Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00

Presents creative problem solving concepts, including visualization and mental models. Examines mental blocks, idea generation, evaluation, implementation, and communication.

Prerequisites: ..... Eligibility for ENG 131

**MGT-241: Small Business Management and Entrepreneurship**

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Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00

Examines the role of small business and entrepreneurship in the current economy with emphasis on launching and operating a new business. Also explores the purpose of and need for a business plan, and other important aspects such as financial needs, marketing plans, personnel and operational management, legal issues, and location. Includes the individual creation of a business plan for a start-up company.

Prerequisites:..Eligibility for ENG 131 and BBA 131 with a C grade or better

**MII-101: Medical Imaging Informatics Basics**

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Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00

Provides an overview of computer and network system basics needed in a medical imaging informatics role. Focuses on current medical imaging informatics system architecture, picture archiving and communications system (PACS) standards, and protocol.

Prerequisites:..Acceptance into Medical Imaging Informatics Program

**MII-102: Evaluating the Clinical Image**

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Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00

Provides the clinical knowledge and medical background necessary for image evaluation purposes. Emphasizes quality control as well as patient safety. Also discusses the importance of having some clinical knowledge for Picture Archiving and Communications System (PACS) employment positions.

Prerequisites:..Acceptance into Medical Imaging Informatics Program

**MII-201: Picture Archiving and Communication system (PACS) Procurement and Project Management**

Credit Hours:.....3.00

Contact Hours:.....3.00

Introduces the process of procuring a picture archiving and communication system (PACS) for a healthcare organization. Focuses on needs assessment, vendor comparison, and project management. Lab activities.

Prerequisites:..... MII 101, 102

**MII-202: Medical Imaging Informatics Advanced**

Credit Hours:.....3.00

Contact Hours:.....3.00

Examines advanced medical imaging informatics, technical troubleshooting, and system standards. Emphasizes the functional application and implementation of new equipment at it relates to compliance with the digital imaging and communications in medicine (DICOM) standards and in preparation for business continuity in the event of system failure.

Prerequisites:..... MII 101, 102

**MII-290: Clinical Externship**

Credit Hours:.....3.00

Contact Hours:.....11.07

A supervised, clinical practicum which requires hands-on experience within a medical imaging setting. Provides directed practice under the supervision of a medical imaging informatics or picture archiving and communication system (PACS) professional. Emphasizes the need to integrate information from all previous courses within a live clinical setting. Lab activities.

Prerequisites: Preapproved clinical placement, MII 101, MII 102, MII 201, MII 202

**MOA-100: Medical Office Procedures I - Administrative**

Credit Hours:.....3.00

Contact Hours:.....4.00

Introduces the profession of medical assisting. Emphasizes administrative skills utilized in ambulatory care. Discusses administrative and clinical duties of the Medical Assistant Practitioner. Also includes but is not limited to medical office receptionist duties, maintaining medical records, billing and fee collection, medical practice finance, computer applications, and emergency preparedness.

Prerequisites:..... COMPASS Reading Score of 84 or better or completion of ENG 081; COMPASS Math Pre-algebra score of 39 or better or MATH 074 or MATH 101 with a C or better; Health Careers Typing Test score of 30 words/min or higher or BCA 101 with a B or better.

**MOA-110: Processing Health Insurance Claims**

Credit Hours:.....2.00

Contact Hours:.....3.00

An introductory-level insurance billing course centering on the medical office. Presents the coding systems used in conjunction with the ICD-9CM and the CPT manual. Also discusses how information is used to process health insurance claims for BCBS, Medicare, Medicaid, Tricare, Commercial, and Workers Compensation.

Prerequisites:.....Compass Reading Score of 84 or better or satisfactory completion of ENG 081; COMPASS Math Pre-algebra score of 39 or higher or MATH 074 or MATH 101 with a C grade or better.

**MOA-120: Medical Office Computer Applications**

Credit Hours:.....2.00

Contact Hours:.....3.00

Introduces computer applications unique to the medical office. Covers establishing information databases files, computerized appointment scheduling, patient account information, accounts receivable, aging accounts, insurance billing, recall notice, and production reports. Significant laboratory activities.

Prerequisites:.....AH 100, MOA 100, MOA 110 and BCA 140 with a C grade or better; Health Careers Typing test score of 30 words/min or higher.

# Courses



## **MOA-150: Medical Office Assistant Procedures II-Clinical**

Credit Hours:..... 5.00  
Contact Hours:..... 7.00

An advanced-level medical assistant course that explores the clinical functions of the medical practice. Presents topics such as vital signs, administration of medication, electrocardiography, assisting with minor surgery, examinations, and treatments. Students practice the concepts of medical and surgical asepsis, and routine diagnostic tests and procedures.

Prerequisites:..... MOA 100, MOA 110, MOA 120, AH 100, and BIO 134 or BIO 233/BIO 234 - all with a "C" grade or better; MOA program director permission

## **MOA-160: Basic X-ray Techniques**

Credit Hours:..... 2.00  
Contact Hours:..... 2.00

For medical assistants and other health care professionals who will be practicing limited radiography. Covers radiation safety, non-contrast procedures, patient positioning, radiographic projections, and radiology mathematics. Students study and practice performing x-rays using phantom parts under direct supervision.

Prerequisites:..... AH 100 with a "C" grade or better; COMPASS Reading test score of 84 or higher or successful completion of ENG 081; COMPASS MATH Pre-algebra test score of 39 or higher or successful completion of MATH 074 or MATH 100 or MATH 101.

## **MOA-165: Physician Billing Concepts**

Credit Hours:..... 4.00  
Contact Hours:..... 4.00

This course is designed to build upon the knowledge gained in MOA-100, and MOA-110 The process of electronic claims preparation is practiced through classroom simulations The student will use medical office computer applications to establish patient, insurance, facility data bases. This information allows the user to prepare statements, bill insurance companies, post payments to the patient account, and generate statements and other financial documents utilized in the physician's office.

Prerequisites:.....AH 100, MOA 100, MOA 110 and BCA 140 with a C grade or better.

## **MOA-168: Facility Billing Concepts**

Credit Hours:..... 4.00  
Contact Hours:..... 4.00

Focuses on the billing process unique to health care facilities. Examines the hospital billing environment, coding, payment methods, and UB92 claims along with billing simulations.

Prerequisites:..... AH 100, MOA 100 and MOA 110 with "C" grade or better

## **MOA-170: Medical Correspondence**

Credit Hours:..... 3.00  
Contact Hours:..... 4.00

Focuses on the variety of medical correspondence found in ambulatory health care facilities. Introduces the procedures used for initiating and documenting patient care using an electronic health record system. Also covers medical office workflow, practice finance, medical billing and coding, clinical procedures, and administrative functions of the front office. Laboratory activities.

Prerequisites:.....AH 100, MOA 100, MOA 110 and BIO 134 or BIO 233/234 - all with a "C" grade or better.

## **MOA-181: Medical Collection and Legal Issues**

Credit Hours:..... 3.00  
Contact Hours:..... 3.00

An advanced physician billing course focusing upon payment posting, fee schedules, HMO capitation reports, rejections, billable/non-billable services, claim status, and collections. Also discusses ethics in relation to billing and billing issues.

Prerequisites:..... MOA 165 and MOA 168 - both with a "C" grade or better

**MOA-190: Medical Office Externship**

Credit Hours: .....4.00  
Contact Hours: .....13.73

Offers a capstone clinical externship for the medical assistant student, including 184 hours of clinical experience in an assigned ambulatory care facility. Includes a structured seminar component.

Prerequisites:.....Successful completion of all MOA required core and support courses and permission of the MOA Program Director.

**MOA-205: Insurance Coding and Reimbursement**

Credit Hours: .....3.00  
Contact Hours: .....3.00

Further develops the methods and skills necessary for optimal reimbursement for services rendered in a healthcare setting. Explores billing and reimbursement cycle, HIPAA, diagnostic coding and procedural coding, coding compliance, and claims processing as well as physician and hospital coding reimbursement. Also provides an overview of the key financial circumstances impacting the healthcare delivery system.

Prerequisites:.....MOA 165, 168 - both with a "C" grade or better

**MPS-105: Print Reading for Manufacturing**

Credit Hours: .....3.00  
Contact Hours: .....3.00

Surveys the fundamentals of print reading and focuses on concepts and techniques used in various segments of the manufacturing industry. Emphasizes part process completion, industrial materials, fasteners, cams, gears, numerical control, and surface finish. Also discusses print reading components such as title blocks, parts lists, geometric terms, and construction. Other topics include how to read multi-view drawings, which include section views and auxiliary views, and how to develop strategies for recognizing part shape and size through multiple styles of industrial drawings..

**MTT-100: Machine Tool Processes I**

Credit Hours: .....4.00  
Contact Hours: .....6.00

An entry-level course in manufacturing processes involving turning, threading, drilling, reaming, tapping, and milling. Covers part processing, machines, and tooling used along with speeds and feeds and inspection techniques in relation to operations. Safety is an integral part of the course. Laboratory activities.

**MTT-105: Print Reading for Manufacturing**

Credit Hours: .....3.00  
Contact Hours: .....3.00

Surveys the fundamentals of print reading and focuses on concepts and techniques used in various segments of the manufacturing industry. Covers print reading components, such as title blocks, parts lists, geometric terms, and construction. Topics include how to read multi-view drawings, which include section views and auxiliary views, and how to develop strategies for recognizing part shape and size through multiple styles of industrial drawings. Also emphasizes an understanding of part process completion, industrial materials, fasteners, cams, gears, numerical control, and surface finish.

**MTT-110: Machine Tool Processes II**

Credit Hours: .....4.00  
Contact Hours: .....6.00

A hands-on course offering advanced manufacturing processes experience on the lathe, mills, and grinders. Emphasizes the proper usage and safety protocols of equipment and tools used in performing machining operations. Also covers the efficient use and the troubleshooting of carbide, ceramic, and diamond-cutting tool materials.

Prerequisites:..... MTT 100

**MTT-120: Practical Problems in Machine Tools I**

Credit Hours: .....3.00  
Contact Hours: .....4.00

Explores how to increase machining efficiency and quality of workmanship. Individualized instruction helps the student overcome deficiencies in machining on the lathe and vertical milling machine. Emphasizes tool sharpening, set-up, and safety protocols.

Prerequisites:..... MTT 110



# Courses



### **MTT-125: Practical Problems in Machine Tools II**

Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00  
Demonstrates how to further develop the student's machining efficiency. Individualized instruction helps the student overcome any deficiencies in machining on the lathe, mill, or grinders. Material, tolerance, finish, and design are considered in emphasizing quality and quantity of parts within a time limit. Emphasizes proper safety protocols and work habits.  
Prerequisites: ..... MTT 120

### **MTT-130: Quality Control Gaging and Inspection**

Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00  
An entry-level course covering the following manufacturing inspection methods: layout, surface plate techniques, tool and instrument reading and uses, and floor and receiving inspection. Also discusses surface finish measurement, introduction to SPC techniques, and GDT. Laboratory activities.

### **MTT-140: Introduction to CNC**

Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00  
An entry-level course covering the basic concepts of computer numerical control (CNC). Also explores set-up, operation, and programming of a CNC mill and CNC lathe. Laboratory activities.  
Prerequisites: ..... MTT 100

### **MTT-145: CNC Operations**

Credit Hours: ..... 4.00  
Contact Hours: ..... 6.00  
Introduces the concept of computer numerical control (CNC) operations as they exist in the manufacturing environment. Examines set-up, operation, and programming of the CNC mill and lathe through MDI and off-line programming. Extensive laboratory activities.  
Prerequisites: ..... MTT 140

### **MTT-146: Introduction to Machine Tool Probing**

Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00  
Covers the elementary functions and application of the electronic probe on a Vertical Machining Center. Topics include set-up and calibration of the probe and use and application of the following cycles - Bore/Boss measuring cycle, Web/Pocket measuring cycle, and internal and external cycles. Laboratory activities.  
Prerequisites: ..... MTT 145

### **MTT-147: Basic Macro Programming for CNC**

Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00  
Introduces macro programming as applied to CNC machine tools. Basic elements of this type of programming include defining a macro, defined variables vs. undefined variables, and the use and application of arithmetic, logical and Boolean operators. Includes both classroom and application-based activities in the CNC laboratory.  
Prerequisites: ..... MTT 145

### **MTT-148: Advanced CNC Probing**

Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00  
Coursework further explores the use and application of the electronic probe on CNC machine tools. Examines how to write cycles to use the probe in such activities as vector measuring, 4th axis applications, stock allowance, and angle measurement along with work coordinate offset measurement. Also covers how to prove work on the CNC vertical machining center. Laboratory activities.  
Prerequisites: ..... MTT 145, MTT 146, MTT 147

**MTT-150: Statistical Process Control (SPC) In Manufacturing**

Credit Hours:.....3.00

Contact Hours:.....4.00

Covers the use of Statistical Process Control (SPC) in manufacturing to achieve optimum product quality at lowest cost. Development of statistical charts and their interpretation related to process improvement are integral parts of the course. Also covers formulas pertaining to various charts, gage R & R, Cp, and Cpk.

**MTT-160: Computer Assisted N/C Programming**

Credit Hours:.....3.00

Contact Hours:.....4.00

An introductory-level course in computer-assisted part programming. Covers programming for both the CNC mill and lathe. Coursework utilizes CAD/CAM software (Mastercam, Catia, and UG NX) running on a personal computer.

Prerequisites:..... MTT 140

**MTT-170: Advanced Computer Assisted N/C Programming**

Credit Hours:.....3.00

Contact Hours:.....4.00

A study in advanced methods of part programming using CAD/CAM software (Mastercam, Catia, and UG NX) on a personal computer. Emphasizes programming three-dimensional (3-D) parts. Class assignments include multiple-part programming.

Prerequisites:..... MTT 160

**MTT-275: Advanced CNC Operations**

Credit Hours:.....4.00

Contact Hours:.....6.00

Emphasizes the total aspects of computer numerical control (CNC) as applied in manufacturing today. Covers estimating for CNC manufacturing, DNC, tool selection, cutting-tool material selection, and small-batch production.

Prerequisites:..... MTT 145

**MTT-297: Special Topics in Machine Tool Technology**

Credit Hours:..... 1.00

Contact Hours:..... 1.00

Explores selected topics as determined by the academic department and the instructor with emphasis on current machine tool technology. Specific special topics are announced together with the prerequisites each term. Student can repeat the course when different topics are offered, earning credit for each different topic. Course may be used toward fulfilling the specific degree requirements for an associate degree or certificate.

Prerequisites:..... MTT 145

**MTT-298: Special Topics in Machine Tool Technology**

Credit Hours:..... 2.00

Contact Hours:..... 2.00

Explores selected topics as determined by the academic department and the instructor with emphasis on current Machine Tool Technology. Specific special topics are be announced together with the prerequisites each term. Student can repeat the course when different topics are offered, earning credit for each different topic. Course may be used toward fulfilling the specific degree requirements for an associate degree or certificate.

Prerequisites:..... MTT 145

**MUS-107: Chorus 1**

Credit Hours:..... 1.00

Contact Hours:..... 1.00

First of four semesters of Concert Choir including preparation and performance of a broad spectrum of choral music from classical to popular, show tunes, and jazz. At least two performances are scheduled each semester, sometimes accompanied by band or orchestra. These courses are open to college students and adult members of the community. New singers may audition before or during the first week of class. No preparation is necessary, but the demonstration of the ability to sing in tune and hold a part (soprano, alto, tenor, or bass) is required.

Prerequisites:..... Audition

# Courses



## **MUS-108: Chorus 2**

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Credit Hours:..... 1.00

Contact Hours:..... 1.00

Second of four semesters of Concert Choir including preparation and performance of a broad spectrum of choral music from classical to popular, show tunes, and jazz. At least two performances are scheduled each semester, sometimes accompanied by band or orchestra. These courses are open to college students and adult members of the community.

Prerequisites:..... MUS 107

## **MUS-109: Symphony Band 1**

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Credit Hours:..... 1.00

Contact Hours:..... 1.00

First of four semesters of wind ensemble (symphony band) including preparation and performance of standard concert band music and transcriptions of all styles. This group performs for college as well as community functions. These courses are open to college students, adult members of the community, and advanced placement high school students. Woodwind, brass, and percussion instrumentalists should contact the director for auditions prior to the first rehearsal.

Prerequisites:..... Read Music

## **MUS-110: Symphony Band 2**

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Credit Hours:..... 1.00

Contact Hours:..... 1.00

Second of four semesters of wind ensemble (symphony band) including preparation and performance of standard concert band music and transcriptions of all styles. This group performs for college as well as community functions. These courses are open to college students, adult members of the community, and advanced placement high school students who play woodwind, brass, and percussion instruments.

Prerequisites:..... MUS 109

## **MUS-111: Jazz Band 1**

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Credit Hours:..... 1.00

Contact Hours:..... 1.00

First of four semesters of jazz band, including preparation and performance of Big Band music in a variety of jazz styles from swing to contemporary. This group, which performs several concerts each semester, is open to college students and adult members of the community who play saxophone, trumpet, trombone, piano, guitar, bass, or drums. New instrumentalists should contact the director to arrange for an audition prior to the first rehearsal.

Prerequisites:..... Read Music

## **MUS-112: Jazz Band 2**

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Credit Hours:..... 1.00

Contact Hours:..... 1.00

Second of four semesters of jazz band, including preparation and performance of Big Band music in a variety of jazz styles from swing to contemporary. This group, which performs several concerts each semester, is open to college students and adult members of the community who play saxophone, trumpet, trombone, piano, guitar, bass, or drums.

Prerequisites:..... MUS 111

## **MUS-113: Applied Music (one credit) 1**

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Credit Hours:..... 1.00

Contact Hours:..... 1.00

First of four semesters of weekly half-hour private lessons intended to improve vocal or instrumental musicianship through study with a professional teacher. Students should contact the applied music director prior to or during the first week of the semester for teacher assignments. A juried performance is required at the conclusion of each semester. In addition to tuition, the student must also pay a weekly fee to the private instructor.

Prerequisites:.....None

# Courses

## **MUS-114: Applied Music (two credits) 1**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

First of four semesters of weekly one-hour private lessons intended to improve vocal or instrumental musicianship through study with a professional teacher. Students should contact the applied music director prior to or during the first week of the semester for teacher assignments. A juried performance is required at the conclusion of each semester. In addition to tuition, the student must also pay a weekly fee to the private instructor.

Prerequisites: ..... Instructor Permission

## **MUS-115: Applied Music (one credit) 2**

Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00

Second of four semesters of weekly half-hour private lessons intended to improve vocal or instrumental musicianship through study with a professional teacher. Students should contact the applied music director prior to or during the first week of the semester for teacher assignments. A juried performance is required at the conclusion of each semester. In addition to tuition, the student must also pay a weekly fee to the private instructor.

Prerequisites: ..... MUS 113 (one credit)

## **MUS-116: Applied Music (two credits) 2**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Second of four semesters of weekly one-hour private lessons intended to improve vocal or instrumental musicianship through study with a professional teacher. Students should contact the applied music director prior to or during the first week of the semester for teacher assignments. A juried performance is required at the conclusion of each semester. In addition to tuition, the student must also pay a weekly fee to the private instructor.

Prerequisites: ..... MUS 114 Applied Music (two credits) 1

## **MUS-117: Piano Class 1**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

A beginning-level piano class where students learn to read and play piano music. Instruction takes place in the HFC Music Technology Lab.

Prerequisites: ..... None

## **MUS-118: Piano Class 2**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

This course builds upon skills developed in MUS 117 (Piano Class 1). Instruction takes place in the HFC Music Technology Lab.

Prerequisites: ..... MUS 117 or Instructor permission

## **MUS-121: Jazz Improvisation 1**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

First of four semesters of jazz improvisation in which skills are developed through the study of jazz theory and the performances of a variety of jazz styles in a small group, jazz combo setting.

Prerequisites: ..... Read Music

## **MUS-122: Jazz Improvisation 2**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Second of four semesters of jazz improvisation in which skills are developed through the study of jazz theory and the performances of a variety of jazz styles in a small group, jazz combo setting.

Prerequisites: ..... MUS 121

# Courses



### MUS-123: Voice Techniques 1

Credit Hours:.....2.00  
 Contact Hours:.....2.00  
 This course is for singers of all ages and interests. Covers basic singing techniques including breath control, diction, posture, and tone quality; instruction takes place in a classroom setting. Techniques are applied to a variety of songs.  
 Prerequisites:.....None

### MUS-126: Recording Studio Engineering 1

Credit Hours:.....3.00  
 Contact Hours:.....3.00  
 Provides hands-on experience in digital audio engineering. Explores how to engineer recording sessions by working in an actual recording studio with live musicians. Also covers basic techniques in setting up recording sessions, preparing computer files, microphone usage and placement, digitizing principals, audio acquisition options, midi integration and session management.  
 Prerequisites:.....COMPASS Reading score of 82

### MUS-127: Audio Mastering 1

Credit Hours:.....3.00  
 Contact Hours:.....3.00  
 Provides hands-on experience and guided practice in digital audio mixing and mastering. Explains how to prepare complex digital audio files for duplication and audio for mixing. Also covers basic techniques in mixing room acoustics, software plug-ins, how to troubleshoot various audio problems, equalization, stereo imagery, noise limitation, and bit conversion. Uses professional audio production software.  
 Prerequisites:.....COMPASS Reading score of 82

### MUS-128: Musical Production 1

Credit Hours:.....3.00  
 Contact Hours:.....6.13  
 Combines the study of musical skills and techniques involved in a staged musical production with performance activity in a major production and/or the classroom.  
 Prerequisites:.....Audition

### MUS-130: Music Appreciation

Credit Hours:.....3.00  
 Contact Hours:.....3.00  
 Introduces the basic elements and organizational forms of music, and emphasizes listening skills, music vocabulary, and being open-minded toward all types of music.  
 Prerequisites:.....None

### MUS-132: Music Literature

Credit Hours:.....3.00  
 Contact Hours:.....3.00  
 Surveys various musical compositions from the Medieval period through the Twentieth Century, emphasizing the development of listening skills. Provides more in-depth knowledge than MUS 130.  
 Prerequisites:.....None

### MUS-133: History of Rock and Roll

Credit Hours:.....3.00  
 Contact Hours:.....3.00  
 Covers rock and roll from its origins to the present. A field trip to the Rock and Roll Hall of Fame in Cleveland, Ohio is offered. For non-music majors.  
 Prerequisites:.....None

**MUS-134: Music Fundamentals**

Credit Hours:.....3.00  
 Contact Hours:.....3.00  
 Explains how to read music, including notes, clefs, rhythms, time signatures, scales, intervals, and basic chords. Recommended for the student who has a minimal background in music.  
 Prerequisites:.....None

**MUS-138: Music Theory 1**

Credit Hours:.....3.00  
 Contact Hours:.....3.00  
 Intended for music majors as the first class in the music theory sequence. Students should be able to read music and have a basic understanding of key signatures and time signatures.  
 Prerequisites:..... Read Music

**MUS-139: Music Theory 2**

Credit Hours:.....3.00  
 Contact Hours:.....3.00  
 Covers triads in inversion, phrase and cadences, harmonic progressions, and four-part harmonization.  
 Prerequisites:..... MUS 138

**MUS-141: Aural Music Skills 1**

Credit Hours:.....2.00  
 Contact Hours:.....2.00  
 Teaches singing and the transcribing of simple melodies, as well as fundamental conducting techniques for the development of rhythmic skills. Recommended for all instrumental and vocal musicians.  
 Prerequisites:..... Read Music

**MUS-142: Aural Music Skills 2**

Credit Hours:.....2.00  
 Contact Hours:.....2.00  
 Continues sight singing and ear training in greater detail. Focuses on how to transcribe two-part and four-part pieces in major and minor keys. Recommended for aspiring full-time music students.  
 Prerequisites:..... MUS 141

**MUS-143: Vocal Jazz Ensemble 1**

Credit Hours:.....1.00  
 Contact Hours:.....1.00  
 First of four sequential semesters of vocal jazz ensemble, covering preparation and performance of a variety of jazz and popular music in an ensemble of 8-20 voices. This group performs for the College as well as community functions. Auditions are held before and during the first week of class.  
 Prerequisites:..... Audition

**MUS-144: Vocal Jazz Ensemble 2**

Credit Hours:.....1.00  
 Contact Hours:.....1.00  
 Second of four sequential semesters of vocal jazz ensemble, covering preparation and performance of a variety of jazz and popular music in an ensemble of 8-20 voices. Group performs for various HFC and community functions.  
 Prerequisites:..... MUS 143

**MUS-152: Music Notation with Finale 1**

Credit Hours:.....2.00  
 Contact Hours:.....2.00  
 Provides instruction in the use of "Finale" by Coda which is the current industry standard for music software. Covers basic document setup, how to use templates, tool palettes, importing and saving files, and file playback. To register for this course, students must have a basic knowledge of how to use a computer and file playback.  
 Prerequisites:..... Read Music

# Courses



## **MUS-207: Chorus 3**

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Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Third of four semesters of Concert Choir including preparation and performance of a broad spectrum of choral music from classical to popular, show tunes, and jazz. At least two performances are scheduled each semester, sometimes accompanied by band or orchestra. These courses are open to college students and adult members of the community.

Prerequisites: ..... MUS 108

## **MUS-208: Chorus 4**

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Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Fourth of four semesters of Concert Choir including preparation and performance of a broad spectrum of choral music from classical to popular, show tunes, and jazz. At least two performances are scheduled each semester, sometimes accompanied by band or orchestra.

Prerequisites: ..... MUS 207

## **MUS-209: Symphony Band 3**

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Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Third of four semesters of wind ensemble (symphony band) including preparation and performance of standard concert band music and transcriptions of all styles. This group performs for college as well as community functions. These courses are open to college students, adult members of the community, and advanced placement high school students who play woodwind, brass, and percussion instruments.

Prerequisites: ..... MUS 110

## **MUS-210: Symphony Band 4**

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Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Fourth of four semesters of wind ensemble (symphony band) including preparation and performance of standard concert band music and transcriptions of all styles. This group performs for college as well as community functions. These courses are open to college students, adult members of the community, and advanced placement high school students who play woodwind, brass, and percussion instruments.

Prerequisites: ..... MUS 209

## **MUS-211: Jazz Band 3**

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Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Third of four semesters of jazz band, including preparation and performance of Big Band music in a variety of jazz styles from swing to contemporary. This group, which performs several concerts each semester, is open to college students and adult members of the community who play saxophone, trumpet, trombone, piano, guitar, bass, or drums.

Prerequisites: ..... MUS 112

## **MUS-212: Jazz Band 4**

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Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Fourth of four semesters of jazz band, including preparation and performance of Big Band music in a variety of jazz styles from swing to contemporary. This group, which performs several concerts each semester, is open to college students and adult members of the community who play saxophone, trumpet, trombone, piano, guitar, bass, or drums.

Prerequisites: ..... MUS 211

**MUS-213: Applied Music (one credit) 3**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Third of four semesters of weekly half-hour private lessons intended to improve vocal or instrumental musicianship through study with a professional teacher. Students should contact the applied music director prior to or during the first week of the semester to confirm teacher assignments. A juried performance is required at the conclusion of each semester. In addition to tuition, the student must also pay a weekly fee to the private instructor.

Prerequisites:..... MUS 115

**MUS-214: Applied Music (two credits) 3**

Credit Hours:..... 2.00  
Contact Hours:..... 2.00

Third of four semesters of weekly one-hour private lessons intended to improve vocal or instrumental musicianship through study with a professional teacher. Students should contact the applied music director prior to or during the first week of the semester for teacher assignments. A juried performance is required at the conclusion of each semester. In addition to tuition, the student must also pay a weekly fee to the private instructor.

Prerequisites:..... Follow course sequence

**MUS-215: Applied Music (one credit) 4**

Credit Hours:..... 1.00  
Contact Hours:..... 1.00

Fourth of four semesters of weekly half-hour private lessons intended to improve vocal or instrumental musicianship through study with a professional teacher. Students should contact the applied music director prior to or during the first week of the semester to confirm teacher assignments. A juried performance is required at the conclusion of each semester. In addition to tuition, the student must also pay a weekly fee to the private instructor.

Prerequisites:..... MUS 213 Applied Music (one credit) 3

**MUS-216: Applied Music (two credits) 4**

Credit Hours:..... 2.00  
Contact Hours:..... 2.00

Fourth of four semesters of weekly one-hour private lessons intended to improve vocal or instrumental musicianship through study with a professional teacher. Students should contact the applied music director prior to or during the first week of the semester for teacher assignments. A juried performance is required at the conclusion of each semester. In addition to tuition, the student must also pay a weekly fee to the private instructor.

Prerequisites:..... MUS 214 Applied Music (two credits) 3

**MUS-221: Jazz Improvisation 3**

Credit Hours:..... 2.00  
Contact Hours:..... 2.00

A continuation of the study of jazz theory and the performances of a variety of jazz styles in a small group, jazz combo setting.

Prerequisites:..... MUS 122

**MUS-222: Jazz Improvisation 4**

Credit Hours:..... 2.00  
Contact Hours:..... 2.00

Fourth of four semesters of jazz improvisation in which skills are developed through the study of jazz theory and the performances of a variety of jazz styles in a small group, jazz combo setting.

Prerequisites:..... MUS 221



# Courses



## **MUS-226: Recording Studio Engineering 2**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Emphasizes advanced digital recording techniques and independent problem solving in the recording process. Covers recording sessions, computer files, microphone usage and placement, digitizing principals, audio acquisition options, midi integration, and session management. Students work in an actual digital recording studio recording a wide variety of instrumental and vocal ensembles.

Prerequisites:..... MUS 126 or Instructor permission

## **MUS-227: Audio Mastering 2**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Provides hands-on experience and guided practice in advanced digital audio mixing and mastering. Course covers preparing complex digital audio files for duplication, advanced techniques in mixing room acoustics, preparing audio for mixing, software plug-ins, troubleshooting audio problems, equalization, stereo imagery, noise limitation, and bit conversion. Working with professional audio production software in a working digital recording studio, students learn to edit sound files for a variety of applications including CDs, DVDs, TV, radio, theater, and the Internet.

Prerequisites:..... MUS 127

## **MUS-228: Musical Production 2**

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Credit Hours: ..... 3.00

Contact Hours: ..... 6.13

Combines the study of musical skills and techniques involved in a staged musical production with performance activity in a major production and/or the classroom.

Prerequisites:..... MUS 128

## **MUS-229: Advanced Studies in Audio Recording**

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Credit Hours: ..... 2.00

Contact Hours: ..... 2.00

As the capstone for the Recording Arts Certificate program, course provides special study in audio recording and is intended for students completing the Certificate program. Students choose the topic for study and design an instructional plan under the guidance and approval of instructor. Must complete a major project that demonstrates skills and knowledge learned in the program, and project is presented at the end of the semester.

Prerequisites:..... Instructor permission

## **MUS-232: History of Western Music 1**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

An intensive course providing a practical background in Western music from Greek Antiquity to 1750. Covers musical forms, styles, composers, compositions, and important influences on the development of Western music.

Prerequisites:.....None

## **MUS-233: History of Western Music 2**

---

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

An intensive course providing a practical background in Western music from 1750 to the present. Covers musical forms, styles, composers, compositions, and important influences on the development of Western music.

Prerequisites:.....None

## **MUS-238: Music Theory 3**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Covers secondary dominants and borrowed chords, the use of the Neopolitan sixth, advanced modulation techniques, and how to identify non-chord tones.

Prerequisites:..... MUS 139

**MUS-243: Vocal Jazz Ensemble 3**

Credit Hours:.....1.00  
Contact Hours:.....1.00

Third of four sequential semesters of vocal jazz ensemble, covering preparation and performance of a variety of jazz and popular music in an ensemble of 8-20 voices. Group performs for various HFC and community functions.

Prerequisites:..... MUS 144

**MUS-244: Vocal Jazz Ensemble 4**

Credit Hours:.....1.00  
Contact Hours:.....1.00

Fourth of four sequential semesters of vocal jazz ensemble, covering preparation and performance of a variety of jazz and popular music in an ensemble of 8-20 voices. Group performs for various HFC and community functions.

Prerequisites:..... MUS 243

**NCS-110: Competency Evaluated Nurse Assistant**

Credit Hours:.....6.00  
Contact Hours:.....7.87

This five-week course covers the basic nursing skills necessary to work as a nurse aide. Discusses how nurse aides assist nurses in rendering patient care either as primary caregivers for residents living in long term or in acute and chronic settings. Total student course contact hours: 40 theory hours, 50 lab hours, 30 clinical hours.

NOTE: Upon successful completion of the course, students are eligible to take the State of Michigan Nurse Aide Competency exam for certification to receive the Certified Nursing Assistant (CNA) designation. This exam is not included in this course.

Prerequisites:...High school diploma/GED; satisfactory completion of ENG 081 OR a C grade or better in ENG 131 OR equivalent.

**NSG-082: Supplement to Nursing and Self-Care II (NSG 150)**

Credit Hours:.....0.50  
Contact Hours:.....0.50

Emphasizes critical thinking to facilitate application of psychiatric nursing theory to clinical practice. NOTE: Students who register for NSG 082 must also register for NSG 150 at the same time. Both are 8-week courses. One hour of lecture per week.

**NSG-083: Supplement to Nursing and Self-Care II and III**

Credit Hours:.....1.00  
Contact Hours:.....1.00

Emphasizes the use of critical thinking to facilitate application of psychiatric and medical-surgical nursing theory to clinical practice. NOTE: Students who register for NSG 083 must also register for NSG 150 and NSG 155 at the same time. Both are 8-week courses. One to one-and-a half hour of lecture per week.

**NSG-084: Supplement to Nursing and Self-Care III (NSG 155)**

Credit Hours:.....0.50  
Contact Hours:.....0.50

Emphasizes the use of critical thinking to enhance understanding of beginning medical-surgical nursing theory to clinical practice. NOTE: Students who register for NSG 084 must also register for NSG 155 at the same time. Both are 8-week courses. One hour of lecture per week.

# Courses



## **NSG-085 : Supplement to Nursing and Self-Care IV**

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Credit Hours:..... 1.00

Contact Hours:..... 1.00

Emphasizes the use of critical thinking to facilitate application of medical-surgical nursing theory to clinical practice. NOTE: Students who register for NSG 085 must also register for NSG 221 and NSG 222 at the same time. Both are 8-week courses. One to one-and-a-half hours of lecture per week.

Prerequisites:.....None

## **NSG-086: Supplement to Nursing and Self-Care IV - Part I (NSG 221)**

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Credit Hours:..... 0.50

Contact Hours:.....0.50

Emphasizes the use of critical thinking to enhance understanding of medical-surgical nursing theory to clinical practice. NOTE: Students who register for NSG 086 must also register for NSG 221 at the same time. Both are 8-week courses. One hour of contact per week.

Prerequisites:.....None

## **NSG-088: Supplement to Nursing and Self-Care IV - Part II (NSG 222)**

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Credit Hours:..... 0.50

Contact Hours:..... 0.50

Emphasizes the use of critical thinking to enhance understanding of medical-surgical nursing theory to clinical practice. NOTE: Students who register for NSG 088 must also register for NSG 222 at the same time. Both are 8-week courses. One hour of contact per week.

## **NSG-091: Nursing Systems II for Articulating L.P.N. Transition**

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Credit Hours:..... 1.00

Contact Hours:..... 1.00

Introduces Orem's Self-Care Deficit Theory, document math competency in medication administration, document physical appraisal competency, and validate application of the nursing process. NOTE: Required for students registered and admitted into the LPN-RN Advanced Program as it begins the process of assimilation into the second semester of the nursing program.

Prerequisites:.....AH 120, BIO 233, BIO 234, ENG 131, ENG 132, PSY 131, PSY 253 and SOC 131

## **NSG-101: Beginning Health and Physical Assessment**

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Credit Hours:.....2.00

Contact Hours:.....2.00

Covers how to perform a health assessment on an adult patient. Final project requires the successful demonstration of a comprehensive head-to-toe physical assessment at the beginner level. Recommended for students entering the nursing program, re-admitting to the program, or supplementing beginning skills and knowledge of physical assessment.

Prerequisites:..... Health Sciences department permission

## **NSG-115: Pharmacology for Nursing Practice I**

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Credit Hours:.....2.00

Contact Hours:.....2.00

Introduces basic pharmacology, dosage calculation, and legal and ethical nursing responsibilities with medication administration. Offers insight into clinical reasoning by utilizing the nursing process for safe medication administration. Studies drug classifications such as anti-infective, antibiotics, antiviral, antifungal, anti-inflammatory, immune modulators, vaccines, drugs affecting gastrointestinal motility, and parenteral agents. Also provides information about the action of medications on the pathophysiology of disease, clinical indication for use, common adverse effects, and general nursing implications for different medications, significant drug interactions, and learning needs patients have about their medications.

Prerequisites:.....ENG 131, 132 and PSY 131

**NSG-117: Medical-Surgical Nursing I**

Credit Hours:.....6.00

Contact Hours:.....10.00

Introduces the first semester nursing student to the role of the professional nurse as the provider of care for adult clients and a member of the profession. Explains how to utilize critical thinking skills in a systematic, problem solving process as a framework for providing care. Provides a framework for best practices, to think critically, assess factors that influence safe and effective care delivery, and integrate theory with care of clients. Also covers medical and surgical aseptic techniques, hygiene, body mechanics, range of motion, medication administration, urinary catheter insertion, nasogastric tube insertion and care, percutaneous tube care, tube feedings, intravenous medications administration, application of oxygen therapy, use of personal protective equipment, and wound care.

Prerequisites:.....ENG 131, ENG 132, PSY 131, and Nursing division permission

**NSG-118: Pharmacology for Nursing Practice II**

Credit Hours:.....1.00

Contact Hours:.....1.00

Continues to explore the principles of safe medication administration, pharmacokinetics, and pharmacodynamics and basic pharmacology. Covers master dosage calculations for complex medication for adult clients. Drug classifications correlate with topics covered in NSG 119 and NSG 121.

Prerequisites:..... BIO 233; NSG 101, 115, 117

**NSG-119: Medical-Surgical Nursing II**

Credit Hours:.....6.00

Contact Hours:.....10.00

Continues to explore how to utilize critical thinking skills in a systematic, problem solving process, as a framework for providing safe and effective care to restore and promote health in adult clients. Focuses on nursing care related to concepts of healthy adult clients as well as adult clients with common, acute, or chronic illness exemplars, and explains how to research best practices and integrate theory in the care of adult clients and families in a variety of clinical settings. Four hours of theory and six hours of clinical/lab per week.

Prerequisites:..... BIO 233; NSG 101, 115, 117

**NSG-120: Nursing and Health Care System I**

Credit Hours:.....2.00

Contact Hours:.....2.00

Examines how to socialize students into the nursing profession. Also introduces concepts necessary for functioning at optimal levels as a student nurse and as an entry-level registered nurse.

Prerequisites:.....ENG 131, 132 and PSY 131

**NSG-121: Psychiatric Mental Health Nursing**

Credit Hours:.....4.00

Contact Hours:.....8.00

Introduces the second semester nursing student to the role of the nurse as a provider of care for clients with mental health disorders with emphasis on therapeutic communication techniques. Course presents the mental-health/mental-illness continuum as a framework for differentiating between healthy and unhealthy mental health behaviors. Discusses how to utilize critical thinking skills, in a systematic, problem solving process, to provide safe and effective care to clients in the psychiatric mental health setting. Two hours of lecture and six hours of lab/clinical per week.

Prerequisites:..... BIO 233; NSG 101, 115, 117

**NSG-126: Nursing and Self-Care I**

Credit Hours:.....7.00

Contact Hours:.....13.00

Introduces the fundamental skills needed in entry-level nursing practice. Covers the nursing process and Orem's Self-Care Model as the conceptual model for nursing practice. Laboratory practice precedes clinical experience with actual clients. Emphasizes the development of competence for the entry-level registered nurse in the clinical experience.

Prerequisites:.....ENG 131, 132 and PSY 131

# Courses



## **NSG-150: Nursing and Self-Care II**

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Credit Hours:.....5.00

Contact Hours:.....9.00

Emphasizes therapeutic communication and therapeutic use of self. Presents how to apply principles from stress, systems, learning, change, and caring theories to adult psychiatric patients in both the inpatient and outpatient setting. Also explains legal and ethical standards for entry-level nurse practice.

Prerequisites:..... AH 120; BIO 233; ENG 131, 132; PSY 131; NSG 120, 126.

## **NSG-155: Nursing and Self-Care III**

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Credit Hours:.....5.00

Contact Hours:.....9.00

Emphasizes principles, concepts, and factors related to the client's health state. Focuses on the principles of pain management, concepts of fluid-electrolyte and acid base balance, peri-operative care, management of endocrine disorders, cancer, inflammation, and immunity. Integrates ethical principles of practice within the ADN role and standards of care.

Prerequisites:..... AH 120; BIO 233; ENG 131, 132; NSG 120, 126; PSY 131

## **NSG-185: Basic Pathophysiology for Nursing**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Introduces the subject of pathophysiology as it applies to nursing content. Provides a solid background for the more complex NSG 285 - Pathophysiology for Nurses.

Prerequisites:..... BIO 233, BIO 234, or BIO 134 or transfer equivalent with a "C" grade or better. Students waiting to enter the nursing program or those who are or have been enrolled in the first year of the nursing curriculum.

## **NSG-203: Introduction to Critical Care I**

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Credit Hours:.....2.00

Contact Hours:.....2.00

Presents the beginning theoretical concepts related to caring for the critically ill client for the student or practicing nurse who is considering specializing in this area. Emphasizes the nursing responsibilities associated with meeting the needs of clients with disorders of the renal, cardiovascular, gastrointestinal, and endocrine systems.

Prerequisites:.....Completion of first level nursing courses, graduate or registered nurse or Instructor permission

## **NSG-206: Pharmacology for Nursing Practice IV**

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Credit Hours:.....1.00

Contact Hours:.....1.00

Continues to study principles of safe medication administration, pharmacokinetics, and pharmacodynamics of medications and basic pharmacology. Drug classifications studied this semester correlate with the topics covered in NSG 207 and NSG 208.

Prerequisites:.....NSG 201, 202, and 207

## **NSG-210: Healing Practices in Holistic Nursing**

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Credit Hours:.....3.00

Contact Hours:.....3.00

Introduces holistic nursing including a variety of healing philosophies and practices. Covers the core values of holistic nursing (philosophy/theories, education/research, self-care, communication, and healing interventions) with a focus on the five areas of complementary and alternative therapies, including the specific interventions of cognitive therapy, relaxation, imagery, aromatherapy, and energy healing.

Prerequisites:.....ENG 131 eligible

**NSG-221: Nursing and Self-Care IV – Part I**

Credit Hours:.....5.00  
Contact Hours:.....9.00

Introduces how to develop competency in applying the nursing process in the care of adults with common medical-surgical problems affecting the cardiovascular, respiratory, endocrine, hematological, and renal system. Emphasizes principles, concepts, and factors related to the client's health state. Also covers issues, trends, legal and ethical accountability, and promotion of quality care in nursing practice.

Prerequisites:..... AH 120; BIO 233, 234; ENG 131, 132; PSY 131, 253; SOC 131; NSG 120, 126, 150, 155

**NSG-222: Nursing and Self-Care IV - Part II**

Credit Hours:.....5.00  
Contact Hours:.....9.00

Provides continued development of competency in the application of the nursing process to adults with common medical-surgical problems affecting the gastrointestinal, musculoskeletal, reproductive, and neurosensory systems. Discusses disaster preparedness and bioterrorism. Emphasizes principles, concepts, and factors related to the client's health state. Issues, trends, legal and ethical accountability, and promotion of quality care in nursing practice are integrated.

Prerequisites:..... ENG 131, 132; PSY 131, 253; SOC 131; AH 120; BIO 233, 234; NSG 120, 126, 150 155,

**NSG-250: Nursing and Self Care V: Childbearing Family and Child and Family**

Credit Hours:.....7.00  
Contact Hours:.....11.60

Develops competency in using the nursing process to help the child (birth through adolescence) and child-bearing family achieve self-care goals, apply scientific principles, concepts, and factors related to the child and the family as a self-care agent. Integrates current issues, trends, legal and ethical accountability, and the promotion of quality care into nursing practice. Student spends five weeks in a pediatric setting and five weeks in an obstetrical setting.

Prerequisites:..... ENG 131, 132; PSY 131, 253; SOC 131; AH 120; BIO 233, 234; NSG 120, 126, 150, 155, 221, 222.

**NSG-255: Nursing and Health Care Systems II**

Credit Hours:.....3.00  
Contact Hours:.....7.00

Emphasizes the transition from student to graduate nurse. Focuses on management strategies necessary for establishing priorities, including delegation of work when responsible for a group of patients. Also covers application of prior learning in delivery of nursing care, working relationships, legal and ethical accountability in the promotion of quality care.

Prerequisites:..... AH 120; BIO 233, 234; ENG 131, 132; NSG 120, 126, 150, 155, 221, 222, 250; PSY 131, 253; SOC 131

**NSG-285: Pathophysiology for Nurses**

Credit Hours:.....4.00  
Contact Hours:.....4.00

Enhances basic knowledge and understanding of human diseases. Reviews the etiology and the pathogenesis of diseases using the system approach. Also reviews etiology, risk factors, long term effects, and prognoses of commonly occurring health issues.

Prerequisites:.....BIO 233 and BIO 234, or the equivalent with a "C" grade or better. Students waiting to enter the nursing program or those who are currently in a BSN completion program.

**NSG-294: Directed Study in Nursing**

Credit Hours:.....2.00  
Contact Hours:.....2.00

Allows student nurse or registered nurse in the community to undertake an area of study to increase depth and understanding in specific, assigned areas. Critically examines topics appropriate to trends and issues in today's nursing profession and the health care delivery system. Clinical placement to increase the competency necessary for functioning at optimal level as a student nurse or as a graduate nurse can occur, as appropriate. Theory hours and clinical placement hours are arranged with the instructor, as appropriate.

Prerequisites:..... Student in nursing program or registered nurse

# Courses



## **OPT-101: Introduction to Ophthalmic Technology**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Introduces the roles and responsibilities of health care professionals directly involved in vision care. Provides an overview of the comprehensive medical eye examination, including documentation protocol, units on ophthalmic terminology, and abbreviations. Also discusses career options and key elements of medical ethics for ophthalmic medical personnel.

Prerequisites:.....Acceptance into the Ophthalmic Technician Program

## **OPT-134: Ocular Anatomy and Pathology**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Focuses on the structures and functions of the eye and orbit. Explains the clinical manifestations of select pathophysiologic conditions of the eye specific to ophthalmic technology.

Prerequisites:.....Acceptance into the Ophthalmic Technician Program

## **OPT-150: Applied Ophthalmic Optics**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Studies the fundamental optical principles including the electromagnetic spectrum, properties of light as waves and particles, geometric optics, and object-image relationships. Develops the clinical applications of optical principles.

Prerequisites:.....OPT 101, 134

## **OPT-160: Ocular Measurements I**

Credit Hours: ..... 5.00  
Contact Hours: ..... 5.00

Discusses basic ophthalmic equipment and measurement protocol, instrument calibration, maintenance, and infection control. Students apply concepts to specific clinical situations related to vision care.

Prerequisites:.....OPT 101, 134

## **OPT-180: Ocular Measurements II**

Credit Hours: ..... 5.00  
Contact Hours: ..... 5.00

Offers an overview of special tests and procedures ordered for subspecialty services such as cornea and external disease, glaucoma, neuro-ophthalmology, oculoplastics, pediatric ophthalmology, and retina. Presents a decision-making approach to the process of data collection. Emphasizes designing an appropriate examination strategy based upon the type of problem presented.

Prerequisites:.....OPT 101, 134, 150, 160

## **OPT-200: Clinical Optical Procedures**

Credit Hours: ..... 5.00  
Contact Hours: ..... 5.00

Focuses on the physiology of image formation and refractive errors, optical calculations involving use of the retinoscope, phoropter, trial lenses and trial frame, accommodation rulers, and instruments used in evaluating contact lenses.

Prerequisites:.....OPT 180

**OPT-220: Ophthalmic Photography**

Credit Hours: ..... 2.00

Contact Hours: ..... 2.00

Introduces imaging procedures for external and internal ocular structures, including slit lamp and fundus photography, fluorescein angiography, optical coherence tomography, and other relevant imaging techniques.

Prerequisites: ..... OPT 200

**OPT-240: Ophthalmic Surgical Assisting**

Credit Hours: ..... 2.00

Contact Hours: ..... 2.00

Introduces ophthalmic surgical procedures, including the indications, goals, and steps of select ophthalmic procedures. Emphasizes principles of asepsis, and care and maintenance of ophthalmic surgical instruments.

Prerequisites: ..... OPT 200

**OPT-260: Current Issues in Vision Care**

Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Explores issues and trends in healthcare delivery, including certification requirements and systematic review for the national certification examination for ophthalmic technicians.

Prerequisites: ..... OPT 220, 240, 293

**OPT-290: Clinical Externship I**

Credit Hours: ..... 4.00

Contact Hours: ..... 15.87

Offers structured clinical experiences in which students observe and participate in selective practical activities at affiliating ophthalmology clinics. Discusses skill development in charting, communicating with patients, performing non-invasive tests, calibrating, and maintaining ophthalmic equipment typical to a standard exam room. Requires students to document 240 clinical hours.

Prerequisites: ..... OPT 180

**OPT-293: Clinical Externship II**

Credit Hours: ..... 6.00

Contact Hours: ..... 23.87

Continues structured clinical experiences while emphasizing speed, accuracy, and clarity in advanced clinical skills. Students must document 360 clinical hours.

Prerequisites: ..... OPT 290

**OPT-297: Clinical Externship III**

Credit Hours: ..... 6.00

Contact Hours: ..... 21.20

Continues structured clinical experiences with emphasis on gaining autonomy in performing basic procedures, while adding new experiences in digital imaging and surgical assisting. Students must document 320 clinical hours.

Prerequisites: ..... OPT 293



# Courses



## **PEFT-108: Portfolio Development**

Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Covers the methods and processes needed to develop a portfolio in order to request college credit for experiential or other college-level learning activities.

Prerequisites: ..... None

## **PEFT-112: Technical Communication-Power**

Credit Hours: ..... 2.00

Contact Hours: ..... 2.00

Covers written and oral communications utilized in the power engineering field. Includes reading and interpreting plant-oriented communications such as diagramming, drawing, review, and regular use of PID, CAD-type prints, piping, and system prints.

Prerequisites: ..... None

## **PEFT-143: Power Engineering Boilers**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Covers the operation and maintenance of high- and low-pressure boilers and their related auxiliaries. Includes elements required to safely operate, service, and maintain boiler and auxiliary equipment pertaining to state-of-the-art cogeneration and heating and power plants. Learners are required to interface with actual or virtual plants as part of the activities for this course. May require plant visits as part of course work.

Prerequisites: ..... None

## **PEFT-180: Power Heating Plant Lab**

Credit Hours: ..... 2.00

Contact Hours: ..... 2.00

Covers operation and maintenance, and power engineering fundamentals for basic power and heating plants. Includes lab and/or field experiences on live equipment and systems found in heating, process, and power plants. May complete plant visits as part of course work.

Prerequisites: ..... Instructor permission

## **PEFT-182: Power Fundamentals Lab**

Credit Hours: ..... 2.00

Contact Hours: ..... 2.00

Explores power plant and heating plant layout and equipment via lab and/or field experiences. Covers processes to start up and shut down boilers, operate pumps, test, and maintain boiler water quality. Includes working with the fundamental principles of direct current and alternating current circuits and machines; and the basics of industrial measurement and control with emphasis on power plant instrumentation. May complete plant visits as part of course work.

Prerequisites: ..... Instructor permission

## **PEFT-184: Power Systems Operation and Maintenance Lab**

Credit Hours: ..... 2.00

Contact Hours: ..... 2.00

Provides lab and/or field experiences related to high-pressure and low-pressure boilers, turbines, generators, and auxiliary systems. Includes starting, stopping, operating, and analyzing outputs under load conditions. May be required to visit plants as part of course work.

Prerequisites: ..... Instructor permission

# Courses

## **PEFT-246: Steam Plant Prime Movers**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Covers skills needed to function effectively as power or process plant engineers operating and maintaining primarily turbines, engines, power plant electrical, air compressors, industrial-commercial cooling systems, advanced control systems, and related equipment. Provides exposure to activities that duplicate skills in the workplace which meet the requirements of various national standards and license exams. May require plant visits as part of course work. Note: suggested co-requisite of MFMT 114 and/or MFMT 143.

Prerequisites: ..... None

## **PEFT-247: Combined and Cogeneration Power Plants**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.07

Examines the power engineering skills and knowledge required for operation and maintenance of gas turbine and combined cycle plants. Also covers the safe and efficient operation of gas turbines and heat recovery steam generators and their different applications as used in combine cycle and cogeneration configurations. Experiences and exercises include the application of workplace skills required by the current national standards and appropriate licensure exams. Completion of plant visits are part of course work.

Prerequisites: ..... Instructor permission

## **PHIL-131: Introduction to Logic**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Examines the methods and principles of assertion and validity in argumentation. Includes the study of the nature of logic and its relationship to language, informal fallacies, and both traditional and modern symbolic methods of deduction.

Prerequisites: ..... None

## **PHIL-133: History of Philosophy to the 18th Century**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Introduces the history of Western philosophy from its origins in ancient Greece to the rise of science. Includes a study of pre-Socratics, major Greek philosophers, medieval philosophy, and rationalist and empiricist philosophy of the modern era.

Prerequisites: ..... None

## **PHIL-135: History of Modern Philosophy**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

A continuation of the history of Western philosophy focusing on the major philosophers and major developments through the twentieth century from Descartes through Wittgenstein. Examines influential currents such as rationalism, empiricism, idealism, romanticism, Marxism, Darwinism, positivism, pragmatism, phenomenology, existentialism and analysis.

Prerequisites: ..... None

## **PHIL-137: Topics in Philosophy**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

A non-historical approach to philosophy for serious students interested in the professions or for professionals interested in focusing on topics of professional or personal significance. Section offerings are sufficiently diverse to acquaint serious students or professionals with the extensive scope of philosophy. Diverse areas such as philosophy of religion, philosophy of science, aesthetics, philosophy of law, business ethics, biomedical ethics, philosophy of language, etc. may be the current topic offered that semester. Topics vary each semester and with each instructor.

Prerequisites: ..... None

# Courses



## **PHIL-138: Moral Issues in Biotechnology**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Introduces moral dilemmas that arise in the context of biotechnology and the theories and skills required to engage in high quality dialogue concerning those dilemmas. Includes study of the basic nature of biotechnology and the most influential theories of ethics and justice as relates to biotechnological research and products.

Prerequisites: ..... None

## **PHIL-139: Ethics**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Emphasizes practical and normative ethical questions as well as analytical or metaethical questions. Provides a systematic examination of problems by covering various classical and contemporary theories which include standards of criteria of moral action, the nature and justification of moral judgments, the nature of ethical knowledge, the meaning of ethical terms, intelligent decision-making, and free will vs determinism.

Prerequisites: ..... None

## **PHT-100: Introduction to Pharmacy Technology**

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Credit Hours: ..... 2.00

Contact Hours: ..... 2.00

Introduces the role of pharmacy technician in the delivery of pharmacy services. Discusses ethical, legal, and professional issues related to the practice of pharmacy. Emphasizes pharmaceutical terminology, specific distribution systems, pharmacy standards, and the role of the technician.

Prerequisites: ..... Acceptance into Pharmacy Technician Program

## **PHT-119: Outpatient Pharmacy Externship**

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Credit Hours: ..... 2.00

Contact Hours: ..... 8.40

Students are assigned to selected outpatient pharmacy facilities for directed clinical practice in pharmacy technology. This is a required, supervised learning experience under the direction of a pharmacist. Rotation selections include community, independent, and hospital outpatient pharmacy locations. The eight-week clinical rotation includes sixteen hours per week in the clinical area.

This eight-week externship rotation begins in March during the winter semester. Students are required to be enrolled and have passing grades in PHT 125, PHT 165, PHT 175, and PHT 178 before being assigned to an outpatient externship rotation.

Prerequisites: ..... PHT 100, PHT 124, PHT 132, PHT 150

## **PHT-124: Pharmacology I for Pharmacy Technicians**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

The first of a two-course sequence in pharmacology for pharmacy technicians. Examines general pharmacological concepts, principles, actions, side effects, dosage forms, and route of administration. Covers concepts in drug development, medication errors, and drug usage. Focuses on pharmacodynamics, autonomic nervous system, central nervous system, and cardiovascular system. In addition, special emphasis is paid to drug effects upon the nervous system.

Prerequisites: ..... Acceptance into the Pharmacy Technician program

## **PHT-125: Pharmacology II for Pharmacy Technicians**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

The second part of a two-course sequence which covers systems including respiratory, gastrointestinal, endocrine, ophthalmic, optic, and renal. Highlights chemotherapy and infection control. Also studies muscle relaxants, topical, vitamins, and nutritional supplements. Discusses how to recognize inconsistencies in orders, routes of administration, and frequency of administration.

Prerequisites: ..... PHT 100, 124

**PHT-132: Basic Pharmacy Software Applications**

Credit Hours:.....2.00

Contact Hours:.....2.00

Introduces various specialized pharmacy programs: out-patient and in-patient medication dispensing, drug information, pharmacokinetics, management, quality assessment, and procurement. Emphasizes record keeping, third-party billing, and drug distribution systems.

Prerequisites:..... Acceptance into Pharmacy Technician Program

**PHT-144: Pharmacy College Admission Testing (PCAT) and Current Issues in Pre-Pharmacy**

Credit Hours:.....2.00

Contact Hours:.....2.00

Provides an overview of the pharmacy profession including licensure, areas of practice, communications skills, and career options. Examines general pharmacy school information including the Pharm D curriculum, considerations in selecting a College of Pharmacy, and admission requirements. Offers a mock PCAT exam to determine student strengths and weaknesses and then discusses select test preparation options. Recommended co-requisites: CHEM 142, ENG 132, PHYS 131, and SPC 131.

Prerequisites:...BIO 152, BIO 150, CHEM 141, ENG 131, and CIS 100 or BCA 140

**PHT-150: Pharmaceutical Calculations**

Credit Hours:.....3.00

Contact Hours:.....3.00

Examines how to apply basic mathematical skills in calculations required for the usual dosage determinations, as well as solution preparations using weight, metric, household, and apothecary systems. Discusses ratio and proportion, allegations, and business calculations in pharmacy operations. Two lecture hours and one computer lab hour per week.

Prerequisites:... Acceptance into the PHT Program and MATH 101 or 110

**PHT-165: Issues in Pharmacy**

Credit Hours:.....2.00

Contact Hours:.....2.00

Explores today's health care environment, emphasizing the issues facing pharmacy and the pharmacy technician. Discusses the skills, talents, and tools required to handle today's challenges as well as potential future issues. Covers workplace topics such as communication issues, CQI for the pharmacy, legal issues, teamwork concepts, and conflict resolution tools.

Prerequisites:.....PHT 100, 124

**PHT-175: Applied Pharmacy Systems**

Credit Hours:.....4.00

Contact Hours:.....4.00

Covers medication distribution systems including in-patient systems, preparation of intravenous admixtures, compounding, manufacturing and repackaging, and inventory control systems. Also studies inpatient software for order entry and patient profiles. Two hours of lecture and two hours of laboratory per week.

Prerequisites:.....PHT 100, 124, 132, and 150

**PHT-178: Applied Out-Patient Pharmacy Systems**

Credit Hours:.....2.00

Contact Hours:.....2.00

Presents out-patient medication dispensing systems, including prescription dispensing to ambulatory patients, pharmaceutical extemporaneous compounding, repackaging and manufacturing, purchasing, and inventory control. Also covers out-patient software for order entry, third-party insurance billing, and patient profiles. Introduces the use of automated equipment.

Prerequisites:.....PHT 100, 124, 132, and 150

# Courses



## **PHT-193: Pharmacy Externship**

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Credit Hours: ..... 3.00

Contact Hours: ..... 19.07

Students are assigned to selected health care facilities for directed clinical practice in pharmacy technology. This is a required, supervised learning experience under the direction of a pharmacist. Rotation selections include hospital, home infusion, compounding, and long term care pharmacy locations. The rotations include a ten to twelve week spring, summer, or fall session. Time scheduled at the site will be twenty-four or thirty-two hours a week.

The ten or twelve week externship rotation begins in May, July, or August. Successful completion of all pharmacy technician course work is required before assignment to specific hospital and home infusion/long term care pharmacy rotations.

Prerequisites:.. AH 100, HCS 131, BBA 110, PHT 125, PHT 165, PHT 119, PHT 175, PHT 178

## **PHYS-120: Technical Physics I**

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Credit Hours: ..... 4.00

Contact Hours: ..... 5.00

Introduces students majoring in technical areas to basic physical principles and their application to industry. Covers measurements, forces, motion, vectors, energy, power and machines, properties of materials and fluids, heat, and heat transfer.

Prerequisites: Completion of or concurrent enrollment in MATH 103

## **PHYS-121: Technical Physics II**

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Credit Hours: ..... 4.00

Contact Hours: ..... 5.00

Builds on concepts introduced in PHYS 120. Topics include wave motion, electricity, and DC electrical circuits, atomic physics, and nuclear physics.

Prerequisites:..... PHYS 120

## **PHYS-131: General Physics I**

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Credit Hours: ..... 4.00

Contact Hours: ..... 6.00

Introduces the principles of physics, including units on mechanics, heat, and sound. Designed to fulfill partially the physics requirement in pre-medicine, pre-dentistry, teaching, and law. Three hours of lecture and three hours of laboratory per week.

Prerequisites:..... MATH 100 or MATH 103 or MATH 112 or MATH 175 with a C or better

## **PHYS-132: General Physics II**

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Credit Hours: ..... 4.00

Contact Hours: ..... 6.00

Builds on the concepts introduced in PHYS 131. Topics include electricity, magnetism, light, and modern physics. Three hours of lecture and three hours of laboratory per week.

Prerequisites:..... PHYS 131 with a C grade or better

## **PHYS-133: Principles of Physics**

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Credit Hours: ..... 4.00

Contact Hours: ..... 5.00

Explores physical principles of motion, energy, fluids, electro-magnetism, waves, light, radiation, and the atom. Course is designed to meet the need for a one semester course in physics in many program areas including Allied Health, Teacher Education, Business, and Social Science. Three hours of lecture and two hours of laboratory per week.

Prerequisites:.... One year of high school algebra or equivalent at HFC MATH 080 or MATH 089

**PHYS-231: Engineering Physics I**

Credit Hours: ..... 5.00  
Contact Hours: ..... 7.00

Designed to meet the requirements of engineering students and physics majors. Emphasizes relating physical principles to mathematical techniques in problem solving. Covers mechanics, wave motion, and thermodynamics. Four hours of lecture and three hours of laboratory activities per week. NOTE: Recommended co-requisite is MATH 183.

Prerequisites:..... MATH 180 with a C grade or better

**PHYS-232: Engineering Physics II**

Credit Hours: ..... 5.00  
Contact Hours: ..... 7.00

Designed to meet the requirements of engineering students and physics majors. Emphasizes how to relate physical principles to mathematical techniques in problem solving. Covers electromagnetism, including the study of fields, circuits, and optical systems. Four hours of lecture and three hours of laboratory activities per week. NOTE: Concurrent enrollment in MATH 280 is recommended.

Prerequisites:..... PHYS 231 with a C grade or better and MATH 183

**PHYS-233: Modern Physics**

Credit Hours: ..... 4.00  
Contact Hours: ..... 7.00

Builds on concepts introduced in PHYS 232. Topics include relativity, atomic and nuclear physics, solid state physics, and fundamental particles. The application of mathematics is limited to elementary use of the wave mechanical approach to quantum mechanics. Four hours of lecture and three hours of laboratory activities per week. NOTE: MATH 289 is a recommended co-requisite.

Prerequisites:.....PHYS 232 with a C grade or better, and MATH 280

**PLGL-100: Essential Paralegal Skills**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Explores on-the-job realities of the paralegal profession with emphasis on the daily operations of a law office and the role of the paralegal in the office. Covers time management, billing, writing appropriate legal communiqués, and communicating with clients.

Prerequisites:..... ENG 131 eligibility

**PLGL-110: Legal Ethics**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Presents the laws and regulations of paralegals, attorneys, and non-attorney employees in the legal industry while emphasizing professional and ethical responsibilities. Examines portions of the Michigan Rules of Professional Conduct and focuses on the unauthorized practice of law, client confidentiality, conflicts of interest, advertising and solicitation, and the handling of client funds.

**PLGL-115: Property Law**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Explores different types of real property ownership and the rights and liabilities associated with each type. Examines the anatomy of a real estate closing, real property leases, the laws surrounding foreclosure and eviction. Covers the drafting of documents relevant to both the acquisition and loss of real property.

**PLGL-120: Legal Research I**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Examines the structure of the court systems and sources of law in the context of conducting legal research; covers how to locate and understand statutory, regulatory, and common law; and how to identify real or hypothetical legal issues and then develop a research plan using both print and electronic sources of law.

Prerequisites: PLGL 100 and ENG 131 - both with a C grade or better

# Courses



## **PLGL-125: Legal Research II**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Covers how to perform advanced-level legal research using Westlaw® and other Internet-based research databases.

Prerequisites: PLGL 120 and ENG 131 - both with a C grade or better

## **PLGL-200: Civil Litigation I**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

Examines civil trials, beginning with a review of the pleadings that initiate a civil law suit and concluding with the trial. Covers pre-trial practice, pre-trial motions, trial preparation, and offers a mock-trial experience. Also explores Alternative Dispute Resolution (ADR), post-trial motions, and appeals.

Prerequisites: ENG 131 and PLGL 120 - both with a C grade or better

## **PLGL-220: Personal Injury Litigation**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Explores civil litigation in the context of a personal injury or product liability action. Introduces the substantive laws of negligence, intentional tort, personal-injury, and product liability.

Prerequisites: ..... PLGL 120 and ENGL 131 - both with a C grade or better

## **PLGL-225: Legal Writing**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Explores how to identify complex legal issues and research them using electronic research tools. Covers how to synthesize multiple sources of law, draft a comprehensive statement of current law, and then apply that law to a hypothetical fact scenario. Also covers presenting results in an objective memorandum and/or a persuasive brief.

Prerequisites: PLGL 125 and ENG 131 - both with a C grade or better

## **PLGL-235: Commercial Transactions**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Explores the fundamental principles of contract law. Covers the elements of contract formation and breach under common law and Article II of the Uniform Commercial Code (UCC). Discusses the laws of secured transactions under Article IX of the UCC, Bankruptcy Laws, and the laws and practices of collecting debt upon default.

Prerequisites: PLGL 120 and ENG 131 - both with a C grade or better

## **PLGL-240: Family Law**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Introduces the laws of divorce, beginning with the pre-commencement interview and ending with filing the final judgment. Covers the substantive and procedural laws of property division, custody, and support in a divorce action. Also examines issues of child abuse, domestic violence, adoption, and post-judgment matters such as modification and relocation.

Prerequisites: ENG 131 and PLGL 120 - both with a C grade or better

## **PLGL-245: Estate Planning and Probate**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Examines laws relating to the control and disposition of property in anticipation of death and post-death under Michigan's Estate and Protected Individuals Code (EPIC). Covers wills, trusts, laws of intestate succession, and powers of attorney. Also covers the substantive, procedural, and practical aspects of probate practice under EPIC from the time of the notification of death through final distribution.

Prerequisites: ENG 131 and PLGL 120 - both with a C grade or better

**PLGL-250: Business Organizations**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Examines forms of business organizations including corporations, partnerships, and limited liability companies. Covers the formation, structure, rights, and liabilities associated with each entity, along with the legal consequences of dissolving them. Covers the drafting of documents necessary to create and maintain business entities.

Prerequisites: ENG 131 and PLGL 120 - both with a C grade or better

**PLGL-299: Special Topics in Law**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Explores selected legal topics with emphasis on current legal trends. Specific special topic will be announced each term the course is offered. Course may be repeated when different topics are offered and a student may earn credit for each different topic. Course may be used toward fulfilling the specific degree requirements for an associate degree.

Prerequisites:..... Instructor permission

**PLMB-101: Fundamentals of Plumbing and Pipefitting**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Introduces plumbing principles. Topics include the proper selection of materials for installation and repair of gas, domestic water, sewer, soil, waste, vent systems, and various pipefitting systems. Utilizes blueprints and isometric diagrams throughout the course. Some laboratory activities.

Prerequisites:.....None

**PLMB-110: Drains, Wastes, and Vents**

Credit Hours:.....2.00  
Contact Hours:.....2.00

Introduces the Michigan State Plumbing Code and the proper selection of materials for the installation and repair of sewer, soil, waste, and vents systems. Covers proper procedures for the design, sizing, and construction of residential plumbing systems. Introduces commercial systems and plumbing cross-connections. The use of blueprints and isometric diagrams are reviewed throughout the course. Also includes how to test plumbing systems in their various stages.

Prerequisites:.....None

**PLMB-120: Steam and Hot Water Systems**

Credit Hours:.....2.00  
Contact Hours:.....2.00

For technical construction apprentices and those interested in seeking basic pipefitting -plumbing skills. Introduces principles of steam and hydronic systems, converter trap sizing, steam traps, and skimming boilers. Also examines the proper selection, sizing, and installation of pipe and fittings related to hydronic and steam systems. Application exercises allow students the opportunity to design and lay out typical systems. Laboratory activities.

Prerequisites:..... ENT 103, ENT 104, and ENT 105

**PLMB-225: Plumbing Design**

Credit Hours:.....4.00  
Contact Hours:.....4.00

Topics include health and safety, water supply, water wastes, piping materials, and building plans and drawings. The proper use of plumbing tools and equipment selection emphasizing overall job safety is integrated into the course material. Also covers the components of plumbing systems and installations.

Prerequisites:..... ENT 124 and PLMB 110



# Courses



## **PLMB-240: Plumbing Materials and Components**

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Credit Hours:.....4.00

Contact Hours:.....4.00

Examines water distribution and pipe sizing. Topics include hot water systems, tanks, drains, wastes, vent systems, construction drawings and diagrams, and system sizing. Introduces material joining through soldering, and brazing. Includes the various plastic pipes and fittings being used in today's industry. Explores how to evaluate issues related to water pipe sizing in buildings, including concepts of water flow and water supply fixture units.

Prerequisites:..... PLMB 101 and 110

## **PLMB-250: Plumbing Pipefitting Code**

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Credit Hours:.....2.00

Contact Hours:.....2.00

Explores how to utilize the State of Michigan Plumbing Code to solve real-life problems (International Plumbing Code). Covers study habits and processes necessary to interpret and apply the code. Also helps prepare students for entry-level positions in the plumbing, multi-skilled maintenance, repair, and apprenticeship fields.

Prerequisites:.....None

## **PLMB-255: Plumbing Fixture Installation**

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Credit Hours:.....4.00

Contact Hours:.....4.00

Covers the operation and availability of common plumbing fixtures and appliances. Focuses on the selection and installation of fixtures in residential, commercial, and industrial applications. The control and accessories used in fuel burning appliances, the differences in vent capacity and vent type, and the steps necessary to place an appliance in service are covered. Explores how electricity is incorporated into a piping system including concepts of energy savings and safety.

Prerequisites:.....PLMB 101, 110

## **PLMB-275: Practical Plumbing Lab for State License Preparation**

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Credit Hours:.....4.00

Contact Hours:.....4.00

For the apprentice and journeyman. Covers the subject of pipes and tubes, their uses, the materials of which they are made, and some of the related general specifications. Also covers existing and new process skills related to plumbing-pipefitting. Course is 25% lecture related to safety, tools, equipment, and demonstrations prepping; the rest of the course emphasizes laboratory activities.

Prerequisites:..... Instructor permission

## **POLS-100: Introduction to Community Leadership**

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Credit Hours:.....2.00

Contact Hours:.....2.00

Introduces the foundations of community organizations and the social history of metro Detroit since 1950.

Prerequisites:.....ENG 081 and 093 eligible

## **POLS-101: American Government: Democratic Participation and Civic Engagement**

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Credit Hours:.....4.00

Contact Hours:.....4.00

Examines principles and problems of American political institutions, including the role of government and politics in society, the balancing of liberty with authority, and the theories of the state. Probes mechanisms of citizen empowerment and control (public opinion, pressure groups, political parties, elections), and formal structure. Public policy as a means to meet societal needs is analyzed and evaluated along with the tools that citizens can use to influence the public policy process. Also examines foreign and domestic public policy and contemporary events. Includes how to write effective arguments as well as how to formally present political arguments.

Prerequisites:.....ENG 079 eligible

**POLS-102: Foundations of Community Leadership**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Focuses on the history of community organizing, development, and change, including the history of Detroit and its cultural and racial diversity. Presents models of community organizing including social action, grass roots empowerment, leadership development, team building, and advocacy.

Prerequisites: ..... POLS 100 or SOC 100

**POLS-131: Introduction to American Government and Political Science**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Examines principles and problems of American political institutions, including the role of government and politics in society, the balancing of liberty with authority, and theories of the state. Also explores mechanisms of popular control (public opinion, pressure groups, political parties, elections) and formal structure. Additional components include foreign policy, public policy, and contemporary events.

Prerequisites: ..... ENG 079 or 092 eligible

**POLS-135: American Legal Systems and Processes**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Considers legal systems as social/political phenomena and explores the U.S. Constitution, landmark court decisions, and patterns of behavior characterizing legal system participants. This course is appropriate as a lead-in for those interested in the fields of political science, criminal justice, legal secretary, and paralegal, as well as those considering law school.

Prerequisites: ..... ENG 079 eligible

**POLS-152: International Relations**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Introduces the diverse phenomena of international relations, the complex patterns of political and economic conflict, American foreign policy, and the interdependence between nation-states and non-governmental organizations. Coursework encourages the student to think critically and analytically about the world and develop a healthy skepticism toward simple solutions to complex world problems.

Prerequisites: ..... ENG 092 or 093 eligible

**POLS-155: State and Local Government**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Examines political institutions and processes in the fifty states, including their cultures and constitutions, as well as the public policies of state governments in areas such as education, social welfare, and the environment. Uses Michigan and Metropolitan Detroit as a basis for comparison to study state and local governments. This course is appropriate as a lead-in for those interested in the fields of political science, public administration, and criminal justice.

Prerequisites: ..... ENG 079 eligible

**POLS-200: Introduction to Peace and Conflict Studies**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Examines social, political, economic, ethnic, cultural, and religious conflict and the methods used to resolve, regulate, and prevent conflict. The mechanisms for developing cooperation to resolve and mitigate conflict among peoples and states are central to this course. Also focuses on international and intra-state conflicts including civil wars, social strife, and rebellion, and employs case studies and other scientific methods to investigate specific conflicts and the strategies of conflict resolution.

Prerequisites: ..... ENG 092 or 093 eligible

# Courses



## **POLS-201: Public Policy: Topics and Analysis**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

A special topics course that allows students to explore issues of public policy. Focuses on the basics of public policy including agenda setting, policy formulation, policy implementation, and policy evaluation. Themes may vary. Themes may be specific such as healthcare policy or they might be more general such as state and local economic policy. Guest speakers.

Prerequisites:..... ENG 093 eligible or Instructor permission

## **POLS-202: Foreign Policy: Topics and Analysis**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

A special topics course that allows students to explore various issues in foreign policy. Focuses on American foreign policy including military, diplomatic, and trade policy. Themes vary from semester to semester. In addition, themes may be very specific such as nuclear weapons proliferation or more general such as American foreign policy in the Middle East or global trade. Guest speakers.

Prerequisites:..... ENG 093 eligible or Instructor permission

## **POLS-295: Community Leadership Internship**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Provides training opportunities with local community organizations. Students engage directly with various community organizations in order to gain experience with data collection, facilitating meetings, recruiting new members, fund raising, and project management.

Prerequisites:.....POLS 102 or SOC 102

## **PSCI-131: Introduction to Physical Science**

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Credit Hours: ..... 4.00  
Contact Hours: ..... 5.00

Topics explored include physics, chemistry, astronomy, meteorology, and geology. Non-science majors have an opportunity to better understand and appreciate the interaction between energy and matter in nature. Laboratory experiences are designed to improve scientific interest and to develop confidence in dealing with science.

Prerequisites:.....None

## **PSCI-133: Atomic Science**

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Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

A non-mathematical introduction to the basic concepts of atomic energy. Designed to help the non-scientific student enjoy and appreciate current trends in science, nuclear reactions, and atomic energy. Emphasis is on historical and philosophical contexts. Effort is made to place concepts in their relation to prevalent world thinking. Two hours of lecture per week.

Prerequisites:.....None

## **PSCI-135: Sound & Light in Fine-Arts**

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Credit Hours: ..... 4.00  
Contact Hours: ..... 5.00

The physical nature of sound and light waves will be covered focusing on how they relate to music, art, theater and each other as well as how subjective perceptions of the ear and eye are related to objective properties of waves. Offered as a general education science course for students interested in Fine-Arts, specifically, Music, Art or Theater.

Prerequisites:.....None

**PSY-131: Introductory Psychology**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Introduces elementary concepts and principles related to the scientific study of behavior and of the mental processes of cognition and affective states. Variables examined include the history of psychology, the scientific method, theory, biological foundations, psychological processes related to cognition and affective states, developmental changes over time, and applications related to healthy and unhealthy personalities.

Prerequisites: ..... ENG 081 Eligible

**PSY-152: Child Psychology**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Covers the physical, emotional, intellectual, and social development of the child and adolescent. Explores a variety of theories, recent research, and practical application.

Prerequisites: ..... PSY 131 with grade of C or higher

**PSY-161: Human Sexuality**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Designed to help students evaluate their own attitudes, feelings, and beliefs about sexuality and compare them to those held by others. Frank, open discussions and explicit visual materials cover historical and contemporary issues related to the physiological, emotional, cultural and legal implications of sexuality with emphasis on the expanding research that is contributing to serious intellectual inquiry.

Prerequisites: ..... PSY 131 with C grade or higher

**PSY-251: Abnormal Psychology**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Explores the nature and causes of various forms of abnormal behavior, including schizophrenia, depression, anxiety disorders, etc. Examines disorders from psychological, biological, cultural, developmental and historical perspectives. Also explores the etiology, symptoms, and treatment of each disorder.

Prerequisites: ..... PSY 131 with C grade or higher

**PSY-253: Lifespan Development**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Covers the processes of change and stability in human development from conception through death. Course begins with the study of prenatal concerns and progresses through the years of infancy, childhood, adolescence, adulthood and aging. Discusses theory, research, and application associated with the biological, cognitive, affective, and social domains of development.

Prerequisites: ..... PSY 131 with a C grade or higher

**PSY-254: Social Psychology**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Introduces the social forces affecting people's lives and how people affect their group. Examines three areas of behavior resulting from intentional influence, membership in a group, and social interaction. Also explores self-perception, behavior and attitude, attraction, aggression, altruism, and group processes. May be taken for credit in either psychology or sociology but not both.

Prerequisites: ..... PSY 131 and SOC 131 or Instructor permission

# Courses



## **PSY-256: Educational Psychology**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Applies the principles and theories of educational psychology to teaching and learning in diverse school settings. Topics address learning and cognition. C Course work examines how social, emotional, cognitive, and physical development of children proceeds academically. Also explores multicultural educational programs, principles and teaching methodologies, managing classroom discipline, motivating students to learn, leading classroom instruction, and assessing K-12 differences in students' learning.

It is recommended that PSY 256 not be taken concurrently with PSY 152.

Prerequisites:.....ENG 131, ENG 132, and PSY 131 with a C grade or higher

## **PSY-257: Health Psychology**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Explores the psychological dimensions of health and the prevention and management of illness. Emphasizes interaction between biological, social, and psychological factors in health and medical problems. Topics include the history and research methods of health psychology, biological foundations of health and illness, stress, prevention and positive psychology, nutrition and eating disorders, substance abuse, disease and pain, complementary and alternative medicine, and the role of health psychology in healthcare settings.

Prerequisites:.....PSY 131 with a C grade or higher

## **PSY-260: Adolescent Psychology**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

For students seeking a degree in secondary education and/or psychology. Examines the major areas of adolescent behavior and development including social, emotional, physical, and cognitive development. Among the topics included are: the theoretical construct of adolescent, the physical and cognitive development of the adolescent, the social structure surrounding the adolescent, the transitions from upper elementary to middle school and then to high school, the personality development of the adolescent, the psycho-sexual development of the adolescent, as well as the psychological issues facing the adolescent.

Prerequisites:.....PSY 131 with a C grade or higher

## **PSY-296: The Exceptional Child**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Focuses on the characteristics, identification, assessment, and instruction of students with exceptionalities. Explores special education children's syndromes and their learning environments. Covers how to provide free and appropriate academic services to children with exceptionalities. Includes the theories, laws, and procedures surrounding special education. Course topics also include specific learning disabilities, autism, mild and severe behavior disorders, emotional impairment, mental retardation, visual and hearing impairments, speech impairment, giftedness, physical impairments and chronic medical conditions. Additional discussions revolve around different special education learning environments such as inclusion, mainstreaming, pullout programs, resource rooms, co-teaching environments, and the self-contained classroom.

Prerequisites:.....PSY 131 with C grade or higher

**PTA-102: Introduction to Physical Therapy Practice**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Introduces the field of physical therapy. Discusses the roles of various health professionals, the concept of the rehab team, the history and scope of physical therapy, legal and ethical issues related to communication and the practice of physical therapy, and organizational structures of various types of physical therapy facilities. Also covers the role of the PTA, various methods of documentation used in physical therapy, and the structure and function of the American Physical Therapy Association. Examines current issues and trends in physical therapy and the Guide to PT Practice.

Prerequisites:..... Admission to the PTA program

**PTA-108: Therapeutic Techniques I**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Provides instruction in patient care with an emphasis on physical therapy interventions. Covers massage, body mechanics, bed mobility and positioning, PROM exercise, transfers, gait training, patient and family education, and the use of wheelchairs and assistive devices. Guided laboratory setting.

Prerequisites:..... Admission to the PTA Program

**PTA-118: Exercise Techniques I**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Provides instruction in therapeutic exercise procedures utilized by physical therapist assistants. Topics include assessment of joint motion and muscle strength, implications of ROM and muscle testing for exercise prescription, types of exercise, basic exercise programs, and the use of exercise equipment. Theory only-no lab activities.

Prerequisites:.....PTA 102, 108, 132, and 168

**PTA-119: Exercise Techniques II**

Credit Hours: ..... 4.00  
Contact Hours: ..... 3.87

Provides the opportunity for application of the techniques learned in PTA 118. Focuses on therapeutic exercise procedures utilized by physical therapist assistants as well as assessment of joint motion and muscle strength, implications of ROM and muscle testing for exercise prescription, types of exercise, basic exercise programs, and the use of exercise equipment. Guided lab setting.

Prerequisites:.....PTA 102, 108, 132, and 168

**PTA-132: Kinesiology for PTAs**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Reviews surface anatomy and functional anatomy, muscles and muscle function, proper posture and analysis of posture, and gait analysis and deviations. Medical Terminology is reinforced. A lab component familiarizes the student with functional aspects of human motion.

Prerequisites:..... Admission to PTA Program

**PTA-142: Therapeutic Modalities**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Covers the principles, indications, contraindications, and precautions of physical agents including heat, cold, water, electrical stimulation, traction, light, and sound. Guided laboratory setting.

Prerequisites:... PHYS 133, PTA 102, PTA 108, PTA 132, and PTA 168

# Courses



## **PTA-168: Development Across the Lifespan for PTAs**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Examines the normal gross motor development of humans from infancy on. Relates early developmental sequence and reflexive maturation to rehabilitation techniques utilized with adult patients. Discusses the development of adults, the aging process, and death and dying. Psychosocial and cognitive issues throughout the life span are integrated in human development.

Prerequisites:..... Admission into the PTA Program

## **PTA-225: Applied Pathology for PTAs**

Credit Hours:.....4.00  
Contact Hours:.....4.00

Examines the signs, symptoms, etiology, course, prognosis, medical intervention, and treatment of diseases with an emphasis on diseases commonly encountered in physical therapy. Medical Terminology will be reinforced. Also highlights patient care with emphasis on physical therapy interventions relevant to the body system involved in various pathologies. Topics include aseptic technique and wound care, cardiac rehab and chest PT, and selected manual therapy techniques. Guided lab setting.

Prerequisites:..... BIO 234, PTA 102, PTA 108, PTA 168, and PTA 132

## **PTA-250: Extremity Orthopedics**

Credit Hours:.....4.00  
Contact Hours:.....4.00

Presents the etiology, course, prognosis, medical intervention, and treatment of orthopedic conditions of the extremities. Includes physical therapy intervention. Guided lab setting.

Prerequisites:.....PTA 118, 119, 142, and 225

## **PTA-254: Spinal Orthopedics**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Presents the etiology, course, prognosis, medical intervention, and treatment of orthopedic conditions of the spine. Covers physical therapy intervention. Guided lab setting.

Prerequisites:.....PTA 118, 119, 142, and 225

## **PTA-262: Rehabilitation of Neurological Conditions I**

Credit Hours:.....2.00  
Contact Hours:.....2.00

Reviews basic neuroanatomy and neurophysiology followed by instruction in the theory and rationale of the treatment approach for the patient with neurological involvement. Emphasizes the functional approach to patient treatment including use of Neurodevelopmental Treatment (NDT) and Proprioceptive Neuromuscular Facilitation (PNF) for adults with neurological conditions such as traumatic brain injury and cerebrovascular accidents.

Prerequisites:.....PTA 118, 119, 142, and 225

## **PTA-264: Rehabilitation of Neurological Conditions II**

Credit Hours:.....4.00  
Contact Hours:.....3.87

Applies techniques learned in PTA 262 with an emphasis on the functional approach to patient treatment. Includes the use of Neurodevelopmental Treatment (NDT) and Proprioceptive Neuromuscular Facilitation (PNF) for adults with neurological conditions such as traumatic brain injury and cerebrovascular accidents. Guided laboratory setting.

Prerequisites:..... PTA 142, PTA 118, PTA 119, PTA 225

**PTA-270: Physical Therapist Assistant Seminar**

Credit Hours:..... 1.00

Contact Hours:..... 1.00

Integrates classroom and clinical experiences in order to review and reinforce clinical skills, medical terminology, and effective communication skills.

Prerequisites:..... PTA 250, 254, 262, 264, and 291

**PTA-291: Clinical Externship I**

Credit Hours:..... 2.00

Contact Hours:..... 8.00

A part-time supervised clinical practicum at affiliated physical therapy departments. Students participate in patient treatment under the delegation and supervision of a licensed physical therapist. Students begin to integrate information from all previous course work to assist in those delegated components of patient care.

Prerequisites:..... PTA 142, PTA 225, PTA 118, PTA 119

**PTA-295: Clinical Externship II**

Credit Hours:..... 9.00

Contact Hours:..... 37.20

A full-time supervised clinical practicum at affiliated physical therapy departments. Students participate in patient treatment under the delegation and supervision of a licensed physical therapist. Students integrate classroom knowledge and laboratory experience to achieve the competencies of an entry-level physical therapist assistant as outlined by the American Physical Therapy Association (APTA).

Prerequisites:..... PTA 250, 254, 262, 264, and 291

**RAD-101: Introduction to Radiography**

Credit Hours:..... 1.00

Contact Hours:..... 1.00

This lecture course will provide the student with an overview of radiography and its role within the health care delivery system. A radiographer's responsibilities will be outlined. Students will be oriented to academic and administrative structures, key departments and personnel in diagnostic imaging and to the profession as a whole. Basic x-ray equipment design and types of diagnostic imaging examinations performed will be introduced.

Prerequisites:..... Acceptance into Radiographer Program.

**RAD-109: Clinical Education I**

Credit Hours:..... 3.00

Contact Hours:..... 23.87

This is an introductory, structured, competency based clinical course designed in concert with ASRT curriculum and ARRT competencies. Course offers experiences in chart recognition, basic patient assessment, patient communication, and basic departmental procedures and policies. Equipment manipulation, chest, abdomen, and upper extremity radiographic positioning are emphasized.

Prerequisites:..... Acceptance into Radiographer Program

**RAD-111: Principles of Radiation Protection**

Credit Hours:..... 2.00

Contact Hours:..... 2.00

This course provides the student with an overview of the principles of radiation protection including responsibilities of the radiographer to patients, personnel, and the public. The concepts of As Low as Reasonably Achievable, stochastic and nonstochastic effects, and occupational effective dose limits are addressed. Regulatory agencies will be identified and their involvement in radiation protection will be discussed.

Prerequisites:..... Acceptance into Radiographer Program.



# Courses



### **RAD-114: Basic Patient Care in Radiography**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

This course is designed to introduce the basic concepts of patient care including patient interactions, body mechanics, patient transfer techniques, vital signs, infection control, emergency situations, age specific care, oxygen administration, basic pharmacology and venipuncture.

Prerequisites:..... Acceptance into Radiographer Program

### **RAD-118: Radiographic Positioning**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00

This lecture/laboratory course is one of a five course curriculum in radiographic positioning and procedures. This course introduces fundamental radiology positioning terminology and provides instruction in standard imaging procedures for chest, abdomen, and upper extremity. Positioning skills will be practiced and reinforced through laboratory assignments. Consideration is given to the evaluation of optimal diagnostic images.

Prerequisites:..... Acceptance into Radiographer Program

### **RAD-158: Radiographic Positioning II**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 4.00

This lecture/laboratory course is one of a five course curriculum in radiographic positioning and procedures. This course provides instruction in standard imaging procedures for shoulder girdle, lower extremity, and pelvic girdle. Positioning skills will be practiced and reinforced through laboratory assignments. Consideration is given to the evaluation of optimal diagnostic images.

Prerequisites:RAD 101, RAD 109, RAD 111, RAD 114, and RAD 118

### **RAD-161: Imaging Equipment**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00

This course focuses upon the equipment routinely utilized to produce diagnostic images. The major emphasis will be on the construction and operation of the diagnostic x-ray tube, digital imaging systems, and fluoroscopic imaging systems. Basic principles of advanced imaging equipment such as CT and MRI are introduced.

Prerequisites:RAD 101, RAD 109, RAD 111, RAD 114, and RAD 118

### **RAD-171: Principles of Exposure**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

This lecture/lab course focuses upon the factors that govern and influence the production of quality radiographic images. The course details the main properties of radiographic density/brightness, contrast, recorded detail/spatial resolution and distortion. Exposure calculations will be introduced.

Prerequisites:. RAD 101, RAD 109, RAD 111, RAD 114 and RAD 118

### **RAD-181: Contrast Studies**

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Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00

This course is one in a series of five courses in radiographic positioning and procedures. The course provides instruction in standard imaging procedures for contrast studies of the digestive and the genitourinary tracts. Consideration is given to special radiographic contrast studies. Consideration is also given to the evaluation of optimal diagnostic images.

Prerequisites:. RAD 101, RAD 109, RAD 111, RAD 114 and RAD 118

**RAD-188: Radiographic Positioning III**

Credit Hours:.....2.50  
Contact Hours:.....2.43

This lecture/laboratory course is one of a five course curriculum in radiographic positioning and procedures. This course provides instruction in standard imaging procedures for the vertebral column and the bony thorax. Positioning skills will be practiced and reinforced through laboratory assignments. Consideration is given to the evaluation of optimal diagnostic images.

Prerequisites: RAD 158, RAD 161, RAD 171, RAD 181, RAD 284 and RAD 190

**RAD-190: Clinical Education II**

Credit Hours:.....3.00  
Contact Hours:.....23.87

This is second in a sequence of structured, competency based clinical courses in concert with ASRT curriculum and ASRT competencies. Course offers experiences in chart recognition, basic patient assessment, patient communication, and basic departmental procedures and policies. Equipment manipulation, chest, abdomen, upper extremity, lower extremity and shoulder girdle radiographic positioning are emphasized.

Prerequisites:.....RAD 109

**RAD-194: Clinical Education III**

Credit Hours:.....1.00  
Contact Hours:.....1.00

This is third in a sequence of structured, competency based clinical courses in concert with ASRT curriculum and ARRT competencies. Course offers experiences in chart recognition, intermediate patient assessment, patient communication, equipment manipulation. Chest, abdomen, upper extremity, lower extremity, pelvis, shoulder, spine, and bony thorax radiographic positioning are emphasized.

Prerequisites:.....RAD 190

**RAD-195: Basic Clinical Education**

Credit Hours:.....1.50  
Contact Hours:.....11.07

A third course in a sequence of structured, competency based, clinical courses offering experiences in chart recognition, patient assessment, patient communication, equipment manipulation, and chest, abdomen, lower extremity, upper extremity, shoulder, and pelvis radiographic positioning.

Prerequisites:.....RAD 190

**RAD-209: Clinical Education V**

Credit Hours:.....3.00  
Contact Hours:.....23.87

This is fifth in a sequence of structured, competency based clinical courses in concert with ASRT curriculum and ARRT competencies. Course emphasizes on increasing technical proficiency in all previously covered radiographic procedures and introduces skull, facial bones, nasal bones, and sinuses. Experience in pediatric radiography is offered.

Prerequisites:.....RAD 198

**RAD-214: Pathology and Cross Sectional Anatomy**

Credit Hours:.....2.00  
Contact Hours:.....2.00

This course is designed to introduce concepts related to disease and etiological considerations with emphasis on radiographic appearance of disease and impact on exposure factor selection. The course is designed to establish a knowledge base in basic cross sectional anatomy of head, neck, thorax, and abdomen.

Prerequisites:.....RAD 188

# Courses



## **RAD-228: Radiographic Procedures**

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Credit Hours:.....3.00

Contact Hours:.....4.00

This lecture/laboratory course is one of a four course curriculum in radiographic positioning and procedures. Course provides instruction in standard imaging procedures for the vertebral column, bony thorax, skull, facial bones, and sinuses. Positioning skills will be practiced and reinforced through laboratory assignments. Consideration is given to the evaluation of optimal diagnostic images.

Prerequisites:.....RAD 158

## **RAD-267: Radiation Physics**

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Credit Hours:.....4.00

Contact Hours:.....4.00

This lecture course focuses upon fundamental physics for radiologic technology including electrostatics, electrostatics, electromagnetic induction, fundamentals of x-ray generating equipment, x-ray production, and beam characteristics. X-ray photon interactions with matter will be reviewed.

Prerequisites:.....RAD 111, RAD 161, RAD 171 and RAD 198

## **RAD-270: Image Acquisition and Display**

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Credit Hours:.....3.00

Contact Hours:.....3.00

This course imparts a historical overview of the film-screen image production process. This course imparts an understanding of the components, principles, and operation of digital imaging systems found in diagnostic radiology. Factors that impact image acquisition, display, archiving, and retrieval are discussed. Principles of digital system quality assurance and maintenance are presented.

Prerequisites:.....RAD 171

## **RAD-274: Principles of Radiation Biology**

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Credit Hours:.....2.00

Contact Hours:.....2.00

This lecture course provides an overview of the principles of the interaction of radiation with living systems. Radiation effects on molecules, cells, tissues, and the body as a whole are presented. Factors affecting biological response to radiation exposure are presented, including acute and chronic effects.

Prerequisites:..... RAD 214, RAD 227, and RAD 267

## **RAD-284: Principles of Computed Tomography**

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Credit Hours:.....1.00

Contact Hours:.....1.00

This online course provides entry level radiography students with principles related to computed tomography (CT) imaging.

Prerequisites:..... RAD 101, RAD 109, RAD 111, RAD 114, and RAD 118

## **RAD-286: Registry Review**

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Credit Hours:.....2.00

Contact Hours:.....2.00

This course provides a comprehensive review designed to prepare radiologic technology students for the American Registry of Radiologic Technologists (ARRT) certification examination. An orderly review based on the ARRT radiography content specifications is presented. Test preparation and test-taking strategies are also discussed.

Prerequisites:..... All previous RAD program courses

**RAD-290: Advanced Clinical Education**

Credit Hours:.....3.00  
Contact Hours:.....23.87

This is sixth in a sequence of structured, competency based clinical courses in concert with ASRT curriculum and ARRT competencies. Course emphasizes on headwork including skull, facial bones, paranasal sinuses, and increasing technical proficiency in all previously covered radiographic procedures. Students will continue to develop trauma radiography skills and advanced mobile radiography skills.

Prerequisites:.....RAD 209

**RAD-296: Clinical Education VII**

Credit Hours:.....1.50  
Contact Hours:.....11.07

This is seventh in a sequence of structured, competency based clinical courses emphasizing final mastery of all aspects of professional, entry level radiologic technology. Structured clinical experiences are offered in selected specialty rotations which may include Ultrasound, Computed Tomography, Magnetic Resonance Imaging, Radiation Therapy, Mammography, and Positron Emission Tomography.

Prerequisites:.....RAD 290

**REEN-101 : Survey of Renewable Energy Sources**

Credit Hours:.....2.00  
Contact Hours:.....2.00

Examines renewable energy sources that are available today and explores sources which are predicted to become available in the near future. Topics include solar and photovoltaic systems, geothermal systems, wind systems, energy from bio-mass, and fuel cell systems. Explains how these systems function technically and discusses how they will affect the environment and the economy. Includes laboratory activities and performance exercises.

Prerequisites:.....None

**REEN-110: Geothermal Systems and Water Furnace Technology**

Credit Hours:.....2.00  
Contact Hours:.....2.00

Introduces the topic of geothermal energy, identifies geothermal energy sources, and provides an overview of how geothermal energy is used. Emphasizes residential heating using ground source heat pump technology. Covers the installation of a geothermal furnace in a residential application including an initial survey of the home and property, sizing of the unit, and the choice of the type of loop system to use. Also covers installation and maintenance of a geothermal heating system. Access to a working water furnace system and to on campus geothermal wells is available for laboratory activities.

Prerequisites:.....None

**REEN-120 : Wind, Solar, and Fuel Cell Technology**

Credit Hours:.....2.00  
Contact Hours:.....2.00

Explores the theory of operation and the practical applications of solar thermal, solar photovoltaic, wind turbine, and fuel cell technologies. Discusses the benefits and drawbacks of alternative energy installations, the technical components of each system, and accommodating siting requirements for each type of installation. Principles of energy conversion, energy efficiency, and energy storage are also addressed.

Prerequisites:.....None

**REEN-130: Smart Home Control Technology**

Credit Hours:.....2.00  
Contact Hours:.....2.00

Examines both the advantages and the drawbacks of using smart home technology. Explores all of the options currently available in the different types of systems and technologies. Topics discussed include the economics of smart home technology, smart home technology and conservation of energy, and how smart home technology can improve standards of living. Demonstrations of the technology and laboratory exercises are included.

Prerequisites:.....None

# Courses



### **REEN-140: Cogeneration and Backup Power**

Credit Hours:.....2.00  
Contact Hours:.....2.00

Introduces the topics of cogeneration and backup power for use in a residence or business. Explores the various types of both backup power units and uninterruptible power units available today. Addresses site survey, planning, cost, and the installation and maintenance of the units.

Prerequisites:.....None

### **REEN-160: Energy Auditing/Weatherization**

Credit Hours:.....3.00  
Contact Hours:.....3.00

For students seeking to become BPI certified residential energy auditors or to understand the principles of energy auditing. Includes training in the principles of energy transfer, building envelopes, energy auditing, air leakage, insulation, windows and doors, heating systems, cooling systems, indoor air quality, lighting, appliances, and water heating. Students will gain the skills required to perform building inspections and make cost effective recommendations for improving energy efficiency. At the conclusion of this class students will be able to sit for the Building Performance Institute (BPI) theory written test for Building Analyst certification. REEN 161 is the next class for BPI preparation and field certification class. The candidate must pass the REEN 160 class (first twelve weeks of one semester) and BPI written theory test to proceed to REEN 161 (last four weeks of the same semester). Recommend co-requisite of REEN 161.

Prerequisites:.....None

### **REEN-161: Energy Auditing/Weatherization Certification Lab**

Credit Hours:.....1.00  
Contact Hours:.....1.00

This certification lab class allows students to apply in the field the concepts introduced in REEN 160. Discusses industry-defined standards, basic energy efficiency improvements, how to evaluate energy consumption, and how to calculate energy costs. Other topics include how to use industry tools to measure energy consumption in residential settings and preparation for the Building Performance Institute (BPI) Building Analyst field exam. Along with a written exam, a field exam enables students to complete the BPI certification process. It is strongly recommended that a student pass REEN 160 and the BPI written theory test before taking REEN 161.

Prerequisites:.....REEN 160

### **REEN-170: Battery Technologies**

Credit Hours:.....3.00  
Contact Hours:.....3.00

Covers the development of battery technology over the years. Focuses on applications of emerging technology. Topics include, but are not limited to, battery construction, cell characteristics, electric data, energy density, capacity retention, and cycle life of batteries. Also includes fundamental formulations and design aspects in secondary batteries used in electric propulsion. Provides overview of battery technology including acid, nickel metal hydride, and lithium ion cells with their applications for use in hybrid and electric vehicles. Discusses how to evaluate storage battery technologies, simple voltaic cells with aqueous electrolytes, primary non-rechargeable batteries, and secondary rechargeable batteries. Course work examines developments in stationary and new propulsion systems for hybrid, plug-in hybrid, and electric vehicles.

Prerequisites:.....None

**REEN-180: Hydropower**

Credit Hours: .....2.00  
Contact Hours: .....2.00

Examines hydropower as a major component of the world renewable energy mix. Provides a comprehensive overview of the technical application and social, economic, and environmental implications of hydropower as a method of energy generation. Topics include hydropower plant types, development of new hydropower facilities, retrofitting obsolete power stations, and the role of small scale hydropower.

Prerequisites:.....None

**RTH-100: Principles of Respiratory Care**

Credit Hours: .....3.00  
Contact Hours: .....3.00

An in-depth study of the cardiopulmonary system from fetal development through old age in health and disease. Topics include Respiratory Care history, cardiopulmonary anatomy and physiology, the effects of aging on the pulmonary system, basic pulmonary assessment and an introduction to basic pulmonary diseases

Prerequisites:..... Admission to the Respiratory Therapist Program

**RTH-125: Respiratory Care Procedures I**

Credit Hours: .....5.00  
Contact Hours: .....5.00

This course provides instruction in beginning therapeutic procedures utilized by the respiratory therapist. Course content includes basic patient and pulmonary assessment, pulse oximetry, basic gas laws, medical gas administration, oxygen therapy delivery systems, and lung expansion techniques. Students practice these procedures in a guided laboratory setting. Course includes 2 hours of lecture and 3 hours of lab each week.

Prerequisites:..... Admission to the Respiratory Therapist Program

**RTH-160: Respiratory Therapy Pharmacology**

Credit Hours: .....2.00  
Contact Hours: .....2.00

This course focuses on the appropriate and effective administration of respiratory care medications, including an overview of pharmacology, terminology, routes, techniques of administration, and calculation of dosages. The NAEPP Guidelines for Asthma Management are emphasized.

Prerequisites:..... RTH 100 and RTH 125 both with a C or better

**RTH-175: Respiratory Care Procedures II**

Credit Hours: .....5.00  
Contact Hours: .....5.00

This course provides instruction in therapeutic procedures utilized by the respiratory therapist. Course content includes airway care, emergency life support, bronchial hygiene therapy, and lung expansion therapy. Students practice these procedures in a guided laboratory setting. Course includes 3 hours of lecture and 2 hours of lab each week.

Prerequisites:..... RTH 100 and RTH 125 both with a C or better

**RTH-180: RT Clinical Sciences**

Credit Hours: .....3.00  
Contact Hours: .....3.00

This course focuses on the clinical application of science to the practice of respiratory care. Topics include oxygenation, acid-base balance, ventilation in health and disease, basic microbiology, common microbial pathogens seen with pulmonary infection and the physical principles of spontaneous and mechanical ventilation. Emphasis is placed on blood gas interpretation, capnography, arterial puncture techniques, and disinfection and sterilization of respiratory care equipment.

Prerequisites:..... RTH 100 and RTH 125 both with a C or better

# Courses



## **RTH-195: Introduction to Clinical Therapeutics**

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Credit Hours: ..... 1.50

Contact Hours: ..... 3.73

Selected experience in health care facilities for clinical practice with oxygen delivery systems and basic patient assessment techniques.

Prerequisites: RTH 100 and RTH 125 both with a grade of C or better

## **RTH-210: Ventilator Management I**

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Credit Hours: ..... 4.00

Contact Hours: ..... 3.87

A study of the theories, techniques, and equipment involved in the initiation, maintenance, and discontinuation of mechanical ventilation in the adult patient. Laboratory experiences with a variety of adult mechanical ventilators.

Prerequisites:.....RTH 160, RTH 175, RTH 195 all with a C or better

## **RTH-220: Respiratory Care in Neonates and Pediatrics**

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Credit Hours: ..... 1.50

Contact Hours: ..... 1.47

Introduces the principles of respiratory care for the neonatal or pediatric patient with cardiopulmonary disease or abnormalities. Covers anatomy, physiology, pathophysiology, and assessment of the neonatal and pediatric patient with cardiopulmonary abnormalities and diseases. Offered as an eight-week course.

Prerequisites:..... RTH 210 and RTH 293 both with a C grade or better

## **RTH-240: Cardiopulmonary Diagnostics**

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Credit Hours: ..... 1.50

Contact Hours: ..... 1.47

This course discusses basic pulmonary function testing and electrocardiographic testing. Basic theory and techniques for testing are covered. Students are expected to perform and evaluate these tests for use by the physician. This course is offered as an eight-week course.

Prerequisites:..BIO 234 with a grade of C or better, and approval from the Program Director

## **RTH-250: Advanced Mechanical Ventilation**

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Credit Hours: ..... 4.00

Contact Hours: ..... 6.27

Emphasizes the assessment and management of respiratory care patients. Students apply techniques and concepts to treat patients with disease states seen in the critical care areas. This lecture/lab course includes advanced mechanical ventilatory techniques for premature neonates through adults. Participants develop treatment plans utilizing patient-driven protocols.

Prerequisites:..... RTH 210 and RTH 293 both with a C grade or better

## **RTH-270: Therapeutic Clinical Management**

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Credit Hours: ..... 2.00

Contact Hours: ..... 2.00

This course provides the student an opportunity to apply in simulated settings concepts learned throughout the respiratory therapist program. Students spend time working on computerized clinical case study simulations, selecting appropriate patient information, and managing patients

Prerequisites:...RTH 220, RTH 240, RTH 250, and RTH 292 all with a grade of C or better

**RTH-285: Advanced Respiratory Concepts**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

A study of the current theory and techniques encountered by the respiratory therapist in a variety of clinical settings. Emphasis is placed on advanced ventilator applications, advanced cardiopulmonary monitoring, pulmonary rehabilitation, smoking cessation and the respiratory care professional's dynamic role in the health care setting.

Prerequisites:..... RTH 220, RTH 240, RTH 250, and RTH 292 with a C or better

**RTH-292: Clinical Practicum**

Credit Hours: ..... 5.00  
Contact Hours: ..... 15.87

Directed clinical experience that develops therapeutic clinical skills for critical care areas and diagnostic labs. Emphasis is on assessing needs, designing care plans, and implementing and evaluating the procedures especially for mechanical ventilator support and systemic oxygenation. Fifteen hours per week.

Prerequisites:..... RTH 210 and RTH 293 both with a C or better

**RTH-293: Advanced Clinical Therapy**

Credit Hours: ..... 3.00  
Contact Hours: ..... 9.47

Development of the clinical skills related to airway management, bronchial hygiene, resuscitation procedures, and oxygenation. Students evaluate, modify, and monitor patients' responses to respiratory care regimens. A seven-week directed clinical experience that includes 16 hours per week in selected clinical sites.

Prerequisites:..... RTH 160, RTH 175, RTH 180, and RTH 195 - all courses with a grade of "C" or better.

**RTH-294: Advanced Clinical Practicum**

Credit Hours: ..... 8.00  
Contact Hours: ..... 23.87

Directed clinical experience that further develops the clinical skills and techniques used to manage patients requiring mechanical ventilator support in the hospital, sub-acute and home care settings. Twenty-four hours per week.

Prerequisites:.... RTH 220, RTH 240, RTH 250, and RTH 292 all with a C or better

**SCI-131: Revolutions in Science**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Explores the development of modern Western science from its origins in the ancient world to the present day. Explores major scientific theories through the study of selected original writings in translation as well as modern commentaries.

Prerequisites:..... Completion of ENG 081 or higher, or a test score that allows placement in ENG 131. A previous college-level science course is recommended.

**SCI-160: Science Laboratory Workplace Skills**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

SCI 160 helps students gain skills required of laboratory science professionals in the workplace. Course topics include standard laboratory procedures and calculations, laboratory safety, communication skills, professional behavior and employment skills, laboratory record-keeping, quality control/quality assurance, regulatory issues, specimen handling and storage, and critical thinking and problem solving in the laboratory. It will also introduce students to the research and manufacturing facets of the laboratory science industry. This course is designed to satisfy the requirements of the Biotechnology Program. Three hours of integrated lecture and laboratory per week.

Prerequisites:.... Completion of one college-level science course with a laboratory component with a grade of C or better, and completion of MATH 080/089 (or higher) with a grade of C or better OR equivalent score on the math placement test



# Courses



## **SCI-190: Co-op in Science**

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Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a "co-op," provides academic credit for structured employment experience. Work experience must be directly related to the student's declared major to be eligible.

To register for this course, a student must have completed 50% of core coursework, maintain an overall GPA of 2.0 and a program specific GPA of 2.5.

Prerequisites:.....Permission from Career Services Officer or Job Developer in the Office of Career Services

## **SCI-210: Introduction to Science for Elementary Educators**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

Introduces students to a broad overview of both science instruction and the process of science. Students will investigate, discuss and design experiments using the group inquiry method of instruction. This is the first science course in a sequence intended for pre-service elementary school education majors.

Prerequisites:.....None

## **SCI-212: Earth Science for Educators**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

An inquiry-based course covering topics in the earth sciences - geology, meteorology, and astronomy. Course content is designed to give students a thorough familiarity with concepts critical to teaching earth science at the K-12 level. The course emphasizes three skills: investigation, critical thinking, and organization. Learning is primarily through student inquiry and discovery of core concepts, with guidance and facilitation provided by the instructor. Two combined classroom/lab sessions per week. SCI 210 is a recommended, but not required, pre-requisite.

Prerequisites:.....MATH 080

## **SCI-213: Learning by Inquiry: Life Science**

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Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

Provides pre-service elementary and middle school teachers with the necessary tools, knowledge, and motivation to teach basic biological concepts. Topics include how to integrate major biological themes, and how the topics covered in the course fulfill the National Science Education Standards. At least one field trip is required. Students will use inquiry-based learning.

Prerequisites:.....None

## **SCI-290: Co-op in Science**

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Credit Hours: ..... 2.00

Contact Hours: ..... 9.87

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a "co-op," provides academic credit for structured employment experience. Work experience must be directly related to the student's declared major to be eligible.

To register for this course, a student must have completed 50% of core coursework, maintain an overall GPA of 2.0 and a program specific GPA of 2.5.

Prerequisites:.....Permission from Career Services Officer or Job Developer in the Office of Career Services

## **SCO-190: Co-op in Science**

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Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a "co-op," provides academic credit for structured employment experience. Work experience must be directly related to the student's declared major to be eligible.

Prerequisites:.....Permission from Career Services Officer or Job Developer in the Office of Career Services

**SCO-290: Co-op in Science**

Credit Hours: .....2.00  
Contact Hours: .....4.87

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a "co-op," provides academic credit for structured employment experience. Work experience must be directly related to the student's declared major to be eligible.

Prerequisites:.....Permission from Career Services Officer or Job Developer in the Office of Career Services

**SOC-100: Introduction to Community Leadership**

Credit Hours: .....2.00  
Contact Hours: .....2.00

Introduces the foundations of community organizations and the social history of metro Detroit since 1950.

Prerequisites:.....ENG 081 and 093 eligible

**SOC-102: Foundations of Community Leadership**

Credit Hours: .....3.00  
Contact Hours: .....3.00

Focuses on the history of community organizing, development, and change, including the history of Detroit and its cultural and racial diversity. Presents models of community organizing including social action, grass roots empowerment, leadership development, team building, and advocacy.

Prerequisites:.....SOC 100 or POLS 100

**SOC-131: Introduction to Sociology**

Credit Hours: .....3.00  
Contact Hours: .....3.00

Introduces the sociological approach to understanding culture and society. Examines human behavior in a group context, focusing on the prominent influence of culture and social structure on individuals. Connections between individuals and a variety of social institutions, such as the economy, government, and mass media, are examined and compared in U.S. society and on a global scale. Focuses on cultural diversity and social inequalities, such as those related to class, race, ethnicity and gender.

Prerequisites:.....None

**SOC-132: Marriage and the Family**

Credit Hours: .....3.00  
Contact Hours: .....3.00

Examines how to become more aware of the personal decisions one makes in life and of the cultural influences affecting decisions relating to family situations. Areas of discussion include definitions of marriage and the family, married partners as individuals, becoming partners, experiencing family commitment, changing commitments, and cross-cultural comparisons.

Prerequisites:.....ENG 079 eligible

**SOC-151: Contemporary Social Problems**

Credit Hours: .....3.00  
Contact Hours: .....3.00

Focuses on current social problems and issues facing American society. Students investigate a series of important problems, including poverty, urban decline, family instability, crime and discrimination, by using a sociological perspective. The primary goals of this course are increasing student awareness of the causes of social problems and investigating possible solutions.

Prerequisites:.....SOC 131

# Courses



## **SOC-152: Women, Men, and Society**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Discusses how to use a sociological approach to investigate sex-related issues, such as changing gender roles, sex discrimination, sexual harassment, homophobia, gender-related violence, reproductive rights, and child custody. Emphasizes how and why everyday experiences of women and men can differ significantly in such areas as employment, education, politics, law, medical care, sexuality, and domestic life.

Prerequisites: ..... ENG 079 eligible

## **SOC-251: Ethnic and Racial Diversity in Society**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Introduces the sociological study of ethnic and racial groups. Explores key concepts and issues in connection with definitions of race and ethnicity, immigration, patterns of group inequality and domination, discrimination, and prejudice. Focuses on the diversity of U.S. society and explores the experiences of Native Americans and immigrant groups, including those from Africa, Asia, and Europe. Examines current patterns and consequences of immigration as well as ethnic and racial diversity in other societies.

Prerequisites: ..... SOC 131

## **SOC-253: Sociology of Deviance**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Explores how one becomes deviant, the social construction of deviant behavior, the impact of societal responses to deviance, and processes used to control deviant behavior. Offers a wide range of perspectives and theoretical formulations to explain the onset, persistence, and desistence of deviance. Also discusses both formal and informal responses to deviant behaviors including criminalization and stigmatization, and their cross-cultural variation. Additionally, course examines particular forms of deviance including homicide, domestic violence, mental illness, alcohol and drug abuse, sexual deviance, property and white collar/organized crimes.

Prerequisites: ..... SOC 131

## **SOC-254: Social Psychology**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Introduces the social forces affecting people's lives and how people affect their group. Examines three areas of behavior resulting from intentional influence, membership in a group, and social interaction. Also explores self-perception, behavior and attitude, attraction, aggression, altruism, and group processes. May be taken for credit in either psychology or sociology but not both.

Prerequisites: ..... PSY 131 and SOC 131 or Instructor permission

## **SOC-295: Community Leadership Internship**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

The Community Leadership Internship provides students with training opportunities with local community organizations. Students engage directly with community organizations with experiences with data collection, facilitating meetings, recruiting new members, fund raising, and project management.

Prerequisites: ..... SOC 102 or POLS 102

## **SPC-131: Fundamentals of Speaking**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Explores how to develop oral communication skills through practice in extemporaneous speaking.

Prerequisites: ..... None

**SPC-145: Interpersonal Communication**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Explores the process of communication between individuals in relatively informal, face-to-face situations that occur in family, social, and work groups.

Prerequisites: ..... None

**SPN-131: Elementary Spanish I**

Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

Introduces the basic skills of reading, writing, speaking, and listening in Spanish within communicative contexts. Covers the elementary pronunciation and grammatical principles necessary for comprehending and expressing simple ideas in both spoken and written Spanish. Also presents Hispanic culture. Note: A "C-" grade is not transferrable and is not accepted by some programs at HFC.

Prerequisites: ..... None

**SPN-132: Elementary Spanish II**

Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

SPN 132 further builds reading, writing, speaking, and listening skills in Spanish, focusing on communication in a cultural context. Students continue to expand their knowledge of vocabulary, pronunciation and grammatical principles in order to comprehend and express everyday ideas in both spoken and written Spanish.

Prerequisites: ..... C grade or better in SPN 131 or in one year of high school Spanish, or instructor permission

**SPN-141: Elementary Spanish Conversation**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Conducted almost entirely in Spanish and is designed for students wishing to expand their active vocabulary and improve their facility in speaking and listening. Class discussions are based on assigned readings, student reports, and current events. Course is transferable but is not a substitute for a basic language requirement. May be taken concurrently with Spanish 132, 231 or 232.

Prerequisites: A grade of C or better in SPN 131 or in one year of high school Spanish, or Instructor permission

**SPN-231: Second-Year Spanish III**

Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

SPN 231 follows SPN 132 and is the first of two intermediate-level Spanish courses focusing on communication in a cultural context. Students continue to develop their reading, writing, speaking, and listening skills in Spanish, expand their vocabulary, and deepen their knowledge of pronunciation and grammatical principles in order to comprehend and express essential ideas in both spoken and written Spanish.

Prerequisites: ..... A grade of C or better in SPN 132 or in two years of high school Spanish, or instructor permission

**SPN-232: Second-Year Spanish IV**

Credit Hours: ..... 4.00

Contact Hours: ..... 4.00

SPN 232, fourth-semester Spanish, is a continuation of SPN 231, focusing on communication skills in a cultural context. It continues to develop reading, writing, speaking, and listening skills and to deepen students' knowledge of pronunciation and grammatical principles. Topics of Hispanic culture will also be presented. A variety of technologies, media, and other supplementary materials will be used to enhance learning.

Prerequisites: ..... A grade of C or better in SPN 231 or in three years of high school Spanish, or permission of instructor

# Courses



## **SPN-295: Directed Study in Spanish**

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Credit Hours:.....1.00

Contact Hours:.....1.00

SPN 295 allows advanced study under the direction of a member of the English and World Languages Division faculty. This course may be taken only after consultation with the instructor to determine the course content (a topic of special interest in the area of Hispanic language, literature, or culture) and the credit hours appropriate for the chosen project. This class may be repeated once for credit.

Prerequisites:.... A grade of C or better in SPN 131, 132, 231, or 232 or equivalent

## **SPN-296: Directed Study in Spanish**

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Credit Hours:.....2.00

Contact Hours:.....0.87

SPN 296 allows advanced study under the direction of a member of the English and World Languages Division faculty. This course may be taken only after consultation with the instructor to determine the course content (a topic of special interest in the area of Hispanic language, literature, or culture) and the credit hours appropriate for the chosen project. This class may be repeated once for credit.

Prerequisites:.... A grade of C or better in SPN 131, 132, 231, or 232 or equivalent

## **SPN-297: Directed Study in Spanish**

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Credit Hours:.....3.00

Contact Hours:.....0.87

SPN 297 allows advanced study under the direction of a member of the English and World Languages Division faculty. This course may be taken only after consultation with the instructor to determine the course content (a topic of special interest in the area of Hispanic language, literature, or culture) and the credit hours appropriate for the chosen project. This class may be repeated once for credit.

Prerequisites:.... A grade of C or better in SPN 131, 132, 231, or 232 or equivalent

## **SRG-101: Introduction to Surgical Technology**

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Credit Hours:.....4.00

Contact Hours:.....4.00

The course introduces the fundamentals of operating room techniques, emphasizing principles and practices of asepsis and sterilization. Physical and psychosocial aspects of the patient are explored. Included are the roles and responsibilities of the surgical technologist and other surgical team members; accountability and legal aspects; identification of common equipment, instruments, and supplies; students practice scrubbing, gowning, and gloving. Selected laboratory practice and one OR observation required.

Prerequisites:..... BIO 135 & Acceptance into the SRG Program

## **SRG-120: Surgical Procedures I**

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Credit Hours:.....4.00

Contact Hours:.....4.00

A lecture/laboratory course designed to continue to develop the concepts from SRG 101. It features the theory and practice for general, gynecology, genitourinary, orthopedic, otorhinolaryngology, and endoscopy surgical procedures. The course also emphasizes the scheme or steps as well as the instrumentation of these surgical interventions. One or two half day OR observations are required.

Prerequisites:..... SRG 101, BIO 135, BIO 233, AH 100

## **SRG-140: Surgical Techniques I**

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Credit Hours:.....2.00

Contact Hours:.....2.00

A laboratory course designed to develop basic aseptic and sterile techniques used in the perioperative care of the surgical patient. This course focuses on the surgical scrub, gowning and gloving, setting up a sterile field, draping, handling of surgical instruments, and surgical counts. Students practice techniques in a guided lab setting.

Prerequisites:.....SRG 101, AH 100, BIO 135, BIO 233

**SRG-150: Surgical Techniques II**

Credit Hours:.....2.00  
Contact Hours:.....2.00

A laboratory course designed to prepare students for clinical externship. Students will continue to practice aseptic and sterile techniques used in the perioperative care of the surgical patient. This course focuses on skills developed in SRG 140 and incorporates "mock surgery" and advanced clinical skills in a lab setting. Students practice techniques in a guided lab setting.

Prerequisites:.....SRG 140

**SRG-160: Surgical Pharmacology**

Credit Hours:.....3.00  
Contact Hours:.....3.00

A study of medications used in the operating room with an emphasis on the common drugs used in the surgical area. This course examines the administration, actions, interactions, side effects, and terminology of perioperative medications. Included are legal responsibilities of the surgical technologist and common calculations performed in a sterile field. The student must present two reports as well as complete a term paper.

Prerequisites:.....SRG 101, BIO 233, BIO 135, AH 100

**SRG-209: Surgical Externship I**

Credit Hours:.....5.00  
Contact Hours:.....15.87

A clinical practicum further developing concepts presented in previous SRG courses. Students are assigned to an affiliate agency where they actively participate as members of the surgical team, developing skills necessary to "scrub" and assisting in "circulating" during surgical procedures under supervision. Sixteen hours per week.

Prerequisites:.....SRG 150

**SRG-220: Surgical Procedures II**

Credit Hours:.....4.00  
Contact Hours:.....4.00

This course is designed to further develop the student's knowledge of the theory and practice of surgical procedures. Focuses in this segment are cardiovascular, thoracic, neurologic, oral, ophthalmic, plastic and reconstruction, pediatric, and geriatric surgical procedures.

Prerequisites:.....SRG 150

**SRG-240: Issues in Surgical Technology**

Credit Hours:.....4.00  
Contact Hours:.....4.00

Students will identify and discuss advanced surgical procedures focusing upon trauma, transplants, major orthopedic procedures, and the basic principles in the application of robotics in surgery. Electrical elements/concerns in the operating room will be discussed. All-Hazard Preparation will be discussed. The course will also emphasize the elements of professional development including professional organizations, leadership, teamwork, certification and continuing education. Students will discuss the role of the AST and its impact upon careers in surgical technology. Employability skills will be reviewed and applied. Students will be introduced to techniques and exercises in preparation for the national Certified Surgical Technologist (CST) exam. Written and oral presentations by the students are key elements of this course. NOTE: All students will be required to sit for the NBSTSA - CST exam as part of this course.

Prerequisites:.....SRG 220, SRG 209

**SRG-290: Clinical Externship II**

Credit Hours:.....8.00  
Contact Hours:.....23.87

A practicum that further develops clinical proficiency. Students are assigned to an affiliated agency where they practice skills related to surgical techniques and principles. They participate as members of the surgical team, developing skills necessary to "scrub" and assist in "circulating" during surgical procedures. Students scrub alone on some surgical procedures. Twenty-four hours per week.

Prerequisites:.....SRG 209, SRG 220

# Courses



## **SSC-131: Survey of the Social Sciences**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Surveys the several disciplines found under the general heading of social sciences: Anthropology, Economics, Geography, Ecology and Demography, Psychology, Sociology, and Political Science. Also presents the development of each discipline and its important concepts.

Prerequisites: ..... None

## **SSC-190: Co-op in Social Science**

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Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a "co-op," provides academic credit for structured employment experience. Work experience must be directly related to the student's declared major to be eligible.

To register for this course, a student must have completed 50% of core coursework, maintain an overall GPA of 2.0 and a program specific GPA of 2.5.

Prerequisites: ..... Permission from Career Services Officer or Job Developer in the Office of Career Services

## **SSC-235: Topics in Social Science**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Provides special study about a topic in the Social Sciences. Course may be taken twice for credit, six hours maximum, but the topics must be different. Specific topics and any prerequisites are listed in the current semester's class schedule or may be obtained through the Social Science Division office.

Prerequisites: ..... ENG 131 eligible and Instructor permission

## **SSC-290: Co-op in Social Science**

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Credit Hours: ..... 2.00

Contact Hours: ..... 9.87

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a "co-op," provides academic credit for structured employment experience. Work experience must be directly related to the student's declared major to be eligible.

To register for this course, a student must have completed 50% of core coursework, maintain an overall GPA of 2.0 and a program specific GPA of 2.5.

Prerequisites: ..... Permission from Career Services Officer or Job Developer in the Office of Career Services

## **SSCO-190: Co-op in Social Science**

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Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a "co-op," provides academic credit for structured employment experience. Work experience must be directly related to the student's declared major to be eligible.

To register for this course, a student must have completed 50% of core coursework, maintain an overall GPA of 2.0 and a program specific GPA of 2.5.

Prerequisites: ..... Permission from Career Services Officer or Job Developer in the Office of Career Services

**SSCO-290: Co-op in Social Sciences**

Credit Hours: .....2.00  
Contact Hours: .....4.87

Cooperative education is a structured method of combining classroom-based education with practical work experience. A cooperative education experience, commonly known as a "co-op," provides academic credit for structured employment experience. Work experience must be directly related to the student's declared major to be eligible.

To register for this course, a student must have completed 50% of core coursework, maintain an overall GPA of 2.0 and a program specific GPA of 2.5.

Prerequisites:.....Permission from Career Services Officer or Job Developer in the Office of Career Services

**TADV-060: Basic Skills for the Skilled Trades**

Credit Hours: .....4.00  
Contact Hours: .....4.00

Provides a comprehensive review of mathematical and algebraic skills as well as knowledge of the industrial workplace in order to prepare the student for an employer-administered apprenticeship test. Includes reading comprehension, arithmetic comprehension, spatial relations, graphic arithmetic, and mechanical concepts.

Prerequisites:.....None

**TADV-100: Basic Print Reading**

Credit Hours: .....2.00  
Contact Hours: .....2.00

Discusses print reading fundamentals needed for presenting concepts and techniques to various segments of today's industry. Includes the alphabet (use) of lines; projection of various shapes and surfaces; presentation of hidden details; and methods, units of measurement, and techniques used for locating details in a variety of drawings.

Prerequisites:.....None

**TADV-120: Introduction to Fabrication**

Credit Hours: .....1.00  
Contact Hours: .....1.00

Introduces the fundamentals of basic welding and fabrication. Explores the shop environment, basic print reading, basic welding, and basic fabrication functions necessary for entry-level positions in either manufacturing or manufacturing maintenance positions. Projects include fabricating and assembling a welded project during the three 6-hour sessions.

Prerequisites:.....None

**TADV-122: Introduction to Material Handling**

Credit Hours: .....1.00  
Contact Hours: .....1.00

Introduces industrial and manufacturing material handling. Covers how to assemble a complete and operational conveyor during the three 6-hour sessions.

Prerequisites:.....None

**TADV-123: Introduction to Industrial Electrical**

Credit Hours: .....1.00  
Contact Hours: .....1.00

Explores industrial applications of electrical circuits, components, tools, and concepts to help prepare students for entry-level positions in manufacturing or manufacturing maintenance positions. Examines how to build basic industrial circuits and perform tests to understand basic electrical function and limits during the three 6-hour sessions.

Prerequisites:.....None



# Courses



### **TADV-124: Introduction to Industrial Controls**

Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00

Introduces machine control using relay logic which is a necessary skill for entry-level positions in either manufacturing or manufacturing maintenance positions. Examines the basics in electrical control hardware, electrical drawings, and control logic. Students must perform basic PLC-related functions during class sessions.

Prerequisites:.. TADV 123 or TAE Apprentice Coordinator/Instructor permission

### **TADV-125: Introduction to Integrated Manufacturing**

Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00

Introduces integrated manufacturing systems. Presents the technology associated with a complex integrated manufacturing system through working with the SMC-FMS-200. Discusses manufacturing processes of feeding, handling, verification, and loading operations.

Prerequisites:.....None

### **TADV-181: Topics in Skilled Trades**

Credit Hours: ..... 1.00  
Contact Hours: ..... 1.00

Provides specialized training and education in specific topics and concepts identified as relative to current maintenance issues. The precise topic or topics offered is identified by the Skilled Trades Apprenticeship Division faculty, STAD Steering Committee, employers with students enrolled in the STAD program, and/or other employers or individuals who have recognized a need for training. Course may be repeated for credit when different topics are offered.

Prerequisites:.....Division approval

### **TADV-182: Special Topics in Skilled Trades**

Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00

Provides specialized training and education in specific topics and concepts identified as relative to current maintenance issues. The precise topic or topics offered is identified by the Skilled Trades Apprenticeship Division faculty, STAD Steering Committee, employers with students enrolled in the STAD program, and/or other employers or individuals who have recognized a need for training. Course may be repeated for credit when different topics are offered.

Prerequisites:.....Division approval

### **TADV-283: Advanced Topics in Skilled Trades**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Provide the skilled trades community the opportunity to receive advanced specialized training and education in specific topics and concepts identified as relative to current maintenance issues. The precise topic or topics will be offered as identified by the Skilled Trades & Apprenticeship Division faculty, ST&AD Steering Committee, employers with students enrolled in the ST&AD program, and/or other employers or individuals who have recognized a need for training. Learners may repeat the course for credit when different topics are offered.

Prerequisites:.....Division approval

### **TAEL-103: DC and AC Electricity**

Credit Hours: ..... 4.00  
Contact Hours: ..... 4.00

Introduces DC and AC electrical theory, including electrical definitions, units of electrical measure, series and parallel resistive circuits, capacitance, inductance, AC voltage measurements, and AC calculations. Explores usage of meters and/or oscilloscopes.

Prerequisites:.....None

**TAEL-105: AC Theory and Equipment**

Credit Hours: .....4.00

Contact Hours: .....4.00

Examines alternating current theory. Includes right triangle trigonometry and complex numbers to facilitate the AC calculations. Discusses concepts of reactance, impedance, and power factor. Compares single phase and three phase power. Introduces single phase and three phase alternators, motors, transformers, and both heating and lighting loads.

Prerequisites:....TAE 103 or TAE Apprentice Coordinator/Instructor permission

**TAEL-106: Electronics Theory**

Credit Hours: .....4.00

Contact Hours: .....4.00

Stresses the fundamental theories of electronic components and elementary semi-conductor circuit applications. Covers power supplies, amplifiers, oscillators, and semi-conductor controls. Includes use of test equipment, including oscilloscopes and meters.

Prerequisites:....TAE 103 or TAE Apprentice Coordinator/Instructor permission

**TAEL-115: Digital Theory**

Credit Hours: .....2.00

Contact Hours: .....2.00

Covers digital theory. Introduces basic gates and logic circuits, counters, registers, timers, LED and LCD displays, arithmetic circuits, and number systems. Laboratory activities.

Prerequisites:....TAE 103 or TAE Apprentice Coordinator/Instructor permission

**TAEL-145: DC and AC Motors**

Credit Hours: .....4.00

Contact Hours: .....4.00

Covers DC and AC motor fundamentals. Includes DC generators; series, shunt, and compound DC motors; single-phase and three-phase AC induction motors; and synchronous, wound rotor, and universal motors. Compares AC alternators to DC generators.

Prerequisites:....TAE 105 or TAE Apprentice Coordinator/Instructor permission

**TAEL-150: DC Motors and Controls**

Credit Hours: .....2.00

Contact Hours: .....2.00

Introduces the theory of operation for DC motors and generators. Covers DC motor starters and control circuits. Laboratory activities.

Prerequisites:....TAE 103 or TAE Apprentice Coordinator/Instructor permission

**TAEL-200: Ladder Diagrams and Motor Controls**

Credit Hours: .....4.00

Contact Hours: .....4.00

Discusses the fundamentals of electrical ladder diagrams and motor control circuits. Covers ladder logic, labels, documentation, symbology of electrical drawings, and the use of ladder diagrams for troubleshooting. Examines several single phase control circuits, and explores how to design and draw control circuits for three-phase induction motors.

Prerequisites:....TAE 145 or TAE Apprentice Coordinator/Instructor permission

# Courses



### **TAEL-205: Industrial Electronic Controls**

Credit Hours:.....2.00  
Contact Hours:.....2.00

Offers overview of industrial electronic circuits, and electronic and electrical sensor circuits. Reviews semiconductor and digital theory, troubleshooting techniques, and electronic components including transistors, diodes, SCR=s, DIAC=s, TRIAC=s, and various IC=s. Discusses three-phase and switching power supplies, DC motor drives, AC variable frequency motor drives, resistance welding controllers, and several types of industrial instrumentation circuits.

Prerequisites:....TAEL 106 or TAE Apprentice Coordinator/Instructor permission

### **TAEL-245: Programmable Logic Controller (PLC)**

Credit Hours:.....4.00  
Contact Hours:.....4.00

Discusses Allen Bradley PLC-5/25 programmable controller system characteristics. Covers how to use the programmable controller to solve the automated control problem and how to adapt to any PLC system, regardless of the manufacturer. Major course work involves writing several PLC programs and then successfully executing the programs in a laboratory setting.

Prerequisites:....TAEL 200 or TAE Apprentice Coordinator/Instructor permission

### **TAEL-260: Automation Controls and Robotics**

Credit Hours:.....4.00  
Contact Hours:.....4.00

An advanced-level course on the programmable controller. Discusses techniques, terminology, and documentation currently used in automated manufacturing. Emphasizes how to write control specifications for laboratory automation machines and industrial robots which are then used to implement controls for non-synchronous and synchronous operation of the machines.

Prerequisites:....TAEL 245 or TAE Apprentice Coordinator/Instructor permission

### **TAEL-265: National Electrical Code**

Credit Hours:.....2.00  
Contact Hours:.....2.00

Covers how to apply the National Electrical Code as it relates to the electrician. Includes the design of electrical power systems and the factors relating to a safe and reliable installation as required by the code.

Prerequisites:.....None

### **TAEL-273: Fire Alarm Systems for Electricians**

Credit Hours:.....1.00  
Contact Hours:.....1.00

Provides an overview of fire alarm systems. Reviews fire alarm system requirements from the International Building Code and the National Fire Protection Association (NFPA) 72 Standard for fire alarm and signaling systems. Discusses the basics of detection, notification, suppression, and cabling requirements for residential and commercial applications.

Prerequisites:.....None

### **TAEL-275: Residential Wiring**

Credit Hours:.....2.00  
Contact Hours:.....2.00

Explores the fundamentals of residential wiring, especially the aspects of the National Electrical Code specifically applying to residential construction and repairs. Covers electrical supplies and hardware appropriate for residential applications, and examines residential wiring techniques.

Prerequisites:.....None

### **TAEL-276: Commercial Wiring**

Credit Hours:.....2.00  
Contact Hours:.....2.00

Covers the fundamentals of commercial wiring, especially the aspects of the National Electrical Code that specifically apply to commercial construction and repairs. Discusses electrical supplies, hardware appropriate for commercial applications, and commercial wiring techniques.

Prerequisites:.....None

**TAEL-277: Industrial Wiring**

Credit Hours: .....2.00  
 Contact Hours: .....2.00  
 Introduces the fundamentals and techniques of industrial wiring. Emphasizes aspects of the National Electrical Code specifically applying to industrial applications and repairs. Includes electrical supplies and hardware appropriate for industrial applications.  
 Prerequisites:.....None

**TAEL-279: Electrical Codes and Practices**

Credit Hours: .....2.00  
 Contact Hours: .....2.00  
 Introduces National Electric Code (NEC) requirements. Covers application of the NEC, requirements for circuit and equipment protection, grounding basics, permitted wiring methods, motor and transformer protection, and installation requirements for special equipment and occupancies.  
 Prerequisites:.....None

**TAEL-280: Low Voltage and Communication Wiring**

Credit Hours: .....2.00  
 Contact Hours: .....2.00  
 Covers installation and maintenance of signal/low voltage wiring and signal transmission, including PC board, and fiber optic repair and maintenance. Cover troubleshooting, installation procedures, and repair techniques in a lab setting. Emphasizes safety procedures and protocols.  
 Prerequisites:....TAEL 105 or TAE Apprentice Coordinator/Instructor permission

**TAEL-285: Industrial Truck Controls**

Credit Hours: .....2.00  
 Contact Hours: .....2.00  
 Explains the operation of SCR solid state truck controls to industrial truck apprentices. Reviews electrical theory, DC generators and motors, batteries and battery chargers, silicon controlled rectifier theory, SCR truck control operation, and troubleshooting techniques.  
 Prerequisites:....TAEL 103 or TAE Apprentice Coordinator/Instructor permission

**TAEL-290: High Voltage Power Distribution**

Credit Hours: .....2.00  
 Contact Hours: .....2.00  
 Covers the generation, transmission, and distribution of primary electrical power. Includes underground and overhead distribution systems, types of wire and cables, switching equipment, protective devices, test equipment, personal safety items, OSHA safety rules, and methods of providing protection when working on de-energized electrical equipment.  
 Prerequisites:....TAEL 103 or TAE Apprentice Coordinator/Instructor permission

**TAEL-291: Electrical Power Distribution and Transmission**

Credit Hours: .....2.00  
 Contact Hours: .....2.00  
 Covers the fundamentals of electrical power distribution, including substation and transmission line protection as well as construction. Also examines transmission lines, operation of distribution transformers, instrument transformers, circuit breakers, reclosers, sectionalizers, fuses, relays, and disconnects.  
 Prerequisites:.....None

**TAEL-295: Microprocessors**

Credit Hours: .....2.00  
 Contact Hours: .....2.00  
 Covers the fundamentals of microprocessor circuits and microprocessor programming, including interfacing the microprocessor with the outside world through the handling of input and output data with a Peripheral Interface Adapter (PIA).  
 Prerequisites:....TAEL 115 or TAE Apprentice Coordinator/Instructor permission

# Courses



## **TAFD-115: Computer Applications for the Skilled Trades**

Credit Hours:.....2.00

Contact Hours:.....2.00

An introductory course providing familiarity rather than proficiency and stressing industrial applications. Explores software programming, storage/input/output devices, and controls as they apply to industry. Also includes experiences and demonstrations in key-boarding, DOS, word processors, spreadsheets, databases, computer graphics, basic programming, and two dimensional computer-aided drafting.

Prerequisites:.....None

## **TAFD-117: Industrial Computer Applications**

Credit Hours:.....3.00

Contact Hours:.....4.87

Introduces computer systems and associated components typically found in the industrial environment. Presents basic skills in word processing, database, spreadsheet, email, specialized vendor software, and communication software. Also covers Internet and Intranet environments, including searching for industry manuals and parts, downloading software and drivers, and other related tasks. Utilizes the Windows operating system in conjunction with proprietary software. Discusses learning management systems including AMTEC curriculum and Moodle Rooms. Laboratory activities.

Prerequisites:.....None

## **TAFD-120: Industrial Safety Awareness**

Credit Hours:.....2.00

Contact Hours:.....2.00

Presents a comprehensive approach to safety, designed to give the skilled tradesperson the knowledge of safety fundamentals and practices, from the causes of accidents to the study of safety hazards and rules associated with equipment and tools utilized in modern industrial facilities. Successful completers will be issued the Occupational Safety and Health Administration (OSHA) 30-Hour card for General Industry.

Prerequisites:.....None

## **TAFD-125: Industrial Safety Awareness with First Aid**

Credit Hours:.....3.00

Contact Hours:.....3.00

Presents a comprehensive approach to safety designed to give the process technician the knowledge of safety fundamentals and practices, from the causes of accidents to the study of safety hazards and rules associated with equipment and tools utilized in modern industrial facilities. Successful completers will be issued the Occupational Safety and Health Administration (OSHA) 30-Hour card for General Industry and the American Red Cross (ARC) completion cards in Workplace First Aid, Blood-Borne Disease Transmission, Adult Cardio-Pulmonary Resuscitation (CPR), and Adult Automated External Defibrillators (AEDs).

Prerequisites:.....None

## **TAFD-126: Process Industry Health, Environment, and Safety**

Credit Hours:.....4.00

Contact Hours:.....4.00

Offers exposure to the various safety, health, environmental, and safety issues directly associated with the process industries. Includes hazard recognition, types of hazards, cyber security, engineering controls, administrative controls, personal protective equipment, safety-related equipment, first aid, and governmental regulations. Emphasizes extensive hands-on experiences.

Prerequisites:.....TAFD 120 or TAFD 125 & TAFD 115 & TAPT100 or TAE Apprentice Coordinator/Instructor permission

## **TAFD-130: Industrial Application of Physical Science**

Credit Hours:.....3.00

Contact Hours:.....3.00

Offers the apprentice lecture and laboratory exposure to the applications of physics and chemistry found in today's industrial workplace. Covers the six elemental machines; applications of forces, motion, and work; and the chemistry of industrial materials and chemical interactions in the environment.

Prerequisites: TAMA 120 or TAE Apprentice Coordinator/Instructor approval

**TAFD-150: Applied Technology**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 An introductory course, appropriate for all trades, which uses practical concepts and examples to examine fluid power, electricity, mechanical power transfer, and rigging. Emphasizes appropriate safety procedures and protocols.  
 Prerequisites: ..... None

**TAFD-295: Industrial Maintenance Externship**

Credit Hours: ..... 2.00  
 Contact Hours: ..... 2.00  
 Provides field experience in an advanced manufacturing mechatronics environment with students working a minimum of four hours per week throughout the 15 week semester. Offers first-hand the activities, work-practices, and procedures of mechatronics maintenance personnel. Intended for those who have never worked in, or been exposed to, mechatronic manufacturing maintenance in an industrial production facility. Students will work with the divisional faculty/staff to identify field placements.  
 Prerequisites: ..... Must have completed 45 credit hours or have TAE Apprentice Coordinator approval

**TAFP-150: Introduction to Industrial Hydraulics**

Credit Hours: ..... 4.00  
 Contact Hours: ..... 4.00  
 Introduces the principles of fluid power as applied to industrial systems. Presents various hydraulic components and their functions within fluid power systems. Laboratory activities.  
 Prerequisites: ... TAFD 150 or TAE Apprentice Coordinator/Instructor permission

**TAFP-160: Pneumatic Power and Control**

Credit Hours: ..... 4.00  
 Contact Hours: ..... 4.00  
 Explores the principles of fluid power pneumatics as applied to industrial systems. Examines various pneumatic components with respect to their functions within pneumatic power and control systems.  
 Prerequisites: .... TAFP 150 or TAE Apprentice Coordinator/Instructor permission

**TAFP-270: Fluid Power Systems: Circuit Design and Troubleshooting**

Credit Hours: ..... 4.00  
 Contact Hours: ..... 4.00  
 Explores the principles of fluid power design and troubleshooting as applied to industrial systems. Presents various hydraulic circuits and discusses functions, efficiencies, and troubleshooting guidelines within fluid power systems.  
 Prerequisites: .... TAFP 150 or TAE Apprentice Coordinator/Instructor permission

**TAFP-280: Applied Electrohydraulics**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 Introduces basic electrohydraulic fundamentals, components, and procedures relative to troubleshooting, maintenance, and set-up of proportional and servo valves. Presents theory and practice of electrohydraulics with an emphasis on hands-on laboratory experiences.  
 Prerequisites: .... TAFP 150 or TAE Apprentice Coordinator/Instructor permission

# Courses



### **TAGD-110: Basic Shape and Size Interpretation**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00  
Introduces the concepts of shape and size description of normal surfaced, inclined (single-angle) surfaced, and cylindrical objects. Presents traditional and computer-based drafting techniques. Covers projection of three-dimensional objects into two-dimensional representations, the reverse process, and sketching and modeling of objects.  
Prerequisites:.....None

### **TAGD-120: Advanced Graphic Interpretation**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00  
Introduces the concepts of shape and size description of oblique surfaced objects, sectioning, processes used in the manufacturing environment, and geometric and traditional tolerancing. Requires knowledge of traditional and computer-based drafting techniques.  
Prerequisites:.. TAGD 110 or TAE Apprentice Coordinator/Instructor permission

### **TAGD-130: Assembly Detailing**

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Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00  
Presents the concept of detailing of assembly drawings, including modeling of complex shapes and pictorial drawings of details. Through the use of traditional and computer-based drafting techniques, students explore drawing individual parts in their proper orientation. Modeling clay is required.  
Prerequisites:.. TAGD 120 or TAE Apprentice Coordinator/Instructor permission

### **TAGD-140: Compound Angles and Advanced Projection**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00  
Focuses on the mastery of solid trigonometric principles as applied to the industrial workplace. Includes the solution of solid trigonometric problems using graphic and analytical solutions and problem solving techniques. Requires modeling clay.  
Prerequisites:..... TAGD 120 and TAMA 200 or TAE Apprentice Coordinator/Instructor permission

### **TAGD-150: Tool, Jig, and Fixture Design**

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Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00  
Focuses on the mastery of tool-design principles as applied to the industrial workplace. Covers tolerances, fits, principles of tool design, template jigs and fixtures, plate and channel jigs, and materials joining fixtures. Discusses economical design principles and the teamwork approach to various projects.  
Prerequisites:..... TAGD 130 and TAMA 200 or TAE Apprentice Coordinator/Instructor permission

### **TAGD-155: Gage, Cam Layout, and Fixture**

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Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00  
Focuses on the mastery of gage design principles as applied to the industrial workplace. Discusses gage design theory, computer-aided manufacturing, cam layout procedures, and fixturing. Emphasizes the team approach to projects.  
Prerequisites:.. TAGD 150 or TAE Apprentice Coordinator/Instructor permission

**TAGD-160: Press Working Fundamentals**

Credit Hours: ..... 2.00  
 Contact Hours: ..... 2.00  
 Discusses basic metal deformation theory, presses and ancillary equipment, die construction, and die component identification. Covers various die types and draws the various detail components using both traditional and computer-aided drafting.  
 Prerequisites:.. TAGD 130 or TAE Apprentice Coordinator/Instructor permission

**TAGD-165: Cutting and Forming Dies**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 Presents basic die design criteria and methods. Introduces various die types and draws the various die assemblies using both traditional and computer-aided drafting.  
 Prerequisites:.. TAGD 130 or TAE Apprentice Coordinator/Instructor permission

**TAGD-171: Descriptive Geometry: Lines and Planes**

Credit Hours: ..... 2.00  
 Contact Hours: ..... 2.00  
 Covers basic descriptive geometry theory, and explores how to use orthographic principles to find true views of lines and planes.  
 Prerequisites:.. TAGD 120 or TAE Apprentice Coordinator/Instructor permission

**TAGD-172: Descriptive Geometry: Planes, Solids, and Developments**

Credit Hours: ..... 2.00  
 Contact Hours: ..... 2.00  
 Presents basic descriptive geometry theory and practice. Discusses how to use orthographic principles to find true views of planes and solids and their intersections.  
 Prerequisites:.. TAGD 171 or TAE Apprentice Coordinator/Instructor permission

**TAGD-280: Panel Tipping**

Credit Hours: ..... 2.00  
 Contact Hours: ..... 2.00  
 Discusses how to convert vehicle body position drawings to required die positions in various die operations. Explores strip stock development and part clearance-interference conditions.  
 Prerequisites:.. TAGD 172 or TAE Apprentice Coordinator/Instructor permission

**TAIM-100: Industrial Materials**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 Covers concepts of material usage in industry. Includes extraction of metals, identification of ferrous and non-ferrous metals, non-metals (e.g. plastics, elastomers, and ceramics), mechanical and physical properties of materials, destructive and non-destructive testing procedures, crystalline and non-crystalline structures of materials, materials forming operations, and heat treatment theory and practice.  
 Prerequisites:.....None

**TAMA-110: Industrial Applications of Basic Mathematical Principles**

Credit Hours: ..... 2.00  
 Contact Hours: ..... 2.00  
 Utilizes shop problems to help students relate math to various job situations. Topics include addition, subtraction, multiplication, and division of whole and mixed numbers and common and decimal fractions; percents, averages, and estimates; graphs, tables, and statistical measure; powers and roots; linear, angular, and circular measure; surface area, volume, and cubic measure; ratios and proportion; and metrics and metric conversion.  
 Prerequisites:.....None



# Courses



## **TAMA-115: Metric Systems and Conversions**

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Credit Hours: .....2.00

Contact Hours: .....2.00

Covers the history of measurement systems with an emphasis on the metric system and conversion techniques between metric and English systems.

Prerequisites:.....None

## **TAMA-120: Industrial Applications of Algebraic Principles**

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Credit Hours: .....3.00

Contact Hours: .....3.00

Emphasizes mastery of basic algebraic principles as related to the industrial environment. Covers symbols, positive and negative numbers, equations, exponents, roots, and formulas.

Prerequisites: TAMA 110 or TAE Apprentice Coordinator/Instructor permission

## **TAMA-130: Industrial Applications of Geometric Principles**

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Credit Hours: .....2.00

Contact Hours: .....2.00

Covers the fundamental principles of plane geometry with emphasis on application to the industrial environment. Explores angular, circular, linear, area, and volume measurement in relation to the types of geometric figures and configurations found in industry.

Prerequisites: TAMA 120 or TAE Apprentice Coordinator/Instructor permission

## **TAMA-200: Industrial Applications of Trigonometric Principles**

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Credit Hours: .....3.00

Contact Hours: .....3.00

Focuses on trigonometric principles as applied to the industrial workplace. Covers trigonometric functions, solution of right triangles, solution of oblique triangles, and problem solving techniques.

Prerequisites: TAMA 130 or TAE Apprentice Coordinator/Instructor permission

## **TAMJ-110: Welding Fundamentals**

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Credit Hours: .....3.00

Contact Hours: .....3.00

Explores basic adhesion and cohesion fundamentals, equipment, and procedures relative to: shielded metal arc welding (SMAW), oxy-fuel brazing (TB), gas metal arc welding (GMAW), gas tungsten arc welding, and oxy-fuel cutting (OFC). Includes oxy-fuel cutting, soldering and brazing theory and practice, AC and DC welding equipment and applications, flat and horizontal welding techniques, arc welding electrodes, gas metal arc welding principles and practices, and gas tungsten arc welding principles. All students will be required to wear clothing appropriate to a welding environment. It is also recommended that the student bring a pair of slip-joint pliers

Prerequisites:.....None

## **TAMJ-112: Creative Metals I**

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Credit Hours: .....3.00

Contact Hours: .....3.00

Introduces welding and metal forming. Focuses on safety, metal forming with Oxy/Fuel torch and Plasma Arc cutting, and the metal joining processes of Oxy/Fuel welding, GMAW wire feed welding, and GTAW arc welding. Safety and use of shop tools will also be covered.

## **TAMJ-115: Advanced Welding Techniques**

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Credit Hours: .....2.00

Contact Hours: .....2.00

Builds on the skills introduced in TAMJ 100. Focuses on the structure of adhesion, cohesion, cutting theory and the transfer of knowledge to shop applications for persons who will use these processes in their work. All students will be required to wear clothing appropriate to a welding environment. It is also recommended that the student bring a pair of slip-joint pliers.

Prerequisites:... TAMJ 110 or TAE Apprentice Coordinator/Instructor permission

**TAMJ-116: Creative Metals II**

Credit Hours:.....3.00  
 Contact Hours:.....3.00  
 Focuses on the safety, the advanced techniques of metal forming with Oxy/Fuel torch and the metal joining processes of Oxy/Fuel welding, GMAW wire feed welding, and GTAW welding. Also includes how to use these techniques in a creative way.  
 Prerequisites:.....TAMJ 112 or Instructor permission

**TAMJ-120: Welding: Gas Tungsten Arc Welding (GTAW) and Gas Metal Arc Welding (GMAW) Techniques**

Credit Hours:.....2.00  
 Contact Hours:.....2.00  
 Covers the theoretical knowledge as well as the manipulative skills needed to utilize inert arc welding equipment. Topics include: inert arc welding equipment, gas tungsten arc welding (GTAW), gas metal arc welding (GMAW), and welding in flat, horizontal, and vertical positions. This course is a 90% hands-on laboratory experience. All students will be required to wear clothing appropriate to a welding environment. It is also recommended that the student bring a pair of slip-joint pliers.  
 Prerequisites:.....TAMJ 110 or permission of the TAE Apprentice Coordinator/Instructor

**TAMJ-125: Welding: AWS Pipe Welding**

Credit Hours:.....2.00  
 Contact Hours:.....2.00  
 Provides the theoretical knowledge and the time for skill development for persons interested in becoming welders qualified by the American Welding Society (AWS ). Topics include procedures in setup, welding, electrodes, and information about the AWS test. Students are required to wear clothing appropriate to a welding environment. It is also recommended that the student bring a pair of slip-joint pliers. NOTE: Course topics help students prepare for the AWS test, but the exam is not included in this course.  
 Prerequisites:... TAMJ 115 or TAE Apprentice Coordinator/Instructor permission

**TAMJ-145: Welding: Advanced Gas Torch Techniques**

Credit Hours:.....2.00  
 Contact Hours:.....2.00  
 An advanced course designed to increase oxy-fuel gas torch techniques and procedures used in welding, brazing, and soldering. Topics include preparation and techniques for oxy/fuel welding in all positions, brazing techniques, and assembly of a pressure box. This course is a 95% hands-on laboratory experience. Students are required to wear clothing appropriate to a welding environment, and it is recommended that the student bring a pair of slip-joint pliers.

Prerequisites:.....TAMJ 115 or permission of the TAE Apprentice Coordinator/Instructor.

**TAMJ-230: Welding: AWS Pipe and Pressure Vessel Certification**

Credit Hours:.....2.00  
 Contact Hours:.....2.00  
 Designed for persons experienced in all-position shielded metal arc welding who wish to acquire American Welding Society (AWS) qualification papers. All welding test procedures conform to the AWS standards. NOTE: Submitting test specimens to the local materials laboratory, an optional segment of the course, requires an additional fee.

Prerequisites:... TAMJ 125 or TAE Apprentice Coordinator/Instructor permission

# Courses



**TAMJ-235: Welding: GTAW and GMAW Certification**

Credit Hours:.....2.00  
 Contact Hours:.....2.00

Course topics introduce certification requirements for all-position Gas Tungsten Arc Welding (GTAW) and/or Gas Metal Arc Welding (GMAW) in accordance with the standards of the American Welding Society (AWS). Submitting test specimens to the local materials laboratory is optional and requires an additional fee. Students must wear clothing appropriate to a welding environment. It is recommended that students bring a pair of slip-joint pliers to class. NOTE: Course topics help students prepare for welder certification by the American Society of Mechanical Engineers and/or American Welding Society welder certification, but certification is not included in this course.

Prerequisites:... TAMJ 120 or TAE Apprentice Coordinator/Instructor permission

**TAMJ-240: Welding: Tool and Die Welding**

Credit Hours:.....3.00  
 Contact Hours:.....3.00

Studies cast iron and alloy steels that are used in the tool and die industry, the effects of the alloys on tools and dies, and how the welding process can be used successfully. Skill development in welding and repair of these cast irons and steels will incorporate both SMAW and GTAW processes. This course is an 70% hands-on laboratory experience. All students will be required to wear clothing appropriate to a welding environment. It is also recommended that the student bring a pair of slip-joint pliers.

Prerequisites:..... TAMJ 115 or permission of the TAE Apprentice Coordinator/Instructor.

**TAMN-100: Shop Tools and Techniques**

Credit Hours:.....3.00  
 Contact Hours:.....3.00

Introduces the basic tools, safety protocols, and technical information required by the skilled trades. Includes non-precision and precision measurement tools and methods, layout tools and techniques, hand and bench tools, drills and drilling machines, principles of metal cutting and metal cutting saws, pedestal grinders, and various manufacturing processes.

Prerequisites:.....None

**TAMN-120: Machine Tool Applications**

Credit Hours:.....2.00  
 Contact Hours:.....2.00

Presents the mechanisms, operation, tooling, and accessories of the lathe and milling machine. Covers precision measurements and measuring devices, basic machine tool operations, metal cutting theory, cutting tools and cutting tool materials, and cutting fluids. Emphasizes safety protocols in a lab setting.

Prerequisites:. TAMA 120 or TAE Apprentice Coordinator/Instructor permission

**TAMN-130: Advanced Manufacturing Processes**

Credit Hours:.....2.00  
 Contact Hours:.....1.87

Explains the use of conventional abrasives and super abrasives, as well as traditional grinding machines. Covers advanced milling applications utilizing the horizontal boring mill; application of basic and advanced cutting tool materials; electrical discharge machining and wire cutting; electrochemical, abrasive flow, ultrasonic, and abrasive water jet machining; electromagnetic, electro spark, and powder metallurgy forming; various laser applications; and rapid prototype development and robotics/automation.

Prerequisites:. TAMN 120 or TAE Apprentice Coordinator/Instructor permission

**TAMN-220: Advanced Computer Numerical Control Techniques**

Credit Hours:.....2.00  
 Contact Hours:.....2.00

Covers fundamentals of computer numerical control (CNC), with emphasis on generic application to both vertical and horizontal milling machines. Examines how to use software to program CNC operations involving linear, circular, and helical interpolation. Discusses how canned cycles, auto routines, and various preparatory functions are used in programming, and then applied to machine functional work pieces on a fully operational CNC trainer. Provides a review of programmer math.

Prerequisites:..... TAMA 200 Apprentice Coordinator/Instructor permission

**TAMT-110: Mechanical Power Transmission**

Credit Hours: .....2.00  
Contact Hours: .....2.00

Presents installation and maintenance of mechanical power transmission systems. Covers bearings, couplings, belts, chains, shafts, pulleys, and speed reducers used in the modern factory by skilled trades.

Prerequisites:.. TAMA 120 or TAE Apprentice Coordinator/Instructor permission

**TAMT-115: Maintenance Trades Print Reading**

Credit Hours: .....3.00  
Contact Hours: .....3.00

Covers shape description; conventions and symbols; size description; notes and instruction associated with manufacturer's and maintenance-related drawings, including castings, weldments, and machined parts; electrical/electronic schematics and ladder diagrams; piping and fluid power-related drawings and schematics; structural and architectural drawings; and sheet-metal and plant layout. For apprentices and trainees in industrial plant maintenance trades.

Prerequisites:.. TAGD 110 or TAE Apprentice Coordinator/Instructor permission

**TAMT-123: Maintenance Print Reading: Structural Steel and Conveyors**

Credit Hours: .....2.00  
Contact Hours: .....2.00

Explores how to create a basic shop drawing of structural steel shapes and perform print reading of conveyor structures. Also introduces structural steel detail drawings and how print reading techniques relate to conveyors. Requires the purchase of the following materials for use during week 6 and beyond: ¼” grid drawing paper, triangles (45° and 30°-60°-90°), ruler/architects scale, eraser, scissors, rubber cement, colored pencils or highlighters, and drawing pencils (H and HB lead).

Prerequisites:..... TAGD 110, TAMA 120, or TAE Apprentice Coordinator/Instructor permission

**TAMT-126: Maintenance Print Reading: Plant Layout**

Credit Hours: .....2.00  
Contact Hours: .....2.00

Introduces the techniques and procedures of plant layout and material handling. Discusses how to analyze and develop information in order to produce a plant layout. Covers print reading skills with emphasis on industrial equipment drawings and how to make simple plant layout drawings for the production of a part using basic drafting techniques.

Prerequisites:.. TAGD 110 or TAE Apprentice Coordinator/Instructor permission

**TAMT-200: Predictive Maintenance - Shaft Alignment and Couplings**

Credit Hours: .....2.00  
Contact Hours: .....2.00

Provides specialized instruction in the practices and equipment used in shaft alignment, and the end-to-end and parallel alignments of machines. Explores machine failures due to rotating shaft misalignment and vibration created from shaft center lines not being in the same plane. Covers inefficiencies and increased wear due to misalignment, shaft alignment methods, soft foot, thermal growth, rim, face, reverse dial indicator, and MPT couplings.

Prerequisites:..TAMT 110 or TAE Apprentice Coordinator/Instructor permission

**TAMT-210: Predictive Maintenance-Vibration Analysis**

Credit Hours: .....2.00  
Contact Hours: .....2.00

Provides specialized instruction in diagnosing and resolving machinery vibration in rotating equipment, the most cost-effective methods to reduce maintenance costs, and how to extend machinery life.

Prerequisites:.....TAMT 110, TAMA 130, or TAE Apprentice Coordinator/Instructor permission

# Courses



### **TAMT-220: Advanced Rigging**

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Credit Hours: .....2.00  
Contact Hours: .....2.00

Presents safe rigging practices and equipment used by mechanical trades people. Covers fiber and wire rope, block and tackle, lift and rigging chain, proof test, safe working load, design factor, sling geometry, fittings, and lifting and moving equipment.

Prerequisites: TAMA 130 or TAE Apprentice Coordinator/Instructor permission

### **TAMT-260: Gearing**

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Credit Hours: .....2.00  
Contact Hours: .....2.00

Discusses the calculation of standard American National, United States V, Metric, Acme, and Worm screw threads. Covers standard notations and formulas for spur gears, bevel gears, worm and worm wheels, and helical gears. Also explains replacement of spur gears with helical gears, the use of idler gears, and discusses calculations for plain and differential indexing.

Prerequisites: TAMA 200 or TAE Apprentice Coordinator/Instructor permission

### **TAPI-105: Introduction to Industrial and Pneumatic Controls**

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Credit Hours: .....3.00  
Contact Hours: .....3.00

Introduces the basic principles and techniques used in the measuring and controlling of an industrial process. Stresses measuring, tuning, and calibration of pneumatic instrumentation and controls. Examines pressure, temperature level, flow, and analytic control systems. Covers fundamental control techniques including open loop and closed loop control, and three modes of control - cascade, adaptive, feed forward, and feedback. Studies fundamental methods of calibration and repair of pneumatic controllers, transducers, transmitters, and control valves. Laboratory activities.

Prerequisites:.....None

### **TAPI-120: Instrumentation: Print Reading**

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Credit Hours: .....2.00  
Contact Hours: .....2.00

Explores drawing, reading, and interpreting standard instrumentation and electrical drawings, diagrams, and schematics. Emphasizes using ANSI, ISA, SAMA, and IEEE standard symbols and other accepted industry protocols. Also stresses appropriate techniques in using drawings, diagrams, and schematics to troubleshoot and locate equipment.

Prerequisites:.....TAPI 105 or TAE Apprentice Coordinator/Instructor permission

### **TAPI-201: Instrumentation: Industrial Practices**

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Credit Hours: .....4.00  
Contact Hours: .....4.00

An advanced course covering standard practices and procedures used by instrument, control, and automation qualified personnel and/or individuals in the industrial work environment. Includes current national standards, current practices and procedures for manufacturing process start-up, equipment installations, troubleshooting, and in-shop equipment repair.

Prerequisites:.....TAPI 120, TAPI 105 or TAE Apprentice Coordinator/Instructor permission

### **TAPP-100: Fundamentals of Plumbing and Pipefitting**

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Credit Hours: .....3.00  
Contact Hours: .....3.00

Explains the development of the proper procedures for the sizing, selection, and installation of pipe and fittings. Includes the development of pipe welding templates and bending of tubing and pipe.

Prerequisites:.....None

**TAPP-110: Drains, Wastes, and Vents**

Credit Hours: .....2.00

Contact Hours: .....2.00

Discusses how to properly select materials for the installation and repair of sewer, soil, waste, and vent systems. Covers proper procedures for the design and layout of residential and commercial systems, and the use of blueprints and isometric diagrams.

Prerequisites:.....None

**TAPP-120: Heating Systems**

Credit Hours: .....2.00

Contact Hours: .....2.00

Introduces the principles of steam and hydronic heating systems. Covers proper sizing and selection of converters, traps, and boilers.

Prerequisites:.....None

**TAPP-250: Plumbing Code**

Credit Hours: .....2.00

Contact Hours: .....2.00

Introduces the use and application of the Michigan Mechanical Plumbing Code. Covers how to review each article of the code for content and application, and how to interpret plans and drawings as related to plumbing and pipefitting.

Prerequisites:....TAPP 100 or TAE Apprentice Coordinator/Instructor permission

**TAPT-100: Introduction to Process Technology Practices**

Credit Hours: .....3.00

Contact Hours: .....3.00

Provides an overview of process-based manufacturing industries with a focus on process technology operations using a systems perspective. Includes concepts of safety, process instruments, environmental standards, and continuous process improvement.

Prerequisites:.....None

**TAPT-110: Process Technology Equipment**

Credit Hours: .....3.00

Contact Hours: .....3.00

Studies the equipment currently used within the process industry, including purpose, components, operation, and troubleshooting.

Prerequisites:.....None

**TAPT-120: Introduction to Process Instrumentation**

Credit Hours: .....3.00

Contact Hours: .....3.00

Studies physical and chemical variables and the various instruments used to sense, measure, transmit, and control these variables. Introduces control loops and their components including controllers, regulators, sensors, and final control elements. Also discusses how to create instrumentation drawings and diagrams when developing and analyzing control loops.

Prerequisites:.....None

**TAPT-125: Process Technology Instrumentation II**

Credit Hours: .....4.00

Contact Hours: .....4.00

Provides a review of microprocessor control components and control systems, power supplies, emergency shutdown procedures, and malfunctions. Examines switches, relays, and annunciator systems. Also covers covers signal conversion and transmission; controllers; and control schemes that maintain environmental regulations, energy efficiency, and quality of the process.

Prerequisites:... TAPT 120 or TAE Apprentice Coordinator/Instructor permission

# Courses



### **TAPT-130: Process Technology Systems**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00  
Studies the interrelation of process equipment and process systems. Examines how to arrange process equipment into basic systems; describes the purpose and function of specific process systems; explains how factors affecting process systems are controlled under normal conditions; introduces the concept of system and plant economics; and explores how to recognize abnormal process conditions.  
Prerequisites:... TAPT 100 or TAE Apprentice Coordinator/Instructor permission

### **TAPT-140: Process Technology Quality**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00  
Studies the quality manufacturing practices used within the process industry, including concepts such as operating consistency, continuous improvement, plant economics, team skills, and statistical process control (SPC).  
Prerequisites:... TAPT 100 or TAE Apprentice Coordinator/Instructor permission

### **TASM-100: Basic Sheet Metal Layout and Fabrication**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00  
Covers layout, forming, and fabrication of basic sheet metal ductwork fittings and use of hand/power tools and equipment needed to accomplish various tasks. Explains how to fabricate square/round sheet metal ductwork, tapers, transitions, offsets, and how to fasten ductwork together.  
Prerequisites: TAMA 120 or TAE Apprentice Coordinator/Instructor permission

### **TASM-120: Sheet Metal Layout: Radial and Triangulation**

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Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00  
Covers the development of geometrical elements of structures, their intersections by the radial line, triangulation methods of sheet metal layout, the drawing of development layouts, and the forming of cardboard or sheet metal models.  
Prerequisites:...TASM 100 or TAE Apprentice Coordinator/Instructor permission

### **TASM-130: Sheet Metal Layout: Applied Triangulation**

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Credit Hours: ..... 2.00  
Contact Hours: ..... 2.00  
Covers the development of geometrical elements of structures by the triangulation method of sheet metal layout. Includes the development of stretchouts and making cardboard or sheet metal models of transition pieces.  
Prerequisites:...TASM 120 or TAE Apprentice Coordinator/Instructor permission

### **TCM-131: Introduction to Telecommunication**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00  
A survey course investigating the various electronic communication media, as well as the print media, from historical, economic, and social viewpoints.  
Prerequisites:.....None

**TCM-132: Film History and Criticism**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Introduces the film medium and the film experience as entertainment, artistic expression, and social communication, through examination of production techniques, critical theories, and historic examples.

Prerequisites: .....ENG 131

**TCM-151: Digital Audio Editing**

Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Introduces digital audio editing using an industry standard software editing program on computers in the Telecommunication audio production labs. Covers both hardware and software issues, and explores how to perform short editing exercises.

Prerequisites: .....None

**TCM-157: Digital Video Editing**

Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

An intensive introduction to digital video editing, using an industry standard software editing program in the Telecommunication computer video lab. Covers both hardware and software issues, and explores how to complete short editing exercises.

Prerequisites: .....None

**TCM-189: WHFR Staff Training**

Credit Hours: ..... 1.00

Contact Hours: ..... 1.00

Provides an orientation to the non-commercial, educational radio station licensed to the college. Covers essential station rules and procedures, operation of equipment, and basic performance skills. Course is open to all students but is required of those who wish to join the staff and assist in the operation of WHFR.

Prerequisites: .....None

**TCM-235: Topics in Film Study**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Offers special study in an area of film, organized by theme, genre, historical period, or other criteria. Specific topics are listed in the semester class schedule; see individual course syllabi in the Communications division office.

Prerequisites: .....None

**TCM-241: Media Writing**

Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Offers an analysis of and practice with the forms and formats of mass media script writing: commercial, promotional, public service, interview, instructional, and dramatic.

Prerequisites: .....ENG 131



# Courses



## **TCM-243: Media Performance**

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Credit Hours:.....3.00  
Contact Hours:.....3.00

Offers study and practice in the skills required for successful communication from behind microphones and in front of cameras, with special attention on announcing, interviewing, and acting.

Prerequisites:.....None

## **TCM-251: Audio Production**

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Credit Hours:.....3.00  
Contact Hours:.....3.00

A survey of the techniques of professional audio recording and playback, utilizing a variety of microphones and recorders, with editing done by dubbing and digital multi-track work using industry software, through production assignments in radio programming.

Prerequisites:.....TCM 151

## **TCM-257: Video Production I**

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Credit Hours:.....3.00  
Contact Hours:.....4.00

Introduces the basic concepts and skills of film and video production. The entire production process from script to editing is discussed and experienced with emphasis on key equipment and techniques. Differences between media are assessed and analyzed. Projects include individual and group work, both in the studio and on location.

Prerequisites:.....TCM 157: Digital Video Editing

## **TCM-258: Film/Video Production II**

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Credit Hours:.....3.00  
Contact Hours:.....4.00

Offers further knowledge and development of skills required for film, video, and multimedia production, with the emphasis on advanced concepts in lighting and editing as part of program production in specialized formats for news, entertainment, and education.

Prerequisites:.....TCM 157, TCM 251, and TCM 257

## **TCM-261: Broadcast Journalism**

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Credit Hours:.....3.00  
Contact Hours:.....3.00

TCM 261 is a real life experience, guided by a Telecommunication instructor, in broadcast news writing for the mediums of radio and television. Working as a reporter on the news staff of WHFR-FM 89.3, the student-staffed station of Henry Ford Community College, the student is expected to weekly contribute quality broadcast news stories: written copy, copy with actualities, and prerecorded interviews.

Prerequisites:.....ENG 131 and TCM 251

## **TCM-281: Capstone**

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Credit Hours:.....1.00  
Contact Hours:.....1.00

Provides required assessment of knowledge and skill for students in their last semester of course work before completing their Associate of Arts degree in Telecommunication. Should be taken during the student's last term of required TCM classes.

Prerequisites: None. Should be taken during the student's last term of required TCM classes. By instructor permission only.

**TCM-294: Telecommunication Internship**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Offers on-the-job experience with a telecommunication business, such as a radio or TV station, a cable TV studio, or advertising or public relations office. Minimum requirement of 150 hours of work (volunteer or paid as established by selected company). Positions vary from semester to semester. Student should contact the instructor for counseling and permission at least one month before the semester begins.

Prerequisites:..... To be taken towards end of student's TCM degree completion. Pre-approval from Instructor is required before enrolling.

**TCM-295: Directed Study**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Instructor-guided work on a student-initiated project in the Telecommunication field. Project must be approved by instructor and can be either scholarly or creative in nature, or both.

Prerequisites:..... Instructor Permission only

**THEA-131: Theatre Appreciation**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Explores the components, methods, and history of theatrical production. Subject areas may include but are not limited to acting, directing, and technical theatre.

Prerequisites:.....None

**THEA-132: Acting I**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Introduces basic acting techniques, theories of acting, and rehearsal procedures. Emphasizes modern and contemporary comedies, and dramas. Students perform scenes from contemporary plays.

Prerequisites:.....None

**THEA-133: Technical Theatre**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.87

Offers practical application of the fundamentals of set construction, rigging, painting, sound, lighting, and special effects.

Prerequisites:.....None

**THEA-134: Technical Theatre Specialties: Rotating Skills**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Focuses on understanding theory through practical application on multiple projects. Provides experience in one of the following specialized areas: scenic and/or properties design, construction and/or painting, theatre sound: design, engineering and operation; special effects: design, safety, engineering and operation; production management, stage management, house management, lighting: design, hanging and operations; or promotion and publicity.

Prerequisites:.....None

**THEA-135: Introduction to Stage Makeup**

Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00

Provides an analysis of the basic functions of stage makeup, demonstrates the art of makeup application, and explores age, animal, fantasy, horror, and foam latex prosthetic makeup techniques. Students design and apply their own makeup as well as design and apply makeup for actors in HFC mainstage productions.

Prerequisites:.....None

# Courses



## **THEA-138: Stage Costuming**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Introduces the history, design, and construction of costumes for the stage. Students selectively study the history of stage costuming from the Greeks to the present day with an emphasis on line, form, production requirements, principles of stage costume design, and building techniques.

Prerequisites: ..... None

## **THEA-140: One-Act Play Production**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Offers lecture and practice in the organization and specific skills necessary for the public performance of one-act plays including the areas of acting, assistant directing, stage management, publicity, and house management.

Prerequisites: ..... None

## **THEA-142: Theatrical Production**

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Credit Hours: ..... 3.00

Contact Hours: ..... 6.00

Offers lecture and practice in the public performance of a full-length comedy, drama, or musical. Students are provided opportunities in the areas of acting, assistant directing, stage management, house management, and other appropriate production functions.

Prerequisites: ..... None

## **THEA-144: Improvisation for the Actor**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Introduces the principles and practice of improvisational techniques as applied to performance. Offers a solid theoretical basis and practical experience with vocal, movement, character, scene, style, and multi-scene improvisation as an introduction to rehearsal approaches, character development, and creativity.

Prerequisites: ..... None

## **THEA-145: Stage Combat**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Explores basic theatrical fencing, broadsword fighting, falling, and hand-to-hand combat, based on an awareness of the roles of stage combat in the theatre of past and present.

Prerequisites: ..... None

## **THEA-149: Children's Theatre Production**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Offers lecture and practice in the organization of specific skills necessary for the public performance of children's plays such as acting, assistant directing, stage management, publicity, and house management. Requires students to participate in HFC's annual Children's Theatre presentation.

Prerequisites: ..... None

## **THEA-150: Stagecraft**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Offers a basic survey of the major techniques and theories of scenography used in the modern theatre.

Prerequisites: ..... None

**THEA-232: Acting II**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 Explores various acting styles that may include Greek, Medieval, Renaissance, French Classical, American Melodrama, Farce, Musical Theater, Artaudian Theatre, and other appropriate styles.  
 Prerequisites: ..... THEA 132

**THEA-233: Advanced Technical Theatre**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.87  
 Requires active participation in the technical aspects of the semester's HFC mainstage production. Instructor assigns students to key technical positions in the areas of lighting, shifting, rigging, properties, painting, building, sound, makeup, costumes, and special effects.  
 Prerequisites: ..... THEA 133

**THEA-234: Advanced Technical Theatre: Rotating Skills**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 This advanced production management course offers theoretical grounding and practical experience in a design, assistant directing, stage management, and publicity management position, plus concurrent assignments in a live production environment.  
 Prerequisites: ..... THEA 133 and 233

**THEA-235: Topics in Theatre**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 Provides special study in the area of theatre, organized by style, production approach, historical period, or other criteria. May be taken twice for credit, six hours maximum, but the two topics must be different. Specific topics and any prerequisites are listed in the current semester's class schedule or may be obtained through the departmental office.  
 Prerequisites: ..... Instructor permission

**THEA-238: Theatre History**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 Offers a survey of theatrical production, including acting, directing, theatre architecture, artistic movements, and significant ideas that affect the development of theatre from the Greeks through the present. Emphasizes individual research and projects.  
 Prerequisites: ..... None

**THEA-242: Advanced Theatrical Production**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 6.00  
 Offers an in-depth exploration of practical theatre production.  
 Prerequisites: ..... THEA 142

**THEA-255: Lighting**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 Examines the processes, techniques, and principles involved in lighting the stage, studio, and location. Discusses the properties and uses of light, color media, and stage lighting equipment. Also offers the opportunity to participate in the stage lighting of an HFC theatre production.  
 Prerequisites: ..... None

**THEA-256: Directing**

Credit Hours: ..... 3.00  
 Contact Hours: ..... 3.00  
 Presents the principles of stage direction, how to survey the areas of composition, picturization, movement, rhythm, auditions, casting, rehearsals, and actor psychology.  
 Prerequisites: ..... None

# Courses



## **THEA-257: Pantomime and Physical Techniques for the Actor**

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Credit Hours: .....3.00

Contact Hours: .....3.00

Explores the importance of the body in the acting process, with an emphasis on practical experience. Presents various techniques and improvisational exercises necessary to develop a greater sensitivity to and accuracy with emotional expression and physical characterization in a variety of styles.

Prerequisites:.....None

## **THEA-259: Experimental Theatre Production**

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Credit Hours: .....3.00

Contact Hours: .....3.00

Offers lecture and practice in the specific skills necessary for the production of an experimental play. Students are exposed to plays that approach the non-traditional theatrical experience including multimedia, impressionism, expressionism, surrealism, improvisation, performance art, and absurdism. Students are provided opportunities in the areas of acting, assistant directing, stage management, publicity, and house management.

Prerequisites:.....None

## **THEA-260: Acting III**

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Credit Hours: .....3.00

Contact Hours: .....3.00

An audition monologue preparation course that focuses on contemporary realism, and also includes classical work. Students create preparation processes, resumes, and practice audition interviews. Advanced acting technique exercises are practiced to develop convincing character and staging.

Prerequisites:.....None

## **THEA-270: Advanced Experimental Theatre Production**

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Credit Hours: .....3.00

Contact Hours: .....3.00

Explores advanced techniques in areas of experimental theatre production, including but not limited to, use of various space types, improvisation in public performance, audience participation, absurdism, expressionism, surrealism, epic, forum, unusual interpretations of classical period or modern texts, and the use of electronic and digital media to unify a production.

Prerequisites:.....THEA 144

## **THEA-271: Advanced One-Act Play Production**

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Credit Hours: .....3.00

Contact Hours: .....3.00

Provides in-depth experience in one-act play production on an advanced level.

Prerequisites:.....None

## **THEA-272: Improvisation II**

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Credit Hours: .....3.00

Contact Hours: .....3.00

Explores how to develop and refine intermediate and advanced improvisational acting skills in the areas of characterization, vocal styles, genre practice, and multi-scene improvisation.

Prerequisites:.....THEA 144

**THEA-273: Voice for the Actor**

Credit Hours:.....3.00  
 Contact Hours:.....3.00  
 Offers both theoretical and practical study of basic and intermediate-level vocal technique for a spoken live performance. Explores proper breath and alignment, sound production, articulation, projection, subtext, dialect, and character.  
 Prerequisites:.....None

**THEA-281: Theatre Capstone**

Credit Hours:.....1.00  
 Contact Hours:.....1.00  
 Provides the required assessment of knowledge and skills for students in their last semester of course work for the Associate of Arts degree in Theatre.  
 Prerequisites:.....None

**THEA-2901: Directed Study**

Credit Hours:.....3.00  
 Contact Hours:.....3.00  
 Allows additional advanced study under direction in any of the classes offered by the theatre program. Student requesting directed study must have completed the sequence of courses offered in a given subject area before requesting additional directed study in that area. May be taken twice for credit, six hours maximum, and course subject must be different.  
 Prerequisites:..... All courses in the required sequence for the area chosen, and permission of the instructor

**VTL-150: Special and Visual Effects for Stage and Screen**

Credit Hours:.....3.00  
 Contact Hours:.....3.00  
 Introduces the major types of computer generated visual effects utilized in motion pictures, video, and film production for stage and screen effects.  
 Prerequisites:.....None

**VTL-235: Science Fiction, Fantasy, and Horror Films**

Credit Hours:.....3.00  
 Contact Hours:.....3.00  
 Examines the history of films that emphasize the fantastic, from the beginning of film history to the present. To compliment existing VTL classes, this course devotes special attention to the visualization of the fantastic as represented in the special and visual effects of science fiction, fantasy, and horror films.  
 Prerequisites:.....None

**VTL-262: Introduction to Motion Capture**

Credit Hours:.....3.00  
 Contact Hours:.....3.00  
 Presents the principles of motion capture performance and motion capture production for use in virtual theatricality, motion pictures, gaming, television, Web media, and motion studies. In a lab setting, coursework examines the motion capture pipeline from setting up the lab and capturing data to applying the data to animated characters in MotionBuilder. Limited to body capture only.  
 Prerequisites:.....None

**VTL-263: Intermediate Motion Capture**

Credit Hours:.....3.00  
 Contact Hours:.....3.00  
 Explores the principles of motion capture performance and motion capture production for use in virtual theatricality, motion pictures, gaming, television, World Wide Web media, and motion capture studies. Conducted in a lab setting, coursework focuses on cleaning and editing data, hand capture, and facial capture.  
 Prerequisites:..... VTL 262

# Courses



## **VTL-264 : Advanced Motion Capture Application**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00  
Covers the principles of motion capture performance and motion capture production for use in virtual theatricality, motion pictures, gaming, and motion studies.  
Prerequisites: ..... VTL 263

## **VTL-265: Introduction to Motion Capture Body Performance for Stage**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00  
A lab-based computer class dealing with the principles of motion capture performance for use in virtual theatricality, motion pictures, gaming, television, Web media, and motion studies. Students work through a structured series of assignments that culminate in a 20-second animation based upon a particular sequence, gesture, or motion. Focuses on body performance only.  
Prerequisites: ..... None

## **VTL-266: Green Screen Visual Effects for Stage and Screen**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00  
Presents the principles of compositing and green screen application for use in virtual theatricality, motion pictures, gaming, television, and Web media.  
Prerequisites: ..... None

## **VTL-267: Stereoscopic Cinematography for Stage and Screen**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00  
Examines the historical and practical aspects of stereoscopic cinematography for stage and screen.  
Prerequisites: ..... None

## **VTL-268: Film Acting I**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00  
Introduces actors to a variety of film acting techniques.  
Prerequisites: ..... None

## **WR-130: Introduction to the Academic Study of Religion**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00  
Explores the spiritual impulse as reflected in non-traditional as well as traditional contexts. Examines various aspects of religions that influence both individuals and cultures including the nature of ultimate reality and its communication through symbols, rituals, scriptures, religious experiences, prophets, and sages. All of these religious phenomena will be considered in light of the contemporary influences of globalization, science, and environmental challenges.  
Prerequisites: ..... None

## **WR-131: Religious Traditions in the World**

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Credit Hours: ..... 3.00  
Contact Hours: ..... 3.00  
Introduces the beliefs, practices, and experiences of the major world religious traditions. In addition to examining the particulars of each faith, this course emphasizes current perspectives in religious studies that serve to clarify the nature and functions of religion as a force shaping, and being shaped by, the increasingly pluralistic contemporary world. Religion will be treated seriously as an important part of people's identity and a crucial prerequisite for understanding and appreciating others and selves.  
Prerequisites: ..... None

**WR-232: Western Religions: Judaism, Christianity, and Islam**

Credit Hours:.....3.00

Contact Hours:.....3.00

Explores the differences and commonalities among Judaism, Christianity, and Islam. Discusses how to help sensitize others to the diverse ways that Western religious traditions pursue the basic questions of ultimate reality. Also examines how to define religion, explore its function and purpose, and identify the origins of Western religious motifs still very much in evidence in the twentieth century.

Prerequisites:.....ENG 093 eligible

**WR-233: Eastern Religions**

Credit Hours:.....3.00

Contact Hours:.....3.00

Introduces the beliefs, practices, and experiences of major Eastern religions. Explores Eastern religious philosophies as a whole complex worldview, as well as investigates the unique beliefs and practices of several Eastern religions. Also exams historical roots, developmental growth as well as modern versions of major Eastern religions which enables the student to understand the perspective of Eastern religious philosophies.

Prerequisites:.....ENG 093 eligible

**WR-234: Introduction to Judaism**

Credit Hours:.....3.00

Contact Hours:.....3.00

Introduces the evolving practice of Judaism, from the formation of its foundational documents to its current methodologies in the United States and Israel. Covers the ancient Near East context from 1240 BCE – 70 CE, the rabbinical period from 200 CE – 1575 CE, and the modern diaspora from 1800 to the present, including holidays, the lunar calendar, and some theology.

Prerequisites:.....ENG 131

**WR-235: Christianity - The First 1000 Years**

Credit Hours:.....3.00

Contact Hours:.....3.00

Introduces the origins of Christianity beginning with the figure of Jesus and his portrayal in early Christian writings. Studies the early teachings and their influence on later Christian theological understanding of the nature of Jesus through readings in the New Testament. Also explores the historical development of Christianity from its origins in Palestine beginning 1 B.C.E. through its expansion into the Roman Empire and ending at the schism between the Eastern Orthodox Church and the Western Catholic Church in the 1054 C.E.

Prerequisites:..... WR 131 or 232 or Instructor permission

**WR-236: African American Religious Experience and Expression**

Credit Hours:.....3.00

Contact Hours:.....3.00

Examines the African American religious experience and expression in America. Explores the historical, social, political, and economic factors which participated in the design of the African American church, considering African American theology, worship styles, sacred music, and the pivotal model of the African American pastor.

Prerequisites:.....ENG 131 eligible

**WR-239: Introduction to Daoism**

Credit Hours:.....3.00

Contact Hours:.....3.00

Introduces key developments in Daoist practice. Provides a brief sketching of the cultural context of late ancient China (900BCE – 90CE), including some biography regarding the scholars Lao-tzu, Chuang-tzu, and Confucius (700BCE – 300BCE). Also examines the modern appeal of Daoism in the western United States and beyond, including rituals, disciplines, and some theology. To accomplish both the context goals and the understanding of practice, course work compares and contrasts Daodeching and Chuang-tzu with the more familiar aphoristic writing of Marcus Aurelius in order to locate the value of this ancient faith by contrasting it with something that is suitably similar and more familiar in terms of presentation.

Prerequisites:.....ENG 131 eligible



# Courses



**WR-240: Myths and Symbols: Deciphering the Messages of Sacred Traditions**

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Credit Hours: ..... 3.00

Contact Hours: ..... 3.00

Introduces the academic study of religious myths. Examines spiritual and religious perspectives of cultures as sources of myths. Analyzes symbols, themes, and plots, enabling the student to identify common characteristics and patterns in myths originating in various cultures and religions throughout human history.

Prerequisites: ..... ENG 093 eligible

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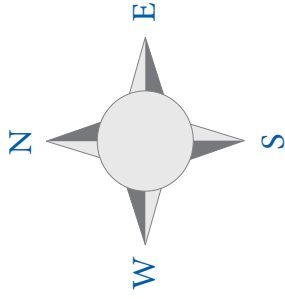
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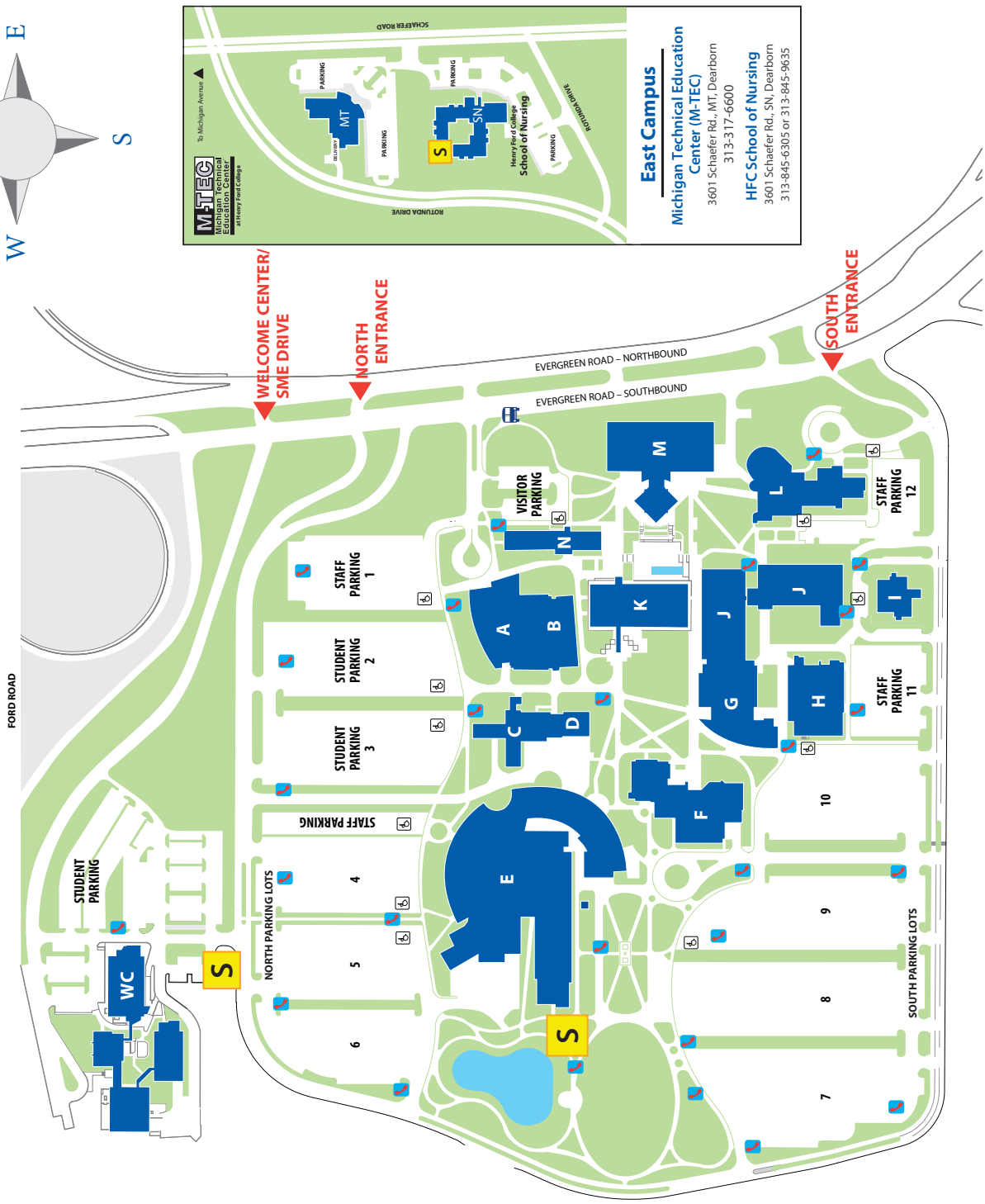
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FT Faculty - Math  
Mathematics  
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## LEGEND

- Emergency Blue Light Phones
- Handicapped Parking
- M-Dot Bus Stop
- Smoking Zone

A	Learning Success Center Assisted Learning Services Career Services Counseling Leaming Lab Student Outreach Services
B	Library Media Center
C	College Store Facilities Services
D	Purchasing Shipping and Receiving
E	Technology Building Ghafari Conference Room E-123
F	Fine Arts Center Adray Auditorium Sisson Art Gallery
G	Health Sciences Education Center Hackett Conference Room G-150
H	Athletic Memorial Building Fitness Center Gym
I	Child Development Center
J	Science Building Planetarium
K	Liberal Arts Building English Language Institute
L	Administrative Services and Conference Center Forfa Auditorium Berry Amphitheater Rosemar Board Room (A, B, C)
M	Student and Culinary Arts Center Kuhlmann Dining Room Fifty-One O One Restaurant Skylight Cafe Student Activities WHFR Radio Station 89.3 FM
MT	Michigan Technical Education Center M-TEC
N	Campus Safety
SN	School of Nursing
WC	Welcome Center Community Rooms



**East Campus**  
**Michigan Technical Education Center (M-TEC)**  
 3601 Schaefer Rd., MT, Dearborn  
 313-317-6600  
**HFC School of Nursing**  
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