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Henry Ford
Community College
www.hfcc.edu

Catalog

2010/2011

3 Reasons HFCC is Your Best Choice. Guaranteed!

HFCC provides guarantees in several areas to help you complete your education and become successful.

TRANSFER CREDIT

HFCC graduates are guaranteed that HFCC courses completed with a "C" grade or better will transfer to a college or university within two years of graduation or the tuition is refunded.

TUITION FREEZE

Today's tuition rates will be frozen for students who graduate from HFCC within four years. Any tuition increases will be refunded upon graduation, upon application for a refund.

JOB SKILLS

HFCC career program graduates are guaranteed to have the technical skills expected of entry-level employees. If not, employers can request that the graduate be retrained for free at HFCC, for up to 16 semester credit hours.

See page 295 for the complete description of the guarantees.

Henry Ford
Community College
www.hfcc.edu

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NOTE: Grades are available to students by
myHFCC WebAdvisor 24 hours after submitted by instructor.

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NOTE: Grades are available to students by
myHFCC WebAdvisor 24 hours after submitted by instructor.

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December 20. Grades for Fall Due at 6 p.m. from Instructors

NOTE: Grades are available to students by
myHFCC WebAdvisor 24 hours after submitted by instructor.

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November 1 ....Winter Open Registration Begins
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January 10 ....Classes Begin
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January 12...............Late Registration/Schedule Adjustments
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NOTE: Grades are available to students by
myHFCC WebAdvisor 24 hours after submitted by instructor.

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MISSION STATEMENT

We of Henry Ford Community College are dedicated to the education and enrichment of our students and community. As a comprehensive community college with a diverse student population, we value teaching and learning. To prepare our students for a rapidly changing world and workplace, we are committed to providing knowledge, communication skills, and cultural opportunities. We foster critical thinking, creativity, integrity, and self-esteem.

Ours is a tradition of building futures. We measure our success by the success of our students in a democratic, diverse, and increasingly technological nation.

CONTINUOUSLY ACCREDITED SINCE 1949

Henry Ford Community College is accredited by The Higher Learning Commission. A Commission of the North Central Association of Colleges and Schools.

30 North LaSalle St., Suite 2400
Chicago, IL 60602-2504

1-312-263-0456

www.ncahigherlearingcommission.org

HFCC is also accredited by the Michigan Commission on College Accreditation.

3 REASONS HFCC IS YOUR BEST CHOICE. GUARANTEED!

HFCC provides guarantees in several areas to help you complete your education and become successful.

TRANSFER CREDIT

HFCC graduates are guaranteed that HFCC courses completed with a "C" grade or better will transfer to a college or university within two years of graduation or the tuition is refunded.

TUITION FREEZE

Today's tuition rates will be frozen for students who graduate from HFCC within four years. Any tuition increases will be refunded upon graduation, upon application for a refund.

JOB SKILLS

HFCC career program graduates are guaranteed to have the technical skills expected of entry-level employees. If not, employers can request that the graduate be retrained for free at HFCC, for up to 16 semester credit hours. See page 295 for the complete description of the guarantee.

Applying for Admission

Henry Ford Community College welcomes applications from those holding high school diplomas, General Education Development (GED) certificates, and other college credits or degrees. Students may enroll in one course, a series of courses, or a program leading to a certificate or degree. Whatever the goal, HFCC wants each student to have a successful experience.

CURRENT HIGH SCHOOL STUDENTS

Students enrolled in high school may be eligible to attend HFCC concurrently through the Dual Enrollment or Advancement Plus programs. After high school graduation, students can apply their HFCC credits towards a degree or certificate program at HFCC or transfer their credits to another college. For degree-seeking admission, apply anytime after the start of your senior year.

HIGH SCHOOL GRADUATES

Students who have graduated from high school or completed a home school program can be admitted to HFCC. HFCC admits thousands of students from high schools all over southeastern Michigan and beyond each year.

TRANSFER STUDENTS

Students who previously attended another college or university are considered transfer students. Students transfer to HFCC for the quality programs, affordability, convenience, and many other reasons.

NON-DEGREE SEEKING STUDENTS

Students who want to take classes for their job, for personal interest or other reasons besides obtaining a degree or certificate may apply as non-degree students.

GUEST STUDENTS

Students currently attending another college or university and who wish to take one or more courses may attend HFCC as a guest student. HFCC enrolls hundreds of guest students every year, primarily in the spring and summer semesters.

INTERNATIONAL STUDENTS

HFCC welcomes applications from international students. In Fall 2008, students from more than 60 countries were enrolled at HFCC.

How to Apply

Applying for admission as a degree- or certificate-seeking student and registering for classes is an easy six-step process.

Step 1 – Apply for Admission

The best way to apply for admission is on the Web at **www.hfcc.edu/apply**. The only exceptions are Dual Enrollment or Advancement Plus students, who must complete a paper application and obtain the appropriate signatures from high school personnel.

Paper applications can be obtained by calling the HFCC Welcome Center at **1-800-585-HFCC**, e-mailing **enroll@hfcc.edu**, or on the Web at **hfcc.edu/getting_started/prospective_students**.

Students may need to submit transcripts and other official documents depending on their admission category. See page 287 for the complete admission policy and requirements.

ACT or SAT Test

ACT and SAT scores are not required for admission to Henry Ford Community College; however, these exam scores may be used for admission to specialized programs and the Henry Ford II Honors Program.

Step 2 – Take Course Placement

The student takes the ASSET or COMPASS test, which assesses writing, reading, and numerical skills.

Michigan Merit Scholarship or Promise Scholarship recipients are not required to take HFCC placement exams. These students should present written proof of their award to the Assessment Center on the main level of the Learning Resources Center, LRC-117A.

Also, students who have taken the ACT and received a score of 19 or higher in English and a 6 or higher on the ACT Writing test or a 23 or higher in Mathematics should contact the Assessment Center at **313-845-6399** to see if their scores exempt them from taking Course Placement to place into the Mathematics or English courses they wish to take.

Step 3 – Complete Orientation

The student completes an online orientation at **www.hfcc.edu/orient**.

Step 4 – Meet with a Counselor

A counselor will help the student with course selection, career goals and other information for a successful start.

Step 5 – Register for Classes

The student registers for classes through myHFCC WebAdvisor, or in person at the Office of Registration and Records in the lower level of the Learning Resources Center.

Step 6 – Pay for Classes

There are a number of convenient options to help with paying tuition at HFCC, including cash, check, charge card or the EZPay Program. Visit **www.hfcc.edu/fa** for more information on how to pay for a high-quality HFCC education.

After these easy steps are completed, relax and wait for classes to begin!

HAWKS
HENRY FORD COMMUNITY COLLEGE

Transfer HFCC Credits to Another College

Approximately half of HFCC graduates continue their education at other major institutions. Henry Ford Community College strives to make the transfer process seamless for students.

ARTICULATION AGREEMENTS & TRANSFER GUIDES

The College has over 125 articulation agreements with 14 universities. Articulation agreements guarantee that students who follow the programs outlined in the agreements and complete their associate's degree will receive full credit when they transfer.

HFCC also maintains nearly 600 transfer guides indicating equivalencies at 33 universities for individual courses.

The vast majority of HFCC graduates who transfer to four-year institutions say that HFCC prepared them well for their transfer. They also save thousands of tuition dollars by earning an associate's degree at HFCC first. That money can be used towards earning a bachelor's degree and beyond.

Easily transferable credits. More academic and career choices. Affordable tuition. No wonder HFCC ranks among the top community colleges for university transfer students in southeastern Michigan!

For more information, consult the articulation guides and transfer guides available in the University Transfer, Advising, and Career Counseling Center.

ACCREDITATION

Accreditation ensures that credits from Henry Ford Community College will transfer to other accredited colleges and is an excellent measure of the high-quality education available at HFCC.

Henry Ford Community College is accredited by The Higher Learning Commission, a Commission of the North Central Association of Colleges and Schools, 30 North LaSalle St., Suite 2400, Chicago, IL 60602-2504. Phone: **1-312-263-0456**. Web Address: **www.ncahigherlearningcommission.org**. HFCC is also accredited by the Michigan Commission on College Accreditation.

Many individual academic programs at HFCC are accredited by their national associations and other governing bodies. You can see the complete list on page 271.

TRANSFER CREDIT GUARANTEE

Henry Ford Community College will refund the tuition of any HFCC graduate for any course passed at HFCC with at least a C grade* if that earned course credit does not transfer to a college or university within two years of the student's having taken the course. Such classes must be listed as transferable on the transfer institution's official curriculum guide sheets on file in the University Transfer, Advising, and Career Counseling Center.

*   A grade of C- may not qualify. Also, developmental courses do not generally transfer.

MACRAO TRANSFER AGREEMENT

The Michigan Association of Collegiate Registrars and Admissions Officers (MACRAO) has established the MACRAO Transfer Agreement, which offers transferability of up to 30 semester credit hours to meet many (and in some cases all) of the General Education Requirements at participating Michigan four-year colleges and universities. Henry Ford Community College students may take the MACRAO Transfer Agreement Courses as part of an associate's degree or as a stand-alone package. In order to complete the MACRAO Transfer Agreement, HFCC students must take 30 semester credit hours of 100-level and above college coursework, in the following areas:

6 CREDIT HOURS

English Composition (ENG 131 and ENG 132)

Please note ENG 131 and ENG 135 is accepted by some MACRAO colleges and universities. Students should check the transfer guides available in the University Transfer, Advising, and Career Counseling Center.

8 CREDIT HOURS

Science and Mathematics (including at least one laboratory course)

8 CREDIT HOURS

Social Science

8 CREDIT HOURS

Humanities (courses other than English composition)

Earning a Bachelor's Degree

One of the most important choices that community college students make is deciding whether to pursue additional education after completing their associate's degree or certificate program. Fortunately, HFCC offers students several excellent options.

Henry Ford Community College has a very high transferability rate of courses to four-year colleges and universities. The content and quality of HFCC courses are equivalent to those at four-year universities, so students can be confident that HFCC courses will "count."

It makes good financial sense to complete an associate's degree at HFCC and then transfer to a four-year university. The tuition cost of completing 60 credit hours at HFCC is approximately $6,900. Other colleges and universities in Michigan charge up to $39,600 for an equivalent number of courses. Students can use the money they save towards completing their bachelor's degree and beyond.

In addition, students can participate in one college's distance-learning partnerships with universities in Michigan and Ohio. These innovative collaborations offer both savings and convenience – students save thousands of dollars in tuition while earning a four-year degree on site at Henry Ford Community College (See this page for details).

HFCC AND FRANKLIN UNIVERSITY

Graduates can opt to earn a bachelor's degree from Ohio-based Franklin University without leaving the HFCC campus. Degrees are available in one of 12 major areas:

- Accounting
- Applied Management
- Business Administration
- Computer Science
- Digital Communication
- Health Care Management
- Human Resources Management
- Information Technology
- Management
- Management Information Sciences
- Marketing
- Public Safety Management

Interested students should first complete their two-year, 60-credit associate's degree at HFCC, followed by approximately 24 credit hours of "bridge" courses on the HFCC campus. Students then complete their bachelor's degree by electing 40 semester credit hours of Franklin University's online "Capstone Courses".

Although online courses are taught by Franklin University professors, students have the benefit of HFCC's distance-learning resources such as computer assistance, counseling, academic support, and library facilities. Each student in the program is paired with a Student Services Associate at Franklin University who provides continuous support from admission to graduation.

Many students enjoy the flexible scheduling offered by distance-learning programs. However, interested students are strongly recommended to choose the one-credit hour elective course "Orientation for the Distance Student" at the onset of the degree program to determine whether this form of learning is appropriate for them.

Students interested in HFCC's distance-learning programs will find admissions and other information for Franklin University on the Web site at **www.alliance.franklin.edu**.

New Degree-Seeking Students

Degree-seeking students are expected to enroll in a specific HFCC program of study. These students should follow these easy steps for admission and registration:

REGISTERING FOR CLASSES: STEPS TO SUCCESS

Registering for classes is easy and convenient. Below is a listing of the registration process for different categories of students at HFCC:

- New Degree-Seeking Students
- New Non-degree-Seeking Students
- Guest Students
- Returning Students (Those who have previously registered for classes at HFCC)

Please follow these steps to success to get started at HFCC!

NEW DEGREE-SEEKING STUDENTS

Step 1 – Complete an HFCC Admission Application

Students should fill out an admission application and return it to the Office of Registration and Records with a check or money order for $30 and one of the following to be admitted:

- Current high school students are required to submit a high school transcript, from an accredited high school.

- High school graduates need to supply a copy of their high school diploma (must be accredited high school.)

- GED holders need to provide a copy of their General Educational Development certificate (GED) and test scores.

- Transfer students should forward official copies of their college transcripts.

- International students must provide proof of graduation from a school equivalent to a U.S. high school.

- Non-U.S. citizens must provide proof of current visa status. or of legal residency

The best way to apply for admission is on the web at **www.hfcc.edu/apply**. Paper applications can be obtained by calling the HFCC Welcome Center at **1-800-585-HFCC** or e-mailing **enroll@HFCC.edu**.

Students will be notified by mail of their acceptance status.

Note: Health Careers and Nursing applicants must meet special requirements and follow special procedures. Call **313-845-9834** or **313-317-6525** for details.

Step 2 – Take Course Placement

In order to help students make the best choices in selecting classes, all degree-seeking students are required to participate in Course Placement. Course Placement helps students and their counselor or faculty advisor assess their reading, writing, and math skills. Course Placement is free of charge. Students cannot fail Course Placement.

After the College receives the student's HFCC admission application, the student may participate in Course Placement at the Assessment Center, located on the first floor of the Learning Resources Center (LRC). Students choose from either an untimed computerized assessment or a timed, written multiple-choice test.

The sooner students complete Course Placement, the sooner they will be advised and allowed to enroll, giving them the best selection of classes and times. No appointment is necessary. Course Placement is available on a walk-in basis. Students should allow about two hours to complete the process. For more information about Course Placement, students should call the Assessment Office at **313-845-6399**.

Note: Michigan Merit Scholarship or Promise Scholarship recipients are not required to participate in HFCC Course Placement.

Step 3 – Complete Orientation

Orientation is the next step in the new student process. Students may view the orientation on-line in the Assessment Center. Orientation takes about one hour and no appointment is necessary. Orientation is also accessible on-line at **www.hfcc.edu/orient**.

Step 4 – Meet with a Counselor

A counselor in the University Transfer, Advising, and Career Counseling Center will help the student with course selection, career goals and other information for a successful start.

Step 5 – Register for Classes

The student registers for classes through myHFCC WebAdvisor or in person at the Office of Registration and Records in the lower level of the Learning Resources Center.

Step 6 – Pay for Classes

Your last step! See page 10, for "Payment of Tuition and Fees" Information.

New Non-Degree-Seeking Students, Guest Students, Returning Students, and International Students

NEW NON-DEGREE SEEKING STUDENTS

Persons who wish to take credit courses for enrichment, personal development or to continue their education can be admitted as non-degree-seeking students.

Note: Financial aid is not available to non-degree-seeking students.

Non-degree-seeking students should follow these easy steps for admission and registration:

Step 1 – Apply for Admission

The best way to apply for admission is on the Web at **www.hfcc.edu/apply**. The only exceptions are Dual Enrollment or Advancement Plus students, who must complete a paper application and obtain the appropriate signatures from high school personnel.

Paper applications can be obtained by calling the HFCC Welcome Center at **1-800-585-HFCC**, or e-mailing **enroll@hfcc.edu**.

Note: A non-degree-seeking student must be a high school graduate or have a General Educational Development certificate (GED). To take classes, students must meet all course prerequisites listed in the HFCC catalog. Some classes may require placement testing. Graduates of foreign educational institutions must meet English language proficiency standards.

Step 2 – Register for Classes

After admission, students can register for classes. Please follow the Returning Student process listed on page 8.

Step 3 – Pay for Classes

Your last step! See page 10, for "Payment of Tuition and Fees" information.

Previous balances must be paid in full before registering for a new term. After selecting courses, your tuition and fees must be fully paid by Friday at 4:30 p.m. of the week you register.

GUEST STUDENTS

Guest students are those attending other colleges who wish to take courses at HFCC for transfer credit.

Note: Financial aid is not available to guest students.

Guest students should follow these easy steps for admission and registration:

Step 1 – Apply for Admission

Obtain a validated Michigan Uniform Guest Application from the Registrar's Office at your resident college or university. Complete the application, obtain the appropriate signature and seal of your college, and submit it to the Office of Registration and Records at HFCC. Alternatively, guest students may follow the non-degree-seeking student admission process.

Note: Students attending out-of-state colleges should follow the non-degree-seeking student process.

Step 2 – Register for Classes

After the guest application has been processed, the student may register for classes. Please follow the Returning Student process.

Step 3 – Pay for Classes

Your last step! See page 10, for "Payment of Tuition and Fees" information.

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

After selecting courses, your tuition and fees must be fully paid by Friday at 4:30 p.m. of the week you register.

RETURNING STUDENTS

Returning students should follow these easy steps to register:

Step 1 – Register for Classes

Register for classes on myHFCC WebAdvisor, **www.hfcc.edu/currentstudents**, or **313-317-4100** or in person through the first week of class.

Only former students who have enrolled in any semester since 1990 can register by touch-tone telephone registration or www.hfcc.edu. Students who attended classes before 1990 must register in person at the Office of Registration and Records.

Step 2 – Pay for Classes

Your last step! See page 10, "Payment of Tuition and Fees" Information.

Previous balances must be paid in full before registering for a new term. After selecting courses, your tuition and fees must be fully paid by Friday at 4:30 p.m. of the week you register.

INTERNATIONAL STUDENTS

HFCC welcomes applications from international students. In Fall 2008, students from more than 60 countries were enrolled at HFCC.

International students should seek consultation with our International Advisors. Additional information can be found on page 288.

Payment of Tuition and Fees

The HFCC tuition and fee payment policy helps assure that all students have access to the college's educational opportunities.

To become eligible to register for a new term, you must pay your prior term balances in full. After selecting courses, your tuition and fees must be fully paid by Friday at 4:30 p.m. of the week you register.

HFCC offers easy, convenient payment methods. You may pay your balance by cash, check or credit card (MasterCard, Visa or Discover) at the Cashier's Office.

You can also mail your check to:

Henry Ford Community College
Cashiers Office
5101 Evergreen Rd.
Dearborn, MI 48128

The Cashier's Office is available Monday-Thursday, 8 a.m. - 6:30 p.m.; Friday, 8 a.m - 4:30 p.m. The office is closed on Friday during the Summer semesters. If you have questions, call the Cashier's Office at **313-845-9641**.

Explore your payment options at:
www.hfcc.edu/cashiers

FOR GREATER CONVENIENCE, YOU CAN ALSO PAY ONLINE.

- Pay by credit card at the HFCC Web site using myHFCC WebAdvisor at: **my.hfcc.edu/webadvisor**

- If your balance is $600 or more ($300 or more for Spring and Summer semesters), try the EZ-Pay installment plan offered through FACTS Management. Enroll on the HFCC Web site at: **www.hfcc.edu/cashiers**

If you are sponsored by an employer, forward your company/corporate certificates and correspondence to the Cashier's Office as soon as possible. If you expect any delay in receiving your certificate, contact the Cashier's Office immediately.

If you're a Financial Aid student, you are not subject to the above policies. Submit your FISAP and follow through with the financial aid process. However, student account balances are immediately due in full if you become ineligible for aid, lose your aid or fail to accept sufficient aid. For more information, call Financial Aid at **313-845-9616**.

NON-PAYMENT OF TUITION & FEES

HFCC requires that students be prompt in paying all tuition and fees to remain in good academic standing.

If tuition and fees are not paid in accordance with the College's Fee Payment Policy, the student may be subject to collection (with additional penalties, fees, and credit reporting). An unpaid account account balance will block all future term enrollments and access to your transcripts until the account.

If a delinquent student account is the result of a Return to Title IV Federal Financial Aid, the student will be disqualified from additional Federal Financial Aid at HFCC and at other colleges and universities. To resolve such problems, students should contact the HFCC Cashier's Office immediately.

For more information about financial aid options at HFCC, please go to page 274.

Class Schedule and Textbooks

CLASS SCHEDULE

Students should see the Class Schedule booklet each semester for specific times and dates of registration. The schedule is on the Web at **www.hfcc.edu/schedule** or is available at the Welcome Centers.

COLLEGE BOOK STORE

BUYING BOOKS

When it comes to selecting and purchasing textbooks, HFCC offers students convenient choices.

Students can buy their books in person or use College Store Online at **www.hfcc.edu/collegestore**.

Students can pay for textbooks with flexible options: VISA, MasterCard, Discover, financial aid, scholarships or company-sponsored vouchers. Students using financial aid, loans, or scholarships for College Store purchases must present a current student schedule or award letter and picture ID for each purchase. Visit **collegestore.hfcc.edu** for more information.
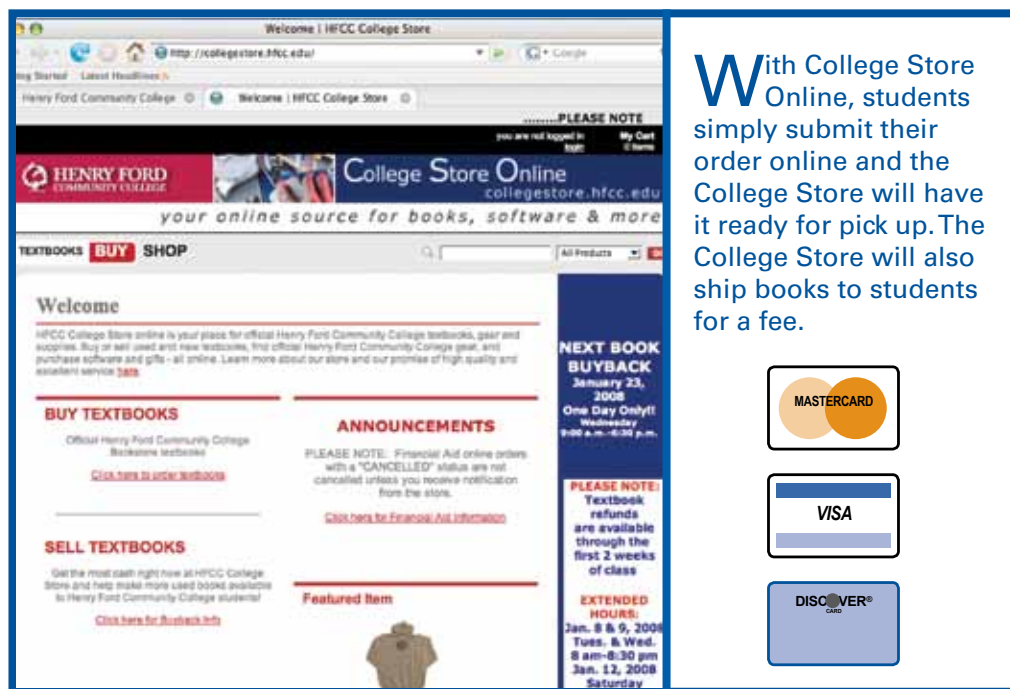
### BOOK BUY BACK PROCEDURE

Ready to sell back used textbooks? Hoping to save money on new ones? The College Store helps students by providing an extensive selection of used books, sold at 75% of the new book price. Always in demand, this stock of used books is replenished with a Book Buy Back program that takes place each semester.

Book Buy Back is held during the week of final exams in fall and winter semesters, and at specially announced times during the spring and summer terms. The College Store does not purchase books from students at any other time.

Course books being used at HFCC may be sold back for up to 50% of the current new book price. Even if certain textbooks are not in demand at HFCC, the book buyer may offer a price based on national demand.

Due to overstocks and edition/title changes, not all books can be bought back. Workbooks also are not eligible for the Book Buy Back program.

With College Store Online, students simply submit their order online and the College Store will have it ready for pick up. The College Store will also ship books to students for a fee.

MASTERCARD

VISA

DISCOVER® CARD

On Line Services at HFCC

HFCC has a wide variety of computer and online services to help students achieve their goals. Major services include the following:

- Novell Network
- myHFCC WebAdvisor
- Wireless Access
- UCompass Educator
- Computer Labs

NOVELL NETWORK

What is Novell? Why do I need it?

Novell is the main operating system for the HFCC campus computer network. To use any computer on campus or obtain wireless access, you must log into the Novell Network by entering your User ID and password.

What is my Novell Network User ID?

Your User ID is assigned the first time you enroll for classes. It allows you to access all student computer services at HFCC. To get your User ID go to **www.hfcc.edu/webadvisor**. Click "What's My User ID?" and follow the prompts to find your User ID.

What is my Novell Network password?

Your Novell password is the four-digit month and day of your birth, i.e., June 5 = 0605.

How do I change my Novell Network password?

The Novell network, wireless, and UCompass use exactly the same account and password. When you change the Novell network password, the UCompass password changes as well. To change your Novell network and UCompass password via the Internet point your browser to **https://my.hfcc.edu**, click on "Change My Password," sign in, and follow the instructions.

For more information on changing your Novell Network, wireless, and UCompass password, visit **https://my.hfcc.edu/passwords**. Students are strongly encouraged to personalize their passwords and set their challenge phrases.

Where do I go for help with the Novell Network?

For help with your Novell Network login or password, visit the Online Help Desk. From the HFCC Web site, **www.hfcc.edu**, click "For Current Students," then "Computer Help Desk" on the right-page menu.

If you wish to put in a trouble ticket, click the "Trouble Ticket" button and complete the appropriate form.

myHFCC WebAdvisor

What is myHFCC Web Advisor?

myHFCC WebAdvisor is a secure, web-based tool that allows HFCC students to safely access their college-related information.

Why do I need myHFCC WebAdvisor?

Current students use myHFCC Web Advisor to:

- Register for classes
  (returning students only; new degree-seeking students register in person)
- Drop and add classes
  (prior to the beginning of a semester)
- Pay for classes
- Retrieve grades
- View transcripts
- View and print class schedules
- Check financial aid status
- View account summary

How do I get to myHFCC WebAdvisor?

From a Web browser, go to **www.hfcc.edu/webadvisor** and proceed to the student log-in screen.

What is myHFCC WebAdvisor ID?

You are assigned a unique myHFCC WebAdvisor ID the first time you enroll for classes. It allows you to access all student computer services at HFCC. To find your myHFCC WebAdvisor ID go to **www.hfcc.edu/webadvisor**. Click "What's my user ID?" You will be asked to provide your last name and either your social security number or your student number. After you submit this information, a screen will appear that gives your myHFCC WebAdvisor User ID.

On Line Services at HFCC

What is myHFCC WebAdvisor password?

Your password for all online and network tools is initially the four-digit month and day of your birth. For example, if your birthday is June 5 your password will be 0605.

When you enter this 4-digit number, you will immediately be asked to change your password to one of your choice. The password must contain both letters and numbers and must be a minimum of 6 characters and a maximum of 10. You will be asked to enter the password twice, for verification. You have the option of entering a password hint as well. Use this new password only when you log into myHFCC WebAdvisor. Your UCompass, wireless portal, and Network password will remain the same, the four-digit month and date of your birth.

In the event that you forget your password for myHFCC WebAdvisor or want to change it for any reason, you can change it by clicking on "What's My Password?" on the myHFCC WebAdvisor menu. You will be given three options: select "Reset My Password." Once you have provided your name and either social security number or student number, your new password will be sent to your e-mail address.

Where do I go for help with myHFCC WebAdvisor?

For help with your myHFCC WebAdvisor login or password, e-mail **myhfcc@hfcc.edu**.

Registering for Classes Using myHFCC WebAdvisor

Before using myHFCC WebAdvisor's registration feature, you should know exactly what sections and classes you intend to take. You can search for the schedule on myHFCC WebAdvisor or use the Schedule of Classes.

When you are ready to register, click on Register for Classes. At the bottom of the page, click on Express Registration. Once the grid appears that allows you to enter your class selections, make entries only in the far left-hand column labeled "Synonym." The Synonym is the six-digit number that identifies the particular class section you wish to select. It tells the database which semester you wish to register for and the course and section of that course you have chosen. Do not fill in any additional information – just the synonym. Once you click on "Submit" at the bottom of the page and select the semester schedule you wish to see, your schedule for that semester will appear with your name and student number on it. This page can be printed for your record.

Please note: At certain times during each semester, the volume of traffic on myHFCC WebAdvisor is substantial. This slows down the system. If you are experiencing delays in screens appearing or changing, please be patient. If you double click, thinking that the system is not responding, you are likely to be exited from the system and will have to start over again. As long as the figure at the top right-hand corner of the screen is revolving, the system is processing your request.

On Line Services at HFCC

UCOMPASS EDUCATOR AND ONLINE COURSES

What is the UCompass Educator Course Management System?

The UCompass Educator Course Management System is HFCC's online classroom system. Only students enrolled in online courses or courses that use UCompass Educator as a supplement to traditional classroom instruction use UCompass. Your UCompass account is available on the first day classes begin on campus. The Web address to log into UCompass is **http://henryford.ucompass.com**.

What is my UCompass Educator ID?

Your UCompass ID is the same as your myHFCC WebAdvisor ID.

What is my UCompass Educator password?

Your UCompass password is the four-digit month and day of your birth, i.e. June 5 = 0605.

How do I change my UCompass Educator Password?

The Novell network and UCompass use exactly the same account and password. When you change the Novell network password, the UCompass password changes as well. To change your Novell network and UCompass password, point your browser to **https://my.hfcc.edu**, click on the "Change My Password" link, sign in and follow the instructions.

For more information on changing your Novell Network, wireless, and UCompass password, visit **https://my.hfcc.edu/passwords**.

Where do I go for help with UCompass Educator?

For help with UCompass, contact the HFCC Office of Instructional Technology.

Phone: **313-845-9663**, extension 4 or 5. Students can also e-mail: **support@henryford.ucompass.com**. For password concerns, e-mail **helpdesk@hfcc.edu**.

See the Online Learning section on page 284 for complete information about taking one or more of HFCC's high-quality online courses.

HFCC unplugged! got laptop?

WIRELESS@HFCC

Henry Ford Community College now provides wireless access for all faculty, staff, and registered students. Currently, the wireless network is available in all campus buildings from 6 a.m. until 10 p.m. daily. This service provides Access to Web based resources only. Browser based e-mail is supported. Printing is not available on the wireless network.

Complete instructions on accessing the Wireless Network can be obtained at **https://dvc.hfcc.net/helpdesk/000171.htm**.
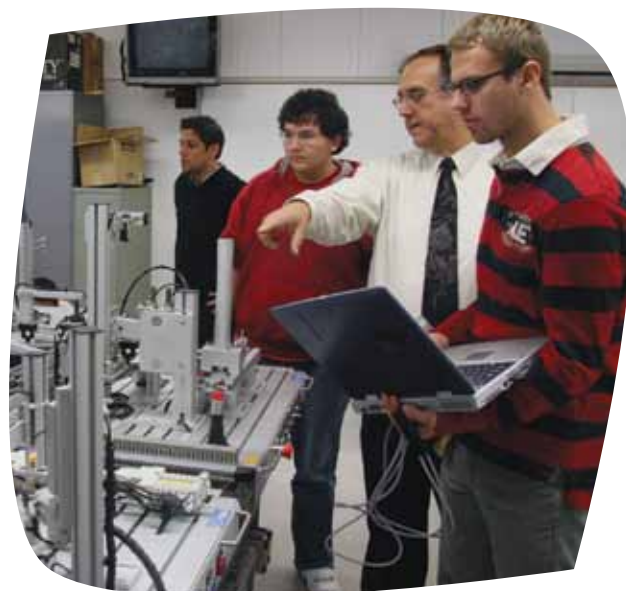
Computers on Campus

COMPUTERS ARE AVAILABLE FOR HFCC STUDENTS ON CAMPUS

LOCATION	WHO CAN USE	DAYS	TIMES	CONTACT	NOTES
Escheman Library	All current HFCC Students	Monday - Thursday	7:30 a.m. - 9:00 p.m.	313-845-6386	**Software:** Microsoft Office and other course related software. **Printing:** 10¢ per page
		Friday	7:30 a.m. - 9:00 p.m.		
		Saturday	7:30 a.m. - 9:00 p.m.		

Important information for Eshleman Library Media Center
The Media Center has more than 50 computers which can be used by enrolled students to complete assignments, type papers or access the Internet. Media Center staff can help student logon the first time and give limited help thereafter, but users are expected to have a basic knowledge of computers, software and the Internet. To make computers available equally, time limitations are imposed. Students can also use Internet based services like UCompass and WebAdvisor in the computer lab.

LOCATION	WHO CAN USE	DAYS	TIMES	CONTACT	NOTES
Business and Economics Division Lab, LA-332	Current Business & Economic Students	Lab availability varies each semester.	See current schedule posted at LA-332	313-845-9645	
Computer Information Systems (CIS) Lab, T-194	Current CIS Students	Lab availability varies each semester.	See current schedule posted at T-194	313-845-9600 Ext: 9255	Lab hours subject to change.
Graphic Design Lab, F-160	Current Graphic Design Students	Lab availability varies each semester.	See current schedule posted at F-160	313-845-6476	
Music Technology Computer Lab, F-112	Current Music Students	Lab availability varies each semester.	See current schedule posted at F-112	313-845-6476	Lab is closed during Spring/Summer terms.
Nursing Computer Lab, H-125	Current Nursing Students	**FALL/WINTER TERMS ONLY**		313-845-6306	Lab is closed during Spring/Summer terms.
		Monday	9:00 a.m. - 12:00 p.m.		
		Tuesday - Thursday	8:00 a.m. - 4:00 p.m.		
		Friday	8:00 a.m. - 2:00 p.m.		

LABS FOR CLASS REGISTRATION AND FINANCIAL AID USE

LOCATION	WHO CAN USE	DAYS	TIMES	CONTACT	NOTES
Class Registration LRC Lower-Level Lobby of LRC-013	For students registering for classes only.	Monday - Thursday	8:30 a.m. - 6:00 p.m.	313-845-6403	This lab is for class registration only.
		Friday	8:30 a.m. - 4:00 p.m.		
Financial Aid LRC Lower-Level LRC-030	New and current students for financial aid use only.	Monday - Thursday	8:30 a.m. - 6:00 p.m.	313-845-9616	This lab is to complete the online FAFSA and other financial aid documents only.
		Friday	8:30 a.m. - 4:00 p.m.		
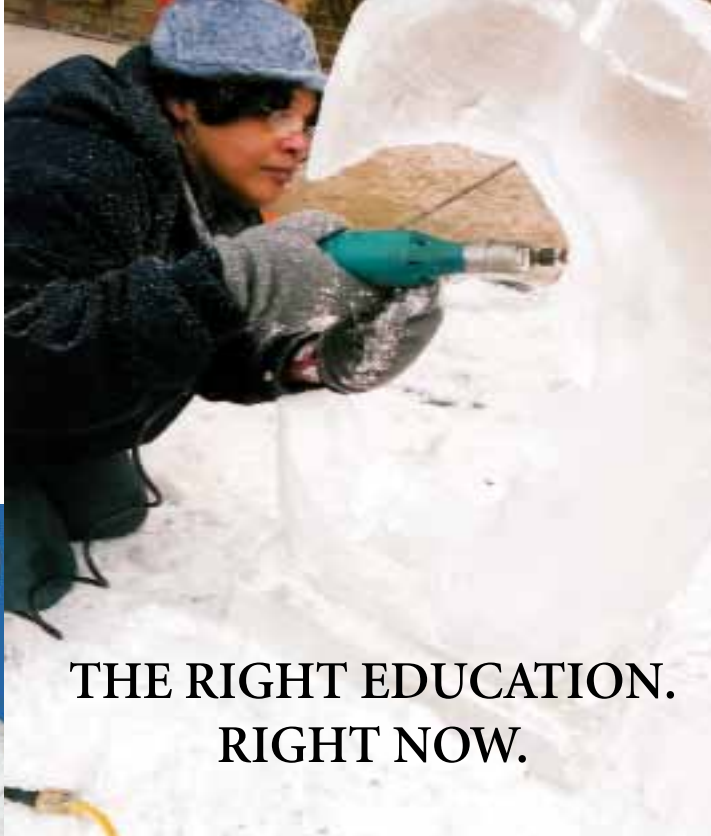
THE RIGHT EDUCATION.
RIGHT NOW.

DEGREES, CERTIFICATES & CONTINUING EDUCATION CREDITS

ASSOCIATE DEGREES

Henry Ford Community College awards the following Associate Degrees:

- Associate in Applied Science
- Associate in Arts
- Associate in General Studies
- Associate in Science

To earn an Associate Degree, students must complete the General Requirements for an Associate Degree, General Education Requirements, and Specific Degree Requirements.

In order to improve programs, HFCC 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 program/degree requirements within three (3) years of any program/degree change.

These requirements are listed in the following sections.

General Requirements for an Associate Degree

❶ Earn a minimum of 60 semester hours of credit with a 2.00 cumulative grade point average (GPA) or higher.

❷ Complete General Education and Specific Degree Graduation Requirements outlined on the following pages.

❸ Complete all required and elective courses for the program found in the Program of Study section of this catalog. (This information is available on myHFCC WebAdvisor under Program Evaluation.)

❹ A maximum of six credit hours in developmental courses (numbered 099 or lower) may be used as elective credit. Developmental courses do not meet General Education, Specific Degree Requirements, or Program Requirements.

❺ Complete a minimum of 20 semester hours of credit at HFCC. The balance of credit may be transferred in from other sources (usually accredited colleges). Students must work with the HFCC University Transfer, Advising, and Career Counseling Office and/or the Office of Registration and Records to establish an official record of transfer credit at the College.

❻ A maximum of 40 semester hours of credit from any HFCC associate degree may be applied toward meeting the requirements of another degree. In other words, to earn a second associate degree at HFCC an additional 20 semester hours of credit must be earned or all second degree requirements must be met, whichever is greater. The same rule applies for all subsequent degrees.

❼ A maximum of six semester hours of credit may be transferred after leaving HFCC to complete degree requirements. All degree requirements must be

met. A minimum of 20 semester hours of credit must be earned at HFCC.

❽ A student holding a bachelor's degree from a regionally accredited college or university will be given transfer credit equivalencies that meet the General Education Requirements for graduation.

❾ All financial obligations to the College have been met.

General Education Requirements

All students receiving an Associate Degree are required to meet General Education Outcomes. Henry Ford Community College defines General Education as courses and/or learning experiences that enable students to attain the knowledge and skills needed by every college graduate. General Education establishes a foundation of skills and understandings to enable success in employment and further education. In line with its belief that General Education competence should be defined by the College to meet the needs of external communities in which its graduates must function, HFCC has collected and restated expectations identified by employers, alumni, and four-year colleges. The General Education Outcomes reflect those expectations. To receive an Associate Degree from the College, students must earn a passing grade in at least one of the courses (or pair of courses) listed for each General Education Outcome.

General Education Outcome #1

American Society, Events, Institutions and Cultures

Students will be able to demonstrate an understanding of American society, with 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.

Courses Meeting General Education Outcome #1

ENG 235	American Literature Before 1900	3 Cr. Hours
ENG 236	American Autobiographies	3 Cr. Hours
ENG 237	American Literature Since 1900	3 Cr. Hours
CRJ 131	Intro to Criminal Justice/Law Enforcement	3 Cr. Hours
HIST 151	American History I	3 Cr. Hours
HIST 152	American History II	3 Cr. Hours
POLS 131	Intro to American Government and Political Science	3 Cr. Hours
SOC 131	Intro to Sociology	3 Cr. Hours
SSC 131	Survey of Social Sciences	3 Cr. Hours

General Education Outcome #2

Computer Literacy

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

Courses Meeting General Education Outcome #2

ACT 112**	Computers in Architecture	1 Cr. Hour
AH 125 *	Survey of Computer Med Info Sys	3 Cr. Hours

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ART 275	Advanced Projects (Graphic Design)	3 Cr. Hours
BCA 140	Microcomputer Apps for Business	3 Cr. Hours
CIS 100	Intro to Information Technology	3 Cr. Hours
CIS 221	Instructional Tech for Elem Educators	3 Cr. Hours
CIS 223	Instructional Tech for Sec Educators	3 Cr. Hours
HCS 131	Computers and Health Care	3 Cr. Hours
HIT 161*	Medical Information Processing	2 Cr. Hours
MFMT 103	Industrial Computer Orientation	2 Cr. Hours
TAFD 115	Computer Apps for Skilled Trades	2 Cr. Hours
CLT 100	Computer Literacy Test	0 Cr. Hours

Students who have already learned the required Computer Literacy competencies may meet the requirements by signing up for CLT 100 and passing the Computer Literacy Test. CLT 100 consists of only one class session when the Computer Literacy Test is given.

* Course is not offered after Winter 2006.
** Course is not offered after Winter 2008.

General Education Outcome #3

Critical Thinking

Demonstrate critical thinking and problem solving skills in addressing a problem or situation described verbally, graphically, symbolically or numerically.

Courses Meeting General Education Outcome #3

Any non-activity based course numbered 100 or higher will meet the requirements of General Education Outcome #3.

General Education Outcome #4 & #5

Information Literacy

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

Written Communication

Demonstrate proficiency in reading and writing in Standard English at the College level.

Courses Meeting General Education Outcome #4 & #5

ENG 131	Introduction to College Writing and	3 Cr. Hours
ENG 132	College Writing and Research	3 Cr. Hours
OR		
ENG 131	Introduction to College Writing and	3 Cr. Hours
ENG 135	Business and Technical Writing and Research	3 Cr. Hours

Important notes on courses that meet General Education requirements:

❶ 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.

❷ 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 HFCC University Transfer, Advising, and Career Counseling Center for information on transfer requirements.

SPECIFIC DEGREE REQUIREMENTS

In addition to the General Requirements for an Associate Degree and the General Education Requirements, specific degree requirements must be met to achieve an Associate Degree offered by the College.

ASSOCIATE IN ARTS

Programs leading to the Associate in Arts degree are intended for students who plan to transfer to a four-year college or university to complete a bachelor's degree. The programs include:

Arab Cultural Studies
Art Foundation
Ceramics
Child Development
Children and Families
Criminal Justice – Corrections/Probation and Parole
Criminal Justice – Law Enforcement
Criminal Justice – Law Enforcement with Police Academy
Graphic Design
Interior Design
Liberal Arts
Motion Capture Technician
Music
Pre-Elementary Education
Pre-Secondary Education
Pre-Special Education
Religious Studies
Telecommunications
Theatre

The requirements of the Associate in Arts degree include:

	Credits
❶ **General Education Requirements**	9-12
❷ **Degree Specific Graduation Requirements**	

Wellness Group — one course
COUN 114, HPE 140, HPE 142, HPE 153, HPE 260, HPEA 117, HPEA 217, HPEA 126, HPEA 155

Humanities Group — 8
Art, Dance, English (except ENG 131, 132, 135), Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theater, World Languages, World Religion

Science and Mathematics Group — 8
Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Mathematics, Physical Science, Physics

Social Science Group — 8
Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

NOTE: Courses that meet the General Education requirement on American Society may also fulfill the Group Requirement in Social Science.

❸ **Program Requirements and Electives**
See specific program requirements.

Total Credits: 60 or more

Degrees, Certificates & Continuing Education Credits

ASSOCIATE IN SCIENCE

Programs leading to the Associate in Science degree are intended for students who plan to transfer to a four-year college or university to complete a bachelor's degree. The programs include:

Engineering
Environmental Studies
Pre-Pharmacy
Pre-Professional Biology
Pre-Professional Chemistry

The requirements of the Associate in Science degree include:

	Credits
❶ **General Education Requirements**	9-12
❷ **Degree Specific Graduation Requirements**	

Humanities Group — 6
Art, Dance, English (except ENG 131, 132, 135), Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theater, World Languages, World Religion

Science and Mathematics Group — 24
Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Physical Science, Physics, Mathematics (minimum 2 lab courses required)

Social Science Group — 6
Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

NOTE: Courses that meet the General Education Requirement on American Society, Events, Institutions, and Cultures may also fulfill the Social Science Group Requirement.

❸ **Program Requirements and Electives**
See specific program requirements.

Total Credits: 60 or more

ASSOCIATE IN APPLIED SCIENCE

Programs leading to the Associate in Applied Science degree are intended to prepare students for specific occupational careers in a wide range of fields. The programs include:

Architecture/Construction Technology
Automotive Service (ASSET)
Automotive Service Management – Technical Concentration
Automotive Technology
Biotechnology
Building Construction Trades
CAD-CAM Technician
CAD Technology – Industrial Drafting
CNC (Computer Numerical Control)
CNC (Computer Numerical Control)/Manufacturing Productivity Systems
Computer Information Systems
Computer Information Systems – Information Assurance
Computer Information Systems – Network Administration
Culinary Arts
Electrical Technology
Energy Technology – Alternative Energy
Energy Technology – HVAC
Energy Technology – Power/Building Engineer
Firefighter/Paramedic
Fitness Leadership
Hotel/Restaurant Management
Manufacturing Trades
Medical Practice - Clinical Management
Multi-Skilled Facility Maintenance Technician
Multi-Skilled Manufacturing Maintenance (Mechatronics)
Nursing
Nursing - Advancement of LPNs to RNs
Ophthalmic Technician
Paramedic
Physical Therapist Assistant
Plant Maintenance Trades
Process Technology
Radiographer
Respiratory Therapist
Surgical Technologist

The requirements of the Applied Science degree include:

	Credits
❶ **General Education Requirements**	9-12
❷ **Program Requirements and Electives**	

See specific program requirements.

Total Credits: 60 or more

ASSOCIATE IN BUSINESS DEGREE

Programs leading to the Associate in Business degree are intended to prepare students for various occupational careers in business. The programs include:

Accounting
Administrative and Information Management
Automotive Service Management - Business Concentration
Business Administration
Business, General
Fitness and Sports Center Management
International Business
Management
Medical Practice/Facility Business Management
Paralegal

The requirements of the Associate in Business degree include:

	Credits
❶ **General Education Requirements**	9-12
❷ **Degree Specific Graduation Requirements**	

Humanities Group — 6
Art, Dance, English (except ENG 131, 132, 135), Interior Design, Journalism, Music, Philosophy, Science in Western Culture, Telecommunications, Speech, Theater, World Languages, World Religion

Science and Mathematics Group — 24
Astronomy, Atmospheric Studies, Biology, Chemistry, Geology, Physical Science, Physics, Mathematics (minimum 2 lab courses required)

Social Science Group — 6
Anthropology, Criminal Justice, Economics, Geography, History, Political Science, Psychology, Social Science, Sociology

Henry Ford Community College

NOTE: Courses that meet the General Education Requirement on American Society, Events, Institutions, and Cultures may also fulfill the Social Science Group Requirement.

❸ **Program Requirements and Electives**
See specific program requirements.

Total Credits: 60 or more

ASSOCIATE IN GENERAL STUDIES

The Associate in General Studies degree provides students with the opportunity to explore a wide range of different courses from both academic and career programs.

The requirements of the Associate in General Studies degree include:

	Credits
❶ **General Education Requirements**	9-12
❷ **Degree Specific Graduation Requirements**	

Wellness Group   one course
    COUN 114, HPE 140, HPE 142,
    HPE 153, HPE 260, HPEA 117,
    HPEA 217, HPEA 126, HPEA 155

Humanities Group   one course
    Art, Dance, English (except ENG 131, 132, 135),
    Interior Design, Journalism, Music, Philosophy,
    Science in Western Culture, Telecommunications,
    Speech, Theater, World Languages, World Religion

Science and Mathematics Group   one course
    Astronomy, Atmospheric Studies,
    Biology, Chemistry, Geology, Physics,
Physical Science, Mathematics

Career Education Group   one course
    Business and Economics, Health Careers,
    Nursing, Technology, Skilled Trades and
    Apprenticeship

❸ **Electives**

Total Credits: 60 or more

CERTIFICATE PROGRAMS

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 three 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
- assist in more advanced tasks
- describe the technical structure of the domain.

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

- The certificate includes a maximum of 18 credit hours.

- Twenty-five percent of coursework may be transferred in with written approval of the appropriate Associate Dean.
- 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, and the certification candidate should be able to

- serve as a resource for others
- solve moderately complex problems without assistance
- perform advanced tasks within the domain.

At HFCC, the following academic conditions would apply to a Level 2 certificate:

- The certificate includes 12-48 credit hours.
- Twenty-five percent of coursework may be transferred in with written approval of the appropriate Associate Dean.
- A cumulative GPA of 2.0 is required of all certificate coursework.

Level 3   Advanced Skills Certificate

The learning domain must encompass multiple technologies or skill areas, and 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"
- complete a hands-on assessment/lab exam/project.

At HFCC, the following academic conditions would apply to a Level 3 certificate:

- Certificate candidate would be required to have a related Associate degree or higher, or a minimum of two years of recent, verifiable work.
- The certificate includes 5-30 credit hours.
- Twenty-five percent of coursework may be transferred in with written approval of the appropriate Associate Dean.
- A cumulative GPA of 2.0 is required of all certificate coursework.

CONTINUING EDUCATION UNITS

Continuing Education Units 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 Center for Lifelong Learning.

PROGRAMS

Accounting

Associate in Business - Business and Economics Division			ACCTG.AB...
Charles Lacey	313-845-9657	clacey@hfcc.edu	Reuther Liberal Arts Building 319C
Elaine Saneske	313-845-9704	esaneske@hfcc.edu	Reuther Liberal Arts Building 328

Description

The goal of Henry Ford Community College's associate degree in Accounting is to assist students in gaining the necessary knowledge and competencies to succeed in acquiring an entry-level accounting position and/or transferring to a four-year college or university to major in accounting. Students will learn accounting theory and practice and will gain an understanding of business operations.

Students may elect the Accounting degree as a foundation for the education requirements to sit for the Certified Public Accountant (CPA) exam.

Students who plan to transfer to another institution should consult the articulation agreements with and/or transfer guides for the transfer institution.

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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
- Lawrence Technological University
- Siena Heights University
- University of Detroit Mercy
- University of Michigan - Dearborn
- Walsh College
- Wayne State University

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses	Cr. Hours
BAC 131 - Principles of Accounting	4
BAC 132 - Principles of Accounting	4

Complete one of the following courses:

BAC 141 - Computerized Accounting - QuickBooks	2
BAC 146 - Computerized Accounting - Peachtree	3

Complete 6 credit hours from the following courses:

BAC 231 - Asset Accounting	4
BAC 234 - Equity Accounting	4
BAC 235 - Tax Accounting	3
BAC 262 - Cost Accounting	3

Required Support Courses	Cr. Hours
BBA 131 - Introduction to Business	4
BCA 140 - Software Applications	3
BEC 151 - Principles of Macro Economics	3
BEC 152 - Principles of Micro Economics	3
BLW 253 - Business Law and the Legal Environment	4
MATH 115 - College Algebra or higher numbered MATH course*	5
SPC 131 - Fundamentals of Speaking	3

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

Associate in Business Degree Requirements

Students must also complete the specific degree requirements for the Associate in Business Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Business 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate in Business degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Recommended Course Sequence Option One

Term 1	Term 2	Term 3	Term 4
BAC 131	BAC 132	BAC 141*	BAC 234
BBA 131	BEC 152	BAC 231	BLW 253
BCA 140	ENG 131	ENG 132	SPC 131
BEC 151	MATH 115	POLS 131	

Recommended Course Sequence Option Two

Term 1	Term 2	Term 3	Term 4
BAC 131	BAC 132	BAC 141*	BAC 262
BBA 131	BEC 152	BAC 235	BLW 253
BCA 140	ENG 131	ENG 132	SPC 131
BEC 151	MATH 115	POLS 131	

Note:
BAC 141*: Students may select either BAC 141 or BAC 146.

Henry Ford Community College

Administrative and Information Management

Associate in Business - Business and Economics Division

ADMIS.AB...

Diana Baran 313-317-1583 dboran@hfcc.edu Reuther Liberal Arts Building 331
Elaine Saneske 313-845-9704 esaneske@hfcc.edu Reuther Liberal Arts Building 328

Description

Henry Ford Community College's associate degree in Administrative and Information Management (AIM) provides instruction, preparation, and guidance needed by administrative professionals in today's competitive work environment. The increased requirement of information, the expansion of computer technology, and the need for management support have transformed the office setting. The AIM program opens a career path for students interested in entering the administrative/management-support field and provides individuals already in the profession with the opportunity to upgrade their skills.

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

While working toward the AIM degree, students may choose to earn certificates in Computer Software Applications, Office Administration, and/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 HFCC Foundation Office at **313-845-9620**.

Career Opportunities
- Executive Assistant
- Administrative Assistant
- Office Manager
- Office Supervisor and Administrative Support
  among other job titles

Minimum Number of Credits To Graduate (Including Options Electives): 60

Courses

Required Core Courses | Cr. Hours

Course	Cr. Hours
BBA 110 - Business Language Skills	3
BBA 131 - Introduction to Business	4
BBA 133 - Business Behavior and Communication	3
BBA 231 - Business Office Communications	3
BBA 235 - Office Administration Practicum	4
BCA 106 - Introduction to Windows	2
BCA 125 - Introduction to the Internet & Web Pages	3
BCA 140 - Software Applications	3
BCA 143 - Word Processing	3
BCA 145 - Spreadsheet	3
BCA 147 - Database Applications	3
BCA 152 - Presentation Software	2
MGT 230 - Principles of Management	3
MGT 231 - Supervision and Teambuilding	3
MGT 240 - Creative Problem Solving	3

Complete one of the following courses:

Course	Cr. Hours
BCO 191 - Business Cooperative Education	1
BCO 290 - Business Cooperative Education	2

Required Support Courses | Cr. Hours

Course	Cr. Hours
SPC 131 - Fundamentals of Speaking	3

Complete one of the following courses:

Course	Cr. Hours
BMA 110 - Business Mathematics	3
MATH 115 - College Algebra or higher level - MATH course.*	5

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

Associate in Business Degree Requirements

Students must also complete the specific degree requirements for the Associate in Business Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Business 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate Degree in Business, 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Term 1	Term 2	Term 3	Term 4
BBA 110	BBA 133	BBA 231	BBA 235
BBA 131	BCA 125	BCA 145	POLS 131
BCA 106	BCA 143	BCA 147	MGT 231
BCA 140	BMA 110	BCA 152	MGT 240
ENG 131	ENG 132	MGT 230	

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Advanced Pathways

Certificate of Achievement - Skilled Trades and Apprenticeship Division ADPATH.001.CTAE...
Skilled Trades and Apprenticeship   313-845-6415   Technology Building 172

Description

The Advanced Pathways in Educational Career Excellence certificate program is intended to develop the basic foundation skills necessary to pass employer-delivered selection tests and prepare students for employment in skilled trades.

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

Minimum Number of Credits To Graduate (Including Options/Electives): 20

Courses

Required Core Courses	Cr. Hours
TAMA 110 - Industrial Applications of Basic Math Principles	2
TAFD 115 - Computer Applications for Skilled Trades	2
TAFD 150 - Applied Technology	3
TADV 100 - Basic Print Reading	2
TAMA 120 - Industrial Applications of Algebraic Principles	3
TAFD 120 - Industrial Safety Awareness	2
TAEL 102 - DC and AC Electricity	3
TAMN 100 - Shop Tools and Techniques	3

Recommended Course Sequence

Term 1	Term 2	Term 3
TAMA 110	TADV 100	TAEL 102
TAFD 115	TAMA 120	TAMN 100
TAFD 150	TAFD 120	

Note:
The sequence of classes shown above has been set to allow students to successfully complete this series of classes in one year while working part or full-time. The order in which the courses are taken has a logical pattern, building skills as the courses progress. If a student chooses, extra courses may be taken in any semester to accelerate his or her progress through the program. When this is done, pre-requisites must be observed. It is recommended, however, that a student not enroll for more than 9 credit hours in a semester if he or she is working full-time.

Animation

Certificate of Achievement - Fine Arts and Fitness Division ANIMATE.CMULT...
Kirk McLendon   313-845-6487   mclendon@hfcc.edu   MacKenzie Fine Arts Center 149
Martin Anderson   313-845-6488   mander@hfcc.edu   MacKenzie Fine Arts Center 131

Description

Animation is one of the five new Graphic Design Certificate programs offered at HFCC. Earn an Animation Certificate by completing the 37 credit hours of core courses. Students may complete an additional 23 credit hours of General Education and Elective Courses to earn an Associate in Arts degree. Classes are offered throughout the year during the day, evening and weekend.

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.

Minimum Number of Credits To Graduate (Including Options/Electives): 37

Courses

Required Core Courses	Cr. Hours
ART 101 - Two-Dimensional Design	3
ART 102 - Drawing 1	3
ART 107 - Photoshop	3
ART 108 - Flash	3
ART 112 - Drawing II	3
ART 113 - Life Drawing I	3
ART 115 - Intermediate Perspective	3
ART 130 - History of Graphic Design	3
ART 255 - Animation Basics	3
SART 265 - Illustration	3
ART 275 - Advanced Projects	3
TCM 157 - Digital Video Editing	1

Complete one of the following courses:

ART 208 - Lightwave	3
ART 209 - Maya	3

Note:
An additional 23 credit hours of General Education courses may be taken with any of the five Graphic Design certificates to obtain an Associate in Arts degree.

Students may select either ART 208 or ART 209

Henry Ford Community College

Arab Cultural Studies

Associate in Arts - Other Academic Division

Mike Daher   313-845-6457   mdaher@hfcc.edu
Reginald Gerlica   313-845-6457   rgerlica@hfcc.edu

ARABCULTURAL.AA
Reuther Liberal Arts Bldg 243
Andrew A. Mazarra Adm Serv & Conf Ctr 424

Description

The Associates in Arts degree in Arab Cultural Studies takes a multi-disciplinary approach to the study of Arabic, Arab Americans, and Middle Eastern cultures. The Program affords students 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 fluency, but also cultivates an informed perspective essential to the practice of public diplomacy within local, national, and international contexts.

Career Opportunities

Some occupations of Bachelors and Graduate-level Arab Culture majors are:
- Teacher
- Journalist
- Translator
- Researcher
- Community Organizer
- Attorney
- Homeland Security Professional
- Foreign Service Officer

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelorís degree without a loss of coursework completed at HFCC. See Appendix for a complete list of articulation agreements. Transfer guides denote the transferability of HFCC 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:
- Michigan State University
- Wayne State University
- University of Michigan - Dearborn
- University of Michigan - Ann Arbor

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

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses	Cr. Hours
ANTH 152 - Middle Eastern Peoples and Cultures	3
ARA 131 - Elementary Modern Standard Arabic I	4
ARA 132 - Elementary Modern Standard Arabic II	4
ART 224 - Art of Islam	3
HIST 112 - Early Modern World History	3
HIST 225 - The Modern Middle East	3
WR 232 - Western Religions: Judaism, Christianity and Islam	3

Required Support Courses	Cr. Hours
ENG 131 - Introduction to College Writing Topics: Cultural Diversity	3
ENG 132 - College Writing and Research Topics: Cultural Diversity	3

Complete one of the following courses:

POLS 131 - Introduction to American Government and Political Science	3
SOC 131 - Introduction to Sociology	3

Associate in Arts Degree Requirements

Students must also complete the specific degree requirements for the Associate in Arts Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses for the may also be used to fulfill Associate in Arts 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree as well as courses used to fulfill requirements of the Associate in Arts degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

These courses are suggestions for electives:

ANTH 131 - Introduction to Anthropology	3
ARA 231 - Second Year Arabic	4
ARA 232 - Second Year Arabic, Continued	4
GEOG 132 - World Regional Geography	3
POLS 200 - Introduction to Peace and Conflict Studies	
SCI 131 - Revolutions in Science	3
SWC 131 - Science In Western Culture	3
WR 131 - Comparative Religion	3

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Architecture/Construction Technology

Associate in Applied Science-Technology Division   ARCON.AAS...
Chad Richert   313-317-1515   crichert@hfcc.edu   Dearborn Heights Center 164C
David Wiltshire   313-845-9637   djwiltshire@hfcc.edu   Technology Building 115A

Description

The Associate in Applied Science degree program in Architecture/ Construction Technology 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.

Classes for the ACT Program are located at the Dearborn Heights Center.

Career Opportunities

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

Transfer Options/Requirements

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 HFCC. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides.

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

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 percentage of students are asked to continue their employment after their initial Co-op semester.

**Minimum Number of Credits To Graduate
(Including Options/Electives): 66**

Courses

Required Core Course	Cr. Hours
ACT 110 - Introduction to Architecture	3
ACT 116 - Basic Architectural CAD	4
ACT 124 - Construction Systems	4
ACT 130 - Architectural Graphics	3
ACT 136 - Intermediate Architectural CAD	4
ACT 150 - Residential Detailing	3
ACT 175 - Environmental Building Systems	4
ACT 211 - Commercial Construction Systems	3
ACT 220 - Residential Design	3

ACT 224 - Construction Systems 2	4
ACT 233 - Commercial Detailing	3
ACT 246 - Construction Estimating	4
ACT 258 - Architectural Presentation Techniques	4
ACT 260 - Commercial Design Development	3

Complete one of the following courses:

ACT 190 - Architecture/Construction Technology Co-op	1
ACT 290 - Architecture/Construction Technology Co-op	2

Complete one of the following courses:

ACT 104 - Community Construction Applications	4
ACT 205 - Advanced Architectural CAD	4

Required Support Courses	Cr. Hours

Complete one of the following MATH courses:

MATH 103 - Technical Mathematics	4
MATH 112 - Trigonometry	3
MATH 115 - College Algebra	5

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note: **Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.**

Recommended Course Sequence

Recommended Course Sequence Option One

Fall I	Winter I	Spring I	Fall II	Winter II
ACT 110	ACT 130	ACT 190*	ACT 211	ACT 246
ACT 116	ACT 136	ACT 205*	ACT 220	ACT 258
ACT 124	ACT 150		ACT 224	ACT 260
MATH 103*	ACT 175		ACT 233	Gen Ed
	ENG 131		ENG 135*	

Recommended Course Sequence Option Two

Fall I	Winter I	Fall II	Winter II	Spring II	Fall III	Winter III
ACT 110	ACT 130	ACT 136	ACT 211	ACT 190*	ACT 246	ENG 135*
ACT 116	ACT 175	ACT 150	ACT 220	ACT 205*	ACT 258	Gen Ed
ACT 124	ACT 224	MATH 103*	ACT 233	ENG 131	ACT 260	

Note: Students can view course availability at http://www2.hfcc.edu/programs/ architecture/courses.htm for the standard day and evening schedule for ACT courses (subject to change).

ACT 190*: Students may select either ACT 190 or ACT 290.

ACT 205*: Students may select either ACT 104 or ACT 205.

ENG 135*: ENG 132 is recommended instead of ENG 135 for transferring students.

MATH 103*: Students may select either MATH 103, MATH 112 or MATH 115.

Gen Ed: It is recommended students fulfill their General Education Outcome #1: American Society, Events, Institutions, and Cultures course requirement Winter II Term for Course Sequence Option One or Winter III Term for Course Sequence Option Two.

Henry Ford Community College

Art Foundation

Associate in Arts - Fine Arts and Fitness Division   ARTFD.AA...
Kevin Donahue   313-317-6686   kdonahue@hfcc.edu   MacKenzie Fine Arts Center 150
Martin Anderson   313-845-6488   mander@hfcc.edu   MacKenzie Fine Arts Center 131

Description

The Henry Ford Community College Art Department offers a variety of art courses as well as three programs of study: Art Foundation, Ceramics and Graphic Design. Refer to these headings to find course requirements for each. Course descriptions for all Art Department programs can be found under ART. For specific information on these degree programs and art courses, students should contact an Art faculty advisor. All students receiving an Associate in Arts degree from HFCC must participate in a graduating student Art Exhibition.

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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
- University of Michigan – Dearborn

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses	Cr. Hours
ART 101 - Two-Dimensional Design	3
ART 102 - Drawing 1	3
ART 105 - Three-Dimensional Design	3
ART 112 - Drawing II	3
ART 113 - Life Drawing I	3
ART 116 - Painting I	3
ART 121 - Art History Survey I	3
ART 122 - Art History Survey II	3
ART 141 - Ceramics I	3
*Complete 9 credit hours of ART electives.**	9

Note:
*Art elective courses include: Art Education, Art History, Ceramics, Graphic Design, Interior Design, Jewelry, Painting, Photography, Printmaking, and Sculpture. Students should consult with their academic advisor to select the additional courses to supplement their program.

Associate in Arts Degree Requirements

Students must also complete the specific degree requirements for the Associate in Arts Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses for the may also be used to fulfill Associate in Arts 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree as well as courses used to fulfill requirements of the Associate in Arts degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:

Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Automotive Service (ASSET)

Associate in Applied Science - Technology Division

Gary Heinz   313-845-6350   gheinz@hfcc.edu   Technology Building 162B
David Wiltshire   313-845-9637   djwiltshire@hfcc.edu   Technology Building 115A

ASSET.AAS...

Description

Automotive Service (ASSET) is an associate degree program to prepare individuals for service and repair positions in automobile dealerships and independent garages. The program consists of a well-balanced group of courses designed to provide students with the job competencies and skills required for entry-level employment. Students are required to complete 71 credit hours in core, cognate, and General Education courses. In addition, students are required to participate in cooperative education at local automobile repair facilities.

Career Opportunities

- Service Technician
- Service Manager

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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
- Lawrence Technological University
- Eastern Michigan University
- Siena Heights University
- Ferris State University
- University of Michigan - Dearborn

Admission Requirements/Eligibility

The ASSET program is a two-year program. All new students enter with the next starting class, Fall 2010.

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 (http://www.natef.org/).

Minimum Number of Credits To Graduate (Including Options/Electives): 71

Courses

Required Core Courses	Cr. Hours
AUTO 102 - Related Technical Automotive	3
AUTO 105 - Internal Combustion Engines	3
AUTO 108 - Basic Automotive Electricity	3
AUTO 110 - Automotive Electrical Systems	3
AUTO 120 - Automotive Fuel Management Systems	2
AUTO 131 - Automotive Ignition Systems	2
AUTO 132 - Computer Ignition Systems	2
AUTO 140 - Automotive Transmissions	3
AUTO 142 - Electronically Controlled - Transmissions/Transaxles	2
AUTO 145 - Manual Transmissions and Transaxles	4
AUTO 150 - Automotive Diagnosis and Engine Evaluation	2
AUTO 160 - Automotive Chassis Units	2
AUTO 162 - ABS Brakes	3
AUTO 165 - Electronic Steering and Suspension	4
AUTO 191 - Automotive Service Co-op	2
AUTO 192 - Automotive Service Co-op	2
AUTO 224 - Automotive Air Conditioning	2
AUTO 231 - Diesel Engine Performance and Diagnosis	4
AUTO 237 - Computerized Engine/Vehicle Emission Control Systems	2
AUTO 291 - Automotive Service Co-op	2
AUTO 292 - Automotive Service Co-op	2

Required Support Courses	Cr. Hours
AUSV 135 - Shop Mathematics	2
MGT 231 - Supervision and Teambuilding	3
CIS 100 - Introduction to Information Technology	3

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note: Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Fall I	Winter I	Spring/Summer I	Fall II	Winter II
AUSV 135	AUTO 105	AUTO 120	AUTO 140	AUTO 142
AUTO 102	AUTO 110	AUTO 132	AUTO 150	AUTO 145
AUTO 108	AUTO 131	AUTO 224	AUTO 165	AUTO 231
AUTO 160	AUTO 162	POLS 131	AUTO 291	AUTO 237
AUTO 191	AUTO 192	Gen Ed	ENG 131	AUTO 292
CIS 100				ENG 135*
				MGT 231

Note:

ENG 135*: Students may select either ENG 132 or ENG 135.

Gen Ed: Students should select their general Education Outcome #1: American Society, Events, Institutions, and Cultures course requirement in the Spring/Summer I Semester. Students considering transferring to a four-year institution should consult transfer guides and articulation agreements to ensure the appropriate course is selected.

During the Fifth Semester (Winter II) students will be required to take a Business Management Course. This course will be determined by the ASSET program coordinator, Mr. Gary Heinz.

Henry Ford Community College

Automotive Service Management — Business Concentration

Associate in Business - Business and Economics Division

AUTOSERVMGMT.AB...

Corrine Asher   313-845-9867   casher@hfcc.edu   Reuther Liberal Arts Building 325
Elaine Saneske   313-845-9704   esaneske@hfcc.edu   Reuther Liberal Arts Building 328

Description

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. Skills and knowledge necessary for success include effective communication with customers, co-workers, and service technicians coupled with a strong understanding of the technologies used in modern automobiles.

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.

Students may elect, by the selection of specific courses, either the Associate in Applied Science degree or the Associate in Business degree. Students choose, when they begin the program, whether to start by taking the automotive classes or the business classes first. Students may take automotive and business classes simultaneously.

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.

Minimum Number of Credits To Graduate (Including Options/Electives): 65

Courses

Required Core Courses	Cr. Hours
BBA 131 - Introduction to Business	4
BBA 133 - Business Behavior and Communication	3
BBA 153 - Customer Service	3
BCA 140 - Software Applications	3
BMA 110 - Business Mathematics	3
MGT 230 - Principles of Management	3
MGT 231 - Supervision and Teambuilding	3
MGT 240 - Creative Problem Solving	3
BCO 190 - Business Cooperative Education	1

Complete one of the following courses:

BAC 110 - Practical Accounting	4
BAC 131 - Principles of Accounting	4

Required Support Courses	Cr. Hours
AUTO 101 - Automotive Fundamentals	4
AUTO 105 - Internal Combustion Engines	3
AUTO 110 - Automotive Electrical Systems	3
AUTO 120 - Automotive Fuel Management Systems	2
AUTO 131 - Automotive Ignition Systems	2
AUTO 140 - Automotive Transmissions	3
AUTO 150 - Automotive Diagnosis and Engine Evaluation	2
AUTO 160 - Automotive Chassis Units	2
AUTO 225 - Automotive Air Conditioning	2
AUTO 230 - Automotive Diesel Principles	2
AUTO 190 - Automotive Technology Co-op	1

Associate in Business Degree Requirements

Students must also complete the specific degree requirements for the Associate in Business Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Business 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate Degree in Business, 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Automotive Service Management — Technical Concentration

Associate in Applied Science - Technology Division   AUTOSERVMGM.AAS...
Gary Heinz   313-845-6350   gheinz@hfcc.edu   Technology Building 162B
David Wiltshire   313-845-9816   djwiltshire@hfcc.edu   Technology Building 115A

Description

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. Skills and knowledge necessary for success include effective communication with customers, co-workers, and service technicians coupled with a strong understanding of the technologies used in modern automobiles.

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.

Students may elect, by the selection of specific courses, either the Associate in Applied Science degree or the Associate in Business degree. Students choose, when they begin the program, whether to start by taking the automotive classes or the business classes first. Students may take automotive and business classes simultaneously.

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.

Minimum Number of Credits To Graduate (Including Options/Electives): 65

Courses

Required Core Courses

	Cr. Hours
AUTO 101 - Automotive Fundamentals	4
AUTO 105 - Internal Combustion Engines	3
AUTO 110 - Automotive Electrical Systems	3
AUTO 120 - Automotive Fuel Management Systems	2
AUTO 131 - Automotive Ignition Systems	2
AUTO 140 - Automotive Transmissions	3
AUTO 150 - Automotive Diagnosis and Engine Evaluation	2
AUTO 160 - Automotive Chassis Units	2
AUTO 225 - Automotive Air Conditioning	2
AUTO 230 - Automotive Diesel Principles	2
AUTO 260 - Alternative Automotive Propulsion Systems	3
AUTO 190 - Automotive Technology Co-op	1

Required Support Courses

	Cr. Hours
BBA 131 - Introduction to Business	4
BBA 133 - Business Behavior and Communication	3
BBA 153 - Customer Service	3
BCA 140 - Software Applications	3
BMA 110 - Business Mathematics	3
MGT 230 - Principles of Management	3
MGT 231 - Supervision and Teambuilding	3
BCO 190 - Business Cooperative Education	1

Complete one of the following courses:

BAC 110 - Practical Accounting	4
BAC 131 - Principles of Accounting	4

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Henry Ford Community College

Automotive Technology

Associate in Applied Science-Technology Division   AUTOT.AAS...
Gary Heinz   313-845-6350   gheinz@hfcc.edu   Technology Building 162B
David Wiltshire   313-845-9637   djwiltshire@hfcc.edu   Technology Building 115A

Description

The associate degree program in Automotive Technology includes in-depth material relating to the various systems found on today's vehicles, including electrical, fuel, ignition, power, and drivetrain. This program is designed to provide a thorough knowledge of the technical aspects of the automobile and to develop a certain amount of manual skill in servicing, testing, and diagnosing. The related courses provide a broad background qualifying the individual for employment in numerous fields allied to the automobile industry.

Laboratory classes provide students with actual 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 considerable testing equipment being used today.

Career Opportunities

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

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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 Michigan - Dearborn
- Wayne State University

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.

Minimum Number of Credits To Graduate (Including Options/Electives): 69

Courses

Required Core Courses	Cr. Hours
AUTO 101 - Automotive Fundamentals	4
AUTO 105 - Internal Combustion Engines	3
AUTO 110 - Automotive Electrical Systems	3
AUTO 120 - Automotive Fuel Management Systems	2
AUTO 131 - Automotive Ignition Systems	2
AUTO 140 - Automotive Transmissions	3
AUTO 150 - Automotive Diagnosis and Engine Evaluation	2
AUTO 160 - Automotive Chassis Units	2
AUTO 215 - Automotive Engine Dynamometer	2
AUTO 225 - Automotive Air Conditioning	2
AUTO 230 - Automotive Diesel Principles	2
AUTO 260 - Alternative Automotive Propulsion Systems	3

Complete one of the following courses:

AUTO 293 - Auto Tech Service Exp. Lab I	4
AUTO 294 - Auto Tech Service Exp. Lab II	4

Complete 14 credit hours from the following courses: 14
AUTO 142, AUTO 145, AUTO 162, AUTO 165, AUTO 167, AUTO 181, AUTO 187, AUTO 190, AUTO 217, AUTO 227, AUTO 231, AUTO 237, AUTO 247, AUTO 267, AUTO 287 and/or AUTO 290.

Required Support Courses	Cr. Hours

Complete 12 credit hours from the following courses: 12
CHEM 131, MATH 100, MATH 103, MATH 110, MATH 112, MATH 175, PHYS 120, PHYS 121, PHYS 131, and/or PHYS 132.

Complete one of the following courses:

BCA 140 - Software Applications	3
CIS 100 - Introduction to Information Technology	3
CLT 100 - Computer Literacy Test	0

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Automotive Technology

Certificate of Achievement - Technology Division			AUTOT.CERT...
Gary Heinz	313-845-6355	gheinz@hfcc.edu	Technology Building 162B
David Wiltshire	313-845-9637	djwiltshire@hfcc.edu	Technology Building 115A

Description

The certificate of achievement programs in Automotive Technology teaches the various systems found on today's vehicles, including electrical, fuel, ignition, power, and drive train. These programs are designed to 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. The related courses provide a broad background qualifying the individual for employment in numerous fields allied to the automobile industry.

Laboratory classes provide students with actual 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 considerable testing equipment being used today.

Mini-Certificates of Achievement/ Automotive Technology

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. 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.

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

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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 Michigan - Dearborn
- Wayne State University

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.

Minimum Number of Credits To Graduate (Including Options/Electives): 44

Courses

Required Core Courses	Cr. Hours
AUTO 101 - Automotive Fundamentals	4
AUTO 105 - Internal Combustion Engines	3
AUTO 110 - Automotive Electrical Systems	3
AUTO 120 - Automotive Fuel Management Systems	2
AUTO 131 - Automotive Ignition Systems	2
AUTO 140 - Automotive Transmissions	3
AUTO 142 - Electronically Controlled - Transmissions/Transaxles	2
AUTO 150 - Automotive Diagnosis and Engine Evaluation	2
AUTO 160 - Automotive Chassis Units	2
AUTO 167 - Brake Clinic	2
AUTO 181 - Technical Automotive Welding	4
AUTO 187 - Automotive Engine Tune-Up	2
AUTO 215 - Automotive Engine Dynamometer	2
AUTO 217 - Automobile Alignment Clinic	2
AUTO 225 - Automotive Air Conditioning	2
AUTO 227 - Automotive Air Conditioning	2
AUTO 230 - Automotive Diesel Principles	2
AUTO 237 - Computerized Engine/Vehicle Emission Control Systems	2
AUTO 287 - Advanced Automotive Tune-Up	1

Henry Ford Community College

Automotive Technology — Auto Air Conditioning, Brakes, Alignment

Certificate of Achievement - Technology Division AUTOACBRAL.CSGL...
Gary Heinz   313-845-6350   gheinz@hfcc.edu   Technology Building 162B
David Wiltshire   313-845-9637   djwiltshire@hfcc.edu   Technology Building 115A

Description

Mini-Certificates of Achievement/Automotive Technology

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.

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.

Minimum Number of Credits To Graduate (Including Options/Electives): 6

Courses

Required Core Courses	Cr. Hours
AUTO 167 - Brake Clinic	2
AUTO 217 - Automobile Alignment Clinic	2
AUTO 227 - Automotive Air Conditioning	2

Automotive Technology — Dynamometer Technician

Certificate of Achievement - Technology Division DYNATECH.CMLT...
Gary Heinz   313-845-6350   gheinz@hfcc.edu   Technology Building 162B
David Wiltshire   313-845-9637   djwiltshire@hfcc.edu   Technology Building 115A

Description

The certificate enables the student 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.

Mini-Certificates of Achievement/ Automotive Technology

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.

Career Opportunities
• Engineering Technician
• Test Driver
• Dynamometer Technician
• Data Evaluation Specialist

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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:
• Lawrence Technological University
• Wayne State University

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.

Minimum Number of Credits To Graduate (Including Options/Electives): 20

Courses

Required Core Courses	Cr. Hours
AUTO 105 - Internal Combustion Engines	3
AUTO 110 - Automotive Electrical Systems	3
AUTO 120 - Automotive Fuel Management Systems	2
AUTO 131 - Automotive Ignition Systems	2
AUTO 150 - Automotive Diagnosis and Engine Evaluation	2
AUTO 187 - Automotive Engine Tune-Up	2
AUTO 215 - Automotive Engine Dynamometer	2
AUTO 230 - Automotive Diesel Principles	2
AUTO 237 - Computerized Engine/Vehicle Emission Control Systems	2

Biology — Pre-Professional

Associate in Science - Science Division   BIOLG.AS...
Linda Brandt   313-545-9729   lbrandt@hfcc.edu   Science Building 104G
Dr. Charles Jacobs   313-845-9734   cjacobs@hfcc.edu   Science Building 107

Description

The Associate in Science degree in Pre-Professional Biology 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.

Although the minimum requirement for completing the program is 60 credit hours, students may be able to take additional coursework at HFCC and transfer it to the 4-year institution.

Career Opportunities

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

- Human Health and Medicine
- Genetic Counseling
- Marine Biology
- Biotechnology and Genetic Engineering
- Veterinary Medicine
- Secondary Education
- Microbiology
- Forensic Biology
- Natural Resources and Conservation

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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).

Admission Requirements/Eligibility

The career opportunities supported by the Pre-Professional Biology program require strong math and science skills. Students planning to enter this area should take a rigorous high school background including four years of college prep math and science.

The Pre-Professional Biology program, and the Bachelor of Science degrees to which it can lead, require the student to take numerous courses in sequence. Typically, students will take three or more math and science courses each semester in order to make sure that they stay on track to complete the degrees.

Additional Program Requirements

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 Associate in Science degree in Pre-Professional Biology is 60 credit hours. However, most universities and colleges will accept additional coursework from HFCC 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 HFCC.

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses	Cr. Hours
BIO 150 - Biology: Organisms, Genes, and Ecology	4
BIO 152 - Biology: Cells and Molecular Biology	4
CHEM 141 - Principles of General and Inorganic Chemistry I	5
CHEM 142 - Principles of General and Inorganic Chemistry II	5

Complete 10 credit hours from the following courses:

BIO 130 - Evolution and Behavior	4
BIO 131 - Introductory Biology	4
BIO 138 - Environmental Science	3
BIO 139 - Environmental Science Laboratory	2
BIO 141 - Botany	4
BIO 143 - Zoology	4
BIO 233 - Anatomy and Physiology I	4
BIO 234 - Anatomy and Physiology II	4
BIO 251 - Microbiology	5
CHEM 241 - Organic Chemistry I	4
CHEM 242 - Organic Chemistry II	4
CHEM 243 - Organic Chemistry Laboratory I	2
CHEM 244 - Organic Chemistry Laboratory II	2
MATH 153 - Calculus for Business, Life and Social Sciences OR	5
MATH 175 - Precalculus OR	5
MATH 180 - Calculus I	5
PHYS 131 - General Physics	4
PHYS 132 - General Physics (Continued)	4
PHYS 241 - Mechanics	4
PHYS 242 - Sound, Light, and Thermodynamics	4
PHYS 243 - Electricity and Magnetism	4

Required Support Course	Cr. Hours
ENG 132 - College Writing and Research	3

Associate in Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Science Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses for the may also be used to fulfill Associate in 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree as well as courses used to fulfill requirements of the Associate in Science degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:

Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Henry Ford Community College

Biotechnology

Associate in Applied Science - Science Division   BIOTECH.AAS...
Dr. Jolie Stepaniak   313-845-9646   jastepaniak@hfcc.edu   Science Building 104H
Dr. Charles Jacobs   313-845-9734   cjacobs@hfcc.edu   Science Building 107

Description

This intensive two-year program is designed specifically to train students for positions as biotechnology technicians in the region's molecular biology-based industries and institutions. Henry Ford Community 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.

HFCC'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.

The Associate in Applied Science degree in Biotechnology will provide this training within the broader context of the College's General Education requirements. 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.

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 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).

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.

Admission Requirements/Eligibility

Students must apply for entry into the Associate in Applied Science degree in Biotechnology. Students must apply for entry into the Associate in Applied Science degree in Biotechnology.

Applications to the program are available in the Science Division Office (S107). All of the following prerequisites must be completed at the time the application is submitted:

1 College transcripts with conference of an associate's degree or higher with an overall grade point average (GPA) of 2.5 or higher.
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 Science Division for or visit **www.hfcc.edu/biotech** for more information. Admission to the Biotechnology program is not required for enrollment in any biotechnology core course except BIO 263.

**Minimum Number of Credits To Graduate
(Including Options/Electives): 60**

Courses

Required Core Courses	Cr. Hours
BIO 152 - Biology: Cells and Molecular Biology	4
BIO 251 - Microbiology	5
BIO 261 - Nucleic Acids	5
BIO 262 - Proteins	5
BIO 263 - Biotechnology Internship	1
CHEM 141 - Principles of General and Inorganic Chemistry I	5
CHEM 151 - Chemical Instrumentation and Laboratory Techniques	3
SCI 160 - Science Laboratory Workplace Skills	3

Required Support Courses	Cr. Hours
BCA 140 - Software Applications	3
MATH 141 - Introduction to Statistics	4
PHIL 137 - Topics in Philosophy Topics: Science, Technology, and Society	3

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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	Cr. Hours

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

These courses are suggestions for electives:

CHEM 142 - Principles of General and Inorganic Chemistry II	5
CHEM 241 - Organic Chemistry I	4
CRJ 234 - Criminalistics: Criminal Investigation Laboratory Techniques	3
PHYS 133 - Principles of Physics	4

Note:

Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Fall I	Winter I	Fall II	Winter II
CHEM 141	BIO 152	BCA 140	BIO 262
ENG 131	CHEM 151	BIO 251	BIO 263
MATH 141	ENG 132*	BIO 261	Elective
PHIL 137	Gen Ed	SCI 160	

Note:

ENG 132*: Students may select either ENG 132 or ENG 135.

Gen Ed: It is recommended that students fulfill their HFCC General Education Outcome #1:

American Society, Events, Institutions, and Cultures course requirement, Winter I semester.

Biotechnology

Certificate of Achievement - Science Division

Dr. Jolie Stepaniak   313-845-9646   jastepaniak@hfcc.edu
Dr. Charles Jacobs   313-845-9734   cjacobs@hfcc.edu

BIOTECH.CMLT...
Science Building 104H
Science Building 107

Description

This intensive one-year program is designed specifically to train students for positions as biotechnology technicians in the regionís molecular biology-based industries and institutions. Henry Ford Community 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.

HFCC'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.

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 comleting a Biotechnology Certificate is estimated to be $12-14/hour (based on information from regional biotech employers).

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.

Admission Requirements/Eligibility

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. Contact the Science Division for or visit **www.hfcc.edu/biotech** for more information.

Applications to the program are available in the Science Division Office (S107). 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. 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.

Minimum Number of Credits To Graduate (Including Options/Electives): 21

Courses

Required Core Courses	Cr. Hours
BIO 251 - Microbiology	5
BIO 261 - Nucleic Acids	5
BIO 262 - Proteins	5
CHEM 151 - Chemical Instrumentation and Laboratory Techniques	3
SCI 160 - Science Laboratory Workplace Skills	3

Recommended Course Sequence

Fall I	Winter I
BIO 251	BIO 262
BIO 261	CHEM 151
SCI 160	

Bookkeeping

Certificate of Achievement - Business and Economics Division   BOOK.CMULT...

Charles Lacey	313-845-9657	clacey@hfcc.edu	Reuther Liberal Arts Building 319C
Elaine Saneske	313-845-9645	esaneske@hfcc.edu	Reuther Liberal Arts Building 328

Description

Henry Ford Community College's Bookkeeping certificate is designed to prepare a student 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.

**Minimum Number of Credits To Graduate
(Including Options/Electives): 28**

Courses

Required Core Courses	Cr. Hours
BAC 110 - Practical Accounting	4
BAC 112 - Bookkeeping	4
BBA 133 - Business Behavior and Communication	3
BBA 110 - Business Language Skills	3
BBA 231 - Business Office Communications	3
BCA 140 - Software Applications	3
BCA 145 - Spreadsheet Applications	3
BMA 110 - Business Mathematics	3
Complete one of the following courses:	
BAC 141 - Computerized Accounting - QuickBooks	2
BAC 146 - Computerized Accounting - Peachtree	3

Recommended Course Sequence

Recommended Course Sequence Option One

Term 1	Term 2
BAC 110	BAC 112
BBA 110	BAC 141*
BCA 140	BBA 133
BMA 110	BBA 231
	BCA 145

Recommended Course Sequence Option Two

Term 1	Term 2	Term 3
BAC 110	BAC 112	BAC 141*
BCA 140	BBA 110	BBA 133
BMA 110	BCA 145	BBA 231

Note:

The first Recommended Course Sequence is for students planning to complete the program over two semesters.

The second Recommended Course Sequence is for students planning to complete the program over three semesters.

BAC 141*: Students may select either BAC 141 or BAC 146.

Henry Ford Community College

Building Construction Trades

Associate in Applied Science - Skilled Trades and Apprenticeship Division   BLDCT.AAS...
Skilled Trades and Apprenticeship   313-845-6415   Technology Building 172

Description

The Associate in Applied Science degree in Building Construction Trades is a specifically designed program for building and construction trades journeypersons 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 HFCC. Formal classroom-related instruction associated with the sponsored apprenticeship program will be evaluated and up to 20 hours of college credit may be granted for equivalent courses available through the College. Students seeking the degree must then complete an additional 40 credits and meet the General Education and Computer Literacy requirements of the College.

Career Opportunities
• Foreman
• Project Engineer
• Superintendent
• Estimator

Admission Requirements/Eligibility

Currently only the carpenters', electricians', operating engineers', iron workers', plumbers', and sheet metal workers' apprenticeship school curricula have been evaluated and approved.

Additional Program Requirements

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 Skilled Trades and Apprenticeship Division is required.

**Minimum Number of Credits To Graduate
(Including Options/Electives): 60**

Courses

Required Core Courses   Cr. Hours

Complete 50 credit hours of Core Courses.*   50
Note:
* 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 sessions. It is also suggested that students seek the recommendation of a sponsoring Trade Council.

Required Support Courses   Cr. Hours

COUN 120 - Career Exploration   1

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Business Administration

Associate in Business - Business and Economics Division   BUSAD.AB...

Jared Boyd   313-845-9697   jpboyd@hfcc.edu   Reuther Liberal Arts Building 329
Elaine Saneske   313-845-9704   esaneske@hfcc.edu   Reuther Liberal Arts Building 328

Description

Henry Ford Community College's associate 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.

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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
• Northwood University
• University of Detroit Mercy
• University of Michigan - Dearborn
• Walsh College
• Wayne State University

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses

	Cr. Hours
BAC 131 - Principles of Accounting	4
BAC 132 - Principles of Accounting	4
BCA 140 - Software Applications	3
BEC 151 - Principles of Macro Economics	3
BEC 152 - Principles of Micro Economics	3
BLW 253 - Business Law and the Legal Environment	4

Required Support Courses

	Cr. Hours
SPC 131 - Fundamentals of Speaking	3
MATH 115 - College Algebra or higher level MATH course.	3-5

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

Associate in Business Degree Requirements

Students must also complete the specific degree requirements for the Associate in Business Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Business 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate Degree in Business, 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Henry Ford Community College

CAD-CAM Technician

Associate in Applied Science - Technology Division   CADCAMTECH.AAS...
Ken Wright   313-845-6331   kwright@hfcc.edu   Technology Building 117B
David Wiltshire   313-845-9637   djwiltshire@hfcc.edu   Technology Building 115A

Description

This new program is a hybrid between the Drafting and Design and the Manufacturing programs.

The CAD-CAM Technician program was developed to help generate a greater dialog and understanding between Drafting and Design and Manufacturing. This program will give students the skills to work productively in both environments. The understanding gained from the course work taken in both the CAD and CNC areas will form a foundation and understanding that will lead to better designed and manufactured products. Students from both disciplines will gain a deeper appreciation for the complexities that exist in each area.

Flexibility of skills in this diversified job market will give graduates of the CAD-CAM Technician program a step up in total job skills and the ability to gain employment in an ever-changing and complex global marketplace.

Career Opportunities
• Engineering Technician
• CAD/CAM Technician
• Design Technician
• Process Engineer
• CNC Set-up Technician
• Sales & Service Technician
• Laboratory Technician

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. See Appendix for a complete list of articulation agreements. Transfer guides denote the transferability of HFCC 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

Registry/Certification/Licensure Exam Information
CATIA V5 Certification and Haas CNC Certification.

Minimum Number of Credits To Graduate (Including Options/Electives): 66.5

Courses

Required Core Courses	Cr. Hours
DRAF 120 - Introduction to CAD	4
DRAF 123 - Introduction to CATIA V5	2
DRAF 125 - CATIA V5 Level II	2
DRAF 127 - CATIA V5 Level III	2
DRAF 142 - Industrial Detailing	4
DRAF 230 - Jigs, Fixtures, Tools	3
DRAF 260 - Advanced CAD Applications Solid Modeling	4
MPS 100 - Manufacturing Processes I	6
MPS 140 - Introduction to CNC	4
MPS 145 - CNC Operations	6
MPS 146 - Introduction to CNC Machine Tool Probing	1
MPS 147 - Basic Macro Programming for CNC	1.5
MPS 148 - Advanced CNC Probing	1
MPS 160 - Computer-Assisted N/C Programming	4
MPS 170 - Advanced Computer-Assisted Programming	4

Required Support Courses	Cr. Hours
Complete one of the following MATH options:	
MATH 100 - Basic Technical Mathematics AND	4
MATH 103 - Technical Mathematics	4
OR	
MATH 110 - Intermediate Algebra AND	4
MATH 112 - Trigonometry	3
OR	
MATH 175 - Pre-calculus	5
Complete one of the following courses:	
PHYS 120 - Technical Physics	4
PHYS 131 - General Physics	4

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note: **Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.**

Recommended Course Sequence

Fall I	Winter I	Spring I	Fall II	Winter II
DRAF 120	DRAF 142	MPS 170	DRAF 123	DRAF 127
MPS 100	MPS 145	ENG 131	DRAF 125	DRAF 260
MPS 140	MPS 146		DRAF 230	ENG 132*
MATH*	MPS 147		MPS 148	PHYS*
	MPS 160		MATH*	Gen Ed

Note:
ENG 132*: Students should select either ENG 132 or ENG 135. Students considering transferring to a four-year institution are advised to take ENG 132.

MATH*: Students should select a MATH course from the list of Required Support Courses.

PHYS*: Students should select a PHYS course from the list of Required Support Courses.

Gen Ed: Students should select their General Education Outcome #1: American Society, Events, Institutions, and Cultures course requirement in the Winter II semester.

CAD Technology — Industrial Drafting

Associate in Applied Science - Technology Division

DFCAD.AAS...

Ken Wright   313-845-6331   kwright@hfcc.edu   Technology Building 117B
David Wiltshire   313-845-9637   djwiltshire@hfcc.edu   Technology Building 115A

Description

Our drafting program is designed and equipped to offer you experience in the latest CAD programs and their applications. Manual drafting is taught in the intro class to give you a solid background in the basics of drafting standards and projection. Those basic skills are then applied in CAD design, detailing, and problem solving in the advanced courses. The curriculum gives you experience in a wide variety of drafting specialties including: layout and detailing in product design, machine element drafting, fixture design, and die design. Courses in advanced CAD techniques will help you achieve a high degree of proficiency in the use of the latest design software.

Career Opportunities

Opportunities should be best for individuals with at least 2 years of postsecondary training in drafting and considerable skill and experience using computer-aided design and drafting (CADD) systems. The middle 50 percent (of mechanical drafters) earned between $32,100 and $51,950. (Bureau of Labor Statistics)

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses	Cr. Hours
DRAF 110 - Introduction to Industrial Drafting	3
DRAF 120 - Introduction to CAD	4
DRAF 130 - Technical Descriptive Geometry	3
DRAF 142 - Industrial Detailing	4
DRAF 210 - Die Design	3
DRAF 220 - Machine Element Drafting	2
DRAF 230 - Jigs, Fixtures, Tools	3
DRAF 240 - Product Drawing	2
DRAF 255 - CAD Advanced Techniques	4
DRAF 260 - Advanced CAD Applications Solid Modeling	4

Required Support Courses	Cr. Hours
MPS 100 - Manufacturing Processes I	6
Complete one of the following MATH Options:	
MATH 100 - Basic Technical Mathematics AND	4
MATH 103 - Technical Mathematics	4
OR	
MATH 110 - Intermediate Algebra AND	4
MATH 112 - Trigonometry	3
OR	
MATH 175 - Precalculus	5
OR	
MATH 180 - Calculus I	5
Complete one of the following courses:	
PHYS 120 - Technical Physics	4
PHYS 131 - General Physics	4

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

These courses are suggestions for electives:

DRAF 123 - Introduction to CATIA V5	2
DRAF 125 - CATIA V5 Level II	2
DRAF 127 - CATIA V5 Level III	2
CIS 100 - Introduction to Information Technology	3
ELEC 103 - Basic Electricity	4
ELEC 120 - Basic Hydraulics	3
ICO 191 - Industrial Co-op	2

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Term 1	Term 2
DRAF 110	DRAF 130
DRAF 120	DRAF 142

Henry Ford Community College

CAD Technology — Industrial Drafting – CATIA

Certificate of Achievement - Technology Division   CATIA.CSGL...
Ken Wright   313-845-6331   kwright@hfcc.edu   Technology Building 117B
David Wiltshire   313-845-9637   djwiltshire@hfcc.edu   Technology Building 115A

Description

The use of CATIA V5 is increasing in the automotive and supplier industry. The certificate classes enable designers, engineers, and students with previous CAD background to become knowledgeable and proficient in this powerful and versatile software. The classes will take you through some of the most commonly used Work Benches: Sketcher, Part, Drafting, Assembly, and Generative Shape Design (surfacing).

Career Opportunities

"By improving their skills on CATIA V5, students will become proficient in the same 3D application that has designed almost 50 percent of the cars on the road today and practically every large aircraft that has been designed in the last 10 years." (from www.engineering.com)

Admission Requirements/Eligibility

The student must have completed one of the following: DRAF 120, equivalent CAD class, CAD work experience, or have permission of instructor.

**Minimum Number of Credits To Graduate
(Including Options/Electives): 6**

Courses

Required Core Courses	Cr. Hours
DRAF 123 - Introduction to CATIA V5	2
DRAF 125 - CATIA V5 Level II	2
DRAF 127 - CATIA V5 Level III	2

Programs of Study

Ceramics

Associate in Arts - Fine Arts and Fitness Division   CERAM.AA...

Steven Glazer   313-845-6485   sglazer@hfcc.edu   MacKenzie Fine Arts Center 147
Martin Anderson   313-845-6488   mander@hfcc.edu   MacKenzie Fine Arts Center 131

Description

The Ceramics program offers a wide selection of courses both for the first-time potter and the art student interested in the career potential of a studio potter.

The introductory courses, ART 141-Ceramics I and ART 142-Ceramics II, concentrate on the hand-building and wheel-construction methods, while the advanced courses offer more specialized studies in glaze making, ceramic sculpture, kiln firing, and even kiln construction. In advanced courses the student explores the design and production techniques necessary to be a successful studio potter.

The Associate in Arts degree in Ceramics is designed to prepare the student in the techniques and aesthetics needed to be self employed in a successful home pottery studio.

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses	Cr. Hours
ART 101 - Two-Dimensional Design	3
ART 102 - Drawing 1	3
ART 105 - Three-Dimensional Design	3
ART 112 - Drawing II	3
ART 116 - Painting I	3
ART 141 - Ceramics I	3
ART 142 - Ceramics II	3
ART 161 - Photography 1	3
ART 242 - Ceramics III	3
Complete 5 additional credit hours of ART courses.	5

Required Support Courses	Cr. Hours
BBA 131 - Introduction to Business	4

Associate in Arts Degree Requirements

Students must also complete the specific degree requirements for the Associate in Arts Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Arts 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree as well as courses used to fulfill requirements of the Associate in Arts degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Henry Ford Community College

Chemistry — Pre-Professional

Associate in Science - Science Division   CHEMS.AS...
Dr. Laura Yeakel   313-845-9721   lyeakel@hfcc.edu   Science Building 14
Dr. Charles Jacobs   313-845-9734   cjacobs@hfcc.edu   Science Building 107

Description

The Associate in Science degree in Pre-Professional Chemistry is designed as a transfer degree for students interested in pursuing an American Chemical Society approved chemistry major at a 4-year school. It was designed in collaboration with several university chemistry departments to ensure maximum transferability into the various programs they offer.

Although the minimum requirement for completing the program is 60 credit hours, students may be able to take additional coursework at HFCC and transfer it to the 4-year institution.

Career Opportunities

A degree in chemistry has been a route for students to enter satisfying careers in areas including (but not limited to):

- Professional Chemistry
- Pharmacy and Pharmaceutics
- Environmental Science and Management
- Education
- Human Health and Medicine
- Materials Science
- Veterinary Medicine
- Forensic Science

Transfer Options/Requirements

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 HFCC. Some of the institutions students enrolled in this program frequently transfer to include:

- University of Michigan - Dearborn

Transfer guides denote the transferability of HFCC 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).

Admission Requirements/Eligibility

The career opportunities supported by the Pre-Professional Chemistry program require strong math and science skills. Students planning to enter this area should take a rigorous high school background including four years of college prep math and science.

The Pre-Professional Chemistry program, and the Bachelor's of Science degrees to which it can lead, require that students take numerous courses in sequence. Typically, students will take several math and science courses each semester in order to make sure that they stay on track to complete the degrees.

Additional Program Requirements

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 60 hours required for the Associate in Science degree in Pre-Professional Chemistry.

The minimum required for earning the Associate in Science degree in Pre-Professional Chemistry is 60 credit hours. However, most universities and colleges will accept additional coursework from HFCC transfer students and apply it 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.

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses	Cr. Hours
CHEM 141 - Principles of General and Inorganic Chemistry I	5
CHEM 142 - Principles of General and Inorganic Chemistry II	5
CHEM 241 - Organic Chemistry I	4
CHEM 242 - Organic Chemistry II	4
CHEM 243 - Organic Chemistry Laboratory I	2
Complete 25 credit hours from the following courses:	25

CHEM 220, CHEM 244, MATH 180, MATH 185, MATH 280, PHYS 241, PHYS 242, PHYS 243, BIO 152 and/or BIO 150.

Note:
Students should select the majority of electives from the Required Core Courses 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.

A student must see a chemistry department advisor before registering for CHEM 243.

A student must see a chemistry department advisor before registering for CHEM 220.

Required Support Courses	Cr. Hours
ENG 132 - College Writing and Research	3

Complete one of the following courses:
CRJ 131, ENG 235, ENG 236, HIST 151, HIST 152, POLS 131, and/or SOC 131.

Note:
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.

Associate in Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Science Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses for the may also be used to fulfill Associate in 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree as well as courses used to fulfill requirements of the Associate in Science degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Child Development

Associate in Arts - Other Academic Division

CHILD.AA...

Deborah Zopf 313-845-6430 dzopf@hfcc.edu Learning Technology Center 227A
Diane Green 313-845-9748 diane@hfcc.edu Learning Resources Center 117

Description

The Pre-Education program was chosen in 2001 as one of the six exemplary community college teacher education programs in America by Recruiting New Teachers, Inc., an affiliate of the Carnegie Foundation of New York.

Career Opportunities

Child Development degree graduates may choose to work as children's institution attendants, school child care attendants, nursery school attendants, or child monitors in private homes. Graduates wishing to pursue a bachelor's degree may transfer most if not all of the coursework toward a bachelor's degree.

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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).

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.

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses	Cr. Hours
CHD 201 - Child Development:Introduction to Creative Child Care	3
CHD 202 - Child Development: CDA Portfolio/ Assessment Preparation	3
CIS 221 - Instructional Technology for Elementary Teachers	3
ENG 246 - Introduction to Children's Literature	3
MATH 121 - Mathematics for Elementary Teachers I	3
MATH 221 - Mathematics for Elementary Teachers II	3
PSY 152 - Child Psychology	3
PSY 256 - Educational Psychology	3
PSY 294 - Educational Psychology Practicum	1

Required Support Courses	Cr. Hours
ENG 131 - Introduction to College Writing	3
ENG 132 - College Writing and Research	3
HPE 260 - Health, Nutrition, and PE	3
POLS 131 - Introduction to American Government and Political Science	3
PSY 131 - Introductory Psychology	3

Associate in Arts Degree Requirements

Students must also complete the specific degree requirements for the Associate in Arts Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses for the may also be used to fulfill Associate in Arts 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree as well as courses used to fulfill requirements of the Associate in Arts degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Child Development

Certificate of Achievement - Other Academic Division

CHILD.CMULT...

Deborah Zopf   313-845-6430   dzopf@hfcc.edu   Learning Technology Center 227A
Diane Green   313-845-9748   diane@hfcc.edu   Learning Resources Center 117

Description

The Child Development Associate (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.

The 15-credit hour Child Care Certificate of Achievement in Child Development is designed to provide the competencies needed for the CDA credential. 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.

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.

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.

Registry/Certification/Licensure Exam Information

Information on the national Child Development Associate degree can be found at www.cdacouncil.org. The preparation for this credential is addressed in CHD 201 and CHD 202.

**Minimum Number of Credits To Graduate
(Including Options/Electives): 15**

Courses

Required Core Courses	Cr. Hours
CHD 201 - Child Development: Introduction to Creative Child Care	3
CHD 202 - Child Development: CDA Portfolio/ Assessment Preparation	3
HPE 260 - Health, Nutrition, and PE	3
PSY 131 - Introductory Psychology	3
PSY 152 - Child Psychology	3

Programs of Study

Children and Families

Associate in Arts Degree - Other Academic Division CHILDFAM.AA...
Deborah Zopf   313-845-6430   dzopf@hfcc.edu   Learning Technology Center 227A
Diane Green   313-845-9748   diane@hfcc.edu   Learning Resources Center 117

Description

The Children and Families program provides 60 credits in General Education requirements and child development courses. It is designed for students who wish to complete an associate degree. It may be used as a terminal degree or a degree transferable to universities with four-year programs in Children and Families.

Career Opportunities

Children and Families degree graduates may choose to work as children's institution attendants, school child care attendants, nursery school attendants, or child monitors in private homes. Graduates wishing to pursue a bachelor's degree may transfer most if not all coursework and apply it towards a bachelor's degree.

Transfer Options/Requirements:

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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 Counseling Office (**313-845-9612**, **counseling@hfcc.edu**, Learning Resource Center).

- Eastern Michigan University
- University of Michigan - Dearborn
- Wayne State University

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.

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses	Cr. Hours
CHD 201 - Child Development: Introduction to Creative Child Care	3
CHD 205 - Infant/Toddler Care and Development	3
CHD 231 - Inquiry-Based Preschool Curriculum*	3
CHD 232 - Observation & Assessment in Early Childhood Education**	3
CHD 233 - Observation & Assessment in Early Childhood Education Practicum**	1
CHD 241 - Developmentally-Appropriate Practices in Child Care Center Administration**	3

Note:
* 100% online course
** 50% online course

Required Support Courses	Cr. Hours
CIS 221 - Instructional Technology for Elementary Teachers	3
ENG 132 - College Writing and Research	3
ENG 246 - Introduction to Children's Literature	3
HPE 260 - Health, Nutrition, and PE	3
PSY 131 - Introductory Psychology	3
PSY 152 - Child Psychology	3
PSY 256 - Educational Psychology	3

Complete one of the following courses:
ART 121, ART 122, ART 123, ART 135, ART 224, ART 280, HUM 101, MUS 130, MUS 132, MUS 133, MUS 232, and/or MUS 240.

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 courses:
HIST 151, POLS 131, and/or SOC 131.

Complete 8 credit hours from one of 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.

Degree Specific Requirements

Students must also complete the specific degree requirements for the Associate in Arts Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Arts 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses, as well as courses used to fulfill requirements of the Associate in Arts degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100). Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Henry Ford Community College

CNC (Computer Numerical Control)

Associate in Applied Science - Technology Division

MFCNC.AAS...

Ken Wright   31-845-6331   kwright@hfcc.edu   Technology Building 117B
David Wiltshire   313-845-9637   djwiltshire@hfcc.edu   Technology Building 115A

Description

These programs are 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 21st-century in manufacturing. 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.

Career Opportunities

- 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

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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
- Ferris State University
- Lawrence Technological University
- Siena Heights University
- University of Michigan – Dearborn

Minimum Number of Credits To Graduate (Including Options/Electives): 78.5

Courses

Required Core Courses	Cr. Hours
MPS 100 - Manufacturing Processes I	6
MPS 110 - Manufacturing Processes II	6
MPS 130 - Quality Control Gaging and Inspection	4
MPS 140 - Introduction to CNC	4
MPS 145 - CNC Operations	6
MPS 150 - SPC In Manufacturing	4
MPS 160 - Computer-Assisted N/C Programming	4
MPS 170 - Advanced Computer-Assisted Programming	4
MPS 210 - Non-Traditional Machining	4
MPS 275 - Advanced CNC Operations	6

Complete one of the following courses:

MPS 146 - Introduction to CNC Machine Tool Probing	1
MPS 147 - Basic Macro Programming for CNC	1.5
MPS 148 - Advanced CNC Probing	1

Required Support Courses	Cr. Hours
DRAF 110 - Introduction to Industrial Drafting	3
DRAF 120 - Introduction to CAD	4
PHYS 120 - Technical Physics	4

Complete one of the following MATH *options:*

MATH 100 - Basic Technical Mathematics AND	4
MATH 103 - Technical Mathematics	4
OR	
MATH 112 - Trigonometry	3
OR	
MATH 175 - Precalculus or a higher level MATH course	5

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

CNC (Computer Numerical Control)/Manufacturing Productivity Systems

Associate in Applied Science - Technology Division   MFENG.AAS...

Ken Wright   313-845-6331   kwright@hfcc.edu   Technology Building 117B
David Wiltshire   313-845-9637   djwiltshire@hfcc.edu   Technology Building 115A

Description

These programs are 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.

Career Opportunities
- 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
- Machinist/Toolmaker
- Sales & Service Engineer
- Process Engineer
- Test Technician

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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
- Ferris State University
- Lawrence Technological University
- Siena Heights University
- University of Michigan - Dearborn

Registry/Certification/Licensure Exam Information
Optional HAAS Technical Education Council Level 1 and 2 Certification.

**Minimum Number of Credits To Graduate
(Including Options/Electives): 65**

Courses

Required Core Courses	Cr. Hours
MPS 100 - Manufacturing Processes I	6
MPS 110 - Manufacturing Processes II	6
MPS 120 - Practical Problems In Machine Tools I	4
MPS 125 - Practical Problems in Machine Tools II	4
MPS 130 - Quality Control Gaging and Inspection	4
MPS 140 - Introduction to CNC	4
MPS 145 - CNC Operations	6
MPS 150 - SPC In Manufacturing	4
MPS 210 - Non-Traditional Machining	4

Required Support Courses	Cr. Hours
DRAF 110 - Introduction to Industrial Drafting	3
PHYS 120 - Technical Physics	4

Complete 6 credit hours from the following courses: 6
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	4
MATH 103 - Technical Mathematics	4
OR	
MATH 103 - Technical Mathematics AND	4
MATH 112 - Trigonometry	3

OR
Complete one of the following MATH *courses:*
MATH 175, MATH 180, MATH 183, MATH 280, MATH 283, MATH 289, or MATH 293.

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:

Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

CNC (Computer Numerical Control)/Manufacturing Productivity Systems — Advanced

Certificate of Achievement - TechnologyCNCAD.CMLT...
Ken Wright313-845-6331kwright@hfcc.eduTechnology Building 117B
David Wiltshire313-845-9637djwiltshire@hfcc.eduTechnology Building 115A

Description

In the modern business environment, many employers require 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. It 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 industry.

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.

**Minimum Number of Credits To Graduate
(Including Options/Electives): 27.5**

Courses

Required Core Courses	Cr. Hours
MPS 130 - Quality Control Gaging and Inspection	4
MPS 140 - Introduction to CNC	4
MPS 145 - CNC Operations	6
MPS 146 - Introduction to CNC Machine Tool Probing	1
MPS 147 - Basic Macro Programming for CNC	1.5
MPS 148 - Advanced CNC Probing	1
MPS 150 - SPC In Manufacturing	4
MPS 275 - Advanced CNC Operations	6

CNC (Computer Numerical Control)/Manufacturing Productivity Systems — Basic

Certificate of Achievement - Technology DivisionCNCBA.CMLT...
Ken Wright313-845-6331kwright@hfcc.eduTechnology Building 117B
David Wiltshire313-845-9637djwiltshire@hfcc.eduTechnology Building 115A

Description

In the modern business environment, many employers require substantial skills in the use of CNC equipment. The attainment of the Certificate in Manufacturing Productivity Systems offers evidence to employers that the individual has reached the basic level of proficiency. It provides students with the opportunity to improve their job skills. Students enrolled in the program will receive training on the latest CNC equipment used in the industry.

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. The certificate requires a total of 21 credit hours.

**Minimum Number of Credits To Graduate
(Including Options/Electives): 21**

Courses

Required Core Courses	Cr.Hours
MPS 100 - Manufacturing Processes I	6
MPS 130 - Quality Control Gaging and Inspection	4
MPS 140 - Introduction to CNC	4
MPS 145 - CNC Operations	6
MPS 146 - Introduction to CNC Machine Tool Probing	1

Computer Information Systems

Associate in Applied Science - Technology Division CISYS.AAS..
David Maier 313-845-9890 djmaier@hfcc.edu Technology Building 115C
David Wiltshire 313-845-9637 djwiltshire@hfcc.edu Technology Building 115A

Description

This program, leading to an Associate in Applied Science Degree, teaches information technology and Internet fundamentals, microcomputer technology, LAN technology, operating systems, programming languages (Visual Basic, ASP, C, C++, C#, Java, JavaScript, COBOL, Perl and HTML), data base concepts, systems analysis and systems design. Elective courses in Project Management, Information Security, Hardware and Software Troubleshooting and Web Technologies allow the student to pursue specialized study.

Laboratory classrooms and an open computer lab provide students with opportunities to test and debug programs and complete a variety of course assignments.

Career Opportunities

- Network Administration
- Programming
- Computer Support
- Web Developer
- PC Hardware
- Software Installation and Repair

Transfer Options/Requirements

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 HFCC. Transfer guides denote the transferability of HFCC 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
- Ferris State University
- Franklin University
- Walsh College
- Lawrence Technological University
- Siena Heights University
- University of Detroit Mercy
- University of Michigan - Dearborn
- Madonna University
- Wayne State University

**Minimum Number of Credits To Graduate
(Including Options/Electives): 60**

Courses

Required Core Courses   Cr. Hours

CIS 100 - Introduction to Information Technology	3
CIS 111 - SQL for Database Development	3
CIS 112 - Introduction to Networking	3
CIS 122 - Web/Internet Technologies	3
CIS 125 - Principles of Programming Logic	4
CIS 129 - Introduction to UNIX with Shell Scripting	4
CIS 130 - Visual Basic .NET Programming	3
CIS 170 - "C" Programming	3
CIS 171 - JAVA Programming	3
CIS 220 - System Analysis and Design	3

Complete two of the following courses:

CIS 215 - Advanced Visual Basic .NET	3
CIS 230 - C++ Programming	3
CIS 270 - Database Management Systems	3
CIS 271 - Advanced JAVA	4

Complete 3 credit hours from any one or more of the following areas of study: 3

Web Development:
CIS 121, CIS 123, CIS 126, CIS 172, CIS 211, CIS 222, CIS 227, and/or CIS 235.

Networking:
CIS 105, CIS 113, CIS 114, CIS 124, CIS 157, CIS 158, CIS 212, CIS 229, and/or 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, and/or CIS 280.

Job Experience Training:
ICO 191.

Required Support Courses   Cr. Hours

Complete four credit hours of MATH course numbered 100 or above.

Note: 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.

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note: Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Fall I	Winter I	Spring I	Fall II	Winter II	Spr/Summer II
CIS 100	CIS 111	Elective	CIS 129	CIS 220	Elective
CIS 125	CIS 112		CIS 130*	CIS*	
ENG 131	CIS 170		CIS*	CIS*	
MATH 100*	ENG 132*		Gen Ed	CIS*	

Note:
CIS*: Students may select any CIS course from list in the Required Course Sequence
CIS 130*: Students may select either CIS 130 or CIS 230.
ENG 130*: Students may select either CIS 130 or CIS 230.
ENG 132*: Students may select either ENG 132 or ENG 135.
MATH 100*: Math 100 or above, excluding MATH 101, MATH 104, MATH 121, MATH 127, MATH 221 and MATH 225.
Gen Ed: It is recommended that students fulfill their HFCC General Education Outcome #1: American Society Events, Institutions, and Cultures course requirement in the Fall II semester.

Henry Ford Community College

Computer Information Systems — Application Developer Certificate

Certificate of Achievement - Technology Division   APPDEV...
David Maier   313-845-9890   djmaier@hfcc.edu   Technology Building 115C
David Wiltshire   313-845-9637   djwiltshire@hfcc.edu   Technology Building 115A

Description

The .NET Application Certificate is designed to prepare the student for the Microsoft Certified Application Developer (MCAD) Exams. The .NET programming language that is used is Visual Basic. For more information on the CAD exams, please visit Microsoft's website at www.Microsoft.com and search for the keywords MCAD Certificate. Henry Ford Community 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. This version incorporates all the features of Visual Studio .NET Professional and adds several new course management features, including assignment managers, documentation, and sample code. The CIS course listed can also be applied to an Associate in Applied Science within the Computer Information Systems program.

Career Opportunities
- Application developer for a Visual Basic .NET application
- Application developer for an ASP.Net Internet application
- Database Administrator for SQL Server database

**Minimum Number of Credits To Graduate
(Including Options/Electives): 12**

Courses

Required Core Courses	Cr. Hours
CIS 111 - SQL for Database Development	3
CIS 130 - Visual Basic .NET Programming	3
CIS 132 - Active Server Pages .NET Programming	3
CIS 215 - Advanced Visual Basic .NET Database Programming	3

Recommended Course Sequence

Fall I	Winter I
CIS 111	CIS 132
CIS 130	CIS 215

Programs of Study

Computer Information Systems — Information Assurance

Associate in Applied Science - Technology Division   INFOASSUR.AAS...

Shannon Scanlon	313-845-6346	sscanlon@hfcc.edu	Technology Building 162J
Gregory Osowski	313-845-9859	gosowski@hfcc.edu	Liberal Arts Building 109W
David Wiltshire	313-845-9637	djwiltshire@hfcc.edu	Technology Building 115A

Description

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.

Students completing coursework in Information Assurance can transfer their credits to universities or enter the job market. Elective courses allow for each student to tailor a program of study to meet their unique interests.

Career Opportunities
- Law Enforcement
- Secure Software Engineering
- Network Security Specialist

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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
- University of Detroit Mercy

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses	Cr. Hours
CIS 100 - Introduction to Information Technology	3
CIS 112 - Introduction to Networking	3
CIS 114 - Introduction to Novell NetWare Administration	3
CIS 220 - System Analysis and Design	3
CIS 272 - Project Management	4
CIS 280 - Information Assurance and Security	4
CNT 260 - Network Security: Security + Prep	4
CRJ 131 - Introduction to Law Enforcement and Criminal Justice	3
CRJ 132 - Police Administration - Staff and Line Operations	3
CRJ 134 - Criminal Investigation	3
CRJ 234 - Criminalistics: Criminal Investigation Laboratory Techniques	3

Required Support Courses	Cr. Hours
Complete 18 credit hours from the following courses: *	18

Complete 18 credit hours from the following courses: *
ARA 131, ARA 132, CIS 113, CIS 116, CIS 124, CIS 129, CIS 130, CIS 157, CIS 158, CIS 170, CIS 171, CIS 212, CIS 215, CIS 229, CIS 230, CIS 295, CNT 110, CNT 120, CNT 210, CNT 220, CRJ 135, CRJ 136, FRE 131, FRE 132, FRE 231, FRE 232, GER 131, GER 132, GER 231, GER 232, HPE 142, SPN 131, SPN 132, SPN 231, SPN 232 and/or SOC 131.

Note:
Students should consult with an advisor before course selection. The 18 credit hour requirement is intended for concentration in world language, network security, software insurance or criminal justice.

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Henry Ford Community College

Computer Information Systems — Network Administration

Associate in Applied Science - Technology Division

David Maier   313-845-9890   djmaier@hfcc.edu   Technology Building 115C
David Wiltshire   313-845-9637   djwiltshire@hfcc.edu   Technology Building 115A

CISPNETWRK.AAS...

Description

This program, the Associate in Applied Science degree in Network Administration, teaches computer repair, network concepts and terminology, and Unix, Novell NetWare, and Microsoft Windows Server Administration as well as Cisco training on a variety of Cisco Systems equipment.

Laboratory classrooms provide the student with opportunities to build, configure, and troubleshoot personal computers in the lab. Students will also install, configure and troubleshoot operating systems, connect personal computers to Local Area Networks and troubleshoot common network problems; perform Unix, Novell and Microsoft Windows Server Administration tasks on classroom servers, and install, configure and troubleshoot Cisco Systems switches and routers.

To earn an associate degree, the student must complete a minimum of 68 credit hours of course work. There are core courses in CNT, Compute Network Technology, and CIS, Computer Information Systems; Required Support Courses in Math; and General Education courses as part of the program course requirements. For more information visit our Web site on the internet at **www.hfcc.edu**.

Career Opportunities
- PC Software Installation
- LAN/WAN Technician
- PC Hardware Installation
- Cabling Installation Technician
- Network Administration
- Computer Network Support Specialist
- Network Control and Systems Technician

Transfer Options/Requirements

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 HFCC. Transfer guides denote the transferability of HFCC 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
- Ferris State University
- Lawrence Technological University

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).

Minimum Number of Credits To Graduate
(Including Options/Electives): 68

Courses

Required Core Courses

Course	Cr. Hours
CIS 100 - Introduction to Information Technology	3
CIS 114 - Introduction to Novell NetWare Administration	3
CIS 124 - Introduction to Windows Server Administration	3
CIS 125 - Principles of Programming Logic	4
CIS 129 - Introduction to UNIX with Shell Scripting	4
CIS 229 - UNIX System Administration	4
CIS 295 - Network Design and Implementation	3
CNT 110 - CCNA: Networking Fundamentals	4
CNT 120 - CCNA: Routing Protocols and Concepts	4
CNT 210 - CCNA: LAN Switching and Wireless	4
CNT 220 - CCNA: WAN Technologies	4

Complete 15 credit hours from the following courses: 15
CIS 105, CIS 112, CIS 113, CIS 157, CIS 158, CIS 212, CNT 115, CNT 240, CNT 260, CNT 291, CNT 292, CNT 293, CNT 294, and/or ICO 191.

Required Support Courses

	Cr. Hours
Complete 4 credit hours of MATH *numbered 100 or above.**	4

Note:
*The following courses do not meet the requirements for this program: MATH 121, MATH 127, MATH 221, and MATH 225.

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Fall I	Winter I	Spring I	Fall II	Winter II	Spring II
CIS 100	CIS 114	CIS 129	CIS 124	CIS 295	CIS*
CIS 125	CNT 110	CIS*	CIS 229	CIS*	
CIS*	CNT 120		CNT 210	CIS*	
ENG 131	ENG 132*		CNT 220	Gen Ed	
			MATH 100*		

Note:
CIS*: Students should select any course from the list of courses in Required Core Courses.

ENG 132* Students should select ENG 132* or ENG 135.

MATH*: Students should select MATH 100 or above.

Gen Ed: It is recommended students select the General Education Outcome #1: American Society, Events, Institutions, and Cultures course requirement in Winter II semester.

Programs of Study

Computer Information Systems — Web Development

Certificate of Achievement - Technology Division   CISPWEBDSN.CMLT...

David Maier   313-845-9890   djmaier@hfcc.edu   Technology Building 115C
David Wiltshire   313-845-9637   djwiltshire@hfcc.edu   Technology Building 115A

Description

The Web Development Certificate is designed to prepare graduates for an entry-level position as a Web Developer, Webmaster, Web Administrator, Web Programmer or Multimedia Developer.

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.

The Henry Ford Community College Web Development Certificate distinguishes 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.

All courses can also be applies towards and Associate in Applied Science degree in Computer Information Systems.

Career Opportunities
- Web Administrator
- Webmaster
- Web Developer
- Multimedia Developer
- Web Programmer

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/)

**Minimum Number of Credits To Graduate
(Including Options/Electives): 24**

Courses

Required Core Courses	Cr. Hours
ART 107 - Photoshop	3
ART 108 - Flash	3
CIS 122 - Web/Internet Technologies	3
CIS 126 - XHTML/HTML/CSS Web Programming	4
CIS 172 - JavaScript Programming	3
CIS 222 - Web Database Development With PHP	4
CIS 227 - Dreamweaver Web Authoring	4

Recommended Course Sequence

Term 1	Term 2
ART 107	ART 108
CIS 122	CIS 172
CIS 126	CIS 222
	CIS 227

Henry Ford Community College

Computer Networking Academy — CCNA

Certificate of Achievement - Technology Division

			COMPNET.CMULT...
Todd Browning	313-845-6365	browning@hfcc.edu	Technology Building 115B
David Wiltshire	313-845-9637	djwiltshire@hfcc.edu	Technology Building 115A

Description

Henry Ford Community College's Computer Networking Academy provides students with the skills for designing, building, and maintaining computer networks.

HFCC is designated as a Regional Cisco Networking Academy and 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 four CCNA courses are also part of the Required Core Courses for the Associate in Applied Sciences in Computer Information Systems — Network Administration.

Career Opportunities

- PC Support Specialist
- Help Desk Technician
- Network Technician
- Network Administrator
- Network Engineer
- Other IT related fields

Minimum Number of Credits To Graduate (Including Options/Electives): 16

Courses

Required Core Courses	Cr. Hours
CNT 110 - CCNA: Networking Fundamentals	4
CNT 120 - CCNA: Routing Protocols and Concepts	4
CNT 210 - CCNA: LAN Switching and Wireless	4
CNT 220 - CCNA: WAN Technologies	4

Note:
CNT 110 and CNT 210 are typically offered the first eight weeks of the Fall and Winter semesters. CNT 120 and CNT 220 are typically offered the second eight weeks of the Fall and Winter semesters.

Upon successful completion of the CNT 110, CNT 120, CNT 210, and CNT 220, the students will, upon application, receive a CCNA Courses Certificate of Achievement.

Additional Computer Networking Courses	Cr. Hours
CNT 115 - Network Infrastructure Essentials	4
CNT 260 - Network Security: Security + Prep	4

Computer Networking Academy — CCNP

Certificate of Achievement - Technology Division

			COMPNETCON.CMLT...
Todd Browning	313-845-6365	browning@hfcc.edu	Technology Building 115B
David Wiltshire	313-845-9637	djwiltshire@hfc.edu	Technology Building 115A

Description

The CCNP certificate program consists of four courses and is designed to prepare 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 and emphasizes such topics as security, converged networks, quality of service (QoS), virtual private networks (VPN) and broadband technologies. The four CCNP courses are electives within the Associate in Applied Science degree program in Network Administration. Please note that completion of all four CCNA courses, CCNA certification, or instructor permission is required before beginning the CCNP program.

Career Opportunities

- Network Technician
- Network Administrator
- Network Engineer
- Other IT related fields

Minimum Number of Credits To Graduate (Including Options/Electives): 16

Courses

Required Core Courses	Cr. Hours
CNT 291 - CCNP: Building Scalable Internetworks	4
CNT 293 - CCNP: Building Multilayer Switched Networks	4
CNT 295 - CCNP: Implementing Secure Converged WANs	4
CNT 297 - CCNP: Optimizing Converged Networks	4

Note:
Please note that the completion of all four CCNA courses or CCNA certification is required before beginning the CCNP program.

The four CCNP courses may be taken in any order.

CNT 291 and CNT 293 are offered in even numbered years.

CNT 295 and CNT 297 are offered in odd numbered years.

Additional Computer Networking Academy Courses	Cr. Hours
CNT 115 - Network Infrastructure Essentials	4
CNT 260 - Network Security: Security + Prep	4

Computer Networking Academy — Network Infrastructure Essentials

Certificate of Achievement - Technology Division   CSCODVCABL.CSGL...
Todd Browning   313-845-6365   browning@hfcc.edu   Technology Building 115B
David Wiltshire   313-845-9637   djwiltshire@hfcc.edu   Technology Building 115A

Description

HFCC's Computer Networking Academy offers a Network Infrastructure Essentials Certificate of Achievement. Students may apply for this certificate upon successful completion of the Network Infrastructure Essentials course. This is a basic course designed for students interested in the physical aspects of voice and data network cabling,infrastructure design, and installation. This course helps prepare students for certification in network cable installation.

Additional networking courses offered within the Computer Networking Academy include CCNA, CCNP, and Network Security certification preparation courses.

Career Opportunities
• Cable Installation Technician
• Network Technician

Courses

Required Core Courses	Cr. Hours
CNT 115 - Network Infrastructure Essentials	4

**Minimum Number of Credits To Graduate
(Including Options/Electives): 4**

Computer Software Applications

Certificate of Achievement - Business and Economics Division   BAIMOFAPP.CMLT...
Diane Smith   313-845-9702   dlsmith1@hfcc.edu   Reuther Liberal Arts Building 319D
Elaine Saneske   313-845-9704   esaneske@hfcc.edu   Reuther Liberal Arts Building 328

Description

In today's modern business environment, many occupations require substantial skills in the use of various computer software applications. The attainment of Henry Ford Community College's Certificate in Computer Software Applications offers evidence to employers that the individuals have reached a certain level of proficiency in the application of computer software. The certificate provides students with the opportunity to improve their software applications literacy and job skills. Students enrolled in the program will receive training in Windows operating system software; the Internet; and word processing, spreadsheet, database, presentation and web pages applications software.

The certificate is often combined with an associate degree to improve a student's employability. The certificate can be used as a building block toward a Certificate in Office Administration and/or an Associate in Business Degree in the Administration and Information Management program. Individuals who are already employed may find that the certificate increases the opportunity for promotion.

Registry/Certification/Licensure Exam Information

Successful completion of BCA 143-Word Processing, BCA 145-Spreadsheet Applications, BCA 147-Database Applications, and BCA 152-Presentation Graphics will provide students with sufficient knowledge and skills to take the Microsoft Certified Application Specialist (MCAS) exams for Word 2007, Excel 2007, PowerPoint 2007, and Access 2007.

Courses

Required Core Courses	Cr. Hours
BCA 106 - Introduction to Windows	2
BCA 125 - Introduction to the Internet & Web Pages	3
BCA 140 - Software Applications	3
BCA 143 - Word Processing	3
BCA 145 - Spreadsheet	3
BCA 147 - Database Applications	3
BCA 152 - Presentation Software	2

Recommended Course Sequence

Term 1	Term 2
BCA 106	BCA 143
BCA 125	BCA 145
BCA 140	BCA 147
BCA 152	

Note:
If students elect to take BCA 106 and BCA 152 in the same semester, they should take BCA 106 the first 8 weeks of that semester and take BCA 152 the second 8 weeks of that semester.

**Minimum Number of Credits To Graduate
(Including Options/Electives): 19**

Henry Ford Community College

Criminal Justice — Corrections/Probation and Parole

Associate in Arts - Social Science Division   CORAD.AA...
Greg Osowski   313-845-9859   gosowski@hfcc.edu   Reuther Liberal Arts Building 109W
Kim Schopmeyer   313-845-6443   kschop@hfcc.edu   Reuther Liberal Arts Building 108

Description

The Corrections/Probation and Parole curriculum is designed for students interested in public service work with offenders within correctional institutions, such as jails or prisons, or in professional work outside correctional institutions, with juveniles and those on probation or parole.

Career Opportunities

The curriculum 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

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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
- Madonna University
- Unversity of Detroit Mercy
- University of Michigan - Dearborn

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses

	Cr.Hours
CRJ 131 - Introduction to Law Enforcement and Criminal Justice	3
CRJ 135 - Juvenile Justice	3
CRJ 136 - Corrections I - Introduction to Corrections	3
CRJ 138 - Probation and Parole	3
CRJ 141 - Corrections Clients - Human Growth and Development	3
CRJ 253 - Legal Issues in Corrections/Probation and Parole	4
CRJ 286 - Topics in Corrections/Probation and Parole	3

Required Support Courses

	Cr. Hours
BCA 140 - Software Applications	3
HPE 142 - Advanced First Aid	3
PSY 131 - Introductory Psychology	3

Complete one of the following courses:

SPC 131 - Fundamentals of Speaking	3
SPC 145 - Interpersonal Communication	3

Complete one of the following Science courses with a lab:

ASTR 131 - Descriptive Astronomy AND	3
ASTR 133 - Introductory Astronomy Laboratory	1
OR	
BIO 138 - Environmental Science AND	3
BIO 139 - Environmental Science Laboratory	2
OR	
BIO 131 - Introductory Biology	4
BIO 134 - Essentials of Anatomy and Physiology	5
B10 135 - Microbiology for Allied Health Sciences	4
B10 150 - Biology: Organisms, Genes, and Ecology	4
BIO 152 - Biology: Cells and Molecular Biology	4
BIO 233 - Anatomy and Physiology I	4
CHEM 131 - Principals of Chemisty	4
CHEM 141 - Principles of General and Inorganic Chemistry I	5
GEOL 131 - Physical Geology	4
PHYS 131 - General Physics	4
PHYS 133 - Principles of Physics	4
PSCI 131 - Introduction to Physical Science	4
PSCI 135 - Sound & Light in Fine-Arts	4

Associate in Arts Degree Requirements

Students must also complete the specific degree requirements for the Associate in Arts Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses for the may also be used to fulfill Associate in Arts 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree as well as courses used to fulfill requirements of the Associate in Arts degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

These courses are suggested for electives:

CRJ 134 - Criminal Investigation	3
CRJ 291 - Criminal Justice Internship	3
CRJ 234 - Criminalistics: Criminal Investigation Laboratory Techniques	3

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Criminal Justice — Corrections/Probation and Parole

Certificate of Achievement-Social Science Division   CORAD.CMLT..
Greg Osowski   313-845-9859   gosowski@hfcc.edu   Reuther Liberal Arts Building 109W
Kim Schopmeyer   313-845-6443   kschop@hfcc.edu   Reuther Liberal Arts Building 108

Description

HFCC offers a 30-hour certificate of completion program in Criminal Justice — Corrections/Probation and Parole that will help the student prepare for an entry-level position. This program is based on the Michigan Department of Corrections recommended courses.

Career Opportunities
• Corrections Officers

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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:

• Concordia University in Ann Arbor
• Madonna University
• University of Michigan – Dearborn

**Minimum Number of Credits To Graduate
(Including Options/Electives): 30**

Courses

Required Core Courses	Cr. Hours
CRJ 135 - Juvenile Justice	3
CRJ 136 - Corrections I - Introduction to Corrections	3
CRJ 138 - Probation and Parole	3
CRJ 141 - Corrections Clients - Human Growth and Development	3
CRJ 253 - Legal Issues in Corrections/Probation and Parole	4
CRJ 286 - Topics in Corrections/Probation and Parole	3

Elective Courses	Cr. Hours

These courses are suggestions for electives.

Choose any combination of courses to equal minimum of 11 credit hours. Students should consult their academic advisor for course selection.

BCA 140 - Software Applications	3
CRJ 131 - Introduction to Law Enforcement and Criminal Justice	3
ENG 131 - Introduction to College Writing	3
ENG 132 - College Writing and Research	3
ENG 135 - Business and Technical Writing and Research	3
POLS 131 - Introduction to American Government and Political Science	3
PSY 131 - Introductory Psychology	3
SOC 131 - Introduction to Sociology	3

Henry Ford Community College

Criminal Justice — Law Enforcement

Associate in Arts - Social Science Division   LAWEF.AA...
Greg Osowski   313-845-9859   gosowski@hfcc.edu   Reuther Liberal Arts Building 109W
Kim Schopmeyer   313-845-6443   kschop@hfcc.edu   Reuther Liberal Arts Building 108

Description

The Associate in Arts degree program in Law Enforcement is concerned with 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.

Career Opportunities

• Federal Law Enforcement
• Law School
• Police Officer
• Private Industry
• State Law Enforcement

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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:

• Concordia University in Ann Arbor
• Davenport University
• Madonna University
• University of Detroit Mercy
• University of Michigan – Dearborn

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses	Cr. Hours
CRJ 131 - Introduction to Law Enforcement and Criminal Justice	3
CRJ 132 - Police Administration - Staff and Line Operations	3
CRJ 134 - Criminal Investigation	3
CRJ 251 - Criminal Law	
CRJ 252 - Criminal Procedure	4
CRJ 285 - Topics in Criminal Justice/Law Enforcement	3

Required Support Courses	Cr.Hours
BCA 140 - Software Applications	3
HPE 142 - Advanced First Aid	3
PSY 131 - Introductory Psychology	3
Complete one of the following courses:	
SPC 131 - Fundamentals of Speaking	3
SPC 145 - Interpersonal Communication	3
Complete one of the following Science courses with a lab:	
ASTR 131 - Descriptive Astronomy AND	3
ASTR 133 - Introductory Astronomy Laboratory	1
OR	
BIO 138 - Environmental Science AND	3
BIO 139 Environmental Science Laboratory	2
OR	
BIO 131 - Introductory Biology	4
BIO 134 - Essentials of Anatomy and Physiology	5
B10 135 - Microbiology for Allied Health Sciences	4
B10 150 - Biology: Organisms, Genes, and Ecology	4
BIO 152 - Biology: Cells and Molecular Biology	4
BIO 233 - Anatomy and Physiology I	4
CHEM 131 - Principals of Chemisty	4
CHEM 141 - Principles of General and Inorganic Chemistry I	5
GEOL 131 - Physical Geology	4
PHYS 131 - General Physics	4
PHYS 133 - Principals of Physics	4
PSCI 131 - Introduction to Physical Science	4
PSCI 135 - Sound & Light in Fine-Arts	4

Associate in Arts Degree Requirement

Students must also complete the specific degree requirements for the Associate in Arts Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Arts 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree as well as courses used to fulfill requirements of the Associate in Arts degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

These courses are suggestions for electives:

CRJ 135 - Juvenile Justice	3
CRJ 136 - Corrections I - Introduction to Corrections	3
CRJ 234 - Criminalistics: Criminal Investigation Laboratory Techniques	3

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Programs of Study

Criminal Justice — Law Enforcement with Police Academy

Associate in Arts - Social Science Division   LAWEFPA.AA...
Greg Osowski   313-845-9859   gosowski@hfcc.edu   Reuther Liberal Arts Building 109W
Kim Schopmeyer   313-845-6443   kschop@hfcc.edu   Reuther Liberal Arts Building 108

Description

Associate in Arts degree program in Law Enforcement is concerned with 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 Community College students may complete the associate degree by completing coursework at HFCC, then transfer to the Police Academy at Schoolcraft College for the final component of the program. HFCC issues the degree.

Career Opportunities
- Federal Law Enforcement
- Law School
- Private Industry
- State Law Enforcement
- Police Officer

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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).

Admission Requirements/Eligibility

Admission Requirements/Eligibility Henry Ford Community College and Schoolcraft College agree that any student who has successfully completed the Criminal Justice — Law Enforcement with Police Academy program at Henry Ford Community College as outlined on the articulation guide may complete the Criminal Justice Police Academy course, CJ 286, at Schoolcraft College and transfer the course toward an Associate in Arts degree in Criminal Justice — Law Enforcement with Police Academy at Henry Ford Community College. Under this agreement, students must complete the following steps before applying to the Police Academy at Schoolcraft College:

1. Students must complete the Criminal Justice — Law Enforcement with Police Academy program requirements, General Education courses and Required Support courses at HFCC with a minimum of 2.00 cumulative GPA prior to entering the Police Academy, totaling a minimum of 39 credit hours. Students must provide a signed degree plan proving successful course completion of the above requirements from Henry Ford Community College.

2. Students must apply and be admitted to Schoolcraft College.

3. Students must have their official transcript sent to Schoolcraft College.

4. Students are required to contact the Schoolcraft College, Radcliff Campus Police Academy Office at 734/462-453-4781 for application materials one year prior to the intended beginning date for attending the Police Academy.

5. Schoolcraft College Police Academy, CJ 286, is a qualifying admission program. Applicants must meet the requirements to be accepted.

6. Applicants must successfully pass the MCOLES Pre-enrollment Reading and Writing test and the Pre-enrollment Physical Agility test.

7. After meeting these requirements, along with a successful interview, criminal history check, and driving record check, qualified students will be admitted into the Police Academy.

Program Duration Limits/Updates/Changes

The representatives of Schoolcraft College and Henry Ford Community College agree to the terms of this agreement, which will be for an initial period of three (3) years. Students who began the program prior to the effective period may use this agreement to the extent that the curriculum followed is consistent with the agreement.

**Minimum Number of Credits To Graduate
(Including Options/Electives): 60**

Henry Ford Community College

Courses

Required Core Courses	Cr. Hours
CRJ 131 - Introduction to Law Enforcement and Criminal Justice	3
CRJ 251 - Criminal Law	4
CRJ 285 - Topics in Criminal Justice/Law Enforcement	3
CRJ 287 - Police Academy (CJ 286 completed at Schoolcraft College)	21

Note:

CRJ 287 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	Cr. Hours
BCA 140 - Software Applications	3
PSY 131 - Introductory Psychology	3

Complete one of the following courses:

SPC 131 - Fundamentals of Speaking	3
SPC 145 - Interpersonal Communication	3

Complete one of the following Science courses with a lab:

ASTR 131 - Descriptive Astronomy AND	3
ASTR 133 - Introductory Astronomy Laboratory	1
OR	
BIO 138 - Environmental Science AND	3
BIO 139 - Environmental Science Laboratory	2
OR	
BIO 131 - Introductory Biology	4
BIO 134 - Essentials of Anatomy and Physiology	5
BIO 135 - Microbiology for Allied Health Sciences	4
BIO 150 - Biology: Organisms, Genes, and Ecology	4
BIO 152 - Biology: Cells and Molecular Biology	4
BIO 233 - Anatomy and Physiology I	4
CHEM 131 - Principles of Chemistry	4
CHEM 141 - Principles of General and Inorganic Chemistry I	5
GEOL 131 - Physical Geology	4
PHYS 131 - General Physics	4
PHYS 133 - Principles of Physics	4
PSCI 131 - Introduction to Physical Science	4
PSCI 135 - Sound & Light in Fine-Arts	4

Associate in Arts Degree Requirement

Students must also complete the specific degree requirements for the Associate in Arts Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Arts 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree as well as courses used to fulfill requirements of the Associate in Arts degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:

Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Culinary and Baking

Certificate of Achievement - Technology Division

CULBK.CMLT...

Eric Gackenbach	313-845-1572	epgackenbach@hfcc.edu	Student and Culinary Arts Center 163C
Jeff Click	313-845-9651	jclick@hfcc.edu	Student and Culinary Arts Center 163D

Description

Let your creativity shine while learning the various facets of the baking and pastry fields. Students will also explore international cuisine and the art of garde manager by preparing decorative cold food displays.

Career Opportunities

- Bakeries
- Pastry Shops
- Hotels and Private Clubs
- Specialty Food Shops

Accreditation

Hospitality and Culinary programs at HFCC are fully accredited by the Educational Foundation of the National Restaurant Association.

Minimum Number of Credits To Graduate (Including Options/Electives): 30

Courses

Required Core Courses	Cr. Hours
HOSP 105 - Applied Foodservice Sanitation	2
HOSP 121 - Introduction to Quality Food Preparation - Lecture*	2
HOSP 124 - Introduction to Professional Cooking - Lab*	3
HOSP 125 - Introduction to Professional Baking - Lab*	3
HOSP 140 - Advanced Food Preparation	8
HOSP 231 - Advanced Baking & Pastry	6
HOSP 245 - Hotel and Restaurant Desserts	3
HOSP 255 - Professional Cake Decorating	3

Note:
* HOSP 121 (2 Credit Hours), HOSP 124 (3 Credit Hours), and HOSP 125 (3 Credit Hours) must be taken concurrently. HOSP 280 and HOSP 285 may be used for HOSP 121, HOSP 124, and HOSP 125 for evening students.

Chefs uniforms are to be purchased for culinary lab courses - contact department on process to order uniforms before first class session.

Recommended Course Sequence

Semester 1	Semester 2	Semester 3	Semester 4
HOSP 105	HOSP 140	HOSP 231	HOSP 255
HOSP 121		HOSP 245	
HOSP 124			
HOSP 125			

Henry Ford Community College

Culinary Arts

Associate in Applied Science - Technology Division

CULIN.AAS...

Eric Gackenbach   313-845-1572   epgackenbach@hfcc.edu   Student and Culinary Arts Center 163C
Jeff Click   313-845-9651   jclick@hfcc.edu   Student and Culinary Arts Center 163D

Description

The employment growth in the hospitality industry drastically outpaces the work force, thus opening up a wide range of career opportunities in a diversified job market. The Food Service Industry is one of the oldest industries in the world. One of the complex divisions in today's industry is the food and beverage department. In order to be successful in this area, it is necessary for employees to have knowledge of menu planning, purchasing, and creating memorable dining experiences. Students will acquire the specialized skills needed in many aspects of kitchen operations. Laboratory classes provide students with hands-on experience serving and preparing quantities of food in the new facilities of the Student and Culinary Arts building.

HFCC has developed articulation agreements with Eastern Michigan and Madonna University to facilitate the educational mobility of students. Students following a specifically designed transfer agreement are able to complete three years at HFCC and one full year at Madonna University with a Bachelor of Science degree in Hospitality Management.

Career Opportunities
- Hotels, Motels and Motor Inns • Commercial Food Establishments
- Clubs • Airlines • Recreational Centers • Resort and Tourist Operation
- College Food Services / Institutional Operations

Transfer Options/Requirements

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 HFCC. It is important that students who intend to transfer to another institution consult the appropriate articulation agreements and/or transfer guides.

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
- Madonna University
- Siena Heights University

Accreditation

Hospitality and Culinary programs at HFCC are fully accredited by the Accrediting Commission of the American Culinary Federation Educational Foundation.

Minimum Number of Credits To Graduate (Including Options/Electives): 66

Required Core Courses	Cr. Hours
HOSP 105 - Applied Foodservice Sanitation	2
HOSP 110 - Introduction to Hospitality Industry	3
HOSP 121 - Intro. to Quality Food Prep. - Lecture*	2
HOSP 124 - Intro. to Professional Cooking - Lab*	3
HOSP 125 - Intro to Professional Baking - Lab*	3
HOSP 130 - Food and Nutrition	3
HOSP 140 - Advanced Food Preparation	8
HOSP 150 - Dining Room Service and Operations	3
HOSP 160 - Hospitality Purchasing	3
HOSP 170 - Food and Beverage Controls	3
HOSP 210 - Hospitality Supervision and Leadership	3
HOSP 231 - Advanced Baking & Pastry	6
HOSP 241 - Garde Manger & Menu Planning	6

*Complete 2 credit hours from the following courses:***

HOSP 190 - Hospitality Studies Co-Op	1
HOSP 290 - Hospitality Studies Co-Op	2

Note: * HOSP 121 (2 Credit Hours), HOSP 124 (3 Credit Hours), and HOSP 125 (3 Credit Hours) must be taken concurrently. HOSP 280 and HOSP 285 may be used for HOSP 121, HOSP 124, and HOSP 125 for evening students.

** Students may take HOSP 190 for 2 semesters instead of HOSP 290.

Chefs uniforms are to be purchased for culinary lab courses - contact department on process to order uniforms before first class session.

Required Support Courses	Cr. Hours
Complete one of the following courses:	
BMA 110 - Business Mathematics	3
MATH 104 - Mathematics for Food Service Careers	4
MATH 110 - Intermediate Algebra or higher level MATH course	4
Complete a minimum of 3 credit hours from the following courses: These courses are also suggested for electives.	
HOSP 101 - Wines of the World	1
HOSP 103 - Major Wine Grape Varieties	1
HOSP 108 - Creative Cookery	3
HOSP 115 - International Cooking	4
HOSP 221 - Front Office Procedures and Guest Services	3
HOSP 245 - Hotel and Restaurant Desserts	3
HOSP 280 - Culinary Arts I	3
HOSP 285 - Culinary Arts II	3

Note: See prerequisite for BMA 110

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note: **Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.**

Recommended Course Sequence

Recommended Course Sequence Option One

Fall I	Winter I	Fall II	Winter II	Spring II
HOSP 105	HOSP 108	HOSP 231	HOSP 241	HOSP 115
HOSP 121	HOSP 110			HOSP 221
HOSP 124	HOSP 140			
HOSP 125	HOSP 160			
MATH 104*				

Recommended Course Sequence Option Two

Winter I	Fall I	Winter II	Fall II	Winter III	Spring II
HOSP 105	HOSP 140	HOSP 108	HOSP 231	HOSP 241	HOSP 115
HOSP 121		HOSP 110			HOSP 221
HOSP 124		HOSP 160			
HOSP 125					
MATH 104*					

Note: MATH 104*: Students may select either BMA 110, MATH 104 or MATH 110.

Students should not limit themselves to the above courses per term. New students need to be advised by Program Director or the University Transfer, Advising, and Career Counseling Center.

Culinary Arts Supervision

Certificate of Achievement - Technology Division			CULSU.CMLT...
Eric Gackenbach	313-845-1572	epgackenbach@hfcc.edu	Student and Culinary Arts Center 163C
Jeff Click	313-845-9651	jclick@hfcc.edu	Student and Culinary Arts Center 163D

Description

Hospitality Studies Certificate - Chart Your Own Course!

Chefs must have technical knowledge and human resource skills to be successful in today's kitchens. Key components of the supervision certificate include training in food sanitation, nutrition, and managerial techniques.

All of these courses may be used towards an Associate in Applied Science in Culinary Arts.

Accreditation

Hospitality and Culinary programs at HFCC are fully accredited by the Accrediting Commission of the American Culinary Federation.

Minimum Number of Credits To Graduate (Including Options/Electives): 39

Courses

Required Core Courses	Cr. Hours
HOSP 105 - Applied Foodservice Sanitation	2
HOSP 110 - Introduction to Hospitality Industry	3
HOSP 121 - Introduction to Quality Food Prep - Lecture*	2
HOSP 124 - Introduction to Professional Cooking - Lab*	3
HOSP 125 - Introductin to Professional Baking Lab*	3
HOSP 130 - Food and Nutrition	3
HOSP 140 - Advanced Food Preparation	8
HOSP 210 - Hospitality Supervision and Leadership	3
HOSP 231 - Advanced Baking & Pastry	6
HOSP 241 - Garde Manger & Menu Planning	6

Note:

* HOSP 121 (2 Credit Hours), HOSP 124 (3 Credit Hours), and HOSP 125 (3 Credit Hours) must be taken concurrently. HOSP 280 and HOSP 285 may be used for HOSP 121, HOSP 124, and HOSP 125 for evening students.

Chefs uniforms are to be purchased for culinary lab courses - contact department on process to order uniforms before first class session.

Recommended Course Sequence

Term 1	Term 2	Term 3	Term 4
HOSP 105	HOSP 140	HOSP 130	HOSP 241
HOSP 110	HOSP 210	HOSP 231	
HOSP 121			
HOSP 124			
HOSP 125			

Culinary Skills

Certificate of Achievement - Technology Division			CULSK.CSGL...
Eric Gackenbach	313-845-1572	epgackenbach@hfcc.edu	Student and Culinary Arts Center 163C
Jeff Click	313-845-9651	jclick@hfcc.edu	Student and Culinary Arts Center 163D

Description

Culinary Skills Certificate-Chart Your Own Course!

This certificate provides the foundation for quality food production in a professional kitchen using both lab and lecture classes. Once you've mastered the basics, the opportunities are endless.

These courses may be applied towards the Associate in Applied Science degree in Culinary Arts or Hotel/Restaurant Management.

Accreditation

Hospitality and Culinary programs at HFCC are fully accredited by the Accrediting Commission of the American Culinary Federation.

Minimum Number of Credits To Graduate (Including Options/Electives): 18

Courses

Required Core Courses	Cr. Hours
HOSP 105 - Applied Foodservice Sanitation	2
HOSP 121 - Introduction to Quality Food Prep - Lecture*	2
HOSP 124 - Introduction to Professional Cooking - Lab*	3
HOSP 125 - Introductin to Professional Baking Lab*	3
HOSP 140 - Advanced Food Preparation	8

Note: *

HOSP 121 (2 Credit Hours), HOSP 124 (3 Credit Hours), and HOSP 125 (3 Credit Hours) must be taken concurrently. HOSP 280 and HOSP 285 may be used for HOSP 121, HOSP 124, and HOSP 125 for evening students.

Chefs uniforms are to be purchased for culinary lab courses - contact department on process to order uniforms before first class session.

Recommended Course Sequence

Option One			Option Two	
Fall I	**Winter I**		**Winter I**	**Fall I**
HOSP 105	HOSP 140	OR	HOSP 105	HOSP 140
HOSP 121			HOSP 121	
HOSP 124			HOSP 124	
HOSP 125			HOSP 125	

Programs of Study

Henry Ford Community College

Customer Service Professional

Certificate of Achievement - Business and Economics Division CUSRV.CMLT...
Diane Smith 313-845-9702 dlsmith1@hfcc.edu Reuther Liberal Arts Building 319D
Elaine Saneske 313-845-9704 esaneske@hfcc.edu Reuther Liberal Arts Building 328

Description

Henry Ford Community College's Customer Service Professional certificate 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.

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.

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.

Minimum Number of Credits To Graduate (Including Options/Electives): 19

Courses

Required Core Courses	Cr. Hours
BBA 110 - Business Language Skills	3
BBA 133 - Business Behavior and Communication	3
BBA 153 - Customer Service	3
BBA 157 - Call Center/Help Desk Practicum	1
BBA 231 - Business Office Communications	3
BCA 101 - Computer Keyboarding	3
BCA 140 - Software Applications	3

Recommended Course Sequence

Term 1	Term 2
BBA 110	BBA 157
BBA 133	BBA 231
BBA 153	BCA 140
BCA 101	

Education Paraprofessional

Certificate of Achievement - Other Academic Division EDPAR.CMLT...
Deborah Zopf 313-845-6430 dzopf@hfcc.edu Learning Technology Center 227A
Diane Green 313-845-9748 diane@hfcc.edu Learning Resources Center 117

Description

The 35 credit hour Education Paraprofessional Certificate of Achievement is designed to increase the 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.

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 HFCC coursework must provide a statewide criminal record check prior to work with children in public or non-public schools.

Minimum Number of Credits To Graduate (Including Options/Electives): 35

Courses

Required Core Courses	Cr. Hours
CIS 221 - Instructional Technology for Elementary Teachers	3
ENG 121 - Assisting with Elementary Reading	3
ENG 131 - Introduction to College Writing	3
ENG 132 - College Writing and Research	3
ENG 246 - Introduction to Children's Literature	3
HPE 142 - Advanced First Aid	3
MATH 121 - Mathematics for Elementary Teachers I	3
MATH 221 - Mathematics for Elementary Teachers II	3
PSY 131 - Introductory Psychology	3
PSY 256 - Educational Psychology	3
PSY 294 - Educational Psychology Practicum	1
4 credit hours Science (100 level or higher)	4

Electrical Technology

Associate in Applied Science - Technology Division

Mark Siedlik	313-845-6353	msiedlik@hfcc.edu	ELECT.AAS...
			Technology Building 115E
David Wiltshire	313-845-9637	djwiltshire@hfcc.edu	Technology Building 115A

Description

The Electrical Technology program at HFCC starts 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.

Laboratory instruction (about 50% of class time) teaches the use of test equipment, setting up circuits, trouble shooting, and calibrating systems.

The Electrical Technology facilities are state-of-the-art offering the high-tech training 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, computer-simulated circuit analysis is used in most of the electronics courses.

Students must complete a minimum of 63 credit hours of study for the Associate in Applied Science degree consisting of required core, required support, and general education courses. To graduate, the student must fulfill the Computer Literacy requirement either by successfully completing one of the Computer Literacy courses (listed in the General Education course requirements) or by passing the Computer Literacy Test.

Career Opportunities

This program leads to an associate degree in Electrical/Electronics technology, which prepares individuals for positions in the following career opportunities:

- Computer Service
- Machine Service
- Product Evaluation
- Research and Development
- Machine Controls
- Quality Control
- Sales
- Instrumentation Set-up
- Instrumentation Repair
- Microprocessor Systems

Transfer Options/Requirements

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 HFCC. Transfer guides denote the transferability of HFCC 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
- Ferris State University
- Lawrence Technological University
- Siena Heights University
- University of Michigan - Dearborn
- Wayne State University

Articulation Agreements

3+1 Articulation with Eastern Michigan University, Bachelor of Science in Electrical Engineering Technology.

3+1 Articulation with Ferris State University, Bachelor of Applied Science in Industrial Technology & Management.

Minimum Number of Credits To Graduate (Including Options/Electives): 63

Courses

Required Core Courses

	Cr. Hours
ELEC 103 - Basic Electricity	4
ELEC 106 - Basic Electronics	3
ELEC 115 - Digital Circuits I	3
ELEC 120 - Basic Hydraulics	3
ELEC 145 - AC/DC Rotating Machines	3
ELEC 155 - Analog Electronics 1	3
ELEC 185 - Pneumatics	3
ELEC 195 - AC/DC Circuit Analysis	3
ELEC 200 - Ladder Diagrams and Motor Controls	3
ELEC 245 - Programmable Controllers	3
ELEC 255 - Instrumentation Systems	3
ELEC 260 - Automation Controls and Robotics	3
ELEC 295 - Microprocessor Systems	3

Required Support Courses

	Cr. Hours
MATH 112 - Trigonometry or higher numbered MATH course	3

Complete one of the following courses:

PHYS 120 - Technical Physics	4
PHYS 131 - General Physics	4

Complete 7 credit hours from the following courses: 7
AUTO 101, CNT 110, DRAF 120, ELEC 190,
ELEC 205, ELEC 215, and/or MPS 100.

Associate in Applied Science Degree Requirement

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Term 1	Term 2	Term 3	Term 4	Term 5
ELEC 103	ELEC 106	ELEC 155	ELEC 205*	ELEC 260
ELEC 120	ELEC 115	ELEC 195	ELEC 245	ELEC 295
	ELEC 145	ELEC 200	ELEC 255	
	ELEC 185	ELEC 215*		

Note:
ELEC 205* Students may select any course from the list of courses in the Required Support Courses.

ELEC 215* Students may select any course from the list of courses in the Required Support Courses.

Henry Ford Community College

Electrical Technology — Analog Electronics

Certificate of Achievement - Technology Division

ELECANALEL.CMLT...

|			
Mark Siedlik	313-845-6353	msiedlik@hfcc.edu	Technology Building 115E
David Wiltshire	313-845-9637	djwiltshire@hfcc.edu	Technology Building 115A

Description

This certificate can be earned while pursuing an Associate in Applied Science degree in Electrical Technology. 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.

Minimum Number of Credits To Graduate (Including Options/Electives): 24

Courses

Required Core Courses	Cr. Hours
ELEC 103 - Basic Electricity	4
ELEC 106 - Basic Electronics	3
ELEC 155 - Analog Electronics 1	3
ELEC 190 - Electronics Technology Co-op	1
ELEC 195 - AC/DC Circuit Analysis	3
ELEC 205 - Analog Electronics II	3
ELEC 255 - Instrumentation Systems	3
MATH 103 or higher level MATH	

Electrical Technology — Automation Controls

Certificate of Achievement - Technology Division

ELECAUCTRL.CMLT...

Mark Siedlik	313-845-6353	msiedlik@hfcc.edu	Technology Building 115E
David Wiltshire	313-845-9637	djwiltshire@hfcc.edu	Technology Building 115A

Description

This certificate can be geared to working people 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.

Minimum Number of Credits To Graduate (Including Options/Electives): 27

Courses

Required Core Courses	Cr. Hours
ELEC 103 - Basic Electricity	4
ELEC 106 - Basic Electronics	3
ELEC 145 - AC/DC Rotating Machines	3
ELEC 190 - Electronics Technology Co-op	1
ELEC 195 - AC/DC Circuit Analysis	3
ELEC 200 - Ladder Diagrams and Motor Controls	3
ELEC 245 - Programmable Controllers	3
ELEC 260 - Automation Controls and Robotics	3
MATH 103 or higher level MATH	3-5

Recommended Course Sequence

Term 1	Term 2	Term 3	Term 4
ELEC 103	ELEC 145	ELEC 245	ELEC 260
	ELEC 195		
	ELEC 200		

Electrical Technology — Basic Electronics

Certificate of Achievement - Technology Division

ELECBASEEL.CSGL...

Mark Siedlik	313-845-6353	msiedlik@hfcc.edu	Technology Building 115E
David Wiltshire	313-845-9637	djwiltshire@hfcc.edu	Technology Building 115A

Description

This certificate can be earned while pursuing an Associate in Applied Science degree in Electrical Technology.

Minimum Number of Credits To Graduate (Including Options/Electives): 10

Courses

Required Core Courses	Cr. Hours
ELEC 103 - Basic Electricity	4
ELEC 106 - Basic Electronics	3
MATH 103 or higher level MATH	3-5

Electrical Technology — Digital Electronics

Certificate of Achievement - Technology Division   ELECDIGELE.CMLT...
Mark Siedlik   313-845-6353   msiedlik@hfcc.edu   Technology Building 115E
David Wiltshire   313-845-9637   djwiltshire@hfcc.edu   Technology Building 115A

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.

This certificate can be earned while pursuing an Associate in Applied Science degree in Electrical Technology.

Minimum Number of Credits To Graduate (Including Options/Electives): 23

Courses

Required Core Courses	Cr. Hours
ELEC 103 - Basic Electricity	4
ELEC 106 - Basic Electronics	3
ELEC 115 - Digital Circuits I	3
ELEC 190 - Electronics Technology Co-op	1
ELEC 195 - AC/DC Circuit Analysis	3
ELEC 215 - Digital Circuits II	3
ELEC 295 - Microprocessor Systems	3
MATH 103 or higher level MATH	3-5

Recommended Course Sequence

Term 1	Term 2	Term 3
ELEC 103	ELEC 115	ELEC 215
ELEC 106	ELEC 195	ELEC 295

Henry Ford Community College

Energy Technology — Alternative Energy

Associate in Applied Science - Technology Division

ENGRYALT.AAS ....

Gregory Laskowsky	313-317-1550	glaskowsky@hfcc.edu	Technology Building 115D
James Elmer	313-317-4129	jlelmer@hfcc.edu	Technology Building 115A

Description

The Energy Technology - Renewable Energy Advanced Certificate, Energy Technology - Renewable Energy Basic Certificate, and Energy Technology - Alternative Energy Associate in Applied Science degree are designed to introduce students to the new emerging fields of Renewable/Alternative Energies. These programs will expose 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. These programs are not engineering programs rather they are general technical career general education programs which will focus on exposure to renewable/alternative energies.

Career Opportunities

Career Opportunities can be found in the following renewable/alternative energy areas:

• Geothermal
• Automotive
• Hydrogen Fuel Cell technology
• Currently developing jobs in wind and photovoltaic

Registry/Certification/Licensure Exam Information

Included in this program is course ENT 250 which is a preparation course for Building LEED Certification.

Minimum Number of Credits To Graduate (Including Options/Electives): 68

Courses

Required Core Courses	Cr. Hours
ENT 103 - AC and DC Electricity *	3
ENT 104 - Heating Technology *	4
ENT 105 - Introduction to RACH *	2
REEN 110 - Geothermal Systems and Water Furnace Technology	2
REEN 120 - Wind, Solar, and Fuel Cell Technology	2
REEN 130 - Smart Home Control Technology	2
REEN 140 - Co-Generation and Back Up Power	2

Complete one of the following courses:

ENT 101 - Introduction to Energy	2
REEN 101 - Survey of Renewable Energy Sources	2

Complete a minimum of 16 credit hours from the following courses:

ENT 113 - Refrigeration Technology	4
ENT 124 - Construction Blueprint Reading	2
ENT 216 - Light Commercial Refrigeration	3
ENT 219 - RACH Light Commercial Systems	3
ENT 255 - LEED Green Building Certification Preparation	2
ENT 260 - Energy Systems Management	4
ENT 265 - Energy Systems Design	5
ENT 269 - Project Management	2

Note:
* Partial online course

Required Support Courses	Cr. Hours
BIO 138 - Environmental Science	3
BIO 139 - Environmental Science Laboratory	2
ENG 132 - College Writing and Research	3
PHYS 120 - Technical Physics	4
MATH 100 or higher level MATH	4

Complete one of the following courses:

BCA 140 - Software	3
CIS 100 - Introduction to Information Technology	3

Complete a minimum of 16 credit hours from the following courses:

ACT 124 - Construction-Systems 1	4
AUTO 105 - Internal Combustion Engines	3
AUTO 120 - Automotive Fuel Management Systems	2
AUTO 260 - Alternative Automotive Propulsion Systems	3

Associate in Applied Science Degree Requirement

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Energy Technology — Boiler License Review Basic

Certificate of Achievement - Technology Division   ENTPHPBOIL.CSGL...
James Martini   313-317-6453   jmartini@hfcc.edu   Technology Building 211L
Gregory Laskowsky   313-845-9637   glaskowsky@hfcc.edu   Technology Building 115D

Description

This is an entry-level program 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 17 credit hour program, students receive a diploma which may be presented 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.

Career Opportunities

Successful passing of one of these exams will offer the opportunity to seek employment as a power engineer, building engineer or 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.

Minimum Number of Credits To Graduate (Including Options/Electives): 17

Courses

Required Core Courses	Cr. Hours
ENT 103 - AC and DC Electricity*	3
ENT 105 - Introduction to RACH*	2
ENT 141 - Power Engineering I- Energy Conversion Fundamental*	2
ENT 145 - Power Engineering II - Boilers and Auxiliaries*	4
ENT 256 - Power Engineering III - Steam Plant Operation Lab*	4
ENT 259 - Power Engineering IV - Plant/Building Operations & Maintenance*	2

Note: * Partial online course

Energy Technology — Heating and Cooling Advanced

Certificate of Achievement - Technology Division   HCOOL.CMLTL...
James Martini   313-317-6453   jmartini@hfcc.edu   Technology Building 211L
Gregory Laskowsky   313-845-9637   glaskowsky@hfcc.edu   Technology Building 115D

Description

This 35 credit hour certificate program is intended for the student who would like to take the next step into the advanced residential and light commercial heating and cooling industry. 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 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.

Career Opportunities

Upon successful completion of the Energy Technology — Heating and Cooling Advanced Certificate, the student is qualified for an entry-level position as an:
• Energy Conservation Technician
• HVAC Service and Installation Technician
• Facilities Maintenance Technician
• Representative for power equipment or instrument and control equipment found in buildings of all sizes.

Minimum Number of Credits To Graduate (Including Options/Electives): 35

Courses

Required Core Courses	Cr. Hours
ENT 100 - Basic Workplace Skills*	1
ENT 101 - Introduction to Energy	2
ENT 103 - AC and DC Electricity*	3
ENT 104 - Heating Technology*	4
ENT 105 - Introduction to RACH*	2
ENT 106 - Sheet Metal Fabrication	2
ENT 108 - Introduction to Heating and Cooling Codes	2
ENT 109 - HVAC Installation and Start-Up	2
ENT 113 - Refrigeration Technology	4
ENT 119 - Air Conditioning Technology	4

Note: * Partial online course

Advanced Commercial/Industrial/ Design Courses	Cr. Hours
Select 9 credits from the Advanced Commercial/Industrial/ Design courses from the following:	9
ENT 124 - Construction Blueprint Reading	2
ENT 125 - Steam and Hot Water Heating Systems	2
ENT 212 - Commercial Heating*	3
ENT 216 - Light Commercial Refrigeration	3
ENT 219 - RACH Light Commercial Systems	3
ENT 230 - Michigan Mechanical Contractor Licensing Preparation*	4
ENT 260 - Energy Systems Management	4
ENT 265 - Energy Systems Design	5
ENT 269 - Project Management	2

Note: * Partial online course

Henry Ford Community College

Energy Technology — Heating and Cooling Basic

Certificate of Achievement - Technology Division   HCOOL.CMLT...
James Martini   313-317-6453   jmartini@hfcc.edu   Technology Building 211L
Gregory Laskowsky   313-845-9637   glaskowsky@hfcc.edu   Technology Building 115DA

Description

This 19 credit hour Heating and Cooling program is a job entry preparation certificate in Heating and Cooling for residential service. The 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.

Career Opportunities

Upon successful completion of the Energy Technology — Heating and Cooling Basic Certificate, the student is qualified for an entry-level position in the heating and cooling industry.

Minimum Number of Credits To Graduate
(Including Options/Electives): 19

Courses

Required Core Courses	Cr. Hours
ENT 103 - AC and DC Electricity*	3
ENT 104 - Heating Technology*	4
ENT 105 - Introduction to RACH*	2
ENT 106 - Sheet Metal Fabrication	2
ENT 113 - Refrigeration Technology	4
ENT 119 - Air Conditioning Technology	4

Note:
* Partial online course

Energy Technology — HVAC

Associate in Applied Science - Technology Division   ENGRYHVAC.AAS...
James Martini   313-317-6453   jmartini@hfcc.edu   Technology Building 211L
Gregory Laskowsky   313-845-9637   glaskowsky@hfcc.edu   Technology Building 115DA

Description

This associate degree program 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.

During the student's progress in the degree program, the student will earn the Energy Technology — HVAC Basic Certificate and the Energy Technology — HVAC Advanced Certificate, enabling the student career opportunities while completing the associate degree.

Career Opportunities

Upon successful completion of the Associate in Applied Science degree in Energy Technology — HVAC, the student is qualified for an entry-level position as an:
- Energy Conservation Technician
- HVAC Service and Installation Technician
- Facilities Manager or Facilities Maintenance Technician
- Plant/building Energy Manager
- Residential/commercial Energy Auditor
- Field Service Engineer
- HVAC Design/Estimating or Sales Engineer
- HVAC Project Manager
- Field Application Engineer
- Licensed Power Engineer or Building Engineer
- Representative for power equipment or instrument and control equipment found in buildings of all sizes.

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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
- Ferris State University
- Lawrence Technological University
- Siena Heights University
- University of Michigan - Dearborn
- Wayne State University

Courses

Required Core Courses	Cr. Hours
ENT 100 - Basic Workplace Skills*	1
ENT 101 - Introduction to Energy	2
ENT 103 - AC and DC Electricity*	3
ENT 104 - Heating Technology*	4
ENT 105 - Introduction to RACH*	2
ENT 106 - Sheet Metal Fabrication	2
ENT 108 - Introduction to Heating and Cooling Codes	2
ENT 109 - HVAC Installation and Start-Up	2
ENT 113 - Refrigeration Technology	4
ENT 119 - Air Conditioning Technology	4
ENT 141 - Power Engineering I- Energy Conversion Fundamental*	2
ENT 260 - Energy Systems Management*	4

Complete 12 credit hours from the following courses: 12
ENT 124, ENT 125, ENT 201, ENT 212*, ENT 216, ENT 219, ENT 230*, ENT 231, ENT 265 and/or ENT 269.

Note:
* Partial online course

Required Support Courses	Cr. Hours
ENG 132 - College Writing and Research	3

Complete 4 credit hours of Math from the following courses: 4
MATH 100 or above except MATH 101, MATH 104, MATH 121, MATH 221 and MATH 225.

Complete 4 credit hours of Science from the following courses: 4
CHEM 131, PHYS 120, and/or PHYS 131.

Complete one of the following courses:
BCA 140, CIS 100 or MFMT 103. 2-3

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

**Minimum Number of Credits To Graduate
(Including Options/Electives): 63**

Henry Ford Community College

Energy Technology — Plumbing - Pipefitting Advanced

Certificate of Achievement - Technology Division
Gregory Laskowsky   313-317-1550   glaskowsky@hfcc.edu
David Wiltshire   313-845-9637   djwiltshire@hfcc.edu

Description

The Energy Technology, Technical Division Plumbing-Pipefitting certificates are designed for those student candidates that interested in Plumbing-Pipefitting. The certificates are designed for those who are seeking to improve their skills in the Construction Technical Trades or for those interested in multi-skilled improvements.

The Advanced Certificate Plumbing-Pipefitting is achieved by obtaining first the basic certificate, 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.

Minimum Number of Credits To Graduate (Including Options/Electives): 29

Courses

Required Core Courses	Cr. Hours
ENT 100 - Basic Workplace Skills*	1
PLMB 100 - Fundamentals of Plumbing and Pipefitting	2
PLMB 110 - Drains, Wastes, and Vents	2
PLMB 120 - Steam and Hot Water Heating Systems	2
PLMB 250 - Plumbing-Pipefitting Codes	2
PLMB 275 - Practical Plumbing Lab-State License Preparation	4
PLMB 280 - Plumbing-Pipefitting State of Michigan License Preparation	2
TAMJ 110 - Materials Joining and Fabrication Fundamentals	3
TAMJ 115 - Materials Joining and Fabrication: Advanced Techniques	2
TAMJ 125 - MJ & F: ASME Pipe and Pressure Vessel Welding	2
TAMJ 230 - MJ & F: ASME Pipe and Pressure Vessel Certification	2
TAMN 100 - Shop Tools and Techniques	3

Complete one of the following courses:

ENT 124 - Construction Blueprint Reading	2
TAFD 112 - Construction Blueprint Reading	2

Note:
* Partial online course

Energy Technology — Plumbing - Pipefitting Basic

Certificate of Achievement - Technogy Division
Gregory Laskowsy   313-317-1550   glaskowsky@hfcc.edu
David Wiltshire   313-845-9637   djwiltshire@hfcc.edu

Description

The Energy Technology — Plumbing-Pipefitting Basic and Advanced certificates are designed for those student candidates that interested in Plumbing-Pipefitting. The certificates are designed for those who are seeking to improve their skills in the Construction Technical Trades or for those interested in multi-skilled improvements.

Upon completing the Energy Technology — Plumbing - Pipefitting Basic Certificate students are encouaged to continue and complete the Energy Technology — Plumbing - Pipefitting Advanced Certificate. Students take 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.

Minimum Number of Credits To Graduate (Including Options/Electives): 17

Courses

Required Core Courses	Cr. Hours
ENT 100 - Basic Workplace Skills*	1
PLMB 100 - Fundamentals of Plumbing and Pipefitting	2
PLMB 110 - Drains, Wastes, and Vents	2
PLMB 120 - Steam and Hot Water Heating Systems	2
PLMB 250 - Plumbing-Pipefitting Codes	2
TAMJ 110 - Materials Joining and Fabrication Fundamentals	3
TAMN 100 - Shop Tools and Techniques	3

Complete one of the following courses:

ENT 124 - Construction Blueprint Reading	2
TAFD 112 - Construction Blueprint Reading	2

Note:
* Partial online course

Programs of Study

Energy Technology — Power/Building Engineer

Associate in Applied Science - Technology Division   ENGRYPWRBLD.AAS...
James Martini   313-317-6453   jmartini@hfcc.edu   Technology Building 211L
Gregory Laskowsky   313-845-9637   glaskowsky@hfcc.edu   Technology Building 115D

Description

This associate degree program is designed to provide 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.

The program is designed for students who want to become operating engineers, boiler operators, building engineers, refrigeration and air conditioning engineers in generating plants, pumping stations, steam plants, heating plants, water treatment facilities, industrial refrigeration plants and commercial and industrial buildings.

During the student's progress in the degree program, the student will earn the Energy Technology — Boiler License Review Basic Certificate and the Energy Technology — Power/Building Engineer Advanced Certificate, enabling the student career opportunities while completing the associate degree.

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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
- Ferris State University
- Lawrence Technological University
- Siena Heights University
- University of Michigan - Dearborn
- Wayne State University

Minimum Number of Credits To Graduate (Including Options/Electives): 62

Courses

Required Core Courses	Cr. Hours
ENT 100 - Basic Workplace Skills*	1
ENT 101 - Introduction to Energy	2
ENT 103 - AC and DC Electricity*	3
ENT 105 - Introduction to RACH*	2
ENT 141 - Power Engineering I- Energy Conversion Fundamental*	2
ENT 145 - Power Engineering II - Boilers and Auxiliaries*	4
ENT 256 - Power Engineering III - Steam Plant Operation Lab*	4
ENT 259 - Power Engineering IV - Plant/Building Operations & Maintenance*	2
ENT 260 - Energy Systems Management	4
MFMT 103 - Industrial Computer Application	2
Complete 7 credit hours from the following courses: ENT 201, ENT 231, MFMT 115**, MFMT 116**, MFMT 241**, and/or MFMT 248.**	7
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**.	12

Note:
* Partial online course
** 100% online course

Required Support Courses	Cr. Hours
Complete 4 credit hours of Math from the following courses: MATH 100, MATH 103, MATH 175, and/or MATH 180.	4
Complete 4 credit hours of Science from the following courses: CHEM 131, PHYS 120, and/or PHYS 131.	4
Complete one of the following courses:	
POLS 131 - Introduction to American Government and Political Science	3
SSC 131 - A Survey of the Social Sciences	3

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Henry Ford Community College

Energy Technology — Power/Building Engineer Advanced

Certificate of Achievement - Technology Division
James Martini 313-317-6453 jmartini@hfcc.edu
Gregory Laskowsky 313-845-9637 glaskowsky@hfcc.edu

PWBLD.CERT...
Technology Building 211L
Technology Building 115D

Description

The Power/Building Engineer Advanced Certificate of Achievement 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.

This certificate is designed for the prospective entry-level power engineer and those seeking educational credentials or licensing in this field.

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 individualís 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.

The Power/Building Engineer Advanced 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 Online Approach With Lab and/or Field Experiences.

Option A - Traditional Classroom - Lab Approach

Option A provides the traditional classroom-lab approach to completing the program and includes lab and field experiences required by some license agencies.

Option A includes "hands-on" lab and field experiences required to qualify to take exams at various 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

Option B provides an equivalent approach to completing the program which is up to ninety-five percent online and includes completion of mandatory power engineering labs or field experiences required by some license agencies.

Option B is up to eighty-eight percent (88%) online and includes completion of mandatory power engineering ìhands-onî labs or documenting field experiences as required to qualify to take exams at various license agencies. Students completing the 34 credits for the program receive a certificate which (if it includes the

required level of ìhands-onî 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.

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

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 ëhands-oní 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.

Admission Requirements/Eligibility

ACT and/or SAT scores are not required for admission to Henry Ford Community College; however on-campus learners who are seeking a degree are encouraged to complete placement exams and/or the ASSET/COMPASS tests which assess writing, reading, and numerical skills to ensure the results are available to advisors or counselors during program development.

Online students who are seeking a degree are encouraged to complete placement exams and/or the ASSET/COMPASS tests which assess writing, reading, and numerical skills at a local institution and forward their results to advisors or counselors at HFCC for use during program development.

Power Engineer Lab and Workplace Requirements

1. Students enrolled in the Power/Building Engineer Advanced Certificate program must be in good physical and mental health as validated by a recent physical examination. Students attending field experience courses including co-op, independent study or internships may require a criminal background check and drug screen. The cost for such tests is in addition to regular tuition.

Note that there are some positions in the Power/Building Engineer field such as in administration, engineering, marketing or sales, and parts or service which may not require prospective engineers to meet the physical, environmental and/or significant field demands required of those who work as operators in buildings or plants. However, Students participating in on-campus lab courses and field experience courses including co-op, independent study or internships should be advised that they may be required to do the following: lift-carry articles of up to 50 lbs; work from heights-climb ladders and stairs and work on catwalks; have vision and hearing corrected to within normal ranges; have good hand-eye-foot coordination; be able to work in high heat, cramped or confined space areas; and, wear appropriate personal protective clothing and gear such as heat and/or fire resistant clothing, hearing protection, head and eye protection, respiratory protection and hand and foot protection (only work-rated shoes - no sneakers or flip-flops are allowed in lab or workplace situations).

2. Program-Course Scheduling: The required core courses may be taken in the order which best fits the student's employment and completion time frame objectives.

   a. Where the initial objective is employment as a boiler operator, the first six courses of the HP Boiler Operator License Prep Program (ENT 103 or MFMT 107, ENT 105 or MFMT 105, ENT 141 or MFMT 114, ENT 145 or PEFT 143, ENT 256 or MFMT 246, ENT 259 or MFMT 229), may be completed to qualify to take a HP Boiler Operatorís License Exam. Online students may in addition be required to complete labs or field experiences to qualify to take some license exams.

   b. The remaining core and support courses may be taken in any sequence or ahead of time.

   c. Starting with the second semester of enrollment, one lab or field experience course should be taken each semester to allow for accumulating the necessary credit toward license exam experience requirements. In that lab courses are scheduled for weekends, these may be scheduled for any semester - usually no more than one per semester.

3. Field experience courses including co-op, independent study or internships should be scheduled for spring and/or summer semesters where possible.

Prerequisite for Online Study

Students should have basic computer skills prior to taking any online course which includes getting on the Internet with web browsers, doing e-mail, working with a word processor like MS Notebook and handling basic file operations. Basic computer skills can be obtained by taking the online course MFMT 103-Industrial Computer Exploration.

Additional Program Requirements

Transfer from one Option to an 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:

1. 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.

2. 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.

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.

Minimum Number of Credits To Graduate (Including Options/Electives): 34

Course	

Option A Traditional Classroom - Lab Approach

Required Core Courses	Cr. Hours
ENT 100 - Basic Workplace Skills*	1
ENT 101 - Introduction to Energy*	2
ENT 103 - AC and DC Electricity*	3
ENT 105 - Introduction to RACH*	2
ENT 141 - Power Engineering I - Energy Conversion Fundamentals*	2
ENT 145 - Power Engineering II - Boilers and Auxiliaries*	4
ENT 256 - Power Engineering III - Steam Plant Operation Lab*	4
ENT 259 - Power Engineering IV - Plant/Building Operations & Maintenance*	2
MFMT 103 - Industrial Computer Application**	2
MFMT 224 - Automated Control Systems I**	2
PEFT 112 - Technical Communication - Power**	2

Complete 6 credit hours from the following courses:

ENT 212 - Commercial Heating*	3
ENT 216 - Light Commercial Refrigeration	3
ENT 219 - RACH Light Commercial Systems	3
MFMT 241 - Power Engineering/Refrigeration License Review**	5
MFMT 248 - Power Engineering - Steam License Review**	5

Complete 2 credit hours from the following courses:

ICO 192 - Industrial Co-Op (2)	2
MFMT 192 - Power Facilities Practicum	2
MFMT 196 - Independent Study	2
PEFT 108 - Portfolio Development	1
PEFT 180 - Power - Heating Plant Lab	2
PEFT 182 - Power Fundamentals Lab	2
PEFT 184 - Power Systems O & M Lab	2

Note:
Students must meet the prerequisites or have permission to enroll in some of the advanced courses.

* Partial online course
** 100% online course

Henry Ford Community College

Courses

Option B Online Approach with Labs and/or Field Experiences

Required Core Courses	Cr. Hours
MFMT 100 - Workplace Skills**	2
MFMT 101 - Energy Technology Applications**	2
MFMT 103 - Industrial Computer Application**	2
MFMT 105 - Basic HVACR - Power**	2
MFMT 107 - Basic Electrical ñ Power**	2
MFMT 114 - Energy Conversion Principles, Tools, Instruments, Processes**	2
MFMT 224 - Automated Control Systems I**	2
MFMT 229 - Building-Plant Major Equipment/Controls Maintenance II**	2
PEFT 112 - Technical Communication - Power**	2
PEFT 143 - Power Engineering Boilers**	3
PEFT 246 - Steam Plant Prime Movers**	3

Complete one of the following courses:

MFMT 116 - HP Boiler Operation/Maintenance And License Prep**	2
MFMT 241 - Power Engineering/Refrigeration License Review**	5
MFMT 248 - Power Engineering - Steam License Review**	5

Complete 2 credit hours from the following courses:

MFMT 228 - Building-Plant Major Equipment/Controls Maintenance I**	2
PEFT 247 - Combined & CoGen Plants**	3

Complete 5 credit hours from the following courses: 2

ICO 192 - Industrial Co-Op (2)	2
MFMT 192 - Power Facilities Practicum	2
MFMT 196 - Independent Study	2
PEFT 108 - Portfolio Development	1
PEFT 180 - Power - Heating Plant Lab	2
PEFT 182 - Power Fundamentals Lab	2
PEFT 184 - Power Systems O & M Lab	2

Note:
** 100% online course

Programs of Study

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Energy Technology — Power Engineering High Pressure Boiler - 3rd Class Steam License Review Online

Certificate of Achievement - Technology Division

			ENTPHPBOIL.CSGL....
James Martini	313-317-6453	jmartini@hfcc.edu	Technology Building 211L
Gregory Laskowsky	313-845-9637	glaskowsky@hfcc.edu	Technology Building 115D

Description

In this online program, students study equipment, mechanical and electrical systems of buildings and plants and demonstrate their understanding through workbook exercises and/or completing exams related to individual elements. The building operator or engineer student will further demonstrate his/her understanding by completing sketches, online internet exploratory experiences and/or field work or related activities and exams related to field systems. Practice license exams for high pressure boiler operator and third class refrigeration and air conditioning engineer are provided in this program and the student should be able to attain a passing score on such exams.

Online study is available for:
- Multi-Skilled Power and Process Engineers and Technicians
- Building Engineers and Technicians
- Facilities Engineers and Technicians

Online Courses are for Power Process Facilities Engineers and Technicians in the field:
- With Power-Process-Facilities field experience and/or,
- Who are advancing in the profession and/or,
- Who are seeking higher grade licenses.

These courses and programs are generally designed 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.

Online Introductory Courses to the Power Engineering Field

Basic computer skills can be obtained by taking the online course MFMT 103-Industrial Computer Applications.

For those persons seeking an orientation or familiarization to this field and may not be able to attend campus classes, the following introductory online courses are offered:
- MFMT 115-Boiler (LP)/Heating Plant Operation & Maintenance: If you cannot attend the traditional classroom-laboratory sessions at the college, this online course, provides an introduction to this field and to low pressure boilers and heating plants.
- MFMT 151-Power and Process Plant Operation: An additional online course which provides a more extensive introduction to the power, process and facilities fields.

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.

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.

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.

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.

Note:
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.

Minimum Number of Credits To Graduate (Including Options/Electives): 9

Courses

Required Core Courses	Cr. Hours
MFMT 114 - Energy Conversion Principles, Tools, Instruments, Processes*	2
MFMT 116 - HP Boiler Operation/Maintenance And License Prep*	2
MFMT 241 - Power Engineering/Refrigeration License Review	5

Note: 100% online course

Henry Ford Community College

Energy Technology — Power Engineering Low Pressure Boiler - Heating Plant Operator Online

Certificate of Achievement - Technology Division   ENTPLPBOIL.CSGL...
James Martini   313-317-6453   jmartini@hfcc.edu   Technology Building 211L
Gregory Laskowsky   313-845-9637   glaskowsky@hfcc.edu   Technology Building 115D

Description

A basic totally online entry level certificate for persons seeking initial positions as low pressure boiler or heating and cooling plant operators or maintenance technicians. Covers energy conversion fundamentals, tools and equipment used by heating and cooling plant technicians. Provides information on the various boiler-heating and cooling plant operations and maintenance. This certificate provides basic information for completing low pressure boiler license exams. Persons seeking a license should check with the license agency to determine the experience and other elements which may be required for obtaining a license. 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 and/or technical education for the license you are seeking.

Online study is available for:
- Multi-Skilled Power and Process Engineers and Technicians
- Building Engineers and Technicians
- Facilities Engineers and Technicians

Online Courses are for Power Process Facilities Engineers and Technicians in the field:
- With Power-Process-Facilities field experience and/or,
- Who are advancing in the profession and/or,
- Who are seeking higher grade licenses.

These courses and programs are generally designed 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.

Online Introductory Courses to the Power Engineering Field

Basic computer skills can be obtained by taking the online course MFMT 103-Industrial Computer Applications.

For those persons seeking an orientation or familiarization to this field and may not be able to attend campus classes, the following introductory online courses are offered:
- MFMT 115-Boiler (LP)/Heating Plant Operation & Maintenance: If you cannot attend the traditional classroom-laboratory sessions at the college, this online course, provides an introduction to this field and to low pressure boilers and heating plants.
- MFMT 151-Power and Process Plant Operation: An additional online course which provides a more extensive introduction to the power, process and facilities fields is.

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.

Minimum Number of Credits To Graduate (Including Options/Electives): 8

Courses

Required Core Courses	Cr. Hours
MFMT 114 - Energy Conversion Principles, Tools, Instruments, Processes*	2
MFMT 115 - Boiler (LP)/Heating Plant Operation & Maintenance*	2
MFMT 228 - Building-Plant Major Equipment/Controls Maintenance I*	2
Complete one of the following courses:	
ENT 259 - Power Engineering IV - Plant/Building Operations & Maintenance**	2
MFMT 229 - Building-Plant Major Equipment/Controls Maintenance II*	2

Note:
* 100% online course
** Partial online course

Energy Technology — Power Engineering 1st & 2nd Class Steam - Refrigeration License Review Online

Certificate of Achievement - Technology Division

ENTPADSTRF.CSGL...

James Martini   313-317-6453   jmartini@hfcc.edu   Technology Building 211L
Gregory Laskowsky   313-845-9637   glaskowsky@hfcc.edu   Technology Building 115D

Description

An advanced college-level online certificate program providing Refrigeration and Steam study in the following areas:

1st and 2nd Class Refrigeration Operator License Review and Refrigeration Journeyman course providing 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.

1st and 2nd Class Steam License review of major and minor power engineering subjects including boilers, basic thermodynamics, boiler operation & maintenance, boiler & plant efficiency & 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. Students are required to answer questions, work problems and sketch components and systems and focus is on license exam subjects requiring knowledge of both steam and refrigeration.

Online study is available for:
• Multi-Skilled Power Process Engineers and Technicians
• Building Engineers and Technicians
• Facilities Engineers and Technicians

Online Courses are for Power Process Facilities Engineers and Technicians in the field:
• With Power-Process-Facilities field experience and/or,
• Who are advancing in the profession and/or,
• Who are seeking higher grade licenses.

These courses and programs are generally designed 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 noted below.

Online Introductory Courses to the Power Engineering Field

Basic computer skills can be obtained by taking the online course MFMT 103-Industrial Computer Applications.

For those persons seeking an orientation or familiarization to this field and may not be able to attend campus classes, the following introductory courses may be taken.

1. MFMT 115-Boiler (LP)/Heating Plant Operation & Maintenance: If you cannot attend the traditional classroom-laboratory sessions at the college, this online course, provides an introduction to this field and to low pressure boilers and heating plants.

2. MFMT 151-Power and Process Plant Operation: An additional online course which provides a more extensive introduction to the power, process and facilities fields is.

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.

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.

This program is for 1st and 2nd Class Steam-Refrigeration license review. It is designed to prepare qualifying students to take the 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.

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.

Minimum Number of Credits To Graduate (Including Options/Electives): 10

Courses	
Required Core Courses	**Cr. Hours**
MFMT 241 - Power Engineering/Refrigeration License Review*	5
MFMT 248 - Power Engineering - Steam License Review*	5

Note:
* 100% online course

Henry Ford Community College

Energy Technology — Renewable Energy Advanced

Certificate of Achievement - Technology Division

RENEWAD.CMLT...

Gregory Laskowsky	313-317-1550	glaskowsky@hfcc.edu	Technology Building 115D
James Elmer	313-317-4129	jlelmer@hfcc.edu	Technology Building 164D

Description

The Energy Technology — Renewable Energy Basic Certificate, Energy Technology — Renewable Energy Advanced Certificate and Associates in Applied Science degree in Energy Technology — Alternative Energy are designed to introduce students to the new emerging fields of Renewable/Alternative Energies. These programs will expose 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.

These programs are not engineering but rather general technical career general education programs which will focus on exposure to renewable/alternative energies.

Career Opportunities

Career Opportunities can be found in the following renewable/alternative energy areas:
- Geothermal
- Automotive
- Hydrogen Fuel Cell technology
- Currently developing jobs in wind and photovoltaic

Registry/Certification/Licensure Exam Information

Included in this program is course ENT 250 which is a preparation course for Building LEED Certification.

Minimum Number of Credits To Graduate (Including Options/Electives): 35

Courses

Required Core Courses	Cr. Hours
ENT 103 - AC and DC Electricity *	3
ENT 104 - Heating Technology *	4
ENT 105 - Introduction to RACH *	2
REEN 110 - Geothermal Systems and Water Furnace Technology	2
REEN 120 - Wind, Solar, and Fuel Cell Technology	2
REEN 130 - Smart Home Control Technology	2
REEN 140 - Co-Generation and Back Up Power	2

Complete one of the following courses:

ENT 101 - Introduction to Energy	2
REEN 101 - Survey of Renewable Energy Sources	2

Complete a minimum of 16 credit hours from the following courses:

ENT 113 - Refrigeration Technology	4
ENT 124 - Construction Blueprint Reading	2
ENT 216 - Light Commercial Refrigeration	3
ENT 219 - RACH Light Commercial Systems	3
ENT 255 - LEED Green Building Certification Preparation	2
ENT 260 - Energy Systems Management	4
ENT 265 Energy Systems Design	5
ENT 269 Project Management	2

Note:

* Partial online course

Energy Technology — Renewable Energy Basic

Certificate of Achievement - Technology Division			RENEW.CSGL...
Gregory Laskowsky	313-317-1550	glaskowsky@hfcc.edu	Technology Building 115D
James Elmer	313-317-4129	jlelmer@hfcc.edu	Technology Building 164D

Description

The courses listed below have been developed to form a ten credit hour Energy Technology — Renewable Energy Basic Certificate. The content of the courses will be structured to inform the student of both present and upcoming concepts in renewable energy. This certificate should interest students who are looking for an alternative to the current reliance on fossil fuels.

**Minimum Number of Credits To Graduate
(Including Options/Electives): 10**

Courses

Required Core Courses	Cr. Hours
REEN 101 - Survey of Renewable Energy Sources	2
REEN 110 - Geothermal Systems and Water Furnace Technology	2
REEN 120 - Wind, Solar, and Fuel Cell Technology	2
REEN 130 - Smart Home Control Technology	2
REEN 140 - Co-Generation and Back Up Power	2

Engineering

Associate in Science - Science Division   ENGIN.AS...
Dr. Charles Jacobs   313-845-9632   cjacobs@hfcc.edu   Science Building 107
Larry Smyrski   313-845-9631   lsmyrski@hfcc.edu   Science Building 244

Description

The Associate in Science degree in Pre-Engineering program 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 the Associate in Science in Pre-Engineering at HFCC. These articulation agreements also maximize the transferability of your HFCC coursework.

Although the core engineering curriculum is fairly standard among accredited engineering schools, students should consult with the engineering advisor to determine which courses they should take, depending on the engineering discipline and the engineering school to which they will transfer.

HFCC offers the courses common in the first two years of an ABET-accredited engineering program, and works closely with the faculty at local engineering schools to make sure your 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.

Although the minimum requirement for completing the course is 60 credit hours, students may be able to take additional coursework at HFCC and transfer it to a 4-year n institution.

Career Opportunities

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.

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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:
- Lawrence Technological University
- Michigan Technological University
- University of Detroit Mercy
- University of Michigan - Ann Arbor
- University of Michigan - Dearborn
- Wayne State University

Admission Requirements/Eligibility

Engineering school is a rigorous academic program that requires strong math and science skills. Students in engineering programs at 4-year colleges and universities typically take 16-18 credit hours each semester. The majority of these courses are in natural sciences, mathematics, and engineering. Students planning to enter engineering should take a rigorous high school background including four years of college prep math and science.

Most courses that apply toward engineering degrees require calculus as a prerequisite. Engineering schools calculate that, in order to finish a degree in four years, students should start calculus in their first semester in college. If you do not place into calculus, it will take you longer to earn your degree.

Students who are interested in engineering fields, but who do not have a strong aptitude for math may want to investigate programs in engineering technology. Although we do not have a formal degree program, our courses do transfer into the Bachelor of Science programs in engineering technology at several universities.

Additional Program Requirements

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.

Minimum Number of Credits To Graduate
(Including Options/Electives) : 60

Courses

Required Core Courses   Cr. Hours

MATH 180 - Calculus I   5
MATH 183 - Calculus II   5
MATH 280 - Calculus III   5
MATH 289 - Differential Equations   4
CHEM 141 - Principles of General and Inorganic
        Chemistry I   5
PHYS 241 - Mechanics   4
PHYS 242 - Sound, Light, and Thermodynamics   4
PHYS 243 - Electricity and Magnetism   4

Note:
Students should consult an engineering advisor for a Recommended Course Sequence for their intended field of engineering.

Engineering students may use MATH 180 as the prerequisite for CIS 170.

Required Support Courses   Cr. Hours

Complete one of the following courses:
BEC 133 - Basic Economics   3
BEC 151 - Principles of Macro Economics   3
BEC 152 - Principles of Micro Economics   3

Associate in Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Science Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses for the may also be used to fulfill Associate in 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate in Science degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

These courses are suggestions for electives:
BIO 131 - Introductory Biology   4
BIO 150 - Biology: Organisms, Genes, and Ecology 4
BIO 152 - Biology: Cells and Molecular Biology 4
CHEM 142 - Principles of General and Inorganic 5
        Chemistry II
CIS 170 - "C" Programming   3
ENGR 130 - Introduction to Engineering   3
ENGR 201 - Science of Materials   3
ENGR 232 - Statics   3
ENGR 233 - Dynamics   3

Note:

Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Henry Ford Community College

Environmental Studies

Associate in Science - Science Division   ENVIRN.AS...
Judy Kelly   313-845-9728   jkelly@hfcc.edu   Science Building 104E
Dr. Charles Jacobs   313-845-9734   cjacobs@hfcc.edu   Science Building 107

Description

The Associate in Science degree in Environmental Studies emphasizes the interdisciplinary nature of environmental problem-solving at the local, regional, and international levels. Students completing this program can transfer to a Bachelor's program in four broad areas: land resources, nature studies, resource and policy management, and urban service.

Although the minimum requirement for completing the program is 61 credit hours, students may be able to take additional coursework at HFCC and transfer it to the 4-year institution.

Career Opportunities

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

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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

Minimum Number of Credits To Graduate (Including Options/Electives): 61

Courses

Required Core Courses	Cr. Hours
BIO 138 - Environmental Science	3
BIO 139 - Environmental Science Laboratory	2
BIO 150 - Biology: Organisms, Genes, Ecology	4
CHEM 141 - Principles of General and Inorganic Chemistry I	5
GEOG 131 - Principles of Physical Geography	4
GEOG 132 - World & Regional Geography	3
GEOL 131 - Principles of Geology	4

Complete one of the following courses:

ATMS 131 - Weather and Climate	3
GEOG 231 - Introduction to Geographic Information Systems	3

Note:
Students should consult the Environmental Studies advisor for a Recommended Course Sequence for your intended area of study.

Required Support Courses	Cr. Hours
ANTH 131 - Intro to Anthropology	3
BCA 140 - Software Applications	3
BEC 152 - Principles of Micro Economics	3
MATH 112 - Trigonometry or higher-level MATH course	3
POLS 131 - Introduction to American Government & Political Science	3
Complete 6 credit hours of Humanities	6

Associate in Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Science Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses for the may also be used to fulfill Associate in 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate in Science degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Firefighter/Paramedic

Associate in Applied Science	**Health Careers Division**		FFPAR.AAS...
Shannon Bruley	313-317-6582	sbruley@hfcc.edu	Health Careers Education Center 132L
Ronald Bodurka	313-845-9877	rbodurka@hfcc.edu	Health Careers Education Center 132

Description

The Associate in Applied Science degree in Firefighter/Paramedic 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.

EMT-Basic Certification and Paramedic Certification

The paramedic program at HFCC 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.

Computer Usage

This program, from EMS 100-level and up, requires students to utilize a computer and the internet. All students have computer and Internet access through our campus library.

Career Opportunities

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.

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 Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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:

• Siena Heights University

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 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.

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:

• ASSET Reading score of 43 or a COMPASS Reading score of 84 or successful completion of ENG 081.
• ASSET Writing score of 44 or a COMPASS Writing score of 78. Successful completion of ENG 131 also fulfills the writing requirement.

Students should place into ENG 131 in order to be most successful.

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)*
• ASSET Math score of 39 on the Numerical Skill unit or COMPASS Pre-Algebra score of 39 or successful completion of MATH 080.
• See first year reading and writing 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)

Henry Ford Community College

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 Manager. Do not REPEAT courses in which you have earned credit through the PSP program. 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)*

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 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
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 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**.

Registry/Certification/Licensure Exam Information
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. 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.

Accreditation
Henry Ford Community College is an approved EMS Program Sponsor through the Michigan Department of Community Health, Bureau of EMS & Trauma Systems. Through this approval, all graduates/completers of the EMS program(s) are eligible to sit for the national registry exams for the designation of Nationally Registered Emergency Medical Technician-Basic or Nationally Registered Emergency Medical Technician-Advanced.

Minimum Number of Credits To Graduate (Including Options/Electives): 90

Courses	
Required Core Courses	**Cr. Hours**
EMS 100 - EMT - Basic Fundamentals	9
EMS 106 - EMT - Basic Procedures	2.5
EMS 109 - EMT - Basic Clinical Externship	2
EMS 200 - Paramedic I	3
EMS 205 - Paramedic Lab I	3
EMS 210 - Paramedic II	3
EMS 215 - Paramedic Lab II	4
EMS 220 - Paramedic III	4
EMS 225 - Paramedic Lab III	2
EMS 230 - Paramedic IV	4
EMS 240 - Paramedic V	3
EMS 290 - Advanced Clinical I	4
EMS 295 - Advanced Clinical II	4
EMS 299 - Advanced Clinical III	4

*Complete Firefighter I and Firefighter II certification (9 credit hours).**

Note:
A minimum of 'C' grade is required in all Required Core Courses.

* This program requires a minimum of 60.5 Required Core Courses to graduate. The 60.5 credit hours include the 9 credit hours for the Firefighter I and Firefighter II certifications that are available at HFCC 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 or higher level EMS coursework).

Required Support Courses

	Cr. Hours
AH 100 - Medical Terminology	4
AH 105 - Basic Life Support for Healthcare Providers	0.5
AH 120 - Pharmacology for Allied Health	3
BIO 233 - Anatomy and Physiology I	4
BIO 234 - Anatomy and Physiology II	4
POLS 131 - Introduction to American Government and Political Science	3

Complete one of the following courses:

CRJ 131, CRJ 132, MGT 237, MGT 238, and/or MGT 240.

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

These courses are suggestions for electives:

HPEA 155 - Relax Techniques for Stress Management	2
HPEA 117 - Weight Training and Physical Conditioning I	2

Note:

Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Spring/Summer I	Fall I	Winter I	
AH 105	EMS 100	AH 120	
AH 100	EMS 106	BIO 233	
ENG 131	EMS 109	ENG 132	

Spring/Summer II	Fall II	Winter II	Spring/Summer III
BIO 234	EMS 200	EMS 215	EMS 225
CLT 100	EMS 205	EMS 220	EMS 240
POLS 131	EMS 210	EMS 230	EMS 299
	EMS 290	EMS 295	

Note:

Courses must be completed following the Recommended Course Sequence. Careful course sequencing is essential. Please take careful note of courses that have co-requisites.

CLINICAL

Basic:

We require two rotations in the field, usually 8 a.m. - 8 p.m., with Monday through Sunday scheduling options and two rotations in the hospital emergency room, with scheduling options available 24/7. Clinical for EMT Basics will be explained, thoroughly, at the EMS 109 orientation.

Paramedic:

EMS clinicals are made available at the discretion of our host EMS Departments and Hospitals. Students are encouraged to keep flexible schedules during school to accommodate the advanced clinical experience. At the paramedic level (EMS clinical 290, EMS 295 and EMS 299), many of the rotations outside of the ER, are daytimes and during the traditional work week. Examples of this are OR and Cardiac Cath labs. Clinical is explained, in depth, at the Paramedic orientation in August, before the FALL II start of paramedic courses.

Clinical courses, basic and advanced, show TBA in the Time/Day area of the schedule. We try very hard to individualize clinical rotations to each student's needs.

The Second year:

Sequencing for EMS 200+ level course-work is not optional. Paramedic (EMS 200+) courses begin in Fall and end in Spring without exception. Prior to that, courses can be taken in any course/semester order as long as the EMS 100, EMS 106 and EMS 109 courses are taken as co-requisites.

Students are responsible for their own transportation to clinical sites and any expenses incurred.

Henry Ford Community College

Fitness and Sports Center Management

Associate in Business

Corinne Asher   313-845-9897   casher@hfcc.edu

Elaine Saneske   313-845-9704   esaneske@hfcc.edu

FSCMGMT.AB...

Reuther Liberal Arts Building 325

Reuther Liberal Arts Building 205

Description

The goal of Henry Ford Community College's associate degree in Fitness and Sports Center Management is to assist 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.

Minimum Number of Credits To Graduate (Including Options/Electives): 63

Courses

Required Core Courses	Cr. Hours
HPE 140 - Lifetime Wellness	2
HPE 142 - Advanced First Aid	3
HPE 150 - Physiology of Exercise	3
HPE 151 - Methods of Teaching Aerobic Exercise	3
HPE 152 - Tests and Measurements	2
HPE 154 - Facilities and Equipment	2
HPE 253 - Nutrition for the Prrofessional	1
BAC 110 - Practical Accounting	4
BBA 131 - Introduction to Business	4
BBA 133 - Business Behavior and Communication	3
BBA 153 - Customer Service	3
BBA 252 - Principles of Marketing	3
BCA 140 - Software Applications	3
BMA 110 - Business Mathematics	3
MGT 230 - Principles of Management	3
MGT 231 - Supervision and Teambuilding	3
MGT 240 - Creative Problem Solving	3

Complete one of the following courses:

HPEA 117 - Weight Training and Physical Conditioning I	2
HPEA 217 - Weight Training and Physical Conditioning II	2

Complete one of the following courses:

HPE 120 - Lifetime Fitness (Rotating Skill)	2
HPE 127 - Aquacise	2
HPEA 126 - Aerobic Dance	2
HPEA 110 - Volleyball I	2
HPEA 210 - Volleyball II	2

Note:

Students may also earn the Fitness Leadership Certificate by completing BIO 233 and BIO 234-Anatomy and Physiology I and II, and completing HPE 192-Internship in Physical Education.

Associate in Business Degree Requirements

Students must also complete the specific degree requirements for the Associate in Business Degree. It should be noted that courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Business 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/or Required Support Courses, as well as courses used to fulfill requirements of the Associate in Business degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:

Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Programs of Study

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Henry Ford Community College

Fitness and Sports Center Management

Associate in Business   FSCMGMT.AB...

Corinne Asher   313-845-9897   casher@hfcc.edu   Reuther Liberal Arts Building 325

Elaine Saneske   313-845-9704   esaneske@hfcc.edu   Reuther Liberal Arts Building 205

Description

The goal of Henry Ford Community College's associate degree in Fitness and Sports Center Management is to assist 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.

Minimum Number of Credits To Graduate (Including Options/Electives): 63

Courses

Required Core Courses	Cr. Hours
HPE 140 - Lifetime Wellness	2
HPE 142 - Advanced First Aid	3
HPE 150 - Physiology of Exercise	3
HPE 151 - Methods of Teaching Aerobic Exercise	3
HPE 152 - Tests and Measurements	2
HPE 154 - Facilities and Equipment	2
HPE 253 - Nutrition for the Prrofessional	1
BAC 110 - Practical Accounting	4
BBA 131 - Introduction to Business	4
BBA 133 - Business Behavior and Communication	3
BBA 153 - Customer Service	3
BBA 252 - Principles of Marketing	3
BCA 140 - Software Applications	3
BMA 110 - Business Mathematics	3
MGT 230 - Principles of Management	3
MGT 231 - Supervision and Teambuilding	3
MGT 240 - Creative Problem Solving	3

Complete one of the following courses:

HPEA 117 - Weight Training and Physical Conditioning I	2
HPEA 217 - Weight Training and Physical Conditioning II	2

Complete one of the following courses:

HPE 120 - Lifetime Fitness (Rotating Skill)	2
HPE 127 - Aquacise	2
HPEA 126 - Aerobic Dance	2
HPEA 110 - Volleyball I	2
HPEA 210 - Volleyball II	2

Note:

Students may also earn the Fitness Leadership Certificate by completing BIO 233 and BIO 234-Anatomy and Physiology I and II, and completing HPE 192-Internship in Physical Education.

Associate in Business Degree Requirements

Students must also complete the specific degree requirements for the Associate in Business Degree. It should be noted that courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Business 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/or Required Support Courses, as well as courses used to fulfill requirements of the Associate in Business degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:

Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Programs of Study

Fitness Leadership

Associate in Applied Science - Fine Arts and Fitness Division   FITLD.AAS...

Carole Sloan   313-845-6318   csloan@hfcc.edu   Athletic Memorial Building 7
Martin Anderson   313-845-6488   mander@hfcc.edu   MacKenzie Fine Arts Center 131

Description

The Health and Physical Education curriculum includes two programs in Fitness Leadership. Interested students can enroll in the Certificate of Achievement program or the two-year Associate in Applied Science degree program.

The Fitness Leadership programs have been established in response 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 and aware of current and future trends in the profession.

Both programs offer a wide variety of courses including Exercise Physiology, Nutrition, Methods of Teaching Exercise, and First Aid.

HFCCs Fitness Leadership instructors are fitness leaders and professionals who are highly qualified to share their training and knowledge to help develop strong and dynamic exercise leaders.

Many HFCC graduates attend Eastern Michigan University or Wayne State University, which have strong exercise science programs and excellent transfer agreements with HFCC.

Statistics provided by the American Council on Exercise, the American College of Sports Medicine, and other professional exercise organizations have strongly shown that students who have received training from a college perform well on certification exams.

Career Opportunities

According to the Bureau of Labor Statistics Employment Projections, fitness trainers were listed as one of the fastest growing occupations in 2002-2012. The 2002 average salary for a fitness trainer was $29,100 per year. Fitness Leadership 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.

Transfer Options/Requirements

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 HFCC. 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   • Wayne State University

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.

Registry/Certification/Licensure Exam Information

Many students are interested in taking industry certification exams such as ACE or ACSM at the completion of the program. The certificate/associate degree from HFCC 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.

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses	Cr. Hours
HPEA 117 - Weight Training and Physical Conditioning I	2
HPEA 127 - Aquacise	1
HPE 140 - Lifetime Wellness	2
HPE 142 - Advanced First Aid	3
HPE 150 - Physiology of Exercise	3
HPE 151 - Methods of Teaching Aerobic Exercise	3
HPE 152 - Tests and Measurements	2
HPE 153 - Nutrition	2
HPE 154 - Facilities and Equipment	2
HPE 192 - Internship in Physical Education	2

Complete one team sport from the following courses: 2
HPEA 104, HPEA 110, HPEA 204, and/or HPEA 210.

Complete one Dance course from the following:
DNC - courses include Ballet, Jazz, Modern, Aerobic, and/or Tap.

Required Support Courses	Cr. Hours
BBA 131 - Introduction to Business	4
BIO 233 - Anatomy and Physiology I	4
BIO 234 - Anatomy and Physiology II	4

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

These courses are suggestions for electives:

MATH 110 - Intermediate Algebra	4
MATH 112 - Trigonometry	3
MATH 115 - College Algebra	5
MATH 175 - Precalculus	5
PHYS 133 - Principles of Physics	4
BIO 131 - Introductory Biology	4
BIO 143 - Zoology	4
HPEA 155 - Relax Techniques for Stress Management	2
HPE 253 - Nutrition for the Professional	3
HPE 260 - Health, Nutrition, and PE	3

Note: **Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.**

Fitness Leadership

Certificate of Achievement - Fine Arts and Fitness Division   FITLD.CERT...
Carole Sloan   313-845-6318   csloan@hfcc.edu   Athletic Memorial Building 7
Martin Anderson   313-845-6488   mander@hfcc.edu   MacKenzie Fine Arts Center 131

Description

The Health and Physical Education curriculum includes two programs in Fitness Leadership. Interested students can enroll in the Certificate of Achievement or the two-year Associate in Applied Science degree program.

The Fitness Leadership programs have been established in response 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.

Fitness Leadership 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.

Both programs offer a wide variety of courses including Exercise Physiology, Nutrition, Methods of Teaching Exercise, and First Aid.

HFCCs Fitness Leadership instructors are fitness leaders and professionals who are highly qualified to share their training and knowledge to help develop strong and dynamic exercise leaders.

Many HFCC graduates attend Eastern Michigan University or Wayne State University which have strong exercise science programs and excellent transfer agreements with HFCC.

Statistics provided by the American Council on Exercise, the American College of Sports Medicine, and other professional exercise organizations have strongly shown that students who have received training from a college perform well on certification exams.

Career Opportunities

Those who will benefit from the Fitness Leadership programs include aerobic instructors, physical educators, personal trainers, athletes, health-care professionals, nutritionists, and exercise enthusiasts.

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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
• Wayne State University

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.

Registry/Certification/Licensure Exam Information

Many students are interested in taking industry certification exams such as ACE or ACSM at the completion of the program. The certificate/associate degree from HFCC 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 exams 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.

Minimum Number of Credits To Graduate (Including Options/Electives): 31

Courses

Required Core Courses	Cr. Hours
HPE 140 - Lifetime Wellness	2
HPE 142 - Advanced First Aid	3
HPE 150 - Physiology of Exercise	3
HPE 151 - Methods of Teaching Aerobic Exercise	3
HPE 152 - Tests and Measurements	2
HPE 153 - Nutrition	2
HPE 154 - Facilities and Equipment	2
HPE 192 - Internship in Physical Education	2
HPEA 127 - Aquacise	1
BIO 233 - Anatomy and Physiology I	4
BIO 234 - Anatomy and Physiology II	4
SPC 131 - Fundamentals of Speaking	3

General Business — No Concentration

Associate in Business - Business and Economics Division GBNOC.AB...

Jared Boyd   313-945-9697   jpboyd@hfcc.edu   Reuther Liberal Arts Building 329
Elaine Saneske   313-845-9704   esaneske@hfcc.edu   Reuther Liberal Arts Building 328

Description

Henry Ford Community College's associate degree in General Business with no concentration is the most basic and flexible degree offered by the Business and Economics Division. This degree requires a minimum of 20 credit hours in business classes. The General Business – No Concentration degree is designed to enable 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.

Students may combine this degree with certificate programs offered by the Business and Economics Division or with a degree in another area to improve their employability. The division offers the following certificates:

Career Opportunities
- Bookkeeping
- Computer Software Applications
- Customer Service Professional
- Industrial Distribution — Business Concentration
- Office Administration
- Office Skills — Fundamentals
- Small Business Management and Entrepreneurship
- Supervision

**Minimum Number of Credits To Graduate
(Including Options/Electives): 60**

Courses

Required Core Courses   Cr. Hours

Complete 20 credit hours from the following course prefixes: 20
BAC, BBA, BCA, BCO, BEC, BFN, BLW, BMA, LGA and/or MGT.

Note:
BCA 140 is a recommended course and will also satisfy General Education Outcome #1: Computer Literacy General course requirement.

Required Support Course   Cr. Hours

Complete one of the following MATH *options.*
BMA 110 - Business Mathematics   3
OR
MATH 115 - College Algebra or higher numbered MATH   4
           course*

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

Associate in Business Degree Requirements

Students must also complete the specific degree requirements for the Associate in Business Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Business 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate Degree in Business, 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Henry Ford Community College

Graphic Design

Associate in Arts - Fine Arts and Fitness Division
Kirk McLendon   313-845-6487   mclendon@hfcc.edu
Martin Anderson   313-845-6488   mander@hfcc.edu

GPHDS.AA...
MacKenzie Fine Arts Center 149
MacKenzie Fine Arts Center 131

Description

The College offers five certificate programs within the Graphic Design area: Animation, Illustration, Multimedia Design, Print Design, and Web Design, as well as an Associate in Arts degree in Graphic Design.

Students who complete the course requirements for one of the Certificate Programs and the Required Support Courses listed below and meet other College requirements listed below are eligible for an Associate in Arts degree in Graphic Design.

Students may take classes during fall, winter, spring, and summer semesters. Students should refer to the Schedule Planner at wwwhfcc.edu/graphicdesign which shows the frequency and time of day Graphic Design classes are offered during the year. Students are also encouraged to meet a Graphic Design advisor to plan their schedule. Students may call **313-845-6487** or e-mail **graphicdesign@hfcc.edu** to schedule an advising appointment.

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses   Cr. Hours

Complete a certificate in Animation, Illustration, Multimedia   36
Design, Print Design, or Web Design to fulfill a minimum of
36 Core credit hours of the Associate in Arts degree.

Note:
Students who have completed ART 106, 166, 266, or 267 should refer to the substitution chart below to see how these discontinued classes fit into the new programs.
  ART 106 may be substituted for ART 107.
  ART 166 may be substituted for ART 109 or ART 110.
  ART 266 may be substituted for ART 275.
  ART 267 may be substituted for ART 275.

Associate in Arts Degree Requirements

Students must also complete the specific degree requirements for the Associate in Arts Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Arts 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate in Arts degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Hospitality Professional Management

Certificate of Achievement - Technology Division
Eric Gackenbach   313-845-1572   epgackenbach@hfcc.edu
Jeff Click   313-845-9651   jclick@hfcc.edu

HRMGT.CMLT...
Student and Culinary Arts Center 163C
Student and Culinary Arts Center 163D

Description

Modern-day management practices have become not only beneficial, but necessary in today's increasingly complex hospitality/travel industry. Key components of the Hospitality Professional Management Certificate include cost control, purchasing, marketing, and training at the front office level.

The courses completed in this certificate program may be applied towards an Associate in Applied Science in Hospitality Studies.

Career Opportunities
• Mid-Management Careers

Accreditation
Hospitality and Culinary programs at HFCC are fully accredited by the Accrediting Commission of the American Culinary Federation Educational Foundation of the National Restaurant Association.

Minimum Number of Credits To Graduate (Including Options/Electives): 26

Courses

Required Core Courses   Cr. Hours

Course	Cr. Hours
HOSP 105 - Applied Foodservice Sanitation	2
HOSP 110 - Introduction to Hospitality Industry	3
HOSP 130 - Food and Nutrition	3
HOSP 150 - Dining Room Service and Operations	3
HOSP 160 - Hospitality Purchasing	3
HOSP 170 - Food and Beverage Controls	3
HOSP 210 - Hospitality Supervision and Leadership	3
HOSP 221 - Front Office Procedures and Guest Services	3
HOSP 250 - Hospitality and Travel Marketing	3

Recommended Course Sequence

Fall I	Winter I	Spring I
HOSP 105	HOSP 160	HOSP 221
HOSP 110	HOSP 170	
HOSP 130	HOSP 210	
HOSP 150	HOSP 250	

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Hospitality Service Career

Certificate of Achievement - Technology Division   HRSER.CSGL...
Eric Gackenbach   313-845-1572   epgackenbach@hfcc.edu   Student and Culinary Arts Center 163C
Jeff Click   313-845-9651   jclick@hfcc.edu   Student and Culinary Arts Center 163D

Description

The Service Career field is endless with opportunities and challenging with so many types of dining operations positions available. Remarkable service from servers, managers and restaurant owners is a must for winning and keeping customers.

The courses completed in this certificate program may be applied towards an Associate in Applied Science degree in Culinary Arts or Hotel/ Restaurant Management.

Minimum Number of Credits To Graduate (Including Options/Electives): 10

Courses

Required Core Courses	Cr. Hours
HOSP 101 - Wines of the World	1
HOSP 103 - Major Wine Grape Varieties	1
HOSP 105 - Applied Foodservice Sanitation	2
HOSP 110 - Introduction to Hospitality Industry	3
HOSP 150 - Dining Room Service and Operations	3

Recommended Course Sequence

Students may elect to complete the Hospitality Service Career Certificate in one semester - either in the Fall Term or the Winter Term.

Fall I	Winter I		Winter I	Fall II
HOSP 101	HOSP 103		HOSP 103	HOSP 101
HOSP 105		*OR*	HOSP 105	
HOSP 110			HOSP 110	
HOSP 150			HOSP 150	

Hotel/Restaurant Management

Associate in Applied Science - Technology Division   HRMGT.AAS...
Eric Gackenbach   313-845-1572   epgackenbach@hfcc.edu   Student and Culinary Arts Center 163C
Jeff Click   313-845-9651   jclick@hfcc.edu   Student and Culinary Arts Center 163D

Description

The Lodging Industry has advanced considerably from the simple "home away from home" philosophy. Over the years, technology has transformed the complex divisions in the hotel industry into an international enterprise of tourism. Computers, economics, personnel management and interpersonal communication are all skills which are required for success in the hotel and restaurant fields.

This degree program can also be used as a transfer vehicle to a four-year baccalaureate program, but transferability of specific courses should be checked with the HFCC University Transfer, Advising, and Career Counseling Office. Henry Ford Community College has developed articulation agreements with Madonna University and Eastern Michigan University to facilitate the educational mobility of students. Students following a specific designed transfer agreement are able to complete 3 years at Henry Ford Community College and 1 year at the above universities with a Bachelor of Science degree in Hospitality Management.

In working towards the degree, students can earn various Certificates of Achievements in Hospitality Studies. Students enrolled in the Hotel/ Restaurant Management program are eligible to apply for various scholarships.

Career Opportunities
- Global Foodservice and Lodging Industry
- Hotel Operations
- Hospitality Marketing / Sales
- Event Planning
- Hospitality Computer Specialist
- Mid Management Positions

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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
- Madonna University
- Siena Heights University

Accreditation
Hospitality and Culinary programs at HFCC are fully accredited by the Accrediting Commission of the American Culinary Federation Educational Foundation of the National Restaurant Association.

Minimum Number of Credits To Graduate (Including Options/Electives): 67

Henry Ford Community College

Courses

Required Core Courses

	Cr. Hours
HOSP 105 - Applied Foodservice Sanitation	2
HOSP 110 - Introduction to Hospitality Industry	3
HOSP 121 - Introduction to Quality Food Preparation - Lecture*	2
HOSP 124 - Introduction to Professional Cooking Lab*	3
HOSP 125 - Introduction to Professional Baking Lab*	3
HOSP 130 - Food and Nutrition	3
HOSP 140 - Advanced Food Preparation	8
HOSP 150 - Dining Room Service and Operations	3
HOSP 160 - Hospitality Purchasing	3
HOSP 170 - Food and Beverage Controls	3
HOSP 210 - Hospitality Supervision and Leadership	3
HOSP 221 - Front Office Procedures and Guest Services	3
HOSP 250 - Hospitality and Travel Marketing	3
HOSP 290 - Hospitality Studies Co-Op**	2

Note:

* HOSP 121 (2 Credit Hours), HOSP 124 (3 Credit Hours), and HOSP 125 (3 Credit Hours) must be taken concurrently. HOSP 280 and HOSP 285 may be used for HOSP 121, HOSP 124, and HOSP 125 for evening students.

** Students may take HOSP 190 (minimum of 150 working hours for 2 semesters) instead of HOSP 290 (minimum of 300 hours in 1 semester).

Chefs uniforms are to be purchased for culinary lab courses - contact department on process to order uniforms before first class session.

Required Support Courses

	Cr. Hours
BBA 131 - Introduction to Business	4
BCA 140 - Software Applications	3
Complete one of the following courses:	
BMA 110 - Business Mathematics	3
MATH 104 - Mathematics for Food Service Careers	4
Complete one of the following courses:	
BAC 110 - Practical Accounting	4
BAC 131 - Principles of Accounting	4

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. Courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:

Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Recommended Course Sequence Option One

Fall I	Winter I	Spring/Summer I	Fall II
HOSP 105	HOSP 130	BAC 110	BBA 131
HOSP 110	HOSP 140	BCA 140	HOSP 160
HOSP 121	HOSP 150	HOSP 221	HOSP 170
HOSP 124	Gen Ed		HOSP 210
HOSP 125			HOSP 250
MATH 104*			

Note:

BAC 110*: Students may select either BAC 110 or BAC 131.
MATH 104*: Students may select either BMA 110 or MATH 104.
Gen Ed: It is recommended that the student fulfill the General Education #1: American Society, Events, Institutions and Cultures course requirement in second semester after starting the program.

Recommended Course Sequence Option Two

Winter I	Spring I	Fall I	Winter II	Spring/Summer II	Fall II
HOSP 105	HOSP 221	HOSP 130	HOSP 160	BCA 140	BAC 110*
HOSP 110	Gen Ed	HOSP 140	HOSP 170		BBA 131
HOSP 121		HOSP 150	HOSP 210		
HOSP 124		MATH 104*	HOSP 250		
HOSP 125					

Illustration

Certificate of Achievement - Fine Arts and Fitness Division

ILLUS.CMULT...

Kirk McLendon	313-845-6487	mclendon@hfcc.edu	MacKenzie Fine Arts Center 149
Martin Anderson	313-845-6488	mander@hfcc.edu	MacKenzie Fine Arts Center 131

Description

Illustration is one of the five certificate programs offered at Henry Ford Community College. Earn an Illustration Certificate by completing the 36 credit hours of core courses. Students may complete an additional 24 credit hours of General Education and Elective Courses to earn an Associate in Arts degree. Classes are offered throughout the year during the day, evening and weekend.

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.

Minimum Number of Credits To Graduate (Including Options/Electives): 36

Courses

Required Core Courses

	Cr. Hours
ART 101 - Two-Dimensional Design	3
ART 102 - Drawing 1	3
ART 107 - Photoshop	3
ART 112 - Drawing II	3
ART 113 - Life Drawing I	3
ART 115 - Intermediate Perspective	3
ART 116 - Painting I	3
ART 121 - Art History Survey I	3
ART 130 - History of Graphic Design	3
ART 165 - Typography	3
ART 265 - Illustration	3
ART 275 - Advanced Projects	3

Industrial Distribution — Business Concentration

Certificate of Achievement - Business and Economics Division

INDUSTBUS.CMLT...

Diane Smith	313-845-9702	dlsmith1@hfcc.edu	Reuther Liberal Arts Building 319D
Elaine Saneske	313-845-9704	esaneske@hfcc.edu	Reuther Liberal Arts Building 328

Description

The industrial distribution channel is the most efficient and cost-effective means of moving products from manufacturers to users. Henry Ford Community College's Industrial Distribution – Business Concentration certificate is designed to provide students with the skills necessary to work in a customer-service capacity in the industrial distribution industry. The 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.

Minimum Number of Credits To Graduate (Including Options/Electives): 24

Courses

Required Core Courses — Cr. Hours

Required Core Courses	Cr. Hours
BBA 110 - Business Language Skills	3
BBA 131 - Introduction to Business	4
BBA 133 - Business Behavior and Communication	3
BBA 153 - Customer Service	3
BBA 157 - Call Center/Help Desk Practicum	1
BBA 161 - Introduction to Industrial Distribution	1
BBA 231 - Business Office Communications	3
BCA 101 - Computer Keyboarding *(or documented proficiency in computer keyboarding)*	3
BCA 140 - Software Applications	3
BMA 110 - Business Mathematics	3

Recommended Course Sequence

Term 1	Term 2
BBA 110	BBA 131
BBA 153	BBA 133
BBA 161	BBA 157
BCA 101	BBA 231
BCA 140	BMA 110

Industrial Distribution — Technical Concentration

Certificate of Achievement - Skilled Trades and Apprenticeship Division

INDSTTEC.CMLT...

Skilled Trades and Apprenticeship	313-845-6415	Technology Building 172

Description

Students can take their industrial distribution career to the next level as a technical representative. Combining product specification and application with customer service, this is a rewarding and challenging career for those with both technical aptitude and an interest in sales.

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.

Individuals in Industrial Distribution:

- Support customers through phone or personal contact.
- Represent manufacturers' new and existing products.
- Provide customer service.
- Manage inventory and warehouse functions.

Career Opportunities

- 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	Purchasing: $27,000-$60,000
Branch Management: $40,000-$70,000	Customer Service: $22,000-$40,000
Inside Sales: $28,000-$65,000	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.

Minimum Number of Credits To Graduate (Including Options/Electives): 19

Courses

Required Core Courses — Cr. Hours

Required Core Courses	Cr. Hours
TAFD 120 - Industrial Safety Awareness	2
TAFD 150 - Applied Technology	3
TAMA 110 - Industrial Applications of Basic Math Principles	2
TAMA 120 - Industrial Applications of Algebraic Principles	3
TAMN 100 - Shop Tools and Techniques	3

Complete one of the following courses:

TADV 100 - Basic Print Reading	2
TAGD 110 - Basic Shape and Size Interpretation	3

*Students should select a minimum of 4 credit hours from the following:**

TAEL 102 - DC and AC Electricity	3
TAMT 110 - Mechanical Power Transmission	2
TAIM 100 - Industrial Materials	3
TAFP 150 - Fluid Power Systems	4
TAMT 200 - Predictive Maintenance- Shaft Alignment	2

Note:
Students may take either TADV 100 or TAGD 110.

TAFD 120, TAMA 110, TAMA 120, TAFD 150, and TAMN 100 are required courses.

* Course prerequisites are to be observed.

Henry Ford Community College

Interior Design

Associate in Arts - Fine Arts and Fitness Division

Karen Wilmering   313-845-9814   kawilmering@hfcc.edu   Technology Building T211H
Martin Anderson   313-845-6488   mander@hfcc.edu   MacKenzie Fine Arts Center 131

INDSG.AA...

Description

The Interior Design program provides a comprehensive foundation of study, emphasizing the development of theoretical, practical and technical skills within the interior environment. A multi-disciplined approach to the Interior Design curriculum is offered and made available through instruction in Art Foundations, Interior Design and Architecture.

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 Computer Aided Design (CAD).

Students who enroll and successfully complete all requisite courses earn an Associate in Arts degree, and are equipped to seek 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 Eastern Michigan University, Lawrence Technological University and the Art Institute of Michigan.

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 Fall. Call the Interior Design Program Coordinator at (313) 845-9814 or e-mail **kawilmering@hfcc.edu** to schedule an appointment.

Career Opportunities
- Architectual Draftsperson
- Color Consultant
- Facility Manager
- Interior Designer
- Residential Designer
- Sales Representative:
    Commercial Furniture Showroom
    Home Furnishings
    Manufacturers Representative

Minimum Number of Credits To Graduate (Including Options/Electives): 67

Courses

Required Core Courses	Cr. Hours
ART 102 - Drawing I	3
ART 183 - Perspective Drawing and Rendering	3
INTR 180 - Design and User Needs	3
INTR 181 - Principles of Design	3
INTR 182 - Interior Design Materials and Components	3
INTR 280 - History of Design – Antiquities to Present	3
INTR 281 - Residential Design Studio	3
INTR 283 - Lighting and Environmental Systems for Interiors	3
INTR 284 - Commercial Design Studio	3
INTR 285 - Professional Practice for Interior Designers	3
INTR 287 - Interior Design Synthesis	3

Complete one of the following courses:
ART 101, ART 105, ART 107, ART 108, ART 109, ART 110, ART 112, ART 113, ART 115, ART 116, ART 121, ART 123, ART 130, ART 135, ART 138, ART 141, ART 151, ART 161, ART 163, ART 165, ART 172, ART 208, ART 209, ART 213, ART 216, and/or ART 224.

Required Support Courses	Cr. Hours
ACT 110 - Introduction to Architecture	3
ACT 116 - Basic Architectural CAD	4

Associate in Arts Degree Requirements

Students must also complete the specific degree requirements for the Associate in Arts Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Arts 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate in Arts degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Programs of Study

International Business

Associate in Business - Business and Economics Division   INTLBUSINESS.AB...
Douglas Langs   313-845-6363   dlangs@hfcc.edu   Reuther Liberal Arts Building 319B
Elaine Saneske   313-845-9704   esaneske@hfcc.edu   Reuther Liberal Arts Building 328

Description

Henry Ford Community College's International Business degree prepares students for careers in international business and related fields in the world economy. This program of study emphasizes a broad business knowledge with an understanding of how globalization integrates people, companies, and governments of different nations. Students will understand how globalization affects the environment, culture, political systems, economic development and prosperity, and societal well-being. Students will examine the benefits and costs associated with globalization and the impact of international trade, foreign investment, and information technology.

Minimum Number of Credits To Graduate (Including Options/Electives): 61

Courses

Required Core Courses

Required Core Courses	Cr. Hours
BAC 131 - Principles of Accounting	4
BAC 132 - Principles of Accounting	4
BBA 110 - Business Language Skills	3
BBA 131 - Introduction to Business	4
BBA 133 - Business Behavior and Communication	3
BBA 231 - Business Office Communications	3
BBA 250 - International Business	3
BBA 252 - Principles of Marketing	3
BBA 254 - Logistics and Supply Chain Management	3
BCA 140 - Software Applications	3
BEC 151 - Principles of Macro Economics	3
BEC 152 - Principles of Micro Economics	3
BLW 253 - Business Law and the Legal Environment	4
MGT 230 - Principles of Management	3

Required Support Courses	Cr. Hours
GEOG 132 - World Regional Geography	3
POLS 152 - International Relations	3

Associate in Business Degree Requirements

Students must also complete the specific degree requirements for the Associate in Business Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Business 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate Degree in Business, 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Fall I	Winter I	Fall II	Winter II
BBA 131	BBA 110	BAC 131	BAC 132
BCA 140	BBA 252	BBA 133	BBA 231
BEC 151	BEC 152	BBA 250	BBA 254
ENG 131	BLW 253	GEOG 132	POLS 152
Gen Ed	MGT 230		
	ENG 132*		

Note:
Gen Ed: It is recommended that the student fulfill the General Education Outcome #1: American Society, Events, Institutions and Cultures course requirement in Fall I.

ENG 132*: Students may select either ENG 132 or ENG 135.

Henry Ford Community College

Management

Associate in Business - Business and Economics Division

			MNGMT.AB...
Corinne Asher	313-845-9867	casher@hfcc.edu	Reuther Liberal Arts Building 325
Elaine Saneske	313-845-9704	esaneske@hfcc.edu	Reuther Liberal Arts Building 328

Description

The goal of Henry Ford Community College's associate degree in Management is to assist 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.

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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).

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses	Cr. Hours
MGT 230 - Principles of Management	3
MGT 231 - Supervision and Teambuilding	3
MGT 240 - Creative Problem Solving	3
Complete 6 credit hours from the following courses:	6
MGT 232 - Human Resources Management	3
MGT 237 - Psychology in the Workplace	3
MGT 238 - Labor-Management Relations	3
MGT 241 - Small Business Management & Entrepreneurship	3

Required Support Courses	Cr. Hours
BBA 110 - Business Language Skills	3
BBA 131 - Introduction to Business	4
BBA 133 - Business Behavior and Communication	3
BBA 231 - Business Office Communications	3
BCA 140 - Software Applications	3
SPC 131 - Fundamentals of Speaking	3
BMA 110 - Business Mathematics	3
Complete one of the following courses:	
BAC 110 - Practical Accounting	4
BAC 131 - Principles of Accounting	4

Associate in Business Degree Requirements

Students must also complete the specific degree requirements for the Associate in Business Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Business 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate Degree in Business, 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

These courses are suggestions for electives:

BEC 133 - Basic Economics OR	3
BEC 151 - Principles of Macro Economics OR	3
BEC 152 - Principles of Micro Economics AND	3
BLW 253 - Business Law and the Legal Environment AND	4
BFN 253 - Principles of Finance OR	3
BBA 252 - Principles of Marketing	3

Note: **Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.**

Recommended Course Sequence

Term 1	Term 2	Term 3	Term 4
BBA 110	BEC 133	BAC 110*	BBA 231
BBA 131	BMA 110	ENG 132*	BBA 252
BBA 133	ENG 131	MGT 231	BLW 253
BCA 140	MGT 230	MGT 232	MGT 238
SPC 131	POLS 131		MGT 240

Note: BAC 110*: Students may select either BAC 111 or BAC 131

ENG 132*: Students my select either ENG 132 or ENG 135. If a student plans to transfer to a four-year institution, the student should consult articulation agreements and/or transfer guides.

Manufacturing Production Specialist

Certificate of Achievement - Skilled Trades and Apprenticeship Division

MPSPEC.CSGL...

Miles Jarvis	313-317-6502	mjarvis@hfcc.edu	Technology Building 164B
Gary Saganski	313-845-6357	saganski@hfcc.edu	Technology Building 172D

Description

The Basic Certificate, Production Specialist is a 17 credit hour program that provides foundation skills and experiences in manufacturing processes and systems. This certificate provides the educational essentials for working at the production level in Advanced Manufacturing.

The certificate/credits lead to the Mechatronic Manufacturing Associate in Applied Science degree. This certificate program develops an awareness manufacturing systems and technologies. It creates a level of technological literacy essential for today's advanced manufacturing operations.

Admission Requirements/Eligibility

Program entry requirements include:

- 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 courses.
- Successful completion of TAMA 110 or MATH 101 with a grade of C or better.

Minimum Number of Credits To Graduate (Including Options/Electives): 17

Courses

Required Core Courses	Cr Hours
TADV 100 Basic Print Reading	2
TADV 120 Introduction to Fabrication	1
TADV 121 Introduction to Hydraulics	1
TADV 122 Introduction to Material Handling	1
TADV 123 Introduction to Industrial Electrical	1
TADV 124 Introduction to Industrial Controls	1
TADV 125 Introduction to Integrated Manufacturing	1
TAFD 115 Computer Applications for Skilled Trades	2
TAFD 120 Industrial Safety Awareness	2
TAFD 150 Applied Technology	3
TAMA 110 Industrial Applications of Basic Math Principles	2

Recommended Course Sequence

Term 1	Term 2
TADV 100	TADV 121
TADV 120	TADV 122
TADV 123	TADV 125
TADV 124	TAFD 115
TAFD 120	TAFD 150
TAMA 110	

Henry Ford Community College

Manufacturing Trades

Associate in Applied Science - Skilled Trades and Apprenticeship Division　　　MFGTD.AAS...
Skilled Trades and Apprenticeship　　　313-845-6415　　　Technology Building 172

Description

The Associate in Applied Science degree in Manufacturing Trades program is designed for industrial apprentices or other skilled trades persons who have completed or are in the last semester of related instruction requirements for journeyperson certification or the equivalent. Students may apply the credits earned in their trade programs toward the 60 credit hours required for the degree.

Career Opportunities
• Group Leader
• Production Foreman
• Skilled Trade Foreman
• Tool Engineer
• Service Technician
• Product Design
• Quality Control Technician
• Tool Designer

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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
• Siena Heights University
• University of Michigan - Dearborn
• Wayne State University

**Minimum Number of Credits To Graduate
(Including Options/Electives): 60**

Courses

Required Core Courses　　　　　　　Cr. Hours

A minimum of 38 credit hours is required through the Apprenticeship Program.*　　　38

Note:
* 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.

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferrin1our-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Medical Assistant

Certificate of Achievement - Health Careers Division

MASST.CMLT...

Helen Weeks	313-845-6466	hmweeks@hfcc.edu	Health Careers Education Center 133B
Ronald Bodurka	313-845-9877	rbodurka@hfcc.edu	Health Careers Education Center 132
Health Careers Office	313-845-9877	jmiller@hfcc.edu	Health Careers Education Center 132

Description

The Medical (Office) Assistant is a Level II (Complex Skills) Certificate designed to prepare professional multi-skilled individuals for employment in physicians' offices, clinics, and other ambulatory health care facilities. Both administrative and clinical duties are emphasized in the classroom and laboratory with directed practical experience in selected physicians' offices, hospitals, and clinics.

The medical assistant may be responsible for patient scheduling, receptionist duties, medical record management, correspondence, insurance procedures, and accounts receivable. Clinical duties may include: interviewing and teaching patients; taking vital signs; preparing patients for assisting the physician during examination; performing routine laboratory testing, phlebotomy, and electrocardiography; sterilizing supplies; and administering medications.

The Medical Assistant program requires 36 credit hours to earn a certificate. Externships are arranged by program faculty utilizing many of the clinical agencies throughout this region.

Career Opportunities

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 the year 2014 as the health services industry expands because of technological advances in medicine, and a growing and aging population.

Employment growth will be driven by the increase in the number of group practices, clinics, and other healthcare 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.

Occupational Exposure/Risk

Since medical assistants deal with the public, they must have good communication skills and a courteous manner. They have to put patients at ease as well as explain physicians' instructions. The clinical duties require a reasonable level of manual dexterity and visual acuity, and medical assistants must respect the confidential nature of medical and patient information.

In medical assisting, 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. 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.

Admission Requirements/Eligibility

Formal admission to this program is required; however, students are permitted to take the first semester series of courses prior to being formally accepted and admitted into the program. AH 100, BIO 134, MOA 100, MOA 110, MOA 120 and PSY 131 may be taken prior to the formal acceptance into the program. Please note that MOA 100, MOA 110 and MOA 120 all have a prerequisite of an ASSET/COMPASS reading score of 43/84 or sucessful completion of ENG 081.

Beginning in the second semester with MOA 150, students must then satisfy the program's admission criteria and be formally admitted into the program by the Health Careers Division. Acceptance to the general College does not constitute nor guarantee admission to the Medical Assistant Program. Students are strongly encouraged to consult the Health Careers Advisor at 313-845-9877.

Admission to the program is based upon satisfying the admission requirements.

Admission Requirements

- 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.
- An ASSET/COMPASS score of 43/84 or successful completion of ENG 081.
- An ASSET Numerical Skills score of 40 or higher or a COMPASS Pre-Algebra score of 39 or higher or completion of MATH 101 or MATH 074 with a grade of C or better.
- Successful completion of BCA 101 with a grade of B or better or typing proficiency of at least 30 words per minute.

Developmental work may be assigned to qualify applicants for placement if minimum requirements have not been met.

Good physical and mental health as determined by a physician. Students in the Medical Assistant program are expected to meet the same physical and mental requirements as an employed medical assistant. A representative Medical Assistant Job Profile, available upon request from the Health Careers Office, lists the specific physical and mental requirements as well as the environmental conditions of the occupation. Each student must have a physical examination.

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 is required for all students in MOA 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 must be cleared with their Health Appraisal Forms, Criminal Background Checks and Drug Screen to be eligible for their clinical rotations.

Additional Program Requirements

The Medical Assistant program may be completed in one year following a full-time schedule if the admission criteria are satisfied, or the program may be extended and completed on a part-time basis. In either case, careful scheduling is required and each student must satisfy the program's admission criteria. Students are strongly encouraged to consult the Health Careers Advisor in planning their class schedules.

While MOA 110, AH 100, PSY 131and BIO 134 follow both day and evening schedules, the remaining courses in the program follow primarily a day schedule. Students should contact the Health Careers Office for specific schedule information.

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:

Henry Ford Community College

1. Adherence to the program requirements outlined in the MOA Student Handbook.
2. Achievement of a minimum grade of C or better in all MOA and required courses including the last in the sequence (MOA 190).
3. Maintenance of an overall cumulative grade-point average of 2.0 or better.
4. All MOA courses taken at HFCC must be successfully completed within three consecutive calendar years.

Registry/Certification/Licensure Exam Information

Upon completion of the accredited program, students will be eligible for AAMA Certified Medical Assistant (CMA) examination. This program is one of the few select medical assistant programs in this region to maintain accreditation through CAAHEP. Many employers prefer medical assistants that are either CMAs or at least CMA eligible. The CMA credential is a national certification recognized by employers across the country.

Accreditation

The Medical Assistant program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep. org) upon the recommendation of theMedical Assistant Education Review Board (MAERB).

Commission on Accreditation of Allied Health Education Programs, 1361 Park St., Clearwater, FL 33756, 727-210-2350.

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).

Minimum Number of Credits To Graduate (Including Options/Electives): 36

Courses

Required Core Courses	Cr. Hours
MOA 100 - Medical Office Procedures I-Administrative	3
MOA 110 - Processing Health Insurance Claims	2
MOA 120 - Medical Office Computer Applications	2
MOA 150 - Medical Office Assistant Procedures II-Clinical	5
MOA 160 - Basic X-Ray Techniques	2
MOA 170 - Medical Correspondence	3
MOA 190 - Medical Office Externship	4

Note:
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 externship (MOA 190-Medical Office Externship).

Required Support Courses	Cr. Hours
AH 100 - Medical Terminology	4
HPE 142 - Advanced First Aid	3
PSY 131 - Introductory Psychology	3
Complete one of the following course options:	
BIO 134 - Essentials of Anatomy and Physiology OR	5
BIO 233 - Anatomy and Physiology I AND	4
BIO 234 - Anatomy and Physiology II	4

Recommended Course Sequence

Fall I	Winter I	Spring I
AH 100	MOA 150	MOA 190
BIO 134	MOA 160	
MOA 100	MOA 170	
MOA 110	PSY 131	
MOA 120	HPE 142	

Note:
Note prerequisites for MOA 150 and MOA 190.

MOA 190 can be taken in the Fall II Term.

A minimum grade of C is required in all courses.

Students are responsible for their own transportation to clinical sites and any expenses incurred.

Medical Insurance Specialist

Certificate of Achievement - Health Careers Division   MEDINS.CMLT...

Helen Weeks	313-845-6466	hmweeks@hfcc.edu	Health Careers Education Center 133B
Ronald Bodurka	313-845-9877	rbodurka@hfcc.edu	Health Careers Education Center 132
Health Careers Office	313-845-9877		Health Careers Education Center 132

Description

The Medical Insurance Specialist is a Level II (Complex Skills Certificate) Certificate program 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. The student 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.

The Medical Insurance Specialist Certificate of Achievement requires a minimum of 48 credit hours which may be completed in two years by attending full time, or it may be extended following a part-time schedule. In either case, careful scheduling is required as not all technical courses are offered every semester. Students are encouraged to consult the Health Career Advisor in planning their class schedules.

An optional Business Co-op for Medical Insurance Specialist is available during the last semester in the program. Students need to contact the Co-op Coordinator for additional information.

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

Again, 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**.

Career Opportunities:

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.

Many 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.

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 test, or a minimum college grade-point average of C (2.0) for both transfer students and Henry Ford Community College students.
- An ASSET/COMPASS score of 43/84 or successful completion of ENG 081.
- An ASSET/COMPASS score of 39/39 for numerical skills or completion of MATH 074 or MATH 101 with a grade of C or better.
- Successful completion of BCA 101 with a grade of B or better or typing proficiency of at least 30 words per minute.

To be a successful medical biller/coder you should have strong basic math skills and solid keyboarding skills. Medical Insurance Specialists are expected to meet progressively demanding accuracy and productivity standards.

Students must complete a Criminal Background Check and Drug Screen per Michigan Public Health Code 20713.

Students are strongly encouraged to consult the Health Careers Advisor at **313-845-9877**.

Additional Program Requirements

Progression in the program is based upon the student meeting the following requirements:

1. Adherence to the program requirements outlined in the MOA/MR/MIS Student Handbook.
2. Achievement of a minimum grade of C or better in all MOA and required courses.
3. Maintenance of an overall cumulative grade point average of 2.0 or better.
4. All MIS program courses must be successfully completed within three consecutive calendar years.

Program Duration Limits/Updates/Changes

HFCC 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.

Minimum Number of Credits To Graduate (Including Options/Electives): 48

Henry Ford Community College

Courses

Required Core Courses	Cr. Hours
AH 100 - Medical Terminology	4
BBA 110 - Business Language Skills	3
BBA 153 - Customer Service	3
BBA 231 - Business Office Communications	3
BCA 140 - Software Applications	3
BMA 110 - Business Mathematics	3
HIT 150 - Basic Coding: Theory and Practice	3
HIT 230 - Ambulatory Coding	3
MOA 100 - Medical Office Procedures I-Administrative	3
MOA 110 - Processing Health Insurance Claims	2
MOA 165 - Physician Billing Concepts	4
MOA 168 - Facility Billing Concepts	4
MOA 181 - Medical Collection & Legal Issues	3
MOA 205 - Insurance Coding and Reimbursement	3

Complete one of the following courses:

BAC 110 - Practical Accounting	4
BAC 131 - Principles of Accounting	4

Recommended Course Sequence

Fall I	Winter I	Fall II	Winter II
AH 100	BBA 110	HIT 230	BAC 110*
BBA 153	BMA 110	MOA 165	BBA 231
BCA 140	HIT 150	MOA 168	MOA 181
MOA 100	MOA 110		MOA 205

Note:

BAC 110*: Students may select BAC 110 or BAC 131.

Please note that BIO 134 or BIO 233/234 (Anatomy & Physiology) are highly recommended for those students especially interested in medical coding.

Medical Practice — Clinical Management

Associate in Applied Science - Health Careers Division | | | MPCM.AAS...
Helen Weeks | 313-845-6466 | hmweeks@hfcc.edu | Health Careers Education Center 133B
Ronald Bodurka | 313-845-9877 | rbodurka@hfcc.edu | Health Careers Education Center 132
Health Careers Office | 313-845-9877 | jmiller@hfcc.edu | Health Careers Education Center 132

Description

The Medical Practice - Clinical Management program is a 1 + 1 program that will lead to an Associate in Applied Science degree centered on the Medical Assistant. The first portion of this program focuses upon the preparation of the Medical Assistant, while the second portion of the program builds upon that foundation preparing the medical assistant to then perform routine administrative duties in physicians' offi ces, 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.

This program prepares individuals for increasing management responsibility within the medical office or clinic. Upon successful completion of the Medical Practice - Clinical Management Associate in Applied Science degree program students may elect to transfer to a college or university to complete an advanced degree which offers additional career options and opportunities. Articulation agreements and transfer guides are available in the University Transfer, Advising, and Career Counseling Center (**313-824-9611, counseling@hfcc.edu** Learning Resource Center, room LRC 121).

This program may be completed in two years by attending full time, or it may be extended following a part-time schedule. In either case, careful scheduling is essential. Students are encouraged to consult the Health Career Advisor in order to develop an individual educational plan. For additional information or an appointment, students should contact the Health Careers Office at **313-845-9877**.

Career Opportunities

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 the year 2014 as the health services industry expands because of technological advances in medicine, and a growing and aging population.

Information about career placement and job success is available through either the Health Careers Office or the College Placement Office.

Occupational Exposure/Risk

In medical assisting, 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. 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.

Admission Requirements/Eligibility

Since medical assistants deal with the public, they must have good communication skills and a courteous manner. They have to put patients at ease as well as explain physicians' instructions. The clinical duties require a reasonable level of manual dexterity and visual acuity, and Medical Assistants must respect the confidential nature of medical and patient information.

Formal admission to this program is required; however, students tare permitted to take the first semester series of courses prior to being formally accepted and admitted into the program. AH 100, BIO 134, MOA100, MOA 110, MOA 120 and PSY 131 may be taken prior to the formal acceptance into the Medical Assistant portion of the program.

Beginning in the second semester with MOA 150, students must then satisfy the program's admission criteria and be formally admitted into the program by the Health Careers Division. Admission to the program is based upon satisfying the admission requirements. Please note MOA 100 and MOA 120 all have a prerequisite of an ASSET/COMPASS Reading score of 43/84 or successful completion of ENG 081.

Acceptance to the general College does not constitute nor guarantee admission to the Medical Assistant program.

Students are strongly encouraged to consult the Health Career Care Advisor at **313-845-9877**.

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 test, or a minimum college grade-point average of C (2.0) for both transfer students and Henry Ford Community College students.
- An ASSET/COMPASS score of 43/84 or successful completion of ENG 081.
- An ASSET/COMPASS score of 39/39 for numerical skills or completion of MATH 074 or MATH 101 with a grade of C or better.
- Successful completion of BCA 101 with a grade of B or better or typing proficiency of at least 30 words per minute.

Developmental work may be assigned to qualify applicants for placement if minimum requirements have not been met.

Good physical and mental health as determined by a physician. Students in the Medical Assistant program are expected to meet the same physical and mental requirements as an employed medical assistant. A representative Medical Assistant Job Profile, available upon request from the Health Careers Office, lists the specific physical and mental requirements as well as the environmental conditions of the occupation. Each student must have a physical examination.

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 MOA 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 must be cleared with their Health Appraisal Forms, Criminal Background Checks and Drug Screen to be eligible for their clinical rotations.

Additional Program Requirements

Accreditation standards require that students do not receive compensation/payment, monetary or otherwise, from any clinical

Henry Ford Community College

site for any portion of their clinical externship (MOA 190-Medical Office Externship).

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:

1. Adherence to the program requirements outlined in the MOA Student Handbook.
2. Achievement of a minimum grade of C or better in all MOA and required courses including the last in the sequence (MOA 190).
3. Maintenance of an overall cumulative grade-point average of 2.0 or better.
4. All MOA courses taken at HFCC must be successfully completed within three consecutive calendar years.

Registry/Certification/Licensure Exam Information

Upon completion of the medical assistant portion of the program, students will then be eligible for AAMA Certified Medical Assistant (CMA) examination. This program is one of the few select medical assistant programs in this region to maintain accreditation through CAAHEP. Many employers prefer medical assistants that are either CMAs or at least CMA eligible. The CMA credential is a national certification recognized by employers across the country.

Accreditation

The medical assistant portion of the program is accredited by the Commission on Accreditation of Allied Health Education Programs (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.

Minimum Number of Credits To Graduate (Including Options/Electives): 66

Courses

Required Core Courses	Cr. Hours
AH 100 - Medical Terminology	4
BBA 110 - Business Language Skills	3
BBA 133 - Business Behavior and Communication	3
BBA 153 - Customer Service	3
MGT 230 - Principles of Management	3
MGT 231 - Supervision and Teambuilding	3
MGT 232 - Human Resources Management	3
MGT 240 - Creative Problem Solving	3
MOA 100 - Medical Office Procedures I-Administrative	3
MOA 110 - Processing Health Insurance Claims	2
MOA 120 - Medical Office Computer Applications	2
MOA 150 - Medical Office Assistant Procedures II-Clinical	5
MOA 160 - Basic X-Ray Techniques	2
MOA 170 - Medical Correspondence	3
MOA 190 - Medical Office Externship	4

Required Support Courses	Cr. Hours
HPE 142 - Advanced First Aid	3
PSY 131 - Introductory Psychology	3
Complete one of the following Biology options:	
BIO 134 - Essentials of Anatomy and Physiology	5
OR	
BIO 233 - Anatomy and Physiology I AND	4
BIO 234 - Anatomy and Physiology II	4

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Fall I	Winter I	Spring I	Fall II	Winter II
AH 100	HPE 142	MOA 190	BBA 110	ENG 132*
BIO 134	MOA 150		BBA 133	MGT 231
MOA 100	MOA 160		BBA 153	MGT 232
MOA 110	MOA 170		ENG 131	MGT 240
MOA 120	PSY 131		MGT 230	Gen Ed

Note:
ENG 132*: Students may select either ENG 132 or ENG 135.

Gen Ed: Students should complete their General Education Outcome #1: American Society, Events, Institutions, and Cultures course requirement in Winter II semester.

Medical Practice/Facility Business Management

Associate in Business - Business and Economics Division   MPFBM.AB...
Corinne Asher   313-845-9867   casher@hfcc.edu   Reuther Liberal Arts Building 325
Elaine Saneske   313-845-9645   esaneske@hfcc.edu   Reuther Liberal Arts Building 328

Description

The goal of Henry Ford Community College's associate degree in Medical Practice/Facility Business Management is to assist students in gaining the necessary knowledge and competencies to manage the specialized business functions of a medical practice or medical facility. Students will learn concepts of medical billing, coding, and insurance claim forms as well as accounting, customer service, management, medical terminology, and effective oral and written communications. The knowledge and skills obtained in this program are used in managing the "front office" or business section of a medical practice of several physicians, a hospital unit, or a medical equipment supplier.

The Medical Practice/Facility Business Management program builds on the Medical Insurance Specialist certificate. Students may take the additional required credit hours after completing the certificate to earn this Associate in Business degree.

Students must complete a Criminal Background Check and Drug Screen per Michigan Public Health Code 20713.

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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).

Minimum Number of Credits To Graduate (Including Options/Electives): 70

Courses

Required Core Courses

	Cr. Hours
AH 100 - Medical Terminology	4
BBA 110 - Business Language Skills	3
BBA 131 - Introduction to Business	4
BBA 133 - Business Behavior and Communication	3
BBA 153 - Customer Service	3
BBA 231 - Business Office Communications	3
BCA 140 - Software Applications	3
BMA 110 - Business Mathematics	3
HIT 150 - Basic Coding: Theory and Practice	3
HIT 230 - Ambulatory Coding	3
MGT 230 - Principles of Management	3
MGT 231 - Supervision and Teambuilding	3
MOA 100 - Medical Office Procedures I- Administrative	3
MOA 110 - Processing Health Insurance Claims	2
MOA 165 - Physician Billing Concepts	4
MOA 168 - Facility Billing Concepts	4
MOA 181 - Medical Collection & Legal Issues	3
MOA 205 - Insurance Coding and Reimbursement	3

Complete one of the following courses:

BAC 110 - Practical Accounting	4
BAC 131 - Principles of Accounting	4

Associate in Business Degree Requirements

Students must also complete the specific degree requirements for the Associate in Business Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Business 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate Degree in Business, 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Term 1	Term 2	Term 3	Term 4
AH 100	BBA 110	ENG 132*	BAC 110*
BBA 133	BBA 131	HIT 230	BBA 231
BBA 153	BMA 110	MGT 230	MGT 231
BCA 140	ENG 131	MOA 165	MOA 181
MOA 100	HIT 150	MOA 168	MOA 205
	MOA 110		

Note:
BAC 110*: Students may select either BAC 110 or BAC 131.

ENG 132*: Students may select either ENG 132 or ENG 135. If a student plans to transfer to a four-year institution, the student should consult articulation agreements and/or transfer guides.

Henry Ford Community College

Medical Receptionist

Certificate of Achievement - Health Careers Division   MEDREC.CSGL...
Helen Weeks   313-845-6466   hmweeks@hfcc.edu   Health Careers Education Center 133B
Ronald Bodurka   313-845-9877   rbodurka@hfcc.edu   Health Careers Education Center 132
Health Careers Office 313-845-9877   jmiller@hfcc.edu   Health Careers Education Center 132

Description

Medical Receptionist is a 16.5 credit hour Level I (Basic Skills) Certificate. The Medical Receptionist program has been designed to prepare 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 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

Career Opportunities

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 employees are now required criminal background checks and drug screens of their new applicants.

Admission Requirements/Eligibility

Since medical receptionists deal with the public, they must possess good communication skills and a courteous manner. Receptionists have to put patients at ease as well as explain basic scheduling or insurance instructions. The duties require a reasonable level of manual dexterity and visual acuity, and medical receptionists must respect the confidential nature of medical and patient information.

The Medical Receptionist program does not have program specific admission requirements. However, MOA 100 and MOA 110 have a prerequisite of an ASSET/COMPASS reading score of 43/84 or the successful completion of ENG 081. To be an effective medical receptionist, you should have good basic math skills, excellent communication skills, as well as solid keyboarding skills. Interested students must work closely with the Health Career Advisor in order to develop their own individual education plan.

Progression in the program is based upon the student meeting the following requirements:

1. Adherence to the program requirements outlined in the MOA/MR/MIS Student Handbook.

2. Achievement of a minimum grade of C or better in all MOA and required courses.

3. Maintenance of an overall cumulative grade point average of 2.0 or better.

4. All MOA courses taken at HFCC must be successfully completed within two consecutive calendar years.

Again, students are strongly encouraged to consult the Health Career Advisor at **313-845-9877**.

Additional Program Requirements

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

HFCC 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.

Minimum Number of Credits To Graduate (Including Options/Electives): 16.5

Courses

Required Core Courses	Cr. Hours
AH 100 - Medical Terminology	4
AH 105 - Basic Life Support for Healthcare Providers	0.5
BBA 153 - Customer Service	3
BCA 140 - Software Applications	3
HCS 103 - Employment Skills for Health Careers	1
MOA 100 - Medical Office Procedures I-Administrative	3
MOA 110 - Processing Health Insurance Claims	2

Recommended Course Sequence

Term 1
AH 100
AH 105
BBA 153
BCA 140
HCS 103
MOA 100
MOA 110

Note:
Students must maintain a minimum grade of C or better in all MOA and required courses.

Motion Capture Systems Technician

Certificate of Achievement - Fine Arts and Fitness Division   MCST.CSGL...

George Popovich   313-845-6478   popovich@hfcc.edu   MacKenzie Fine Arts Center 127
Martin Anderson   313-845-6488   mander@hfcc.edu   MacKenzie Fine Arts Center 131

Description

Henry Ford Community College's Virtual Theatricality Lab offers a 12 credit hour course sequence that teaches the skill sets required for the film and animation industry standard for Motion Capture Systems Technician. The certificate was developed in cooperation with Thad Johnson, owner of Critical Moves, USA, (http://www.criticalmovesusa.com/) Detroit's professional Motion Capture Facility and Dan Lemieux, Hollywood stunt coordinator and Motion Capture performer. (http://imdb.com/name/nm1195301/).

The courses in the certificate program are taught using a Vicon optical Motion Capture System, Blade and Motion Builder Software. These are the same tools used to create Motion Capture Characters in THE POLAR EXPRESS and BEOWOLF.

The first required course, ART 209, gives students the fundamental knowledge of 3D art and graphics necessary to the understanding and mastery of a Motion Capture Pipeline. The second course in the sequence, STH 262, introduces students to the elements for Motion Capture. The third course in the sequence, STH 263, gives students experience in facial Motion Capture. The final course, STH 264, culminates in a Motion Capture project showcasing acquired skills in a demo reel.

**Minimum Number of Credits to Graduate
(Including Options/Electives): 12**

Courses

Required Core Courses	Cr. Hours
ART 209 – Maya	3
STH 262 - Introduction to Motion Capture	3
STH 263 - Intermediate Motion Capture	3
STH 264 - Advanced Motion Capture Application	3

Henry Ford Community College

Multi-Skilled Facility Maintenance Technician

Associate in Applied Science - Technology Division   MSFMT.AAS...
Gregory Laskowsky   313-317-1550   glaskowsky@hfcc.edu   Technology Building 115D
David Wiltshire   313-845-9637   djwiltshire@hfcc.edu   Technology Building 115A

Description

This program will prepare students for a career in building/plant facility maintenance. 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.

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.

Class credits earned at HFCC 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 from your academic advisor.

Career Opportunities
- HVAC (Heating and Cooling)
- Power Engineering
- Building Controls
- Plumbing
- Electrical
- Welding
- Hydraulics
- Millwright
- Renewable Energy

Minimum Number of Credits To Graduate (Including Options/Electives): 70

Courses

Required Core Courses	Cr. Hours
ENT 104 - Heating Technology*	4
ENT 105 - Introduction to RACH*	2
ENT 108 - Introduction to Heating and Cooling Codes	2
ENT 113 - Refrigeration Technology (Electrical, EPA Certification)	4
ENT 119 - Air Conditioning Technology	4
ENT 141 - Power Engineering I- Energy Conversion Fundamental*	2 2
ENT 219 - RACH Light Commercial Systems	3
ENT 269 - Project Management	2
TAFD 112 - Construction Blueprint Reading	2
TAFP 150 - Fluid Power Systems	4
TAMJ 110 - Materials Joining and Fabrication Fundamentals	3
TAMN 100 - Shop Tools and Techniques	3
TAPP 100 - Fundamentals of Plumbing and Pipefitting	3
TAPP 110 - Drains, Waste and Vents	2
TAPP 120 - Heating Systems	2
TAPP 250 - Plumbing Code	2

Complete one of the following courses:

ENT 103 - AC and DC Electricity	3
TAEL 102 - AC and DC Electricity	3

Complete one of the following courses:

ENT 106 - Sheet Metal Fabrication	2
TASM 100 - Basic Sheet Metal Layout and Fabrication	3

Complete one of the following courses:

MFMT 103 - Industrial Computer Application	2
TAFD 115 - Computer Applications for Skilled Trades	2

Complete one of the following courses: 2-3
TAFD 115, TAFD 120, TAFD 130 or TAFD 150.

Note:
*Partial online course.

Required Support Courses	Cr. Hours
ENG 132 - College Writing and Research	3

Complete one of the following courses:

CHEM 131 - Principles of Chemistry	4
PHYS 131 - General Physics	4

Complete one of the following courses:

POLS 131 - Introduction to American Government and Political Science	3
SSC 131 - A Survey of the Social Sciences	3

Complete 4 credit hours of MATH *numbered 100 or above.* 4

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Multi-Skilled Manufacturing Maintenance (Mechatronic Manufacturing Maintenance)

Associate in Applied Science - Skilled Trades and Apprenticeship Division			MSMM.AAS...
Miles Jarvis	313-317-6502	mjarvis@hfcc.edu	Technology Building 164B
Gary Saganski	313-845-6357	saganski@hfcc.edu	Technology Building 172D

Description

A 21st Century Career Program in Automated Manufacturing!

The Mechatronic Manufacturing Maintenance Program is a two-year Associate in Applied Science degree that includes Advanced and Basic Certificates. Program students will develop 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. The program also requires an internship that provides students with an exposure to industrial maintenance. This program provides the maintenance skill sets sought by advanced manufacturing employers.

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.

Additional Program Requirements

If a student does not already have sufficient manufacturing work experience related to the degree, they will be required to complete a 2 credit hour industrial internship experience.

A Health Appraisal, Criminal Background Check, and Drug Screen that meets the requirements of our internship company placement affiliates is required for interns in the program prior to beginning their internship assignment(s). The cost for these exams and tests is in addition to the basic tuition and fee schedule. Students who are not cleared for placement will not be able to complete the program.

Those students that are currently employed in doing manufacturing work are exempt from the internship requirement per screening by the Skilled Trades and Apprenticeship Division faculty and/or staff.

For additional information contact: The Skilled Trades and Apprenticeship Division office at **313-845-9606** or **313-845-9670**.

Minimum Number of Credits to Graduate (Including Options/Electives): 62

Courses

Required Core Courses	Cr. Hours
TADV 100 - Basic Print Reading	2
TADV 120 - Introduction to Fabrication	1
TADV 121 - Introduction to Hydraulics	1
TADV 122 - Introduction to Material Handling	1
TADV 123 - Introduction to Industrial Electrical	1
TADV 124 - Introduction to Industrial Controls	1
TADV 125 - Introduction to Integrated Manufacturing	1
TAEL 102 - DC and AC Electricity	3
TAFD 115 - Computer Applications for Skilled Trades	2
TAFD 120 - Industrial Safety Awareness	2
TAFD 150 - Applied Technology	3
TAFP 150 - Fluid Power Systems	4
TAMA 110 - Industrial Applications of Basic Math Principles	2
TAMA 120 - Industrial Applications of Algebraic Principles	3
TAIM 100 - Industrial Materials	3
TAMN 100 - Shop Tools and Techniques	3

Required Support Courses	Cr. Hours

Complete a minimum of 20 credit hours from the following courses with at least one course from each of the following areas:

Electrical
TAEL 105, TAEL 145, TAEL 150, TAEL 200, TAEL 245, and/or TAEL 270.

Mechanical
TAGD 110, TAGD 120, TAGD 130, TAMT 110, TAMT 115, TAMT 200, TAMT 200, TAMT 210, TAMT 220, and/or TAMT 260.

Fluid Power
TAFP 160, TAFP 260, TAFP 270, TAPP 100, TAPP 120, and/or TAPP 250.

Welding
TAMJ 110, TAMJ 115, TAMJ 120, TAMJ 125, TAMJ 145, TAMJ 230, and/or TAMJ 235.

Degree-Specific Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. Courses listed in the Required Core Courses and/or 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 Educantion

Students must also complete the General Education requirements of the College which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for the, as well as courses used to fulfill requirements of the Associate in Applied Science degree, 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note: Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

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Recommended Course Sequence

Term 1	Term 2	Term 3	Term 4	Term 5
TADV 100	TADV 123	TAEL 102	TAFP 150	Gen Ed
TADV 120	TADV 124	TAMN 100	TAIM 100	Elective
TADV 121	TADV 125	ENG 131	ENG 132*	
TADV 122	TAFD 120	Elective	Elective	
TAFD 115	TAFD 150			
TAMA 110	TAMA 120			

Note:

It is recommended students select Electives in each semester for a minimum of 12 credit hours per semester.

ENG 132*: Students may select either ENG 132 or ENG 135.

Gen Ed: It is recommended that the student fulfill the General Education Outcome #1: American Society, Events, Institutions and Cultures course requirement in Term 5.

Students should take TAFD 295 as recommended by the program director, if it is not waived by workplace experience.

Multimedia Design

Certificate of Achievement - Fine Arts and Fitness Division

MULTMED.CMULT...

Kirk McLendon   313-845-6487   mclendon@hfcc.edu   MacKenzie Fine Arts Center 149
Martin Anderson   313-845-6488   mander@hfcc.edu   MacKenzie Fine Arts Center 131

Description

Multimedia Design is one of five certificate programs offered at Henry Ford Community College. Earn a Multimedia Design Certificate by completing the 36-38 credit hours of core courses. Students may complete an additional 22-24 credit hours of General Education and Elective Courses to earn an Associate in Arts degree. Classes are offered through-out the year during the day, evening and weekend.

Computers did not simplify the lives of graphic designers, but made 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.

Minimum Number of Credits To Graduate (Including Options/Electives): 38

Courses

Required Core Courses	Cr. Hours
ART 101 - Two-Dimensional Design	3
ART 102 - Drawing 1	3
ART 107 - Photoshop	3
ART 108 - Flash	3
ART 130 - History of Graphic Design	3
ART 165 - Typography	3
ART 245 - Interactive Design	3
ART 255 - Animation Basics	3
ART 275 - Advanced Projects	3
CIS 235 - Advanced Flash	3
TCM 151 - Digital Audio Editing	1
TCM 251 - Audio Production	3
TCM 157 - Digital Video Editing	1
TCM 257 - Video Production I	3

Recommended Course Sequence

Term 1	Term 2	Term 3	Term 4
ART 101	ART 108	ART 245	ART 130
ART 102	TCM 151	CIS 235	ART 255
ART 107	TCM 251	TCM 157	ART 275
		TCM 257	

Music

Associate in Arts - Fine Arts and Fitness Division

MUSIC.AA...

Kevin Dewey   313-845-6474   kdewey@hfcc.edu   MacKenzie Fine Arts Center 132
Martin Anderson   313-845-6488   mander@hfcc.edu   MacKenzie Fine Arts Center 131

Description

Henry Ford Community College music courses are designed for music majors, liberal arts and technical students, and members of the community. Any music course can be applied toward fulfillment of the Humanities requirement. Henry Ford Community College's many bands, choirs, jazz bands, and vocal ensembles are open to all by audition.

**(Including Options/Electives): 60
Minimum Number of Credits To Graduate**

Courses

Required Core Courses	Cr. Hours
Complete 4 credit hours from the following courses:	4
MUS 107, MUS 108, MUS 207, MUS 208,	
MUS 109, MUS 110, MUS 209, MUS 210,	
MUS 111, MUS 112, MUS 211, MUS 212,	
MUS 143, MUS 144, MUS 243, and/or MUS 244.	
Complete 4 credit hours from the following courses:	4
MUS 113, MUS 115, MUS 213, MUS 215	
MUS 114, MUS 116, MUS 214, and/or MUS 216.	
MUS 118 - Class Piano II	2
MUS 132 - Music Literature	3
MUS 138 - Music Theory I	3
MUS 139 - Music Theory II	3
MUS 141 - Sight Singing/Ear Training I	2
MUS 142 - Sight Singing/Ear Training II	2
MUS 152 - Music Notation with Finale I	2
MUS 232 - Music History I OR	3
MUS 233 - Music History II	3

Associate in Arts Degree Requirements

Students must also complete the specific degree requirements for the Associate in Arts Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Arts 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate in Arts degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

These courses are suggestions for electives:
PSCI 135 - Sound & Light in Fine-Arts   4
Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.
PSCI 135 is a suggested course that will also satisfy the Math and/or Science requirement.

Henry Ford Community College

Nursing

Associate in Applied Science - Nursing Division   NURSE.AAS...
Katherine Howe   313-845-9635   khowe@hfcc.edu   Health Careers Education Center 122A
Anna Brown   313-845-9635   abrown@hfcc.edu   Health Careers Education Center 122

Description

Henry Ford Community College is the first Michigan associate degree nursing program 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, which lead to such things as defining competencies of associate degree nursing and increasing nursing graduates.

The program of study combines 65 credits of General Education and nursing courses, using classrooms, laboratories, and clinical placements to provide learning in structured health care settings. With credit for courses taken in their prior education, Licensed Practical Nurses (LPNs) who choose to obtain the associate degree in nursing, enter the program at the second semester level. LPN students should make an appointment to review their status with the LPN Facilitator or nursing office, and to see the options available for them.

General Education courses must be taken before or concurrently with nursing courses, as stipulated in the curriculum. Nursing courses must be taken in consecutive semesters. **All students wishing to pursue nursing must achieve a minimum grade of "C" (no minus) in every required pre-requisite, general education or nursing course. Courses may be repeated ONLY ONCE in order to obtain a grade of "C" or better.**

Applicants to the nursing program must understand that they will be involved in the direct care of clients and must not judge nor expect to choose which clients they will serve. Refusal to serve assigned patients will be grounds for dismissal. In order to be considered for admission to or retention in the program, applicants must possess:

1. Sufficient visual acuity necessary for accurate assessment and safe nursing care to clients, such as physical assessment, preparation and administration of all medications and direct observation of clients.
2. Sufficient auditory perception to receive verbal communication from clients and members of the health team and to assess client health status with such devices as cardiac monitors, stethoscopes, I.V. infusion pumps, dopplers, fire alarms, call lights and cries for help.
3. Sufficient gross/fine motor coordination to respond promptly and implement skills req2uired in meeting health care needs of clients, including manipulation of equipment and supplies.
4. Sufficient physical abilities to move around client's rooms, work in treatment areas, and administer cardiopulmonary procedures.
5. Sufficient strength to perform physical activities frequently requiring the ability to lift, push, pull objects more than fifty pounds and transfer objects and persons of more than one hundred pounds.
6. Sufficient communication skills (speech, reading, writing) to interact with clients and communicate their health status and needs promptly and effectively.
7. Sufficient intellectual and emotional capability to plan and implement care for clients.
8. Sufficient psychological stability essential to perform at the required levels in the clinical portions of the nursing program.
9. Ability to sustain long periods of concentration to make decisions such as selecting correct techniques, equipment, clients. A person under the influence of alcohol or consciousness-altering drugs could not meet the above criterion.
10. Sufficient physical stamina to remain standing for long periods of time.

Career Opportunities

All graduates can acquire full-time employment upon passing the licensing examination for registered nurse. Opportunities for employment in nursing exist in hospital, clinic, and home care environments. Nurses work in factories, military services, schools, public health, teaching, and many other areas, as education and experience increase.

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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
- Madonna University
- Michigan State University
- Oakland University
- University of Detroit Mercy
- University of Michigan-Ann Arbor
- Wayne State University

Occupational Exposure/Risk

Applicants who consider a career in nursing may be exposed to infectious diseases during their nursing program or future employment in health care facilities. Persons should not become health care workers without realizing and accepting this risk. Proper education and strict adherence to well established infection-control guidelines, however, 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

Gloves, tubing, and other products used in client care are frequently made of latex. Contact urticaria, angioedema, allergic rhinitis, asthma or anaphylaxis can result through exposure and immediate hypersensitive responses to natural rubber latex (NRL). Early recognition of sensitization to NRL is crucial to prevent the occurrence of life-threatening reactions in sensitized healthcare workers. The Nursing Division 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 Nursing program must notify the Nursing Division upon admission so alternative non-latex educational supplies can be provided for educational learning experiences.

Programs of Study

Admission Requirements/Eligibility

Certain procedures must be followed and academic requirements fulfilled, prior to admission to the nursing program. Applicants must first be admitted to the college and designate nursing as their curriculum. Applicants must have a high school GPA of 2.7 or better. A college GPA of 2.7 or higher must be established if the candidate has been out of high school over ten years. The program has a limited enrollment and admits the bulk of its students in the fall semester, with a smaller group admitted in the winter and spring semesters. Admission is on a first-qualified first-served basis.

The stages for admission to the nursing program for generic students are:

1. Obtain copies of the specific Admission Requirements for Nursing from the Admissions Office or the Nursing Office.
2. Complete the requirements to get onto the wait list for the program.

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 attendance.

- 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.

High school GPA of "A or "B" (3.0) throughout a one year laboratory course, or BIO 131 Introduction to Biology, or its transfer equivalent or better, with a minimum grade of "C" (no C-).

Chemistry
High school GPA of "A" or "B" (3.0) throughout a one-year laboratory course, or CHEM 131 Principles of Chemistry, or its equivalent or better, with a minimum grade of "C" (no C-).

Math
High school GPA of "A" or "B" (3.0) throughout a one-year math course, or MATH 074 Pre-Algebra, or its transfer equivalent, with a minimum grade of "C" (no C-).

Placement Tests
Placement tests, required developmental course work, and all admission requirements must be completed before students are considered for admission to the program. The required Nurse Entrance Test (NET) is offered by the nursing division. A second failure of the test requires taking courses in areas of weakness. After a third failure students must take a Required Learning Lab Course before a final attempt is offered. Free assistance is available through the Learning Lab. All NET tests must be taken at HFCC. The NET requirements are:

1. Math Proficiency on the NET test- A minimum of 65 is required.
2. Reading Proficiency on the NET test- A minimum of 65 is required.
3. NET composite must be a minimum of 65%.
4. Successful completion of the NET objectives will allow the student to be placed on the program waitlist. The NET will not need to be retaken unless the student withdraws from the waitlist.
5. To be eligible for a refund for the NET test , the student must cancel their registration for the NET 24 hours before scheduled date/time.

Basic Life Support for Healthcare Professionals (CPR)
All students are required to complete and maintain a course in Basic Cardiac Life Support for Healthcare Professionals. It is strongly suggested that CPR be taken just prior to entering the nursing program. It must be kept current throughout the program.

Completion of ENG 131, ENG 132 and PSY 131, with a minimum grade of "C" (no C-), is required. These courses are required for placement on the waitlist.

Successful completion of a drug screening and criminal background check is required.

Additional Program Requirements

Applicants are invited to and must attend informational and orientation meetings scheduled by the Associate Dean of Nursing. Final acceptance is contingent upon fulfilling and maintaining minimum program requirements and proof of the following by specified deadline dates:

- Health Insurance
- Physical examination
- Required titers from previous immunizations and needed immunizations from titer results, if necessary.
- BLS certification for health care providers
- Drug screening and background check
- ACE Clinical Passport

While on the waitlist and anticipating an invitation into the nursing program, qualified applicants should continue to complete all remaining required, non-nursing courses: BIO 233/234, AH 120, SOC 131, PSY 253, and the Computer Literacy Test (CLT 100) or course to demonstrate computer competency required by the College.

Students entering in the winter semester must have BIO 233/234, AH 120, PSY 253 and SOC 131 completed, since the nursing courses are offered in eighteen months and time to finish non-nursing requirements is limited.

Program Duration Limits/Updates/Changes Progression and Graduation

The nursing program is designed to keep pace with the times. It is subject to change without notice to comply with requirements of accrediting agencies, clinical facilities, or the college, to meet the changing health care needs of society and to prepare students for nursing now and in the future. For the most current information, students should contact the nursing office.

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 is based on a student's:

1. Adherence to program requirements and policies outlined in the Nursing Student Handbook.
2. Achievement of the minimum grade of "C" (no C-) for nursing and all other non-nursing and required support courses
3. Competency in math dosage calculation.
4. Competency in pharmacology.
5. Satisfactory theory and clinical performance. Failure in either area is failure of the course.

Withdrawal and Readmission

Students who are not successful in nursing courses, do not progress to the next level of courses. **If a student falls out of one or both first semester nursing courses (NSG 120/126), they can restart the program. The restart is only one time and only at this point. A current NET test, GPA of 2.7 or higher, and fulfillment of any new program criteria are necessary to restart.** If a student falls out of one of the first semester courses, chooses to readmit, and then fails a course in the second semester, they are out of the nursing program and cannot return for 5 years and must restart the program. If a student fails both NSG 150 and NSG 155, they cannot return to the program for 5 years. If a student passes both beginning nursing courses, but fails one in the second semester and one in the third semester (NSG 221 or NSG 222) or fourth semester

Henry Ford Community College

(NSG 250 or NSG 255), the student must appear before the Admission/Readmission Committee to appeal one more opportunity to finish the program, after remediation work is completed. Students who fail two nursing courses in the last two semesters must also appear before the Committee to appeal for continuance. All students who fail a course, or fall out of a nursing course for any other reason, must have an Exit Interview, indicate in writing their interest in being readmitted, and fulfill their remediation work with "C" grades or better before they are considered for readmission. Their GPA must be 2.5 or better to readmit to the program.

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 as students enter the nursing program. Anatomy and Physiology of less than 8 semester credits or taken over five years ago, must be repeated.

Nursing Program Changes

The College and the Nursing Division reserve the right to change policies in effect at the time of catalog publication. 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 (H-122) or the Admissions Assistants for nursing (located in the University Transfer, Advising, and Career Counseling Center area of the College).

Registry/Certification/License Examination 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 (NCLEX-RN) leading to state license as a registered nurse.

Applicants should be aware that the Michigan Board of Nursing might deny a license to an applicant who has been convicted of a criminal offense or is addicted to drugs or alcoholic beverages.

Clinical Placements

Placement of students in clinical agencies is increasingly difficult to arrange. Clinical placements occur in many different ways. They may be on one, long day, two early a.m. days or two p.m. evenings. They may also occur on weekends. Students who are unwilling or unable to make arrangements to switch/change their assigned clinical placements to accommodate their lives may have to step out of the nursing program.

Accreditation

The program is approved by the Michigan State Board of Nursing and accredited by the National League for Nursing accrediting Commission (NLNAC), 61 Broadway, New York, NY 10016. Phone: 1-800-669-1656 ext. 153.

Minimum Number of Credits To Graduate (Including Options/Electives): 65

Note:
NET - Nursing Entrance Test information is available at http://adm.hfcc.edu/~jmorford/NET/

Courses

Required Core Courses	Cr. Hours
NSG 120 - Nursing and Health Care Systems I	2
NSG 126 - Nursing and Self-Care I	7
NSG 150 - Nursing and Self-Care II	5
NSG 155 - Nursing and Self-Care III	5
NSG 221 - Nursing and Self-Care IV - Part I	5
NSG 222 - Nursing and Self-Care IV - Part II	5
NSG 250 - Nursing and Self-Care V	7
NSG 255 - Nursing and Health Care Systems II	3

Note:
Each NSG course may be repeated only once. If any nursing course is failed after two attempts, the student will no longer qualify for the Nursing program. If a student fails both NSG 120 and NSG 126, they may restart the program one time. Other than that, students who fail any two nursing courses in the first year are ineligible to return to the program for a period of 5 years.

A minimum grade of 'C' is required in ALL coursework.

Required Support Courses	Cr. Hours
AH 120 - Pharmacology for Allied Health	3
BIO 233 - Anatomy and Physiology I	4
BIO 234 - Anatomy and Physiology II	4
PSY 131 - Introductory Psychology	3
PSY 253 - Life Span Development	3
SOC 131 - Introduction to Sociology	3
ENG 131 - Introduction to College Writing	3
ENG 132 - College Writing and Research	3
Computer Literacy Test (CLT 100) or Equivalent Course	0

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Fall I	Winter I	Spring/Summer I	Fall II	Winter II
NSG 120	NSG 150	SOC 131	NSG 221	NSG 250
NSG 126	NSG 155		NSG 222	NSG 255
BIO 233	BIO 234			
AH 120	PSY 253			

Note:
ENG 131, ENG 132 and PSY 131 must be completed prior to entering the Nursing Program. It is recommended to complete all other required General Education courses prior to starting the nursing program or during Spring/Summer semesters. All General Education courses should be completed as early as possible to allow more time to study nursing courses.

Nursing — Advancement of LPNs to RNs

Associate in Applied Science - Nursing Division NURLP.AAS...
Gail Frederick 313-845-6300 gfrederick@hfcc.edu Health Careers Education Center 122A

Description

LPNs (Licensed Practical Nurses) pursuing their-ADN (Associate Degree in Nursing) who have attended an accredited LPN program and who have an active Michigan PN license to practice are welcome to apply to the nursing program at HFCC as advanced placement students.

Licensed Practical Nurses may earn credit toward their Associate Degree in Nursing by written examination and demonstration of clinical competence, submission of a portfolio, or by taking an accelerated track in selected courses. Each applicant must meet the minimum requirements for acceptance into the nursing program. Reasonable modifications of the requirements may be made by the Facilitator of the LPN Advanced Placement program or the Associate Dean of Nursing.

Interested students should contact the LPN-ADN Facilitator to inquire about program details and how they can make a smooth transition into the associate degree nursing program.

Career Opportunities

The health care industry in the region is and will continue to be one of the largest employers of graduates in Southeastern Michigan. Opportunities for nursing exist in hospitals, clinics and home health care. According to the Bureau of Labor Statistics the employment of registered nurses is expected to grow faster than the average for all occupations through 2012. In fact, more new jobs are expected to be created for RNs than any other occupation (US Bureau of Labor and Statistics).

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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
• Madonna University
• Michigan State University
• Oakland University
• University of Detroit Mercy
• University of Michigan - Ann Arbor
• Wayne State University

Occupational Exposure/Risk

Applicants who consider a career in nursing should be aware that during the course of their nursing education and subsequent employment they are likely to be 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 nursing program of study.

Latex Allergies

Gloves, tubing, and other products used in client care are frequently made of latex. Contact urticaria, angioedema, allergic rhinitis, asthma or anaphylaxis can result through exposure and immediate hypersensitive responses to natural rubber latex (NRL). Early recognition of sensitization to NRL is crucial to prevent the occurrence of life-threatening reactions in sensitized healthcare workers. The Nursing Division 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 Nursing program must notify the Nursing Division upon admission so alternative non-latex educational supplies can be provided for educational learning experiences.

Admission Requirements: Eligibility

In order to be admitted into the nursing program certain procedures must be followed and academic requirements fulfilled. Applicants must first be admitted to the College and designate Advancement of LPNs to RNs.as their curriculum. Applicants must have a high school GPA of 2.7 or higher. If any college courses have been taken, a cumulative GPA of 2.7 or higher is required. The program has a limited enrollment and admits several times per year based on space availability. Admission is on a first-qualified, first-served basis. Students are encouraged to complete the admission requirements as early as possible.

The three stages for admission to the Nursing program are:

1. Applicants obtain copies of the specific admission requirements from the Admissions Office or the Nursing Office.
2. Applicants must meet the admission requirements.
3. Applicants are invited to and must attend pre-enrollment and orientation meetings scheduled by the Associate Dean of Nursing. Final acceptance is contingent upon fulfilling and maintaining minimum program requirements and submitting proof of the following by the deadline dates:
   A. Health insurance
   B. Physical examination
   C. Required immunizations
   D. BLS certification for health care providers
   E. ACE Clinical Passport

Admission Requirements: Education

GPA (Most current course of study is considered)
1. High School academic GPA (2.7 or higher), OR
2. Minimum G.E.D. test score of 550 or higher, OR
3. Completion of 12 credit hours at HFCC (2.7 or higher), OR
4. Transfer credit GPA of 2.7 or higher. (If not achieved, a GPA of 2.7 or higher must be established with 12 credit hours taken at HFCC).

Biology
High school GPA of B (3.0) in a one-year laboratory course, or BIO 131-Introduction to Biology, or its transfer equivalent with a minimum grade of C (C- not accepted).

Chemistry
High school GPA of B (3.0) in a one-year laboratory course, or CHEM 131 - Principles of Chemistry, or its transfer equivalent with a minimum grade of C (C- not accepted).

Henry Ford Community College

Math
High school GPA of B (3.0) in a one-year math course, or MATH 074, or its equivalent with a minimum grade of C (C- not accepted).

Placement Tests
Placement tests, required developmental course work, and all admission requirements must be completed before students are considered for admission to the program. The required Nurse Entrance Test (NET) is offered by the nursing division. A second failure of the test requires taking courses in areas of weakness. After a third failure students must take a Required Learning Lab Course before a final attempt is offered. Free assistance is available through the Learning Lab. **All NET tests must be taken at HFCC.** The NET requirements are:

1. Math Proficiency on the NET test- **A minimum of 65** is required.
2. Reading Proficiency on the NET test- **A minimum of 65** is required.
3. NET composite must be a minimum of 65%.
4. **Successful completion of the NET objectives will allow the student to be placed on the program waitlist. The NET will not need to be retaken unless the student withdraws from the waitlist.**
5. To be eligible for a refund for the NET test, the student must cancel their registration for the NET 24 hours before scheduled date/time.

Basic Life Support for Healthcare Professionals (CPR)
All students are required to complete and maintain a course in Basic Cardiac Life Support for Healthcare Professionals. It is strongly suggested that CPR be taken just prior to entering the Nursing program. It must be kept current throughout the program.

Completion of ENG 131, ENG 132 and PSY 131, with a minimum grade of "C" (C- not accepted), is required. These courses are required for placement on the waitlist.

Successful completion of a drug screening and criminal background check is required.

Additional Program Requirements
All LPN-ADN students must have BIO 233, 234; PSY 131, 253; ENG 131 and ENG 132 completed successfully prior to entry to the nursing program. It is strongly suggested that SOC 131, be completed before admission to the program.

In addition LPNs must submit to the Nursing Program Office:
1. An official transcript from the applicant's practical nursing school.
2. Proof of a current LPN Michigan license.

Specific procedures for the Advanced Placement track may be obtained from the Nursing Office located in the Health Careers Placement Center H-122.

All nursing students must pass a drug test and a criminal background check. You must pay for drug testing. The paperwork and process will be explained to you when you meet with the LPN Advanced Placement Facilitator. If you do not pass your Physical examination, Criminal Background Check, and Drug Test, you cannot take nursing courses, as you are ineligible to enter the clinical area. Clinical experience is required to successfully complete the Nursing program.

Program Duration Limits/Updates/Changes Progression and Graduation
The nursing program is designed to keep pace with the times. It is subject to change without notice to comply with requirements of accrediting agencies, clinical facilities, or the College, to meet the changing health care needs of society, and to prepare students for nursing now and for the future. For current information, students should contact the Nursing Office.

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 is based on a student's:

1. Adherence to program requirements as outlined in the Nursing Student Handbook.
2. Achievement of the minimum grade of C for nursing and other required support courses.
3. Competency in math dosage calculation.
4. Satisfactory clinical performance.

Withdrawal and Readmission
Students who are not successful in a nursing course do not progress to the next nursing course (with the exception of NSG 150, NSG 155 both offered the same semester). Unsuccessful students withdraw from the program. Students, who receive less than a C grade in theory, fail to maintain competency in math dosage calculation, or receive an unsatisfactory grade in clinical practice for any nursing course are unsuccessful. Students not successful in passing a nursing course may be considered for readmission to the nursing program one time only.

All readmission applicants are considered only after first-time applicants are accepted into the course or program. Acceptance for readmission also depends on the following:

1. Applicant's overall performance.
2. Steps taken for remediation.
3. Availability of space.
4. Program duration limits.

Students who are not successful in first-semester nursing courses may reapply to restart the program through the Admissions Office. Readmission into the second, third, or fourth semester is done by petitioning the Associate Dean and nursing faculty after completing an exit interview. After the first semester, students may restart the program one time only.

Students not successful in nursing courses must have an Exit Interview and must indicate in writing their interest in being readmitted to a nursing course sixty days or more in advance of the first day of class and demonstrate that remediation is fulfilled. Students who readmit to a nursing course more than one time must re-enter through recommendation of the Admissions/Readmission process and positive faculty recommendation.

Program Duration Limits
All nursing courses taken at Henry Ford Community College or other colleges must be successfully completed within a total of three consecutive calendar years. BIO 233 and BIO 234-Anatomy and Physiology I and II, or transfer equivalent courses that were taken five or more years prior to enrollment in beginning nursing courses must be repeated.

Nursing Program Changes
The College reserves the right to change policies in effect at the time of catalog publication. The Nursing program continuously updates its program of study to meet changing health needs. Further up-to-date information concerning curriculum and requirements for admission, progression, and graduation is available to applicants and other students upon request from the Nursing Office in the Health Careers Educational Center Building H-122 or the Admissions Assistant for Health Careers/Nursing in the Learning Resources Center.

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 leading to state licensure as a registered nurse.

Applicants should be aware that the Michigan Board of Nursing might deny a license to an applicant who has been convicted of a criminal offense or is addicted to drugs or alcoholic beverages.

Accreditation

The program is approved by the Michigan State Board of Nursing and accredited by the National League for Nursing Accrediting Commission, 60 Broadway, New York, New York, 10016.

Student complaints regarding the Nursing Program may be reported directly to the National League for Nursing Accrediting Commission (NLNAC), 61 Broadway, New York, New York 10016. The telephone number is 1-800-669-1656, ext. 153.

Minimum Number of Credits To Graduate (Including Options/Electives): 66

Courses

Required Core Courses	Cr. Hours
NSG 091 - Nursing Systems II; LPN Transition	1
Granted with proof of valid LPN license. If passed, exempt from NSG 120 and NSG 126 (9 cr hrs).	9
NSG 150 - Nursing and Self-Care II (Pending exemption, based on LPN transcript)	5
NSG 155 - Nursing and Self-Care III	5
NSG 221 - Nursing and Self-Care IV - Part I	5
NSG 222 - Nursing and Self-Care IV - Part II	5
NSG 250 - Nursing and Self-Care V	7
NSG 255 - Nursing and Health Care Systems II	3

Note:

All LPN-ADN students must meet with the LPN Coordinator.

LPN 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.

Each nursing course may be repeated only once. If two different nursing courses are failed, the student must participate in the Admissions/Readmissions process to determine the outcome. Ordinarily, the student will no longer qualify for the HFCC Advancement of LPNs to RNs program.

NSG 120 and NSG 126 classes will be awarded once NSG 091 is passed and proof of current LPN license is provided.

Required Support Courses	Cr. Hours
AH 120 - Pharmacology for Allied Health	3
BIO 233 - Anatomy and Physiology I	4
BIO 234 - Anatomy and Physiology II	4
PSY 131 - Introductory Psychology	3
ENG 131 - Introduction to College Writing	3
ENG 132 - College Writing and Research	3
PSY 253 - Life Span Development	3
SOC 131 - Introduction to Sociology	3

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:

Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Fall I	Winter I	Spring I	Fall II	Winter II
NSG 091	NSG 155	SOC 131	NSG 221	NSG 250
AH 120	NSG 150		NSG 222	NSG 255

Note:

ENG 131/132, PSY 131/253 and BIO 233/234 must be completed prior to entering the Nursing Program. It is recommended to complete all other required General Education courses prior to starting the nursing program or during the Spring/Summer semesters. All support courses must be completed successfully in the required semester or before.

NSG 150 exemption is granted after review of LPN transcripts.

Programs of Study

Henry Ford Community College

Nursing Care Skills

Certificate of Achievement - Nursing Division   NURSE.CSGL...
Patrice Irving   313-845-6534   pirving@hfcc.edu   Health Careers Education Center 103I
Katherine Howe   313-845-9635   khowe@hfcc.edu   Health Careers Education Center 122A

Description

This 11-week program prepares you to work as a Nurse Aide. The program also makes a great foundation for the associate degree program in nursing. Complete the 16 credits in the Nursing Assistant Program successfully for an immediate job placement. If you begin work as a Nurse Aide, many employers will help you pay for your associate degree!

Nurse Aides assist nurses in rendering care to clients with varying degrees of wellness and illness. They work in acute and chronic settings, as well as the home. The basic nursing skills necessary to perform the duties of a nurse aide are acquired. The course incorporates 90 hours of theory, 128 hours of laboratory practice, and 52 hours in a clinical agency. The course requires attendance from 8:30 a.m. - 4:30 p.m., 4 days a week. Mastery of learning principles prevails. Students repeat theory and clinical testing to meet 80% theory and 100% skills competency, within the time parameters of the course. Successful mastery allows testing at the state level to receive the CENA designation.

Applicants to the nurse aide course should be aware that health care personnel work in direct care with clients. In order to be considered for admission or to be retained in this course, all applicants should possess:

1. Sufficient visual acuity necessary for accurate assessment and nursing care, such as required in the direct care and observation of clients, noting irregularities in client appearance, taking accurate temperatures, blood pressures, etc.
2. Sufficient auditory perception to receive verbal communication from clients and members of the health team and to assess the health status of people through the use of monitoring devices i.e. stethoscopes and the ability to hear fire alarms, as well as cries for help.
3. Sufficient gross and fine motor coordination to respond promptly and to implement the skills required in meeting health care needs of clients, including the manipulation of equipment.
4. Sufficient physical abilities to move around in client rooms and work and treatment areas and administer client care procedures.
5. Sufficient strength to perform physical activities frequently requiring the ability to push and pull objects more than fifty pounds and to transfer objects and persons of more than one-hundred pounds.
6. Sufficient communication skills (speech, reading, writing) to interact with clients and to communicate their health status and needs promptly and effectively.
7. Sufficient intellectual and emotional capability to plan and implement care for clients.
8. Sufficient psychological stability essential to perform at the required levels in the clinical portions of the nursing program.
9. Capability to sustain long periods of concentration to make decisions such as selecting correct techniques, equipment, and safety measures to assure maximum care and safety of clients. A person under the influence of alcohol or consciousness-altering drugs could not meet the above criterion.
10. Sufficient physical stamina to remain standing for long periods of time.

Career Opportunities

Students who complete the Nursing Care Skills 100 course work in hospitals, nursing homes and in home health care. They often return to school at a later date to become nurses or other health care workers.

Occupational Exposure/Risk

Applicants who consider a career in health care should be aware that during their education and subsequent employment they are likely to be 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 program of study.

Latex Allergies

Gloves, tubing, and other products used in client care are frequently made of latex. Contact urticaria, angioedema, allergic rhinitis, asthma or anaphylaxis can result through exposure and immediate hypersensitive responses to natural rubber latex (NRL). Early recognition of sensitization to NRL is crucial to prevent the occurrence of life-threatening reactions in sensitized healthcare workers. The Nursing Division 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 nursing program must notify the Nursing Division upon admission so alternative non-latex educational supplies can be provided for educational learning experiences.

Admission Requirements/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 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 100 course.

Minimum Number of Credits To Graduate (Including Options/Electives): 16

Courses

Required Core Courses	Cr. Hours
NCS 100 - Competency Evaluated Nurse Aid	16

Programs of Study

Office Administration

Certificate of Achievement - Business and Economics Division   BAIMOFFADM.CMLT...
Diana Baran   313-317-1583   dbaran@hfcc.edu   Reuther Liberal Arts Building 331
Elaine Saneske   313-845-9704   esaneske@hfcc.edu   Reuther Liberal Arts Building 328

Description

Henry Ford Community College's certificate in Office Administration 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.

Minimum Number of Credits To Graduate (Including Options/Electives): 30

Courses

Required Core Courses	Cr. Hours
BBA 110 - Business Language Skills	3
BBA 133 - Business Behavior and Communication	3
BBA 231 - Business Office Communications	3
BBA 235 - Office Administration Practicum	4
BCA 106 - Introduction to Windows	2
BCA 140 - Software Applications	3
BCA 143 - Word Processing	3
BCA 145 - Spreadsheet Applications	3
MGT 230 - Principles of Management	3
MGT 231 - Supervision and Teambuilding	3

Recommended Course Sequence

Recommended Course Sequence Option One

Fall I	Winter I
BBA 110	BBA 231
BBA 133	BBA 235
BCA 106	BCA 143
BCA 140	BCA 145
MGT 230	MGT 231

Recommended Course Sequence Option Two

Fall I	Winter I	Fall II	Winter II
BBA 110	BCA 143	BBA 133	BBA 235
BCA 106	BCA 145	BBA 231	MGT 231
BCA 140		MGT 230	

Note:
Recommended Course Sequence Option One is comprised of the first semester of 14 credit hours and the second semester of 16 credit hours.

Recommended Course Sequence Option Two is comprised of the first semester of 8 credit hours, second semester of 6 credit hours, third semester of 9 credit hours, and fourth semester of 7 credit hours.

Office Skills — Fundamentals

Certificate of Achievement - Business and Economics Division   OFFICESKILLS.CMLT...
Diana Baran   313-317-1583   dbaran@hfcc.edu   Reuther Liberal Arts Building 331
Elaine Saneske   313-845-9704   esaneske@hfcc.edu   Reuther Liberal Arts Building 328

Description

Henry Ford Community College's Office Skills —Fundamentals Certificate 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.

Minimum Number of Credits To Graduate (Including Options/Electives): 17

Courses

Required Core Courses	Cr. Hours
BBA 110 - Business Language Skills	3
BBA 133 - Business Behavior and Communication	3
BBA 231 - Business Office Communications	3
BCA 101 - Computer Keyboarding	3
BCA 106 - Introduction to Windows	2
BCA 140 - Software Applications	3

Recommended Course Sequence

Term 1	Term 2
BBA 110	BBA 133
BCA 101	BBA 231
BCA 106	BCA 140

Henry Ford Community College

Ophthalmic Technician

Associate in Applied Science - Health Careers Division   OPTECH.AAS...

Deana Presnell   313-317-1720   djpresnell@hfcc.edu   Health Careers Education Center 133H
Ron Bodurka   313-845-9877   rbodurka@hfcc.edu   Health Careers Education Center 132H

Description

The Profession

The Ophthalmic Technician is an Associate in Applied Science degree program designed to prepare individuals as entry-level Ophthalmic Technicians. 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.

The Program

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.

Career Opportunities

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.

Occupational Exposure/Risk

Applicants considering a career in optical care 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. Thorough education in infection control procedures is an important part of the Ophthalmic Technician program of study. Strict adherence to well established infection-control guidelines can reduce the risk to a minimum. 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.

Admission Requirements/Eligibility

The Ophthalmic Technician (OPT) core program begins with the fall semester. In addition to the HFCC college application, a separate OPT application is required and processed through the Admissions Office. Early application is advised for counseling and admission to the program. Students are accepted into the program on a first-qualified, first-accepted basis. Acceptance into the college does not constitute nor guarantee admission to the program. Final approval to enroll in the program comes from the Health Careers Division.

OPT Program Admission Criteria

1. 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).
2. ASSET Reading score 43 or better OR COMPASS Reading score of 84 or better.
3. BIO 134 or college equivalent with a C or better.
4. ASSET or COMPASS Writing score sufficient for placement in ENG 131. This requirement may also be fulfilled by successful completion of required developmental English courses.
5. An ASSET Numerical Skills score of 40 or higher; or COMPASS Pre-Algebra score of 39 or higher; or completion of MATH 101 or MATH 074 with a grade of C or better.
6. Required Core Courses can be taken only after acceptance into the OPT program through the Health Careers Division.
7. Required Support Courses may be taken prior to admission to the program.
8. A minimum grade of C is required in all courses.

The Program Application Process

Step 1 - Select your career program
- It is recommended that each applicant meet with a Health Career 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 Health Careers Office located in the Counseling Office, room LRC 117B and in the Health Career Office 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 Health Careers Office, room LRC 117B.
- Program applicants transferring college credit from another institution must have an official transcript mailed to: Henry Ford Community College, Transfer Evaluation, 5101 Evergreen Rd., Dearborn, MI 48128.
- Applicants must also submit a student copy of all of their transcripts to the Health Careers Office.
- It is strongly recommended that you personally track your program application through the Health Careers Office, room LRC 117B.

- Students are strongly encouraged to monitor their program admission status via the WebAdvisor Program Evaluation link.
- 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 the HFCC application or the separate program application may be used to determine placement on the qualified list if necessary. The earlier you apply the better.

Additional Program Requirements
Health Appraisal
All students enrolled in the OPT program must be in good physical and mental health as determined by a physician and validated on the Health Careers Health Appraisal form. Each student must have a physical examination before admission to clinical classes. Additionally, students must demonstrate evidence of current immunizations and provide titers to show immunity to illnesses specified on the Health Careers Health Appraisal form. Students are required to have basic health insurance coverage during their clinical courses.

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 is 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 end 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 end Drug Screen will not be able to complete the OPT program.

Program Duration Limits/Updates/Changes:
The Ophthalmic Technician program is twenty-three months in length. Students must complete all OPT courses within three years of beginning the formal program. Students are responsible for their own transportation to clinical sites and any expenses incurred.

The College continuously attempts to improve each program end as a result, courses end/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.**

Withdrawal and Readmission
A students 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 and must reapply for readmission with a GPA of 2.5 or better.

Registry/Certification/Licensure Exam Information
Graduates of the program are endorsed on application for national certification examination offered by the Joint Commission on Allied Health Personnel in Ophthalmology (JCAHPO). Subspecialty endorsements may also be requested on applications for examinations in areas such as Ophthalmic Surgical Assisting (JCAHPO), Registered Ophthalmic Ultrasound Biometrist (JCAHPO), and provisional certification as a Certified Retinal Angiographer through the Ophthalmic Photographer's Society (OPS).

Accreditation
As a new program, HFCC plans on applying for Initial Approval (formerly called Letter of Review) by the Commission on Accreditation of Ophthalmic Medical Programs (CoA-OMP). The CoA-OMP is represented by these sponsoring organizations: Association of Technical Personnel in Ophthalmology (ATPO), Joint Commission on Allied Health Personnel in Ophthalmology, Inc. (JCAHPO), and the Consortium of Ophthalmic Training Programs (COTP).

Minimum Number of Credits To Graduate (Including Options/Electives): 77.5

Henry Ford Community College

Courses

Required Core Courses

Required Core Courses	Cr. Hours
OPT 101 - Introduction to Ophthalmic Technology	3
OPT 134 - Ocular Anatomy and Pathology	3
OPT 150 - Applied Ophthalmic Optics	3
OPT 160 - Ocular Measurements I	5
OPT 180 - Ocular Measurements II	5
OPT 200 - Clinical Optical Procedures	5
OPT 220 - Ophthalmic Photography	2
OPT 240 - Ophthalmic Surgical Assisting	2
OPT 260 - Current Issues in Vision Care	1
OPT 290 - Clinical Externship I	4
OPT 293 - Clinical Externship II	6
OPT 297 - Clinical Externship III	6

Note: 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

Required Support Courses	Cr. Hours
AH 100 - Medical Terminology	4
AH 105 - Basic Life Support for Healthcare Providers	0.5
BIO 135 - Microbiology for Allied Health Sciences	4
HCS 103 - Employment Skills for Health Careers	1
HCS 124 - Basic Health Assessment	1
HCS 131 - Computers in Health Care	3
MOA 100 - Medical Office Procedures I-Administrative	3
SRG 101 - Introduction to Surgical Technology	4
SSC 131 - A Survey of the Social Sciences	3

Complete one of the following courses:

AH 120 - Pharmacology for Allied Health	
SRG 160 - Surgical Pharmacology	3

Note: HCS 131 is a required course for this program. It also satisfies the General Education Outcome #2: Computer Literacy course requirement.

SSC 131 is a required course for this program. It also satisfies the General Education Outcome #1: American Society, Events, Institutions and Cultures course requirement.

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree as well as courses used to fulfill requirements of the Associate in Arts degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Required Course Sequence

Fall I	Winter I	Spring I	Summer I	Fall II	Winter II	Spring II
AH 100	AH 120*	HCS 131	AH 105	ENG 132*	HCS 103	OPT 260
BIO 135	MOA100	OPT180	ENG 131	OPT 200	HCS 124	OPT 297
OPT 101	OPT 150			OPT 290	OPT 220	
OPT 134	OPT 160			SRG 101	OPT 240	
					OPT 293	
					SSC 131	

Note:

AH 120*: Students may elect either AH 120 or SRG 160.

ENG 132*: Students may select either ENG 132 or ENG 135.

AH 105 should be taken Summer I semester, just prior to beginning the second year of the program.

If the student has not completed the Required Support Courses listed upon entering the program, they MUST follow the Required Course Sequence above.

A minimum C grade or better is required in all courses.

Paralegal Studies

Associate in Business - Business and Economics Division   PARALEGAL.AB...

Rachelle Loomus   313-317-4158   rsloomus@hfcc.edu   Reuther Liberal Arts Building 330
Elaine Saneske   313-845-9704   esaneske@hfcc.edu   Reuther Liberal Arts Building 328

Description

Henry Ford Community College's Paralegal Studies program is designed to prepare students for a career in the legal profession. Paralegals/Legal Assistants perform important legal support work such as legal research, legal document preparation, client and witness interviewing, interfacing with courts and administrative agencies, and the application of technical information. Upon completion of the program, graduates may choose to enter the workforce as Paralegals/Legal Assistants or may choose to continue their education by transferring to a four-year baccalaureate-degree institution.

Paralegals /Legal Assistants must work under the supervision of an attorney. Paralegals/Legal Assistants are not lawyers and are not permitted to provide legal services directly to the public except as permitted by law.

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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 Michigan - Dearborn
• Walsh College

Accreditation Paralegal Studies

The Paralegal Studies program is approved by the American Bar Association.

Core Competencies by Course

LGA 120: Demonstrate knowledge of solutions to critical ethical challenges facing paralegals and an understanding of the various core competencies in the Paralegal Studies.

LGA 121: Use both print and electronic sources of law to locate treatises, law review articles, legal encyclopedias, and other secondary source materials that help explain the law and to locate applicable statutes, administrative regulations, constitutional provisions, court cases, and other primary source materials; read, evaluate, analyze, and properly cite print and electronic sources of law and apply them to issues requiring legal analysis; "cite check" legal sources and create strategies for basic legal research; and prepare written research memoranda incorporating proper English grammar and proper legal citation formats.

LGA 122: Create strategies for advanced legal research. Students will identify, locate, and appropriately use print and electronic resources to update and verify the reliability of cited legal authority; prepare written research reports in specific legal formats incorporating proper English grammar and proper legal citation formats; and analyze and categorize key facts in a writing style that conveys legal theory in a clear, concise manner.

LGA 123: Perform legal research using computer-assisted research tools and advanced legal research terminology; draft written research memoranda incorporating sound research techniques, proper legal citation format, and proper English and grammar in the writing style typical of legal documents.

LGA 125: Demonstrate the ability to identify the legal rules regarding confidentially and attorney client privilege; demonstrate the ability to identify conduct which constitutes the unauthorized practice of law; demonstrate an understanding of internal control procedures for avoiding conflicts of interest; and demonstrate an understanding of the limits placed on non-attorney employees in the legal service community.

LGA 130: Identify legal issues in prospective litigation case (mock case) scenarios and apply recognized legal authority to such specific factual situation; and draft the complaint or answer in a civil suit.

LGA 133: Demonstrate the ability to create a Durable Power of Attorney and Advanced Health Care Directives; identify the proper procedures for processing a model estate scenario; and demonstrate the ability to research the Michigan Estates and Protected Individuals Code and apply it to specific factual situations involving Trusts and Wills.

LGA 135: Demonstrate an understanding of law relating to marriage, annulment, alimony, child support, marital property, and the Probate Court system; draft client correspondence and legal documents, using proper format and appropriate content; and create strategies for family law disputes.

LGA 136: Conduct client interviews and prepare the documents necessary to initiate a testate/intestate probate proceeding; demonstrate the ability to research and describe the application of the Michigan Estate and Protected Individuals Code and apply it to situations involving a decedent's estate; and locate and modify standardized probate forms found in formbooks and draft Motions for a particular situation.

LGA 137: Demonstrate the ability to identify legal issues in mock real estate cases and create strategies for resolution of the issues involved; and apply principles of professional ethics to specific factual situations.

LGA 138: Identify legal issues in business creation (mock case) scenarios and create strategies for resolution; and draft business organization documents including Articles of Organization, Bylaws, Operating Agreements, or Buy-Sell agreements.

LGA 139: Identify the fundamental elements of a legally binding contract; identify Issues in contract disputes case scenarios (mock case) and create strategies for resolving the issues; and draft basic contracts for the sale of personal property.

Henry Ford Community College

LGA 141: Identify legal issues in personal injury case scenarios (mock case) and apply recognized legal authority to a specific factual situation involving Intentional Tort or Negligence; and analyze factual situations to determine when to apply exceptions to general legal rules.

Minimum Number of Credits To Graduate (Including Options/Electives): 60
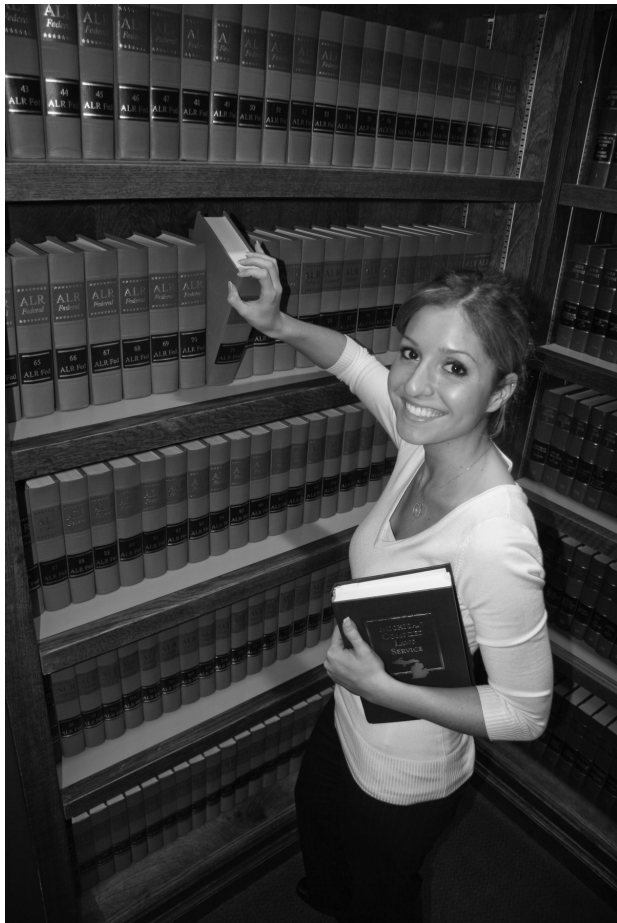
Courses

Required Core Courses	Cr. Hours
BLW 253 - Business Law and the Legal Environment	4
LGA 120 - Introduction to the Law and Paralegalism	2
LGA 121 - Legal Writing and Research I	2
LGA 122 - Legal Writing and Research II	3
LGA 123 - Computer Assisted Legal Research	3
LGA 125 - Legal Ethics	1
LGA 130 - Trial Practice and Appeals Civil and Criminal	3
LGA 133 - Wills and Trusts	2
LGA 135 - Family Law	3
LGA 136 - Probate Administration	3
LGA 137 - Property Law	2
LGA 138 - Corporate and Tax Law	3
LGA 139 - Commercial Law and Collection	2
LGA 141 - Personal Injury and Torts Litigation	

Note:
LGA course levels above LGA 122 may be taken concurrently with LGA 121.

Required Support Courses	Cr. Hours
BBA 110 - Business Language Skills	3
BCA 140 - Software Applications	3
CRJ 251 - Criminal Law	4
ENG 132 - College Writing and Research	3
SPC 131 - Fundamentals of Speaking	3

Associate in Business Degree Requirements

Students must also complete the specific degree requirements for the Associate in Business Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Business 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate Degree in Business, may also be used to fulfill General Education requirements when applicable.

Elective Courses	Cr. Hours

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100)

These courses are suggestions for electives:

LGA 150 - Case Management OR	2
LGA 292 - Legal Assistant Internship OR	2
LGA 293 - Legal Assistant Internship OR	3
LGA 294 - Legal Assistant Internship	4

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Term 1	Term 2	Term 3	Term 4
ENG 131	CRJ 251	LGA 122	LGA 125
BBA 110	ENG 132	LGA 136	LGA 130
BCA 140	LGA 120	LGA 137	LGA 135
BLW 253	LGA 121	LGA 139	LGA 138
	Gen Ed	LGA 141	LGA 150*
		SPC 131	

Note:
Gen Ed: It is recommended students fulfill their General Education Outcome #1: American Society, Events, Institutions and Cultures course requirement in Term 2.
LGA 150*: Students may select any course from the suggested list of Electives.

Paramedic

Associate in Applied Science - Health Careers Division

PAMED.AAS...

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Description

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 HFCC offers the options of certificates of achievement in Basic EMT and Paramedic, or the option of an Associate in Applied Science degree. The program is designed to meet the needs of students interested in entry-level training as well as those seeking career advancement.

The HFCC Paramedic Program has been awarded the highest level of approval through the Bureau of Emergency Medical Services & Trauma Systems, Michigan Department of Community Health.

Computer Usage

This program, from EMS 100 level and up, requires students to utilize a computer and the internet. All students have computer & internet access through our campus library.

Career Opportunities

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 Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC.

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:

- Siena Heights University
- University of Michigan - Dearborn

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 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.

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:

- ASSET Reading score of 43 or a COMPASS Reading score of 84 or successful completion of ENG 081.
- ASSET Writing score of 44 or a COMPASS Writing score of 78 or successful completion of ENG 131 also fulfills the writing requirement.

Students should place into ENG 131 in order to be most successful.

Students wishing 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 referred), BIO 233, BIO 234, AH 100, AH 120 and AH 105 (or equivalent)*
- ASSET Math score of 39 on the Numerical Skill unit or COMPASS Pre-Algebra score of 39 or successful completion of MATH 080.
- First year Reading and Writing requirements are listed above. This also applies to second year students.

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.

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

Henry Ford Community College

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 an 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

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 wish 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.hfcc.edu.

Registry/Certification/Licensure Exam Information

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. 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.

Accreditation

Henry Ford Community College is an approved EMS Program Sponsor through the Michigan Department of Community Health, Bureau of EMS & Trauma Systems. Through this approval, all graduates/completers of the EMS program(s) are eligible to sit for the national registry exams for the designation of Nationally Registered Emergency Medical Technician-Basic or Nationally Registered Emergency Medical Technician-Advanced.

Minimum Number of Credits To Graduate (Including Options/Electives): 78

Courses

Required Core Courses	Cr. Hours
EMS 100 - EMT - Basic Fundamentals	9
EMS 106 - EMT - Basic Procedures	2.5
EMS 109 - EMT - Basic Clinical Externship	2
EMS 200 - Paramedic I	3
EMS 205 - Paramedic Lab I	3
EMS 210 - Paramedic II	3
EMS 215 - Paramedic Lab II	4
EMS 220 - Paramedic III	4
EMS 225 - Paramedic Lab III	2
EMS 230 - Paramedic IV	4
EMS 240 - Paramedic V	3
EMS 290 - Advanced Clinical I	4
EMS 295 - Advanced Clinical II	4
EMS 299 - Advanced Clinical III	4

Required Support Courses	Cr. Hours
AH 100 - Medical Terminology*	4
AH 105 - Basic Life Support for Healthcare Providers*	0.5
AH 120 - Pharmacology for Allied Health	3
BIO 233 - Anatomy and Physiology I	4
BIO 234 - Anatomy and Physiology II	4

*Note: * 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 which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

These courses are suggestions for electives:

HPEA 117 - Weight Train & Phys Conditioning	2
HPEA 155 - Relax Techniques for Stress Management	2

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Term 1	Term 2	Term 3	Term 4
AH 105	EMS 100	AH 120	BIO 234
AH 100	EMS 106	BIO 233	POLS 131
ENG 131	EMS 109	ENG 132	CLT 100

Fall II	Winter II	Spring II
EMS 200	EMS 215	EMS 225
EMS 205	EMS 220	EMS 240
EMS 210	EMS 230	EMS 299
EMS 290	EMS 295	

CLINICAL

Basic: We require two rotations in the field, usually 8 a.m.-8 p.m., with Monday through Sunday scheduling options and two rotations in the hospital emergency room, with scheduling options available 24/7. Clinical for EMT Basics will be explained thoroughly at the EMS 109 orientation.

Paramedic: EMS clinicals are made available at the discretion of our host EMS Departments and Hospitals. Students are encouraged to keep flexible schedules during school to accommodate the advanced clinical experience. At the paramedic level (EMS clinical 290, EMS 295 and EMS 299), many of the rotations outside of the ER are daytimes and during the traditional work week. Examples of this are OR and Cardiac Cath labs. Clinical is explained, in depth, at the Paramedic orientation in August, before the FALL II start of paramedic courses.

Clinical courses, basic and advanced, show TBA in the Time/Day area of the schedule. We try very hard to individualize clinical rotations to each student's needs.

The Second Year: Sequencing for EMS 200+ level course-work is not optional. Paramedic (EMS 200+) courses begin in Fall and end in Spring without exception. Prior to that, courses can be taken in any course/semester order as long as the EMS 100, EMS 106 and EMS 109 courses are taken as co-requisites.

Students are responsible for their own transportation to clinical sites and any expenses incurred.

Henry Ford Community College

Pharmacy Technician

Certificate of Achievement - Health Careers Division   PHARM.CMLT...

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Description

The Pharmacy Technician is a Level II (Complex Skills Certificate) Certificate of Achievement program. This one-year certificate program is 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.

The Pharmacy Technician Program requires 38 credit hours to earn a certificate. Students in the program will have the opportunity to practice their skills using pharmacy-specific equipment and supplies. The program begins only once per year in the fall semester. The externship rotations are arranged and supervised by the program's technical coordinator. The program is affiliated with sixteen hospital pharmacies, thirty or more out-patient (retail and community) pharmacies, and several home infusion compounding and long-term care pharmacies.

Pharmacy Technician vs. Pre-Pharmacy Programs

HFCC offers its students two distinct pharmacy options. One option is a 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 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 is the Associate in Science Pre-Pharmacy Program 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.

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 out patient 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.

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.

Admission Requirements/Eligibility

The Pharmacy Technician program begins each year with the fall semester. Early application is essential for counseling and admission into the program. In addition to the general college application, a separate specific application for the Pharmacy Technician program is required and processed through the Admissions Office. Acceptance into the College is generally granted to most applicants, but this does not constitute nor guarantee admission to the program. Final approval to enroll in the program comes from the Health Careers division. An interview with the program's Technical Coordinator is required.

The Admission Requirements for the Pharmacy Technician Program are

1. 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 Henry Ford Community College students.
2. An ASSET/COMPASS Reading score of 43/84 or successful completion of ENG 081.
3. An ASSET/COMPASS test score sufficient to qualify for MATH 080 or higher.
4. Typing proficiency of at least 25 words per minute. This requirement may be satisfied with successful completion (C or better) of a keyboarding course.

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.

Additional Program Requirements

Note: 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:

1. Adherence to the program requirements outlined in the PHT Student Handbook.
2. Achievement of a minimum grade of C or better in all PHT and required courses.
3. 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 Health Career/Nursing Admissions Office.

The Admissions office is located in the University Transfer, Advising, and Career Counseling Center, room LRC 117B 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 Health Careers/Nursing Admissions office, room LRC 117B.
- 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.
- Applicants must also submit a student copy of all of their transcripts to the Health Careers/Nursing Admissions office.
- It is strongly recommended that you personally track your specific program application through the Health Careers/Nursing Admissions office, room LRC 117B, 313-317-6525.
- Students are strongly encouraged to monitor their program admission status via the WebAdvisor Program Evaluation link.
- 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 the HFCC application or the separate program application 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, MATH 101, 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/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

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 three 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/or eligibility, should be directed to the Pharmacy Technician Certification Board (PTCB) at 202-429-7576.

Accreditation

The Pharmacy Technician Program is accredited through the American Society of Health-System Pharmacists (ASHSP).

Accreditation Agency:
American Society of Health-Systems Pharmacists
7272 Wisconsin Avenue, Bethesda, Maryland 20814
301-657-3000

Minimum Number of Credits To Graduate (Including Options and Electives: 38

Henry Ford Community College

Courses

Required Core Courses | Cr. Hours

PHT 100 - Introduction to Pharmacy Technology	2
PHT 124 - Pharmacology I for Pharmacy Technicians	3
PHT 125 - Pharmacology II for Pharmacy Technicians	3
PHT 132 - Basic Pharmacy Software Applications	2
PHT 150 - Pharmaceutical Calculations	3
PHT 165 - Issues in Pharmacy	2
PHT 175 - Applied Pharmacy Systems	4
PHT 119 - Out Patient Pharmacy Externship	2
PHT 193 - Pharmacy Externship	3

Required Support Courses | Cr. Hours

AH 100 - Medical Terminology	4
BBA 110 - Business Language Skills	3
HCS 131 - Computers in Health Care	3
MATH 101 - Mathematics for Health Careers	4

Note:

Required Support Courses may be taken prior to acceptance into the Pharmacy Technician program.

Required Course Sequence

Fall I	Winter I	Term 3
AH 100	PHT 119	PHT 193*
PHT 100	PHT 125	
PHT 124	PHT 150	
PHT 132	PHT 165	
HCS 131	PHT 175	
MATH 101	BBA 110	

Note:

The Required Core Courses must be taken in the sequence listed. The Required Support Courses must be taken in the sequence or taken earlier in order to lighten the student's course load.

PHT 193*: See Course Description for externship options.

Students may complete this program in two years on a part-time basis; however, careful scheduling is required.

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:

1. Adherence to the program requirements outlined in the PHT Student Handbook.

2. Achievement of a minimum grade of C or better in all PHT and required courses.

3. Maintenance of an overall cumulative grade-point average of 2.0 or better.

Students are responsible for their own transportation to clinical sites and any expenses incurred.

Physical Therapist Assistant

Associate in Applied Science - Health Careers Division　　　　　　　　　　　　　　　　PTAST.AAS...
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Stephen Pedley　　　　　　　313-317-6576　　　sepedley@hfcc.edu　　　Health Careers Education Center 133H

Description

The Profession

Physical therapist assistants (PTAs) are skilled health care providers who assist in providing planned patient care programs 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.

The Program

The Physical Therapist Assistant (PTA) Program is a two year program designed to prepare individuals for employment as entry-level physical therapist assistants. 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. Students who are interested in this program should submit the separate PTA Program application as soon as possible.

Core courses in the program are only offered during the day and only in the semester as indicated in the Required Course Sequence. Support courses are usually offered in a variety of semesters and times. 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.

The student must complete a total of 76 credit hours of course work (8 pre-admission, 6 General Education, 14 Required Support Courses, and 48 required PTA courses). 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.

Career Opportunities

Opportunities for PTAs are excellent at this time and are projected to increase through at least the year 2012. 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. Information about career placement and job success is available through either the Health Careers Office or the College Placement Office.

Transfer Options/Requirements

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 HFCC. 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:

- Siena Heights University　　- University of Michigan - Dearborn

Occupational Exposure/Risk

In physical therapy, 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. 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.

Admission Requirements/Eligibility

1. Minimum GPA of 2.8 - may be satisfied by one of the following:
   - High school GPA of 2.8 OR
   - College GPA of 2.8 (if student has completed at least 12 credits excluding less than 100-level courses)
2. ASSET Reading score of 43 or better OR COMPASS Reading score of 84 or better.*
3. 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.
4. Minimum math requirement is Algebra*- may be satisfied by one of the following
   - COMPASS Algebra score of 46 or better, OR
   - Successful completion of MATH 080-Beginning Algebra, or equivalent, with a C or better.
5. Successful completion of BIO 233-Anatomy & Physiology I, or equivalent, with a C or better, within five years of admission.*
6. Successful completion of AH 100-Medical Terminology, or equivalent, with a C or better.
7. 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.

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 Health Career/Nursing Admissions Office. The Admissions office is located in the University Transfer, Advising, and Career Counseling Center, room LRC 117B 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 Health Careers/Nursing Admissions office, room LRC 117B.

Henry Ford Community College

- 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.
- Applicants must also submit a student copy of all of their transcripts to the Health Careers/Nursing Admissions office.
- It is strongly recommended that you personally track your specific program application through the Health Careers/Nursing Admissions office, room LRC 117B, 313-317-6525.
- Students are strongly encouraged to monitor their program admission status via the WebAdvisor Program Evaluation link.
- 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 the HFCC application or the separate program application may be used to determine placement on the qualified list if necessary - the earlier the better.

Additional Program Requirements
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) 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.

Program Duration Limits/Updates/Changes

All PTA 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/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

Successful passage of the PTA Licensure Exam is currently not required to practice in the State of Michigan; however, it is highly recommended. Students who are graduates of this program do qualify to sit for the National Physical Therapist Assistant Examination.

Accreditation

Commission on Accreditation in Physical Therapy Education (CAPTE), 1111 N. Fairfax St., Alexandria, VA 22314, 703-706-3245.

Minimum Number of Credits To Graduate (Including Options/Electives): 76

Courses	
Required Core Courses	**Cr. Hours**
PTA 102 - Introduction to Physical Therapy Practice	2
PTA 108 - Therapeutic Techniques I	3
PTA 118 - Exercise Techniques I	2
PTA 119 - Exercise Techniques II	4
PTA 132 - Kinesiology for PTAs	3
PTA 142 - Therapeutic Modalities	3
PTA 165 - Life Span Development for PTAs	2
PTA 225 - Applied Pathology for PTAs	4
PTA 250 - Extremity Orthopedics	4
PTA 254 - Spinal Orthopedics	3
PTA 262 - Rehabilitation of Neurological Conditions I	2
PTA 264 - Rehabilitation of Neurological Conditions II	4
PTA 270 - Physical Therapist Assistant Seminar	1
PTA 291 - Clinical Externship I	2
PTA 295 - Clinical Externship II	9

Required Support Courses	**Cr. Hours**
BIO 234 - Anatomy and Physiology II	4
PHYS 133 - Principles of Physics	4
SPC 131 - Fundamentals of Speaking	3

Complete one of the following courses:

POLS 131 - Intro. to Amer Gov't and Political Science	3
SSC 131 - A Survey of the Social Sciences	3

Note:
Anatomy and Physiology courses that were taken five or more years prior to enrollment in the PTA program must be repeated.

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Required Course Sequence

Term I	Fall I	Winter I	Fall II	Winter II
AH 100	BIO 234	PTA 118	PTA 250	PTA 270
BIO 233	ENG 132*	PTA 119	PTA 254	PTA 295
ENG 131	PTA 102	PTA 142	PTA 262	
PHYS 133	PTA 108	PTA 225	PTA 264	
SSC 131*	PTA 132	SPC 131	PTA 291	
	PTA 165			

Note:

Required support courses not taken prior to program admission must be taken as follows:

BIO 234 and PHYS 133 completed prior to Winter I Term

All others completed prior to Winter II.

Students are responsible for their own transportation to the clinical sites.

Students are encouraged to take the CLT 100 Computer Literacy Test. However, if there is a failure to pass the test, the student willl be required to successfully pass an approved course to satisfy the Computer Literacy requirement.

All PTA courses taken at HFCC must be successfuly completed within 3 consecutive years.

ENG 132*: Students may select either ENG 132 or ENG 135.

SSC 131*: Students may select either POLS 131 or SSC 131.

Henry Ford Community College

Plant Maintenance Trades

Associate in Applied Science - Skilled Trades and Apprenticeship Division
Skilled Trades and Apprenticeship   313-845-6415

PLMTT.AAS...
Technology Building 172

Description

The Associate in Applied Science for Plant Maintenance Trades is designed for industrial apprentices or other skilled trades persons who have completed or are in the last semester of related instruction requirements for journeyperson certification or the equivalent. Students may apply the credits earned in their trade programs toward the 60 credit hours required for the degree. Please see Admission Requirements/Eligibility for some of the trades eligible for this degree.

Career Opportunities
• Group Leader
• Production Foreman
• Skilled Trade Foreman
• Tool Engineer
• Service Technician
• Product Design
• Quality Control Technician
• Tool Designer

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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
• Siena Heights University
• University of Michigan - Dearborn
• Wayne State University

Admission Requirements/Eligibility

Some of the trades eligible for this degree are: Automotive/Truck Mechanic, Commercial and Residential Electrician, Industrial Electrician, Industrial Hydraulics, Industrial Truck Repair, Instrumentation, Machine Repair, Maintenance, Millwright, Plumber, Pipefitter, Power House Mechanic, Refrigeration and Air Conditioning, Sheet Metal Worker, Stationary Steam Engineer, and Welder.

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses

	Cr. Hours
A minimum of 38 credit hours is required through the Apprenticeship Program.*	38

Note:
* 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.

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Pre-Elementary Education

Associate in Arts - Other Academic Division

Deborah Zopf   313-845-6430   dzopf@hfcc.edu

Diane Green   313-845-9748   diane@hfcc.edu

PELED.AA...

Learning Technology Center 227A

Learning Resources Center 117

Description

In 2005, Phi Theta Kappa selected HFCC's Pre-Education program as one of ten community colleges nationally that best meets the needs of students who will become teachers of math and science. In addition, in 2001 the Pre-Education program was chosen as one of six exemplary community college teacher education programs in America by Recruiting New Teachers, Inc., an affiliate of the Carnegie Foundation of New York.

The Associate in Arts degree in Pre-Elementary Education requires 60 credit hours of coursework, all of which 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 transfer guide sheets in the University Transfer, Advising, and Career Counseling Center located in Learning Resources Center.

Career Opportunities

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.

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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

Course Transfer Information

Students interested in transferring should note: HPE 260 transfers to the University of Michigan-Dearborn and is a recommended course for students transferring to UM-D. HPE 140 and HPE 260 transfer to Eastern Michigan University and are recommended courses for students transferring to EMU. HPE 140, HPE 142 and HPE 260 transfer to Wayne State University and are recommended courses for students transferring to WSU. Consult the transfer guide for the university in which you wish to transfer to determine the HPE course that will apply to your bachelor's degree.

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 HFCC coursework must provide a statewide criminal record check prior to work with children in public or non-public schools.

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses	Cr. Hours
CIS 221 - Instructional Technology for Elementary Teachers	3
EDU 201 - Introduction to Education	3
EDU 202 - Introduction to Education Practicum	1
ENG 246 - Introduction to Children's Literature	3
MATH 121 - Mathematics for Elementary Teachers I	3
MATH 221 - Mathematics for Elementary Teachers II	3
PSY 131 - Introductory Psychology	3
PSY 256 - Educational Psychology	3
Complete 4 credit hours of Science classes (100-level or higher, one course must include a lab.)	4

Required Support Courses	Cr. Hours
ENG 131 - Introduction to College Writing	3
ENG 132 - College Writing and Research	3
HPE 260 - Nutrition, Health and PE for Teachers	3
Complete one of the following courses:	
HIST 151 - American History I	3
POLS 131 - Introduction to American Government and Political Science	3
Complete 5 credit hours of Humanities courses.	5

Note:

Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Associate in Arts Degree Requirements

Students must also complete the specific degree requirements for the Associate in Arts Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Arts 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate in Arts degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:

Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Henry Ford Community College

Pre-Pharmacy

Associate in Science - Health Careers Division   PHARM.AS...

Theresa Mozug   313-317-6548   tmozug@hfcc.edu   Health Careers Education Center 132J
Ronald Bodurka   313-845-9877   rbodurka@hfcc.edu   Health Careers Education Center 132

Description

The Program

This Associate in Science degree program in Pre-Pharmacy is designed as an academic transfer program for those students interested in becoming pharmacists. 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 is designed to prepare 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 HFCC 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.

Transfer Credit Guarantee

Under HFCCís Transfer Credit Guarantee, HFCC will refund the tuition for any approved transfer course passed at HFCC with at least a ìCî grade if that course work does not transfer to a college or university*. Such classes must be listed as transferable on the transfer institutionís official guide sheets on file in the University Transfer, Advising, and Career Counseling Center. To identify those select transfer courses, it is essential for students to maintain close contact with our pharmacy coordinator.

Nearly all the pharmacy schools now grant the degree of Doctor of Pharmacy (Pharm. D.), which requires at least six years or more of post-secondary study. The HFCC Pre-Pharmacy program is designed to cover the first steps in that process. The very nature of the profession requires a strong math and science foundation. Also, the admissions test that a number of programs use in their selection process requires a solid reading comprehension ability. Students with a strong academic background who are able to start with the advanced courses required in this program may complete it in two years. Those students needing additional support or prerequisite courses may require more than two years to complete the program.

*See the HFCC College Catalog for the full details of the guarantee.

Pharmacy Options

HFCC 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 HFCC is our one-year Pharmacy Technician program. The technician curriculum is designed to prepare the students for employment assisting pharmacists after completion of the program. Unlike the Pre-Pharmacy program, the courses in the Pharmacy Technician program are designed to prepare the students for employment immediately and not designed for transfer nor intended 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 studentís primary intent is on becoming a pharmacist, then the Associate in Science degree in Pre-Pharmacy program is the curriculum, which should be followed.

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.

Minimum Number of Credits To Graduate (Including Options/Electives): 71

Courses

Required Core Courses	Cr. Hours
PHT 144 - Pharmacy College Admission Testing (PCAT) and Current Issues in Pre-Pharmacy	2
BIO 152 - Biology: Cells and Molecular Biology	4
BIO 233 - Anatomy and Physiology I	4
BIO 234 - Anatomy and Physiology II	4
BIO 251 - Microbiology	5
CHEM 141 - Principles of General and Inorganic Chemistry I	5
CHEM 142 - Principles of General and Inorganic Chemistry II	5
CHEM 241 - Organic Chemistry I	4
CHEM 242 - Organic Chemistry II	4
CHEM 243 - Organic Chemistry Laboratory I	2
MATH 180 - Calculus I	5
PHYS 131 - General Physics	4

Required Support Courses	Cr. Hours
ENG 131 - Introduction to College Writing	3
ENG 132 - College Writing and Research	3
PHIL 131 - Introduction to Logic	3
POLS 131 - Introduction to American Government and Political Science	3
SPC 131 - Fundamentals of Speaking	3
Complete one of the following courses:	
BCA 140 - Software Applications	3
CIS 100 - Introduction to Information Technology	3
Complete one of the following courses:	
BEC 151 - Principles of Macro Economics	3
BEC 152 - Principles of Micro Economics	3

Associate in Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Science Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses for the may also be used to fulfill Associate in 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate in Science degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:

Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Fall I	Winter I	Spring	Summer I	Fall II	Winter II
BIO 152	CHEM 142	CHEM 241	POLS 131	BIO 233	BEC 151*
CHEM 141	ENG 132			CHEM 242	BIO 234
CIS 100*	PHT 144			MATH 180	BIO 251
ENG 131	PHYS 131			PHIL 131	CHEM 243
	SPC 131				HPE*

Note:

BEC 151*: Students may select either BEC 151 or BEC 152.

CIS 100*: Students may select either BCA 140 or CIS 100.

HPE*: Students should check with their intended transfer institutions to verify if a wellness course is required.

PHT 144 is an online course and is non-transferable.

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.

Wayne State University ONLY: BIO 134 is an acceptable alternative to BIO 233 and BIO 234.

Additional courses for Pharmacy School eligibility:

Wayne State University: BIO 3220 and BIO 4120 at WSU

Ferris State University: BIO 306 at FSU,

SOC 131 or PSY 131 at HFCC.

Henry Ford Community College

Pre-Secondary Education

Associate in Arts - Other Academic Division   PSCED.AA...
Deborah Zopf   313-845-6430   dzopf@hfcc.edu   Learning Technology Center 227A
Diane Green   313-845-9748   diane@hfcc.edu   Learning Technology Center 117

Description

In 2005, Phi Theta Kappa selected HFCC as one of ten community colleges nationally that best meet the needs of students who will become teachers of math and science (PreK-12). In addition, the Pre-Education program was chosen in 2001 as one of the six exemplary community college teacher education programs in America by Recruiting New Teachers, Inc., an affiliate of the Carnegie Foundation of New York.

The Associate in Arts degree in Pre-Secondary Education requires 60 credit hours of course work, enabling students to complete General Education requirements and begin coursework in their teaching majors and minors. Because the university teacher preparation programs vary, students are advised to consult the transfer guides for the school to which they intend to transfer when selecting courses.

Career Opportunities

Pre-Secondary Education program graduates who complete a bachelor degree with teacher certification may teach in middle, junior or high schools.

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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

Course Transfer Information

Students interested in transferring should note: HPE 260 transfers to the University of Michigan-Dearborn and is a recommended course for students transferring to UM-D. HPE 140, HPE 142 and HPE 260 transfer to Eastern Michigan University and are recommended courses for students transferring to EMU. HPE 140, HPE 142 and HPE 260 transfer to Wayne State University and are recommended courses for students transferring to WSU. Consult the transfer guide for the university in which you wish to transfer to determine the HPE course that will apply to your bachelor's degree.

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 HFCC coursework must provide a statewide criminal record check prior to work with children in public or non-public schools.

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses	Cr. Hours
CIS 223 - Instructional Technology for Secondary Teachers	3

Required Support Courses	Cr. Hours
ENG 131 - Introduction to College Writing	3
ENG 132 - College Writing and Research	3
POLS 131 - Introduction to American Government and Political Science	3
PSY 131 - Introductory Psychology	3
Complete 3 credit hours of History requirements from courses with the following prefix: HIST	3

Associate in Arts Degree Requirements

Students must also complete the specific degree requirements for the Associate in Arts Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Arts 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate in Arts degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

These coures are suggested for electives:

PSY 256 - Educational Psychology	3
PSY 260 - Adolescent Psychology	3
PSY 294 - Educational Psychology Practicum	1

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Programs of Study

Pre-Special Education

Associate in Arts - Other Academic Division

PSPED.AA...

Deborah Zopf	313-845-6430	dzopf@hfcc.edu	Learning Technology Center 227A
Diane Green	313-845-9748	diane@hfcc.edu	Learning Technology Center 117

Description

The Pre-Education program was chosen in 2001 as one of six exemplary community college teacher education programs in America by Recruiting New Teachers, Inc., an affiliate of the Carnegie Foundation of New York.

The Associate in Arts degree in Pre-Special Education requires 60 credit hours of coursework, all of which can be transferred to most teacher training institutions without loss of credit.

Career Opportunities

Pre-Special Education program graduates who complete a bachelor's 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.

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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
- Eastern Michigan University
- Michigan State University
- University of Detroit Mercy
- University of Michigan-Ann Arbor
- Wayne State University

Course Transfer Information

Students interested in transferring should note: HPE 260 transfers to the University of Michigan-Dearborn and is a recommended course for students transferring to UM-D. HPE 140, HPE 142 and HPE 260 transfer to Eastern Michigan University and are recommended courses for students transferring to EMU. HPE 140, HPE 142 and HPE 260 transfer to Wayne State University and are recommended courses for students transferring to WSU. Consult the transfer guide for the university in which you wish to transfer to determine the HPE course that will apply to your bachelor's degree.

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 HFCC coursework must provide a statewide criminal record check prior to work with children in public or non-public schools.

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses	Cr. Hours
ENG 246 - Introduction to Children's Literature	3

Required Support Courses	Cr. Hours
ENG 131 - Introduction to College Writing	3
ENG 132 - College Writing and Research	3
POLS 131 - Introduction to American Government and Political Science	3
PSY 131 - Introductory Psychology	3

Associate in Arts Degree Requirements

Students must also complete the specific degree requirements for the Associate in Arts Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Arts 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate in Arts degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

These courses are suggested for electives:

PSY 256 - Educational Psychology	3
PSY 294 - Educational Psychology Practicum	1
PSY 296 - The Exceptional Child	3

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Programs of Study

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Henry Ford Community College

Print Design

Certificate of Achievement - Fine Arts and Fitness Division   PRINTDSN.CMLT...
Kirk McLendon   313-845-6487   mclendon@hfcc.edu   MacKenzie Fine Arts Center 149
Martin Anderson   313-845-6488   mander@hfcc.edu   MacKenzie Fine Arts Center 131

Description

Print Design is one of five certificate programs offered at Henry Ford Community College. Earn a Print Design Certificate by completing the 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. Classes are offered through-out the year during the day, evening and weekend.

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. Proficiency with Photoshop, Illustrator and either QuarkXPress or InDesign is required.

An additional 24 credit hours of General Education Courses may be taken with any of the five Graphic Design certificates to obtain an Associate in Arts degree.

Minimum Number of Credits To Graduate (Including Options/Electives): 36

Courses

Required Core Courses	Cr. Hours
ART 101 - Two-Dimensional Design	3
ART 102 - Drawing 1	3
ART 107 - Photoshop	3
ART 112 - Drawing II	3
ART 121 - Art History Survey I	3
ART 130 - History of Graphic Design	3
ART 165 - Typography	3
ART 172 - Color Theory	3
ART 265 - Illustration	3

Complete one of the following courses:

ART 109 - QuarkXpress	3
ART 110 - InDesign	3

Complete one of the following courses:

ART 113 - Life Drawing I	3
ART 115 - Intermediate Perspective	3

Note:
Students may take either ART 109 or ART 110.
Students may take either ART 113 or ART 115.

Programs of Study

Process Technology

Associate in Applied Science - Skilled Trades and Apprenticeship Division   PTECH.AAS...
Miles Jarvis   313-317-6502   mjarvis@hfcc.edu   Technology Building   164B
Gary Saganski   313-845-6357   saganski@hfcc.edu   Technology Building   172D

Description

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 wastewater treatment.

It is essential for a process technician/operator to have the ability to work effectively in a team-based environment. Strong oral and written communication skills are important. The duties of a process technician/operator include maintaining a safe work environment, controlling, monitoring and troubleshooting equipment, analyzing, evaluating and communicating about data, and training others.

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
- Miscellaneous Chemicals
- Cleaning Preparations
- Paints and Allied Products
- Industrial Organic Chemicals
- Industrial Inorganic Chemicals
- 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.

Minimum Number of Credits to Graduate (Including Options/Electives): 64

Courses

Required Core Courses — Cr. Hours

Course	Cr. Hours
TAFD 125 - Industrial Safety Awareness for the Process Industry	3
TAFD 126 - Process Industry – Health, Environment and Safety	4
TAPT 100 - Introduction to Process Technology Practices	3
TAPT 110 - Process Technology – Equipment	3
TAPT 120 - Introduction to Process Instrumentation	3
TAPT 125 - Process Technology – Instrumentation II	4
TAPT 130 - Process Technology – Systems	3
TAPT 140 - Process Technology – Quality	3

Required Support Courses — Cr. Hours

Course	Cr. Hours
CHEM 131 - Principles of Chemistry	4
ENT 141 - Power Engineering I - Energy Conversion Fundamentals	2
ENT 145 - Power Engineering II - Boilers and Auxiliaries	4
TAMA 110 - Industrial Applications of Basic Math Principles	2
TAMA 120 - Industrial Applications of Algebraic Principles	3

Complete one of the following courses:

Course	Cr. Hours
TAFD 115 - Computer Applications for Skilled Trades	2
MFMT 103 - Industrial Computer Application	2

Complete 6 credit hours from the following courses:

Course	Cr. Hours
ICO 191 - Industrial Co-op	2
ICO 192 - Industrial Co-Op (2)	2
ICO 193 - Industrial Co-op	1

Complete 6 or more credit hours from one of the following areas of concentration: 6

Industrial Maintenance
TAEL 102, 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.

Note: 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

Degree-Specific Requirements
Students must also complete the specific degree requirements for the Associate in Applied Science Degree. Courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate in Arts degree, may also be used to fulfill General Education when applicable.

Elective Courses
Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100). Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Term 1	Term 2	Term 3	Term 4
ENG 131	ENT 141	ENG 132*	CHEM 131
TAFD 125	TAFD 126	TAPT 130	Gen Ed
TAMA 110	TAMA 120	TAPT 140	Co-op
TAPT 100	TAPT 120	Co-op	Note (1)*
TAPT 110	TAPT 125		
TAFD 115*			

Note:

TAFD 115*: Students may select either TAFD 115 or MFMT 103.

ENG 132*: Students may select either ENG 132 or ENG 135.

Note (1)*: Students should select courses in their chosen area of concentration from the list of courses in the Required Support Courses.

Gen Ed: Students should complete their General Education Outcome #1: American Society, Events, Institutions, and Cultures course requirement in Term 4.

Henry Ford Community College

Process Technology — Advanced

Certificate of Achievement - Skilled Trades and Apprenticeship   PTAD.CULT...

Miles Jarvis	313-317-6502	mjarvis@hfcc.edu	Technology Building	164B
Gary Saganski	313-845-6357	saganski@hfcc.edu	Technology Building	172D

Desription

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.

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 will:

- 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.

Convenient day, night and online courses mean you can keep earning while learning with instructors who work hands-on with you, sharing their knowledge, experience and skills to help you develop mastery.

Minimum Number Of Credits To Graduate (Including Options/Electives): 46

Courses

Required Core Courses	Cr. Hours
CHEM 131 - Principles of Chemistry	4
ENG 131 - Introduction to College Writing	3
ENT 141 - Power Engineering I - Energy Conversion Fundamentals*	2
ENT 145 - Power Engineering II - Boilers and Auxiliaries*	4
TAFD 125 - Industrial Safety Awareness for the Process Industry	3
TAFD 126 - Process Industry – Health, Environment and Safety	4
TAMA 110 - Industrial Applications of Basic Math Principles	2
TAMA 120 - Industrial Applications of Algebraic Principles	3
TAPT 100 - Introduction to Process Technology Practices	3
TAPT 110 - Process Technology – Equipment	3
TAPT 120 - Introduction to Process Instrumentation	3
TAPT 125 - Process Technology – Instrumentation II	4
TAPT 130 - Process Technology – Systems	3
TAPT 140 - Process Technology – Quality	3

Complete one of the following courses:

MFMT 103 - Industrial Computer Application **	2
TAFD 115 - Computer Applications for Skilled Trades	2

Note:
* Partial online course
** 100% online course

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Process Technology — Basic

Certificate of Achievement - Skilled Trades and Apprenticeship   PTAD.CSGL...

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Gary Saganski   313-845-6357   saganski@hfcc.edu   Technology Building   172D

Description

Process Technology teaches the student 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.

The Process Technology - Basic Certificate introduces the student to Process Technology and Process

Instrumentation and includes courses in industrial safety awareness and basic Math principles for industrial applications.

The courses taken in the Basic Certificate will work towards the Process Technology – Advanced Certificate and the Associate in Applied Science degree.

Minimum Number of Credits to Graduate (Including Options/Electives):   16

Courses

Required Core Courses	Cr. Hours
ENG 131 - Introduction to College Writing	3
ENT 141 - Power Engineering I - Energy Conversion Fundamentals *	2
TAFD 125 - Industrial Safety Awareness for the Process Industry	3
TAMA 110 - Industrial Applications of Basic Math Principles	2
TAPT 100 - Introduction to Process Technology Practices	3
TAPT 120 - Introduction to Process Instrumentation	3

Note:
* Partial online course

Henry Ford Community College

Radiographer

Associate in Applied Science - Health Careers Division   RADTC.AAS...
Sharon W. Wu, BA, R.T.   313-317-6595   swu@hfcc.edu   Health Careers Education Center 133C
Amanda Boye   313-317-9813   aboye@hfcc.edu   Health Careers Education Center 133A

Description

Mission and Goals of the Radiographer Program

Mission

The Mission of the HFCC Radiographer Program is to graduate competent, entry-level radiologic technologists.

Goals

1. Graduates will be clinically competent.
2. Graduates will adopt the personal and professional behaviors of an entry-level radiologic technologist.
3. Graduates will be employable and certified in sufficient number to meet the needs of the community.

The Profession

Radiologic Technology is that 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.

The Program

The Radiographer Program is a 24 month, full-time program with clinical and academic courses scheduled Monday through Friday. It is recommended that outside employment not exceed 20 hours per week.

The academic courses will be conducted at Henry Ford Community College. The radiography clinical assignments will be held at a variety of health care settings throughout the Detroit region.

Career 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.

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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:

- Siena Heights University
- University of Michigan - Dearborn

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. Exposure to latex may be 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.

Admission Requirements/Eligibility

1. 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.)
2. ASSET Reading score of 43 or better OR COMPASS Reading score of 84 or better.
3. ASSET or COMPASS Writing Test score sufficient for placement in ENG 131. This requirement may also be fulfilled by successful completion of required developmental English courses.
4. Math: ASSET or COMPASS Algebra score 46 or better OR MATH 080 or MATH 100 with a C grade 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. Basic occupational experience: May be fulfilled with one of the following:
   a. Completion of MOA 160 with a C grade or better. It is highly recommended that students take this course.
   b. Twenty hours of observation in a radiography department at a hospital or clinic with a letter of support from a supervisor.
   c. Successful completion of a high school health careers course.

Summer prior to starting the program: CPR certification American Heart Association, Basic Life Suppport, Health Care Provider. Fulfilled by taking AH 105-Basic Life Support AND students must attend a program orientation prior to acceptance into the RAD program.

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. Apply up front and start taking prerequisites.

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 Health Career/Nursing Admissions Office located in the Counseling Office, room LRC 117B and in the Health Careers Office 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 Health Careers/Nursing Admissions office, room LRC 117B.
- 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.
- Applicants must also submit a student copy of all of their transcripts to the Health Careers/Nursing Admissions Office.
- It is strongly recommended that you personally track your specific program application through the Health Careers/Nursing Admissions Office, room LRC 117B, 313-317-6525.
- Students are strongly encouraged to monitor their program admission status via the WebAdvisor Program Evaluation link.
- 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 the HFCC application or the separate program application may be used to determine placement on the qualified list if necessary, the earlier the better.

Additional Program Requirements

Health Appraisal Form

Each Radiographer student will be required to 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 participating 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

HFCC 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.

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 (AART) certification examination are required to meet all general and ethical qualifications of the AART.

A list of qualifications is available upon request at AART 651-687-0048 or at www.arrt.org.

Health Care Coverage

It is the student's resopnsibility 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:
- PDA or Smart Phone and a 2GB memory card
- PDA must be Palm TX
- Smart Phone must have a Palm Operating System

Radiology students begin a continuous twenty-four-month clinical rotation during the first semester of the program. Clinical time is 8:00 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
Monday/Wednesday/Friday

Fourth Semester: Summer
Monday - Friday

Fifth Semester: Fall
Tuesday/Thursday/Friday

Sixth Semester: Winter
Tuesday/Thursday/Friday

Seventh Semester: Spring
Monday/Tuesday/Thursday/Friday

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.arrt.org.

Accreditation

The Joint Review Committee on Education in Radiologic Technology, 20 N. Wacker Drive, Suite 2850, Chicago, IL 60606-3182, 312-704-5300, accredits the program, www.jrcert.org.

Minimum Number of Credits To Graduate (Including Options/Electives): 71.5

Henry Ford Community College

Courses

Required Core Courses — Cr. Hours

Course	Cr. Hours
RAD 101 - Introduction to Radiography	1
RAD 109 - Clinical Education I	3
RAD 111 - Principles of Radiation Protection	2
RAD 114 - Basic Patient Care in Radiography	3
RAD 118 - Radiographic Positioning I	3
RAD 158 - Radiographic Positioning II	3
RAD 161 - Imaging Equipment	1
RAD 171 - Principles of Exposure and Film Evaluation	3
RAD 188 - Radiographic Positioning III	2.5
RAD 190 - Clinical Education II	3
RAD 194 - Clinical Education III	1
RAD 197 - Clinical Education IV	3
RAD 209 - Clinical Education V	3
RAD 214 - Pathology and Cross Sectional Anatomy*	2
RAD 227 - Radiographic Positioning IV	3
RAD 257 - Radiographic Positioning V	2
RAD 267 - Radiation Physics*	4
RAD 270 - Image Acquisition and Display	3
RAD 274 - Radiation Biology	2
RAD 284 - Principles of Computed Tomography**	1
RAD 286 - Registry Review	2
RAD 290 - Clinical Education VI	3
RAD 295 - Clinical Education VII	2

Note:
* 50% Online Course
** 100% Online Course

Required Support Courses — Cr. Hours

Course	Cr. Hours
BIO 234 - Anatomy and Physiology II	4

Complete one the following courses:

Course	Cr. Hours
CLT 100 - Computer Literacy Test	0
HCS 131 - Computers in Health Care	3

Complete one the following courses:

Course	Cr. Hours
POLS 131 - Introduction to American Government and Political Science	3
SSC 131 - A Survey of the Social Sciences	3

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Fall I	Winter I	Spring I	Summer I
RAD 101	BIO 234	HCS 131*	RAD 197
RAD 109	RAD 158	RAD 188	
RAD 111	RAD 161	RAD 194	
RAD 114	RAD 171		
RAD 118	RAD 190		
	RAD 257		

Fall II	Winter II	Spring II	
RAD 209	ENG 131	ENG 132*	
RAD 214	POLS 131*	RAD 284	
RAD 227	RAD 270	RAD 286	
RAD 267	RAD 274	RAD 295	
	RAD 290		

Note:
The required core courses must be taken in sequence. The required support courses can be taken in sequence or taken earlier in order to lighten the student's course load. Support courses for the RAD program may be taken earlier than indicated in the program of study, but not later.

Students must receive at least a C in all RAD courses, including the last course, RAD 286-Registry Review, to graduate from the program.

It is highly recommended that students take support courses prior to formal admission to the RAD program to lighten the class load while in the program.

ENG 132*: Students may select either ENG 132 or ENG 135.

HCS 131*: Students may select either CLT 100 or HCS 131. If HCS 131 is selected, student must successfully complete HCS 131 with a C grade or better.

POLS 131:* Students may select either POLS 131 or SSC 131.

Religious Studies

Associate in Arts - Social Science Division   RELIGSTUDIES.AA...

William Secrest   313-845-6441   wsecrest@hfcc.edu   Reuther Liberal Arts Building 104
Kim Schopmeyer   313-845-6443   kschop@hfcc.edu   Reuther Liberal Arts Building 108

Description

The Religious Studies program provides a broad overview of the world's 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. Completion of the associate degree in Religious Studies constitutes the first two years of college coursework.

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.

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses	Cr. Hours
ENG 245 - The Bible as Literature	3
WR 131 - Comparative Religion	3

Complete one of the following courses:

WR 130 - Introduction to the Study of Religion	3
WR 240 - Myths and Symbols: Deciphering the Messages of Sacred Traditions	3

Complete one of the following courses:

WR 232 - Western Religions: Judaism, Christianity and Islam	3
WR 233 - Eastern Religions	3

Required Support Courses	Cr. Hours
ANTH 131 - Introduction to Anthropology	3
ENG 132 - College Writing and Research	3
GEOG 132 - World Regional Geography	3
HIST 111 - Ancient World History	3
PHIL 133 - History of Philosophy to the 18th Century	3

Complete one of the following courses:

POLS 131 - Intro. to American Gov't and Political Science	3
SOC 131 - Introduction to Sociology	3
SSC 131 - A Survey of the Social Sciences	3

Complete one of the following courses:

BCA 140 - Software Applications	3
CIS 100 - Introduction to Information Technology	3

Associate in Arts Degree Requirements

Students must also complete the specific degree requirements for the Associate in Arts Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses for the may also be used to fulfill Associate in Arts 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree as well as courses used to fulfill requirements of the Associate in Arts degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

These courses are suggestions for electives:

ANTH 152 - Middle Eastern Peoples and Cultures	3
ANTH 153 - Introduction to Archeology	3
ARA 131 - Elementary Modern Standard Arabic I	4
ART 224 - Art of Islam	3
GER 131 - Elementary German I	4
HIST 112 - Early Modern World History	3
PHIL 131 - Introduction to Logic	3
PHIL 135 - History of Modern Philosophy	3
POLS 200 - Introduction to Peace and Conflict Studies	3
SSC 131 - A Survey of the Social Sciences	3
SWC 131 - Science In Western Culture	3

Note:

Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Henry Ford Community College

Respiratory Therapist

Associate in Applied Science - Health Careers Division | RESTH.AAS....
Debra Szymanski MA, RRT   313-317-6580   dszyman@hfcc.edu   Health Careers Education Center 133F
M. Sue Waters MAT, RRT   313-317-6591   mswaters@hfcc.edu   Health Careers Education Center 133E

Description

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.

The Program
The respiratory therapist program provides a blend of classroom and clinical experiences. Program faculty work closely with clinical sites and employers to prepare graduates for today's rapidly changing health care environment. 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. The technical and clinical courses will be conducted during the day. Support courses such as ENG 131 generally are available during both days and evenings.

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. Information on the exam process is available through the NBRC at www.nbrc.org.

The student must complete a total of 77-80 credits of course work (12 credits pre-admission coursework, 6 credits required General Education coursework, 7-10 credits required support courses and 49 credits required RTH courses). Due to the number of credit hours required for the program completion and the intensity of the program students are encouraged to complete as many of the support/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 other required support/General Education courses.

Career 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 2012. The American Association for Respiratory Care (AARC) offers a wide variety of information on a career in Respiratory Therapy at www.aarc.org.

Transfer Options/Requirements
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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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:
- Siena Heights University
- University of Michigan - Dearborn

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.

Admission Requirements/Eligib!lity
RTH Program Admission Requirements
1. Minimum College GPA of 2.70 (4.0 scale) - (if student has completed at least 12 credit hours excluding lower than 100 level courses) OR high school grade point average of 2.70 (4.0 scale), if no college GPA has been established.
2. ASSET Reading score of 43 or better OR COMPASS Reading score of 84 or better.
3. 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.
4. 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.
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 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 Health Career/Nursing Admissions office located in the Counseling Office, room LRC 117 B and in the Health Careers Office 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 Health Careers/Nursing Admissions office, room LRC 117 B.
- 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.
- Applicants must also submit a student copy of all of their transcripts to the Health Careers/Nursing Admissions office.
- It is strongly recommended that you personally track your specific program application through the Health Careers/Nursing Admissions office, room LRC 117B, 313-317-6525.
- Students are strongly encouraged to monitor their program admission status via the WebAdvisor Program Evaluation link.
- 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 the HFCC application or the separate program application may be used to determine placement on the qualified list if necessary - the earlier the better.

Additional Program Requirements

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. One month after classes start in the fall, the fee is refunded to the student if the student is still active in the program.

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 which lists the specific physical and mental health requirements as well as the environmental conditions of this occupation is available through the Health Careers Office. Students requiring accommodation should directly contact the HFCC Assisted Learning Services.

All students enrolled in the RTH program must be in good physical and mental health as determined by a physician and validated on the Health Careers Health Appraisal Form. Each student must have a physical examination before admission to clinical rotations. Additionally, students must demonstrate evidence of current immunizations and provide titers to show immunity to illnesses specified on the Health Appraisal form. It is the student's responsibility to have health care coverage (insurance) in place during the entire 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 is 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.

Program Duration Limits/Updates/Changes .

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 for any current updates.

All RTH courses taken at HFCC must be successfully completed with three consecutive calendar years.

Each Respiratory Therapist course may be repeated only once. The Computer Literacy General Education Requirement is to be completed no later than Fall Term I. See the Required Support Course Sequence.

Registy/Certification/Licensure Exam Information

Successful completion of the program of study qualifies graduates to receive an Associate of Applied Science degree and to apply to take both the Entry-Level Certification Exam and the Advanced Practitioner Examination offered by the National Board of Respiratory Care (NBRC). The successful graduate of the program is eligible to take the national exam and to apply for state licensure as a respiratory therapist. Graduates of the program are eligible to sit for the national accreditation exams for the designation of the Registered Respiratory Therapist (RRT).

Accreditation

The Respiratory Therapist program is accredited by the Commission on Accreditation for Respiratory Care (C0ARC).

Commission on Accreditation for Respiratory Care (C0ARC)

1248 Harwood Road, Bedford, Texas 76021-4244

817-283-2835, www.coarc.com.

Minimum Number Of Credits To Graduate (Including Options/Electives): 65

Courses	
Required Core Courses	**Cr. Hours**
RTH 100 - Principles of Respiratory Care	3
RTH 125 - Respiratory Care Procedures I	5
RTH 160 - Respiratory Therapy Pharmacology	2
RTH 175 - Respiratory Care Procedures II	5
RTH 180 - RT Clinical Sciences	3
RTH 194 - Clinical Therapeutics	2
RTH 210 - Ventilator Management I	4
RTH 216 - Cardiopulmonary Testing	2
RTH 235 - Neonatal and Pediatric Respiratory Care	3
RTH 245 - Applied Respiratory Care	2
RTH 275 - Therapeutic Management	1
RTH 285 - Advanced Respiratory Concepts	3
RTH 291 - Advanced Clinical Therapeutics	4
RTH 292 - Clinical Practicum	5
RTH 294 - Advanced Clinical Practicum	8

Note:
Each respiratory therapist course may be repeated only once. If any respiratory therapist course is failed after two attempts, the student will no longer qualify for the HFCC Respiratory Therapy program.

Henry Ford Community College

Required Support Courses	Cr. Hours
BIO 234 - Anatomy and Physiology II	4

Complete one of the following courses:

BCA 140 - Software Applications	3
CLT 100 - Computer Literacy Test	0
HCS 131 - Computers in Health Care	3

Complete one of the following courses:

POLS 131 - Introduction to American Government and Political Science	3
SSC 131 - A Survey of the Social Sciences	3

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. It should be noted that courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:

Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Recommended Course Sequence

Required Course Sequence

Fall I	Winter I	Spring I	Summer I	Fall II	Winter II
CLT 100*	BIO 234	RTH 210	ENG 132*	RTH 216	RTH 275
ENG 131	RTH 160	RTH 291		RTH 235	RTH 285
POLS 131*	RTH 175			RTH 245	RTH 294
RTH 100	RTH 180			RTH 292	
RTH 125	RTH 194				

Note:
Required support and/or General Education courses not taken prior to program admission must be taken as listed in the course sequence.

CLT 100*: The General Education Outcome #2: Computer Literacy course requirement is to be completed no later than the first semester of the RTH ptrogram.

ENG 132*: Students may select either ENG 132 or ENG 135.

POLS 131*: Students may select either POLS 131 or SSC 131.

Students are responsible for their own transportation to the clinical sites.

Small Business Management & Entrepreneurship

Certificate of Achievement   Business and Economics Division   SMBUSMGMT.CMULT...
Corinne Asher   313-845-9867   casher@hfcc.edu   Reuther Liberal Arts Building 325
Elaine Saneske   313-845-9704   esaneske@hfcc.edu   Reuther Liberal Arts Building 328

Description

Henry Ford Community College's certificate in Small Business Management & Entrepreneurship assists in preparing 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 in Business degree in Management.

Minimum Number of Credits To Graduate (Including Options/Electives): 31

Courses

Required Core Courses	Cr. Hours
BBA 131 - Introduction to Business	4
BBA 153 - Customer Service	3
BBA 252 - Principles of Marketing	3
BCA 140 - Software Applications	3
BFN 141 - Personal Finance	3
MGT 230 - Principles of Management	3
MGT 231 - Supervision and Teambuilding	3
MGT 241 - Small Business Management & Entrepreneurship	3

Complete one of the folowing courses:

BAC 110 - Practical Accounting	4
BAC 131 - Principles of Accounting	4

Complete one of the following courses:

BAC 141 - Computerized Accounting-QuickBooks	2
BAC 146 - Computerized Accounting-Peachtree	3

Recommended Course Sequence

Recommended Sequence 1

Term 1	Term 2
BAC 110*	BAC 141*
BBA 131	BBA 153
BCA 140	BBA 252
MGT 230	BFN 141
MGT 231	MGT 241

Note:
BAC 110*: Students may select either BAC 110 or BAC 131.
BAC 141*: Students may select either BAC 141 or BAC 146.

Supervision

Certificate of Achievement - Business and Economics Division   BADMSUPERV.CMULT...
Corinne Asher   313-845-9867   casher@hfcc.edu   Reuther Liberal Arts Building 325
Elaine Saneske   313-845-9704   esaneske@hfcc.edu   Reuther Liberal Arts Building 328

Description

Henry Ford Community College's certificate in Supervision assists students 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 in Business degree in Management.

Minimum Number of Credits To Graduate (Including Options/Electives): 16

Courses

Required Core Courses	Cr. Hours
MGT 230 - Principles of Management	3
MGT 231 - Supervision and Teambuilding	3
MGT 240 - Creative Problem Solving	3
BBA 131 - Introduction to Business	4
BBA 133 - Business Behavior and Communication	3

Surgical Technologist

Associate in Applied Science - Health Careers Division

SURTC.AAS...

Dorothy C. Rothgery, MA, CST/CFA 313-317-6598 drothger@hfcc.edu Health Careers Education Center 132K

Ronald Bodurka 313-845-9877 rbodurka@hfcc.edu Health Careers Education Center 132

Description

The Surgical Technologist is an Associate in Applied Science degree program designed to prepare 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. This program meets Standard Program Guidelines for Clinical Case Requirements. 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 therapeutic and diagnostic procedures.

Career Opportunities

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.

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 HFCC Placement Office.

A representative job profile for a surgical technologist can be obtained through the Health Careers Office. Students requiring accommodation should directly contact the HFCC Assisted Learning Services.

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

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.

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.

Admission Requirements/Eligibility

The Surgical Technology (SRG) core program begins in the fall semester. In addition to the HFCC college application, a separate SRG application is required and processed through the Admissions Office. Early application is advised for counseling and admission to the program. Students are accepted into the program on a "first-qualified, first-accepted" basis. Acceptance into the college does not constitute nor guarantee admission to the program. Final approval to enroll in the program comes from the Health Careers Division.

SRG Program Admission Criteria
1. 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).
2. ASSET Reading score 43 or better OR COMPASS Reading score 84 or better
3. BIO 135 or college equivalent with C or higher.
4. ASSET or COMPASS Writing score sufficient for placement in ENG 131. This requirement may also be fulfilled by successful completion of required developmental English courses.

Students in the SRG program are expected to meet the same physical and mental requirements as a surgical technologist. A representative SRG Job Profile lists the specific physical and mental requirements as well as the environmental conditions of this occupation.

All students enrolled in the SRG program must be in good physical and mental health as determined by a physician and validated on the Health Careers Health Appraisal form. Each student must have a physical examination before admission to clinical classes. Additionally, students must demonstrate evidence of current immunizations and provide titers to show immunity to illnesses specified on the Health Careers Health Appraisal form. Students are required to have basic health insurance coverage during their 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 the SRG 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.

Additional Program Requirements

Required core courses can be taken only after acceptance into the SRG Program through the Health Careers Division.

Required support courses may be taken prior to admission to the program.

A minimum grade of C is required in all courses.

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 Health Career/Nursing Admissions office located in the Counseling Office, room LRC 117B, and in the Health Careers Office 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 Health Careers/Nursing Admissions office, room LRC 117B.
- 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.
- Applicants must also submit a student copy of all of their transcripts to the Health Careers/Nursing Admissions office.
- It is strongly recommended that you personally track your specific program application through the Health Careers/Nursing Admissions office, room LRC 117B, 313-317-6525.
- Students are strongly encouraged to monitor their program admission status via the WebAdvisor Program Evaluation link.
- 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 the HFCC application or the separate program application may be used to determine placement on the qualified list if necessary. The earlier you apply the better.

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.

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/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.

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).

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.

Minimum Number of Credits To Graduate (Including Options/Electives): 62.5

Courses

Required Core Courses	Cr. Hours
SRG 101 - Introduction to Surgical Technology	4
SRG 120 - Surgical Procedures I	4
SRG 140 - Surgical Techniques I	2
SRG 150 - Surgical Techniques II	2
SRG 160 - Surgical Pharmacology	3
SRG 209 - Clinical Externship I	5
SRG 220 - Surgical Procedures II	4
SRG 240 - Issues in Surgical Technology	4
SRG 290 - Clinical Externship II	8

Required Support Courses	Cr. Hours
AH 100 - Medical Terminology	4
AH 105 - Basic Life Support for Healthcare Providers	0.5
BIO 233 - Anatomy and Physiology I	4
BIO 234 - Anatomy and Physiology II	4
HCS 103 - Employment Skills for Health Careers	1
HCS 124 - Basic Health Assessment	1
HCS 131 - Computers in Health Care	3

Complete one of the following courses:

POLS 131 - Intro. to American Gov't and Political Science	3
SOC 131 - Introduction to Sociology	3
SSC 131 - A Survey of the Social Sciences	3

Note:

Students must follow Course Sequencing.

HCS 131 is a Surgical Technologist program requirement and also meets the HFCC General Education requirement for Computer Literacy.

Associate in Applied Science Degree Requirements

Students must also complete the specific degree requirements for the Associate in Applied Science Degree which are listed on page 18. It should be noted that courses listed in the Required Core Courses and/or 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 which are listed on page 17. Courses listed in the Required Core Courses and/or 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 degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note: **Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.**

Henry Ford Community College

Recommended Course Sequence

Fall I	Winter I	Spring I	Fall II	Winter II
AH 100	BIO 234	AH 105	ENG 132*	POLS 131*
BIO 233	ENG 131	HCS 131	SRG 209	SRG 240
HCS 103	SRG 120	SRG 150	SRG 220	SRG 290
HCS 124	SRG 140			
SRG 101	SRG 160			

Note:

ENG 132*: Sudents may select either ENG 132 or ENG 135.

POLS 131*: Students may select either SOC 131 or POLS 131 or SSC 131.

AH 105 should be taken between May and August just prior to beginning the second year of the program.

If the student has not already completed the required courses listed upon entering the program, they MUST follow the sequence listed. A minimum grade of C is required in all courses.

Telecommunication

Associate in Arts - Fine Arts and Fitness Division   TELEC.AA...

Susan McGraw   313-845-9842   scmcgraw@hfcc.edu   MacKenzie Fine Arts Center 129
Martin Anderson   313-845-6488   mander@hfcc.edu   MacKenzie Fine Arts Center 131

Description

The Associate in Arts degree in Telecommunication is 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.

Career Opportunities
- Management: Producer, Director, or Promotions Coordinator
- Production: Writer, Director, Camera Operator, or Audio/Video Editor
- Talent: Announcer, Broadcast Journalist, or Performer

Transfer Options/Requirements

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 HFCC. Articulation agreements ensure that graduates from HFCC can transfer to another institution and work towards a bachelor's degree without a loss of coursework completed at HFCC. Transfer guides denote the transferability of HFCC 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
- Lawrence Technological University
- Siena Heights University
- University of Michigan – Dearborn

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses

	Cr. Hours
TCM 131 - Introduction to Telecommunication	3
TCM 132 - Film History and Criticism	3
TCM 151 - Digital Audio Editing	1
TCM 157 - Digital Video Editing	1
TCM 241 - Media Writing	3
TCM 243 - Media Performance	3
TCM 251 - Audio Production	3
TCM 257 - Video Production I	3
TCM 261 - Broadcast Journalism	3

Required Support Courses

	Cr. Hours

Complete one of the following courses:

SPC 131 - Fundamentals of Speaking	3
SPC 145 - Interpersonal Communication	3

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.

Associate in Arts Degree Requirements

Students must also complete the specific degree requirements for the Associate in Arts Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Arts 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 which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate in Arts degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

These courses are suggestions for electives:

BBA 131 - Introduction to Business	4
BBA 252 - Principles of Marketing	3
BLW 253 - Business Law and the Legal Environment	4

Note:
Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Henry Ford Community College

Theatre

Associate in Arts - Fine Arts and Fitness Division　　　　　　　　DRTHE.AA...

George Popovich　　　　313-845-6478　　　　popovich@hfcc.edu　　　　MacKenzie Fine Arts Center 127
Martin Anderson　　　　313-845-6488　　　　mander@hfcc.edu　　　　MacKenzie Fine Arts Center 131

Description

The Associate in Arts degree in Theatre is available to those students who wish to specialize in the Theatrical Arts. This degree program provides a sound basis for understanding the theory and practice of the theatrical arts and offers opportunities for experience through a curriculum of pre-professional training in theory, performance, and production.

Minimum Number of Credits To Graduate (Including Options/Electives): 60

Courses

Required Core Courses	Cr. Hours
STH 131 - Theatre Appreciation	3
STH 132 - Acting I	3
STH 142 - Theatrical Production	3
STH 150 - Stagecraft	3
STH 238 - Theatre History	3
STH 256 - Directing	3
STH 281 - Theatre Capstone	1

Complete one of the following courses:

STH 133 - Technical Theatre	3
STH 140 - One Act Play Production	3
STH 149 - Children's Theatre Production	3
STH 242 - Advanced Theatrical Production	3
STH 259 - Experimental Theatre Production	3

Associate in Arts Degree Requirements

Students must also complete the specific degree requirements for the Associate in Arts Degree which are listed on page 18. Courses listed in the Required Core Courses and/or Required Support Courses may also be used to fulfill Associate in Arts Degree Requirements when applicable. Developmental courses (developmental courses are those numbere

General Education

Students must also complete the General Education requirements of the College which are listed on page 17. Courses listed in the Required Core Courses and/or Required Support Courses for this degree, as well as courses used to fulfill requirements of the Associate in Arts degree, may also be used to fulfill General Education when applicable.

Elective Courses

Complete as many elective credits as necessary to meet the minimum number of credit hours to receive your associate degree. No more than six (6) credit hours may come from developmental courses (courses numbered below 100).

Note:

Students considering transferring to a four-year institution are advised to consult current transfer and articulation guides to ensure that appropriate courses are selected.

Web Design

Certificate of Achievement - Fine Arts and Fitness Division   ARTSGPHWEB.CMLT...

Kirk McLendon   313-845-6487   mclendon@hfcc.edu   MacKenzie Fine Arts Center 149
Martin Anderson   313-845-6488   mander@hfcc.edu   MacKenzie Fine Arts Center 131

Description

Web Design is one of five new Certificates of Achievement offered at HFCC. Earn a Web Design Certificate by completing the 37 credit hours of core courses. Students may complete an additional 23 credit hours of General Education and Elective courses to earn an Associate in Arts degree. Classes are offered throughout the year during the day, evening, and weekend.

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, ImageReady, and Dreamweaver are among the programs web designers need to know.

**Minimum Number of Credits To Graduate
(Including Options/Electives): 37**

Courses

Required Core Courses	Cr. Hours
ART 101 - Two-Dimensional Design	3
ART 102 - Drawing 1	3
ART 107 - Photoshop	3
ART 108 - Flash	3
ART 112 - Drawing II	3
ART 130 - History of Graphic Design	3
ART 165 - Typography	3
ART 172 - Color Theory	3
ART 245 - Interactive Design	3
ART 255 - Animation Basics	3
ART 275 - Advanced Projects	3
CIS 126 - XHTML/HTML/CSS Web Programming	4
ART 275 - Advanced Projects	3

Henry Ford Community College

Welding Technology — Advanced for Certification

Certificate of Achievement - Skilled Trades and Apprenticeship Division   TAEDMJFWLD.CMLT...
Kevin Ridge   313-317-4136   karidge@hfcc.edu   Technology Building 165C
Skilled Trades and Apprenticeship   313-845-6415   Technology Building 172

Description

The courses in this certificate will aid in developing the necessary skills 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.

This certificate adds three new courses - TAMJ 125, TAMJ 230, and TAMJ 235 - to the Tool and Die Welding certificate.

Minimum Number of Credits To Graduate (Including Options/Electives): 28

Courses

Required Core Courses	Cr. Hours
TADV 100 - Basic Print Reading	2
TAFD 150 - Applied Technology	3
TAIM 100 - Industrial Materials	3
TAMA 110 - Industrial Applications of Basic Math Principles	2
TAMJ 110 - Materials Joining and Fabrication Fundamentals	3
TAMJ 115 - MJ & F: Advanced Techniques	2
TAMJ 120 - MJ &F: GTAW/GMAW Techniques	2
TAMJ 125 - MJ & F: ASME Pipe and Pressure Vessel Welding	2
TAMJ 145 - MJ & F: Advanced Gas Torch Techniques	2
TAMJ 230 - MJ & F: ASME Pipe and Pressure Vessel Certification	2
TAMJ 235 - MJ & F: GTAW and GMAW Certification	2
TAMJ 240 - MJ & F: Tool and Die Welding	3

Welding Technology — Basic

Certificate of Achievement - Skilled Trades and Apprenticeship Division   TAEDMJFAB.CSGL...
Kevin Ridge   313-317-4136   karidge@hfcc.edu   Technology Building 165C
Skilled Trades and Apprenticeship   313-845-6415   Technology Building 172

Description

The manufacturing and service industries use welding as a means to build and repair products. The courses included in this certificate focus 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 an entry job position.

With the successful completion of two additional courses, TAMJ 120 and TAFD 150, added onto this Welding Technology—Basic Certificate the student will earn the Welding Technology—GTAW/ GMAW Certificate of Achievement.

Minimum Number of Credits To Graduate (Including Options/Electives): 11

Courses

Required Core Courses	Cr. Hours
TADV 100 - Basic Print Reading	2
TAMA 110 - Industrial Applications of Basic Math Principles	2
TAMJ 110 - Materials Joining and Fabrication Fundamentals	3
TAMJ 115 - MJ & F: Advanced Techniques	2
TAMJ 145 - MJ & F: Advanced Gas Torch Techniques	2

Welding Technology — GTAW/GMAW

Certificate of Achievement - Skilled Trades and Apprenticeship Division TAEDMJGWLD.CMLT...
Kevin Ridge   313-317-4136   karidge@hfcc.edu   Technology Building 165C
Skilled Trades and Apprenticeship   313-845-6415   Technology Building 172

Description

The courses in this certificate extend 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.

The student will earn this Welding Technology—GTAW/GMAW Certificate of Achievement, with the successful completion of two additional courses, TAMJ 120 and TAFD 150, added onto the Welding Technology—Basic Certificate.

**Minimum Number of Credits To Graduate
(Including Options/Electives): 16**

Courses

Required Core Courses	Cr. Hours
TADV 100 - Basic Print Reading	2
TAFD 150 - Applied Technology	3
TAMA 110 - Industrial Applications of Basic Math Principles	2
TAMJ 110 - Materials Joining and Fabrication Fundamentals	3
TAMJ 115 - MJ & F: Advanced Techniques	2
TAMJ 120 - MJ & F: GTAW/GMAW Techniques	2
TAMJ 145 - MJ & F: Advanced Gas Torch Techniques	2

Welding Technology — Tool and Die

Certificate of Achievement - Skilled Trades and Apprenticeship Division TAEDMJTWLD.CMLT...
Kevin Ridge   313-317-4136   karidge@hfcc.edu   Technology Building 165C
Skilled Trades and Apprenticeship   313-845-6415   Technology Building 172

Description

The courses in this certificate extend the knowledge and skill development acquired in the two previous certificates. The courses cover a highly specialized area in welding concerning 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.

The students can earn multiple Certificates of Achievements in Welding Technology. The sequential order of certificates includes Welding Technologies—Basic Certificate, Welding Technology—GTAW/GMAW Certificate, the Welding Technology—Tool and Die Certificate.

This certificate adds two new courses - TAMJ 240 and TAIM 100 - to the GTAW/GMAW certificate.

**Minimum Number of Credits To Graduate
(Including Options/Electives): 22**

Courses

Required Core Courses	Cr. Hours
TADV 100 - Basic Print Reading	2
TAFD 150 - Applied Technology	3
TAIM 100 - Industrial Materials	3
TAMA 110 - Industrial Applications of Basic Math Principles	2
TAMJ 110 - Materials Joining and Fabrication Fundamentals	3
TAMJ 115 - Materials Joining and Fabrication: Advanced Techniques	2
TAMJ 120 - MJ & F: GTAW/GMAW Techniques	2
TAMJ 145 - MJ & F: Advanced Gas Torch Techniques	2
TAMJ 240 - MJ & F: Tool and Die Welding	3

Henry Ford Community College

Anthropology

Area of Study - Social Science Division

Nabeel Abraham	313-845-6460	nabraham@hfcc.edu	Reuther Liberal Arts Building 103E
Kim Schopmeyer	313-845-6443	kschop@hfcc.edu	Reuther Liberal Arts Building 108

Description

Anthropology is the study of humankind – its origins, evolution, and diverse cultures. ANTH 131-Introduction to Anthropology 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, take ANTH 152-Peoples and Cultures of the Middle East, fulfilling a foreign culture requirement at many four-year institutions. All anthropology courses are transferable.

Anthropology courses at the 100-level or above fulfill the graduation requirement for Associate in Arts degrees, Social Sciences.

Take a look at our new course, ANTH 153-Introduction to Archaeology, in the course descriptions section.

Astronomy

Area of Study - Science Division

Michael LoPresto	313-845-9722	lopresto@hfcc.edu	Science Building 16
Dr. Charles Jacobs	313-845-9734	cjacobs@hfcc.edu	Science Building 107

Description

HFCC offers three courses in astronomy. ASTR 131-Descriptive Astronomy and ASTR 133-Introductory Astronomy Laboratory 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-General Astronomy serves as a more in-depth introduction to astronomy. It can 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 and ASTR 133, as well as PHYS 231 and PSYS 232.

Dance

Area of Study - Fine Arts and Fitness Division

Diane Mancinelli	313-845-6314	dmancin@hfcc.edu	Athletic Memorial Building 9
Martin Anderson	313-845-6488	mander@hfcc.edu	MacKenzie Fine Arts Center 131

Description

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 HFCC instructors and participation in the Full Circle Dance Company.

Many guest dance artists and choreographers have worked at HFCC 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 HFCC students and provides intensive training and performance opportunities. Among these is the American College Dance Festival, which HFCC 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.

Economics, Finance & Investing

Area of Study - Business and Economics Division

Jared Boyd	313-845-9697	jpboyd@hfcc.edu	Reuther Liberal Arts Building 304
Elaine Saneske	313-845-9704	esaneske@hfcc.edu	Reuther Liberal Arts Building 328

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 personally 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.

English

Area of Study - English and World Language Division

Katherine Grahl	313-845-6327	kathg@hfcc.edu	Reuther Liberal Arts Building 208

Description

The English Division 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 the 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) are offered every semester to provide students the opportunity to improve their basic skills and ensure their success at Henry Ford Community College. These courses are among those closely tied to the Learning Laboratory, where students can get instruction on an individual basis. Students' initial placement scores determine which courses are appropriate, given their existing reading and writing scores. Students who score below 25 on the COMPASS test will not be admitted to developmental courses.

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 Division offers two developmental writing courses for such students (ENG 091 and ENG 092), and two developmental reading courses (ENG 078 and ENG 082.) Enrollment is restricted in the writing courses in order to ensure that these students receive individual attention.

Henry Ford Community College

Geography

Area of Study - Social Science Division

Tarek Joseph	313-845-6402	tjoseph@hfcc.edu	Learning Technology Center 221
Kim Schopmeyer	313-845-6443	Kschop@hfcc.edu	Reuther Liberal Arts Building 108

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.

Geography courses 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 degrees, Social Sciences.

Geography courses may be taken in any order, fulfill Social Science credits, and are fully transferable to four-year institutions.

Geology

Area of Study - Science Division

Dr. Brian Kirchner	313-317-1527	bkirchner@hfcc.edu	Science Building 8
Dr. Charles Jacobs	313-845-9734	cjacobs@hfcc.edu	Science Building 107

Description

HFCC 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.

History

Area of Study - Social Science Division

Pamela Sayre	313-845-6396	psayre@hfcc.edu	Reuther Liberal Arts Building 103
Kim Schopmeyer	313-845-6443	kschop@hfcc.edu	Reuther Liberal Arts Building 108

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.

Areas of Study

Liberal Arts

Area of Study - Other Academic Divisions

University Transfer Center   313-845-9612   counseling@hfcc.edu   Learning Resources Center 117

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 for the specific degree requirements for the Associate in Arts degree that are listed elsewhere in the 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.

Courses

Required Core Courses - Liberal Arts   Cr. Hours

First Year

First Semester

ENG 131 - Introduction to College Writing	3
Science*	4
Social Science**	3 or 4
Elective*****	3 or 4
Wellness	2

Second Semester

ENG 132 - College Writing and Research OR	3
ENG 135 - Business and Technical Writing	3
Science*	4
Social Science**	3 or 4
Elective*****	3 or 4
Wellness	2

Second Year

First Semester

World Language*** OR Elective	3 or 4
Elective****	3 or 4
Humanities**** OR Social Science	3 or 4
Major and/or Electives	3 or 4

Second Semester

World Language*** OR Elective*****	3 or 4
Humanities**** OR Social Science	3 or 4
Major and/or Electives	3 or 4

Additional electives may be needed to reach the minimum 60-62 hours required for graduation.

* Select from Astronomy, Botany, Chemistry, Geology, Introductory Biology, Physical Science, Physics and/or Zoology.
** Select from Anthropology, Geography, History, Political Science, Psychology and/or Sociology.
*** Four semesters of French, German, or Spanish may be elected; two semesters of Arabic, Chinese or Italian are offered.
**** Humanities classes usually include those in Art, Music, Literature, Philosophy, Drama, World Religion, and World Civilization.
***** Electives include courses in the Humanities (noted above,) as well as those in Math and Business.

Henry Ford Community College

Mathematics

Area of Study - Mathematics Division

Larry Smyrski   313-845-6388   Lmyrski@hfcc.edu   Reuther Liberal Arts Building 244
Lisa Pompa   313-845-9631   lpompa@hfcc.edu   Reuther Liberal Arts Building 246

Description

The Mathematics Division offers a wide range of courses from developmental to advanced that enable students to fulfill program requirements at Henry Ford Community 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 Division 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 mathematic skills in their HFCC 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 for 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 requirements 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 150-Finite Mathematics, MATH 153-Calculus for Business, Life and Social Sciences, and MATH 141-Introduction to Statistics.

The Mathematics Division 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.

Philosophy

Area of Study - Fine Arts and Fitness Division

Thomas Wallenmaier   313-845-6439   twallen@hfcc.edu   MacKenzie Fine Arts Center 142
Martin Anderson   313-845-6488   mander@hfcc.edu   MacKenzie Fine Arts Center 131

Description

Every Henry Ford Community College student has the opportunity to reach beyond training to achieve a comprehensive quality education. 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.

Courses

Recommended Courses	Cr. Hours
PHIL 131 - Introduction to Logic	3
PHIL 133 - History of Philosophy to the 18th Century	3
PHIL 135 - History of Modern Philosophy	3
PHIL 137 - Topics in Philosophy	3
PHIL 139 - Ethics	3

Physics

Area of Study - Science Division

Michael LoPresto	313-845-9722	lopresto@hfcc.edu	Science Building 16
Dr. Charles Jacobs	313-845-9734	cjacobs@hfcc.edu	Science Building 107

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 planning to pursue a professional career in physics, chemistry, or engineering will start with PHYS 231-Engineering Physics and PHYS 232-Engineering Physics (Continued). Both of these require calculus as a prerequisite.

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-Techinical 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.

Additional Program Requirements

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 curriculum that includes four years of college prep math and science.

Political Science

Area of Study - Social Science Division

Henry Bowers	313-845-9706	hbowers@hfcc.edu	Reuther Liberal Arts Building 307
Kim Schopmeyer	313-845-6443	kschop@hfcc.edu	Reuther Liberal Arts Building 108

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 General Education Outcome on 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.

Pre-Professional

Area of Study - Other Academic Division

University Transfer Center	313-845-9612	counseling@hfcc.edu	Learning Resources Center 117

Description

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 medicine, dentistry, law, forestry, journalism, agriculture, architecture, home economics, public health, library science, veterinary medicine, and other fields will find it possible to take the first one or two years of their college work in the community college without loss of time or credit hours when they transfer, provided a high standard of work is maintained.

The community college schedule of classes is constructed with the needs of the professional school in mind, and, in most cases, a full two years of transferable work is possible.

Psychology

Area of Study - Social Science Division

Margaret Thornburg	313-845-9711	mthorn@hfcc.edu	Reuther Liberal Arts Building 306
Kim Schopmeyer	313-845-6443	kschop@hfcc.edu	Reuther Liberal Arts Building 108

Description

Psychology approaches the study of human behavior systematically by using the techniques of science. PSY 152-Child Psychology, and PSY161-Human Sexuality are available for students with interest in the field.

PSY 256-Educational Psychology with PSY 294-Practicum are available for those planning to enter the teaching profession.

Psychology courses at the 100-level or above fulfill the graduation requirement for Associate in Arts degrees, in Group III - Social Sciences.

Science

Area of Study - Science Division

Dean of Science	313-845-9632	science@hfcc.edu	Science Building 107

Description

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.

Sociology

Area of Study - Social Science Division

Brian Smith	313-845-9830	bsmith@hfcc.edu	Learning Technology Center 219
Kim Schopmeyer	313-845-6443	kschop@hfcc.edu	Reuther Liberal Arts Building 108

Description

Sociology examines human societies, behavior, and culture. The field focuses on major areas of social life and places an emphasis on the influence of economic class, race/ethnicity, and gender in understanding how people see the world and have different levels of power within a society.

SOC 131-Introduction to Sociology provides an overview of the field. 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 fulfill the graduation requirements for Associate in Arts and Associate in 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.

World Languages

Area of Study - English and World Languages Division

Lori Slaber	313-845-6499	lslaber@hfcc.edu	Reuther Liberal Arts Building 204
Katherine V. Grahl	313-845-6327	kathg@hfcc.edu	Reuther Liberal Arts Building 208

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 complemented 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-Elementary Conversation in Arabic, FRE 141-Elementary Conversation in French, GER 141-Elementary Conversation in German and ITAL 141-Elementary Conversation in Italian, emphasize improved oral facility, enlarged vocabulary and introduction to the target 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.

Areas of Study

COURSE DESCRIPTIONS

**ACT 104   Community Construction   4 Credit Hours
            Applications**

This is a basic course in which the student studies the design and construction of residential projects. Projects may include wood decks and patios, sheds, garages, or other community service related projects. Along with functional, aesthetic, climatic, and cost considerations, the influence and structural characteristics of various materials are evaluated. Each student also experiences the actual construction of a typical project at a predetermined residential site.

ACT 110   Introduction to Architecture   3 Credit Hours

This is a basic course using architectural drafting techniques and sketching to explore various topics related to the architecture/construction industry. Topics will include architectural history, building codes, basic urban development, sketching, geometric construction, floor plans, elevations, building sections, details, and blue print reading.

ACT 116   Basic Architectural CAD   4 Credit Hours

A basic course in computer-aided drafting with an emphasis on architectural applications. Topics include drawing setup, draw and edit commands, hatching, dimensioning, creating and editing blocks, model pace, paper space and plotting. The efficient use of CAD in the architectural industry is also covered as it relates to each assignment.

Co-requisites: Concurrent enrollment in ACT 110 is recommended, but not required.

ACT 124   Construction Systems 1   4 Credit Hours

A basic course in which the student studies residential construction materials and proper installation methods with reference to geographical location, cost and material selection. The focus is on reading and working from blueprints and working with traditional hand and power tools. Students learn 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.

ACT 130   Architectural Graphics   3 Credit Hours

A basic course in architectural drawing in which the student studies architectural freehand sketching, elevation rendering techniques, shade and shadow and perspective drawing methods used in architectural renderings. The student also becomes acquainted with the use of various drawing media and color.

ACT 136   Intermediate Architectural CAD   4 Credit Hours

An intermediate level course continuing the study of computer-aided drafting with an emphasis on architectural applications. Topics covered include using external reference drawings, creating, editing and extracting block attributes, model and paper space layout, three-dimensional coordinate systems, three-dimensional viewing, creating and editing 3-D solid and surface models, basic 3-D rendering including cameras, lights and materials.

Prerequisites: ACT 116

ACT 150   Residential Detailing   3 Credit Hours

An intermediate-level course continuing the study and drawing of residential details. Emphasis is on accepted architectural practice and building codes as the e to site plans, stairway details, interior elevations, kitchen and bath layout, door and window details, building sections and other typical residential details.

Prerequisites: ACT 110 and ACT 116

ACT 175   Environmental Building Systems   4 Credit Hours

This is an intermediate-level course designed to introduce students to the layout and design of residential mechanical and electrical systems. Specific areas to be covered include water supply and disposal systems, electrical and lighting systems, heating, ventilation and air conditioning. Given the appropriate design data, the student will be required to prepare typical mechanical, electrical and plumbing drawings. This course also includes a discussion of codes, materials, and fixtures as it relates to each assignment.

Prerequisites: ACT 116

**ACT 190   Architecture/Construction   1 Credit Hour
            Technology Co-op**

An advanced-level course offering practical work experience within the Architecture/Construction Technology field through participation in a supervised cooperative education program. This course integrates work experience with classroom instruction.

Prerequisites: ACT 150 and permission of the Cooperative Education Specialist.

Note: Co-op is avaliable for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings or weekends depending on employer needs.

ACT 205   Advanced Architectural CAD   4 Credit Hours

An advanced-level course utilizing specific architectural programming including third-party software. Emphasis is on using CAD 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 3 Credit Hours

An intermediate-level course designed to acquaint students with 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

For course availability, refer to Class Schedule booklet or **www.hfcc.edu/courses**

Henry Ford Community College

ACT 220   Residential Design   3 Credit Hours

An advanced course in which the student develops a residential design for an assigned site and client. Included are site planning, building design and a partial set of construction documents. A presentation drawing of the proposed design is also required.

Prerequisites: ACT 130 and ACT 150

ACT 224   Construction Systems 2   4 Credit Hours

Designed as a continuation of ACT 124, this course focuses on residential construction materials with reference to geographic location, cost, and proper installation techniques. Students will learn to read and evaluate blueprints, and work with traditional hand and power tools. Students learn roof framing techniques, roof shingle selection and installation, proper insulation techniques, selection and installation of interior finishes, and finish carpentry skills. Lab work includes roofing, drywall, insulation, door and window installation and finish flooring.

Prerequisites: ACT 124

ACT 233   Commercial Detailing   3 Credit Hours

An advanced course in which the student becomes acquainted with methods used in developing and drawing details for a commercial building. Details include site, foundation, structural, wall and roof conditions. Also studied are window and door details, commercial stairs and other typical commercial details.

Prerequisites: ACT 150

Suggested Prerequisites: Completion of or concurrent enrollment in ACT 211 is recommended.

ACT 246   Construction Estimating   4 Credit Hours

An advanced course in which the student studies the estimation of residential construction costs using the quantity survey method. Construction documents are used to take off building material and labor costs for accurate construction cost estimating. The preparation of cost estimating forms for material, labor and other costs will be done using current computer spreadsheet applications.

Prerequisites: ACT 110

Suggested Prerequisites: Construction experience or ACT 141 and MATH 100 are recommended.

ACT 258   Architectural Presentation   4 Credit Hours
**   Techniques**

This is an advanced course in which the student becomes acquainted with various digital presentation techniques. Multiple software applications will be explored for rendering, animation, and graphic production including: Viz Render, Sketchup, and Photoshop. Topics include 3-D modeling, rendering, animation, use of digital images for presentation display boards, and use of presentation software such as Microsoft PowerPoint. Students will also use these tools to design and assemble a basic portfolio.

Prerequisites: ACT 130

ACT 260   Commercial Design Development 3 Credit Hours

An advanced course in which the student develops a commercial building for an assigned building site and use. Included are site planning, design development and a partial set of construction documents with plans, elevations, sections and details. Emphasis is placed on the transition from design to construction documents.

Prerequisites: ACT 136, ACT 220, and ACT 233

ACT 290   Architecture/Construction   4 Credit Hours
**   Technology Co-op**

An advanced-level course offering practical work experience within the Architecture/Construction Technology field through participation in a supervised cooperative education program. This course integrates work experience with classroom instruction.

Prerequisites: ACT 150 and permission of the Cooperative Education Specialist.

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings or weekends depending on employer needs.

AH 100   Medical Terminology   4 Credit Hours

In-depth presentation of medical language, which then will serve as a solid foundation for students interested in health care, medicine, nursing, pharmacy, physical therapy, or related careers. Medical terminology for both health and disease is presented in relation to human structure and function. Builds a framework by introducing the key elements in the formation as well as the modification of medical terms, which then is applied to the specific body systems.

AH 105   Basic Life Support for   0.5 Credit Hours
**   Healthcare Providers**

This lecture/lab course is structured to teach the theory and skills of CPR for victims of all ages so that individuals can recognize and respond to basic life threatening emergencies due to cardiac or respiratory arrest. Course 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. This course is designed for either individuals working in healthcare or for health career and nursing students preparing for their clinical assignments. Upon successful completion of the course including both written and skills testing, the student will receive a Healthcare Provider Card valid for two years through the American Heart Association. This is a pass/fail course with demonstrated competency in all key skill areas required.

Note: Students must attend the entire course in order to receive credit and the certification. Due to the short duration of this class, attendance is mandatory.

AH 116   Interpreting Medical Lab Reports 3 Credit Hours

This is a general survey course designed to serve the needs of a variety of health careers students who need to recognize normal and abnormal values of the commonly used diagnostic tests. This course presents the values of the commonly used medical laboratory diagnostic tests and relates those tests to the common disorders or diseases noting the significance of the relationships between tests and diagnosis.

Note: AH 116 will be offered on an "as needed" basis.

AH 120   Pharmacology for Allied Health   3 Credit Hours

Designed for students in the health care and nursing programs needing to establish a foundation in the basic principles of pharmacology. This survey 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.

Suggested Prerequisites: Although not prerequisites, AH 100, BIO 134 or BIO 233/BIO 234 would be helpful for this course.

**AH 135   Fundamental Concepts in Cancer   3 Credit Hours
             & Cancer Care**

This course will present a broad introduction to the basic principles of cancer. It will explore the fundamental concepts of cancer development, diagnosis, treatment and prevention. As a survey course designed for a wide and diverse audience, this course will focus upon general concepts as opposed to specific technical details.

Prerequisites: AH 100

Suggested Prerequisites: BIO 131 is strongly recommended

AH 141   Introduction to Public Health   3 Credit Hours

A broad overview of the various aspects of public health in the United States. Applications, stakeholders, and methods of public health are presented in a way that allows for the identification of strengths and limitations of the current model of care delivery. An overview of careers available in the area of public health is provided.

Note: 100% online course

AH 145   Culture-Sensitive Healthcare   3 Credit Hours

This lecture course assists healthcare providers to understand the needs, expectations, behaviors, and barriers to effective patient care of multicultural patient populations. The course will focus upon health care practices directly related to African-American, Asian, Hispanic, Middle Eastern, and Eastern European patients.

Note: AH 145 will be offered on an "as needed" basis.

AH 150   Pathophysiology   4 Credit Hours

Designed for allied health personnel who have an understanding of human anatomy and physiology and the language of medicine. This course surveys, in depth, several diseases and relates them to causes, signs, symptoms, physiological imbalances, laboratory findings, treatments, and prognoses.

Prerequisites: BIO 134, or BIO 233 and BIO 234

Suggested Prerequisites: AH 100

Note: AH 150 will be offered on an "as needed" basis.

ANTH 131   Introduction to Anthropology   3 Credit Hours

An introduction to physical and cultural anthropology, archeology, and linguistics. Human origins and evolution are discussed in detail. Issues like cannibalism, hunger, race, and human intelligence are also explored. Various customs, myths, and beliefs, especially pertaining to women, are examined cross-culturally.

ANTH 151   Cultures of North America   3 Credit Hours

Traces present-day American culture from the arrival of Christopher Columbus in the New World and the devastating impact that event had on the native peoples of the hemisphere. Several cultures from various regions of North America will be studied in-depth using ethnographies, biographies, fiction, and film.

**ANTH 152   Middle Eastern Peoples   3 Credit Hours
             and Cultures**

An introduction to 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 are also examined, as well as American cultural perceptions of the Arabs, Islam, and the Middle East.

ANTH 153   Introduction to Archaeology   3 Credit Hours

This course provides an introductory look at the field of archaeology answering the question: what do archaeologists do? Students will explore the methods of excavation, dating sites, artifact analysis, and cultural interpretation. Students will also explore some of the major archaeological sites from around the world.

ANTH 154   Food, Culture, and Economy   3 Credit Hours

All people have to eat to live, but food is a cultural celebration that embraces much more than human survival. This course 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.

**ARA 131   Elementary Modern Standard   4 Credit Hours
              Arabic I**

ARA 131 is a beginning level course, emphasizing the basic skills of reading, writing, speaking, and listening in Modem Standard Arabic within communicative contexts. Students will learn the elementary pronunciation and grammatical principles necessary for comprehending and expressing simple ideas in both spoken and written Modern Standard Arabic. Topics of Arabic culture will also be presented. A variety of technologies, media, and other supplementary materials will be used to enhance learning.

**ARA 132   Elementary Modern Standard   4 Credit Hours
              Arabic II**

ARA 132, second-semester Modern Standard Arabic, is a continuation of ARA 131 and further builds reading, writing, speaking, and listening skills within communicative contexts. Students will continue to expand their knowledge of pronunciation and grammatical principles. Topics of Arabic culture will also be presented. A variety of technologies, media, and other supplementary materials will be used to enhance learning.

Prerequisites: ARA 131, or one year of high school Arabic, or permission of instructor

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ARA 141   Elementary Conversation in Arabic   3 Credit Hours

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 ARA 132, ARA 231 or ARA 232.

Prerequisites: ARA 131, or one year of high school Arabic, or permission of instructor

**ARA 231   Second Year Modern Standard   4 Credit Hours
            Arabic I**

ARA 231, third-semester Modern Standard Arabic, is the first of two intermediate-level courses focusing on communication skills in a cultural context. It develops reading, writing, speaking, and listening skills and deepens studentsí knowledge of pronunciation and grammatical principles. Topics of Arabic culture will also be presented. A variety of technologies, media, and other supplementary materials will be used to enhance learning.

Prerequisites: ARA 132, or two years of high school Arabic, or permission of instructor

**ARA 232   Second Year Modern Standard   4 Credit Hours
            Arabic II**

ARA 232, fourth-semester Modern Standard Arabic, is a continuation of ARA 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 Arabic culture will also be presented. A variety of technologies, media, and other supplementary materials will be used to enhance learning.

Prerequisites: ARA 231, or three years of high school Arabic, or permission of instructor

ART 101   Two Dimensional Design   3 Credit Hours

A studio course which explores the fundamentals of design and the principles of composition utilizing a variety of media and applications. Computers may be utilized in designated sections which are listed in the class schedule.

ART 102   Drawing 1   3 Credit Hours

This is an introductory course in drawing. The focus is on the fundamental concepts and skills involved in drawing a range of subject matter from direct observation. Line, value, and linear perspective studies in a variety of drawing media are explored. This is a foundation course which is a prerequisite for other art courses.

ART 105   Three-Dimensional Design   3 Credit Hours

This class explores design fundamentals and the principles of organization as they apply to three-dimensional forms. Assigned projects introduce the student to materials and techniques used in three-dimensional art.

ART 107   Photoshop   3 Credit Hours

An in-depth study of digital imaging and preparing web graphics with Photoshop.

ART 108   Flash   3 Credit Hours

Students learn how to setup the timeline and layers for animation and interactive sites; how to work withthe drawing tools, symbols, sounds, library and actions. In addition, students learn how to save and use flash projects for the web.

Prerequisites: ART 107

ART 109   QuarkXpress   3 Credit Hours

Students learn to create print documents using QuarkXpress. Tools, typesetting features, Master Pages and Style sheets are covered. Design considerations specific to print are covered.

Prerequisites: ART 107

ART 110   InDesign   3 Credit Hours

Students learn to create print documents using InDesign. Tools, typesetting features, Master Pages and Style Sheets are covered. Design considerations specific to print are covered.

Prerequisites: ART 107

ART 112   Drawing II   3 Credit Hours

A continuation of ART 102 (Drawing I). Drawing fundamentals are stressed through working with a variety of subject matter observed first hand. A variety of drawing media are covered.

Prerequisites: ART 102 with a C grade or better

ART 113   Life Drawing I   3 Credit Hours

An introductory course in drawing the human figure. Studies develop a basic understanding of proportion and anatomy through direct observation. A variety of media is explored.

Prerequisites: ART 102 with a C grade or better or permission of the instructor

ART 115   Intermediate Perspective   3 Credit Hours

Emphasizes the application of the theories of linear perspective touched upon in the prerequisite course, Drawing I. Expands the student's understanding of the theories used to create three dimensional illusion through the use of the system of linear perspective.

Prerequisites: ART 102 with a C grade or better

ART 116   Painting I   3 Credit Hours

An introduction to painting. A broad range of traditional and contemporary approaches to painting are explored.

Prerequisites: ART 101 and ART 102 with a C grade or better or permission of the instructor

**ART 119   Art Education for the Elementary   3 Credit Hours
            Teacher**

A course for classroom teachers. Emphasis is placed on the integration of art into the general classroom procedures to enhance learning. This course develops understanding of the child's mental and creative growth through art and an awareness of art in its various contemporary and cultural contexts.

ART 121   Art History Survey I   3 Credit Hours

A survey of the development of the visual arts from prehistoric to the medieval period.

ART 122   Art History Survey II   3 Credit Hours

A continuation of Art 121–Art History Survey from the Renaissance through modern times.

ART 123   History of Modern Art   3 Credit Hours

A survey of the major movements and personalities of nineteenth, twentieth and twenty-first century sculpture, painting and architecture.

ART 130   History of Graphic Design   3 Credit Hours

A study of history and evolution of letterforms, type, illustration and graphic design to the present. Students learn about important type designers, illustrators and graphic designers, as well as about relationships between the graphic arts and fine arts through history.

Prerequisites: ENG 131

ART 135   Art Appreciation   3 Credit Hours

A lecture course open to all students interested in developing a broader understanding of the visual arts. One field trip may be required.

ART 138   Jewelry I   3 Credit Hours

An introduction to all aspects of the metalsmithing process in nonferrous materials. The student will be required to deal with contemporary design concepts and production methods will be provided.

ART 141   Ceramics I   3 Credit Hours

A beginning course in understanding ceramic materials and form. Various hand-building techniques are explored, and wheel throwing is introduced. Basic glazing and kiln firing are covered.

ART 142   Ceramics II   3 Credit Hours

This course emphasizes functional pots and the wheel as the primary technique of construction. The student is given an introduction to the history of functional ceramics as an idea source for his or her functional designs. Instruction in kiln stacking and firing is included.

Prerequisites: ART 141 or permission of the instructor

ART 151   Introduction to Printmaking   3 Credit Hours

A course designed to give technical and procedural understanding necessary to accomplish some of the basic printmaking processes.

Prerequisites: ART 101 and ART 102

ART 161   Photography   3 Credit Hours

Designed to teach the use of an adjustable 35 mm camera, development of black & white negatives and the making of black and white prints in the darkroom for the beginning student. If the student has not purchased a camera prior to taking this class, he/she may wait until the first class meeting to do so. Creativity is emphasized. Weekly lectures and lab time are included.

ART 163   Color Photography   3 Credit Hours

This course is intended to introduce students to basic concerns related to using still photographic images, both digital and film based, with current electronic imaging processes. Students explore the potentials of computers and software in developing their imagery and ideas. Areas of concern include: stop action, depth of field, color, collage, image manipulation, and drawing, as well as the technical skills necessary for using the computers and software. Weekly lectures and lab times are included.

ART 165   Typography   3 Credit Hours

An introduction to typography, typesetting, and layout design. Students learn about type: its history, anatomy, typesetting, and use in design. Adobe Illustrator is taught and used in this class.

Prerequisites: ART 101

ART 166   Desktop Publishing 1   3 Credit Hours

A continuation of ART 165-Graphic Design 1. This class continues the study of type and layout design as students learn to design for print using QuarkXPress.

Prerequisites: ART 165

ART 172   Color Theory   3 Credit Hours

Students learn how to work with color in both paint and digital media. Various models for representing color are covered as well as design considerations for working with color. Subtractive and primary color systems are covered.

Prerequisites: ART 101 and ART 107

ART 183   Perspective Drawing and   3 Credit Hours
**   Rendering**

A study in the basic principles of manual perspective drawing and rendering. Emphasis on various perspective drawing, sketching and rendering techiques as a means to visually communicate interior spaces.

Prerequisites: ACT 110

ART 208   Lightwave   3 Credit Hours

Students learn the basics of 3D modeling and animation with Lightwave. Modeling, surfacing and animation are covered. Lightwave and Maya will be offered in alternate semesters.

Prerequisites: ART 107

ART 209   Maya   3 Credit Hours

An in-depth study of 3D graphics using Maya. Modeling, surfacing, dynamics, animation and rendering will be covered.

Prerequisites: ART 107

ART 211   Director   3 Credit Hours

Students learn to work with drawing tools, timeline and layers. Students also learn how to work with sound, video clips and animation. Scripting with Lingo is covered.

Prerequisites: ART 107 and TCM 251

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ART 213   Life Drawing II   3 Credit Hours

A continuation of ART 113 Life Drawing 1 in drawing the human figure. Studies develop a basic understanding of proportion and anatomy through direct observation. A variety of media is explored.

Prerequisites: ART 102 and ART 113

ART 216   Painting 2   3 Credit Hours

A continuation of Art 116 Painting 1 in painting. A broad range of traditional and contemporary approaches to painting is explored.

Prerequisites: ART 116

ART 221   Medieval Art   3 Credit Hours

This course is a comprehensive overview of medieval life, art, and architecture from the late antiquity to the late Gothic period in Europe and the Mediterranean region. It covers the flourishing art and culture of about 1000 years (400-1400 CE) including Late Roman, Early Christian, Byzantine, Romanesque, Islamic and Gothic art. The course offers multiple perspectives on the development, exchange, interaction, and influence between all these cultures, especially in the architectural design and structure.

AUTO 225   Automotive Air Conditioning   2 Credit Hours

A beginning course covering basic refrigeration and automotive heating, venatilation, air management, and air conditioning systems.

ART 224   Art of Islam   3 Credit Hours

A comprehensive study of the history and development of Islamic Art from its birth in the seventh century to the present time. The course is designed to explain basic characteristics of Islamic Art through major architectural monuments, painting, calligraphy and other forms of art. Emphasis will be placed on the relationship between the theology of Islam as a faith and its arts.

ART 234   Topics in Art   3 Credit Hours

This course provides special study in the area of art, organized by discipline or other criteria. The course may be taken twice for credit, six hours maximum. Specific topics and any Prerequisitess are listed in the current semester's class schedule or may be obtained through the departmental office.

Prerequisites: Permission of instructor

ART 238   Jewelry 2   3 Credit Hours

Designed to allow the student to become more deeply involved in refinement of basic skills, and development of the final finished product. Most studio tools and some materials will be provided.

Prerequisites: ART 138

ART 242   Ceramics III   3 Credit Hours

This course is an advanced-level course stressing refinement of ceramic construction techniques and design. Individual projects in the study of ceramic glaze and surface possibilities are explored by each student, according to their own stylistic interests. Instruction in kiln stacking and firing is continued.

Prerequisites: ART 141 and ART 142 or permission of the instructor

ART 245   Interactive Design   3 Credit Hours

Students learn to design and construct interactive web sites using Dreamweaver, Flash, Photoshop and ImageReady. Dreamweaver is taught in this class. Students are expected to know the other programs before enrolling in this class. Design considerations important to interactive design are covered.

Prerequisites: ART 107, and ART 165

ART 255   Animation Basics   3 Credit Hours

Students learn drawing techniques for 2D animation. Students learn to plan animations by drawing storyboards. Students work with After Affects or Final Cut Pro or Flash to compile animations.

Prerequisites: ART 108, ART 112 and TCM 157

ART 261   Black and White Photography 2   3 Credit Hours

Designed as an extension of the student's basic foundation from ART 161. Emphasis is placed on refining darkroom technique and expanding the student's knowledge of aesthetics of the creative photographic experience.

Prerequisites: ART 161

ART 265   Illustration   3 Credit Hours

Students learn to create illustrations for photographic references and from imagination using traditional and digital media. Adobe Illustrator is covered in this class.

Prerequisites: ART 112 and ART 165

ART 275   Advanced Projects   3 Credit Hours

This course satisfies the HFCC Computer Literacy Requirement. Students are assigned advanced projects related to their concentration. Emphasis is placed on developing projects for the student's portfolio.

Prerequisites: Permission from the instructor. Students must complete specific courses and a minimum of 27 credit hours of core courses.

Note: Request permission by sending an e-mail to graphicdesign@hfcc.edu and provide your student ID number.

This course meets the graduation requirement for General Education Outcome 2: Computer Literacy.

ART 291   Graphic Design Internship   3 Credit Hours

Work Experience in the field of Graphic Design.

Prerequisites: ART 267, completion of 27 credit hours within one of the five areas of concentration AND permission of the instructor.

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings, or weekends depending on employer needs. Call the Co-op Office at 313-845-6359.

ART 2901   Directed Study – Art History   1 Credit Hour

A course allowing additional advanced study under direction in any of the media offered by the department. It is assumed that the student requesting directed study will have completed the sequence of courses offered in a given medium before requesting additional directed study in that medium.

Prerequisites: All courses in the required sequence for the area chosen, and permission of the instructor.

ART 2902   Directed Study – Art History   2 Credit Hours

A course allowing additional advanced study under direction in any of the media offered by the department. It is assumed that the student requesting directed study will have completed the sequence of courses offered in a given medium before requesting additional directed study in that medium.

Prerequisites: All courses in the required sequence for the area chosen, and permission of the instructor.

ART 2903   Directed Study – Art History   3 Credit Hours

A course allowing additional advanced study under direction in any of the media offered by the department. It is assumed that the student requesting directed study will have completed the sequence of courses offered in a given medium before requesting additional directed study in that medium.

Prerequisites: All courses in the required sequence for the area chosen, and permission of the instructor.

ART 2931   Directed Study – Drawing   1 Credit Hour

A course allowing additional advanced study under direction in any of the media offered by the department. It is assumed that the student requesting directed study will have completed the sequence of courses offered in a given medium before requesting additional directed study in that medium.

Prerequisites: All courses in the required sequence for the area chosen, and permission of the instructor.

ART 2932   Directed Study – Drawing   2 Credit Hours

A course allowing additional advanced study under direction in any of the media offered by the department. It is assumed that the student requesting directed study will have completed the sequence of courses offered in a given medium before requesting additional directed study in that medium.

Prerequisites: All courses in the required sequence for the area chosen, and permission of the instructor.

ART 2933   Directed Study – Drawing   3 Credit Hours

A course allowing additional advanced study under direction in any of the media offered by the department. It is assumed that the student requesting directed study will have completed the sequence of courses offered in a given medium before requesting additional directed study in that medium.

Prerequisites: All courses in the required sequence for the area chosen, and permission of the instructor.

ART 2951   Directed Study – Ceramics   1 Credit Hour

A course allowing additional advanced study under direction in any of the media offered by the department. It is assumed that the student requesting directed study will have completed the sequence of courses offered in a given medium before requesting additional directed study in that medium.

Prerequisites: All courses in the required sequence for the area chosen, and permission of the instructor.

ART 2952   Directed Study - Ceramics   2 Credit Hours

A course allowing additional advanced study under direction in any of the media offered by the department. It is assumed that the student requesting directed study will have completed the sequence of courses offered in a given medium before requesting additional directed study in that medium.

Prerequisites: All courses in the required sequence for the area chosen, and permission of the instructor.

ART 2953   Directed Study – Ceramics   3 Credit Hours

A course allowing additional advanced study under direction in any of the media offered by the department. It is assumed that the student requesting directed study will have completed the sequence of courses offered in a given medium before requesting additional directed study in that medium.

Prerequisites: All courses in the required sequence for the area chosen, and permission of the instructor.

ART 2971   Directed Study – B & W Photography 1 Credit Hour

A course allowing additional advanced study under direction in any of the media offered by the department. It is assumed that the student requesting directed study will have completed the sequence of courses offered in a given medium before requesting additional directed study in that medium.

Prerequisites: All courses in the required sequence for the area chosen, and permission of the instructor.

ART 2972   Directed Study – B & W Photography 2 Credit Hours

A course allowing additional advanced study under direction in any of the media offered by the department. It is assumed that the student requesting directed study will have completed the sequence of courses offered in a given medium before requesting additional directed study in that medium.

Prerequisites: All courses in the required sequence for the area chosen, and permission of the instructor.

ART 2973   Directed Study – B & W Photography 3 Credit Hours

A course allowing additional advanced study under direction in any of the media offered by the department. It is assumed that the student requesting directed study will have completed the sequence of courses offered in a given medium before requesting additional directed study in that medium.

Prerequisites: All courses in the required sequence for the area chosen, and permission of the instructor.

ART 2991   Directed Study – Interior Design   3 Credit Hours
        Special Projects

A course allowing additional advanced study under direction in any of the media offered by the department. It is assumed that the student requesting directed study will have completed the sequence of courses offered in a given medium before requesting additional directed study in that medium.

Prerequisites: All courses in the required sequence for the area chosen, and permission of the instructor.

ART 2993   Directed Study - Interior Design   3 Credit Hours
Special Projects

A course allowing additional advanced study under direction in any of the media offered by the department. It is assumed that the student requesting directed study will have completed the sequence of courses offered in a given medium before requesting additional directed study in that medium.

Prerequisites: All courses in the required sequence for the area chosen, and permission of the instructor.

ASTR 131   Descriptive Astronomy   3 Credit Hours

Designed for general education students, this course consists of a non-mathematical introduction to elements of the astronomical universe by means of lectures and planetarium demonstrations. Organized to interest the individual who is without scientific background but who desires to understand the major units of the universe and their interrelation. Three hours of lecture per week.

ASTR 133   Introductory Astronomy Laboratory 1 Credit Hour

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.

Co-requisite: ASTR 131

ASTR 231   General Astronomy   3 Credit Hours

Offered as an alternative to and not a continuation of ASTR 131, this course is for students who would like a more in-depth look at astronomical concepts. Light, motions in the sky, gravity, the solar system, stars, galaxies and cosmology will all be covered.

Suggested Prerequisites: 1 year high school algebra

ATMS 131   Weather and Climate   3 Credit Hours

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. This course is organized to interest students without scientific background who wish to understand the atmosphere and weather that surround them. Three hours of lecture per week.

Note: Offered approximately once every two years.

AUSV 135   Shop Mathematics   2 Credit Hours

Review of basic arithmetic including fractions, decimals, percentages, ratio, and proportions as applied to vehicle repair in the automotive service field.

Note: AUSV 135 will only be offered in the Fall semester in even numbered years.

AUTO 101   Automotive Fundamentals   4 Credit Hours

A survey course for all students designed to provide basic knowledge of the major automotive systems that are covered in greater detail in other automotive technology specific system classes. Automotive consumers will benefit from this course as they will develop an understanding of general 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 inspection, and cooling system service. This is the only course allowed for Secondary Partnership transfer credit (4 credit hours) from approved high school programs.

AUTO 102   Related Technical Automotive   3 Credit Hours

A course for all ASSET students designed to provide basic knowledge of the daily operations of a Ford, Lincoln Mercury or Mazda Dealerships. Dealer practices of writing warranty reports, work orders, and parts ordering are some of the components that will be covered. Students will be introduced, as a general knowledge, to the automobile and its support systems. General preventive maintenance routines will cover items such as oil changes, cooling system service, tire service, and TPMS (Tire Pressure Monitoring System) diagnosis.

AUTO 105 Internal Combustion Engines   3 Credit Hours

A beginning automotive course designed to acquaint the student with four-stroke engines. Principles of operation, compression ratio, piston displacement, operating tolerances, valve timing, horsepower and torque development along with adjustments, inspection and trouble shooting procedures will be studied. A combination of classroom and laboratory experiences provides the student with competence leading to A.S.E. certification as well as a State of Michigan license in automotive engines.

AUTO 108   Basic Automotive Electricity   3 Credit Hours

A study of basic automotive electricity theory and principles. Voltage, amperage and Ohm's law will be covered as well as series and parallel circuits. An introduction to the various meters that are used in the service of automobiles will also be discussed. Circuit diagnosis and troubleshooting will be an integral part of this course. Accessories and lighting will also be covered.

Note: AUTO 108 will only be offered in the Fall semester in even numbered years.

AUTO 110   Automotive Electrical Systems   3 Credit Hours

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. A combination of classroom and laboratory experiences provides the student with competence leading to A.S.E. certification as well as a State of Michigan license in automotive electrical systems.

AUTO 120   Automotive Fuel Management   2 Credit Hours
                  Systems

A course designed to acquaint the student with 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. This course will include instruction on fuel pumps, fuel lines, fuel filters and storage tanks. Fuel system types will include returnable electronic fuel injection, returnless electronic fuel injection and gasoline direct fuel injection. Elements of automotive emissions and their control will also be discussed. Use of scan tools, PVT, 5-gas analyzer, DSO and ASE performance tests are utilized to enhance the understanding of on board diagnostics.

Prerequisites: AUTO 100 and AUTO 110 or permission of the instructor

AUTO 131   Automotive Ignition Systems   2 Credit Hours

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. Ignition timing, wiring, and ignition malfunctions are studied, as well as electronic ignition systems and ignition-related emission controls.

Note: AUTO 131 will only be offered in the Winter semester in odd numbered years.

AUTO 132   Computer Ignition Systems   2 Credit Hours

An intermediate-level course for the automotive student designed to provide information and laboratory experiences on computer-controlled ignition systems. Systems in use as well as newer systems becoming available are studied.

Prerequisites: AUTO 131

Note: AUTO 132 will only be offered in the Spring semester in odd numbered years.

AUTO 140   Automotive Transmissions   3 Credit Hours
                  Systems

Designed to acquaint the student with both automatic and manually shifted transmissions and transaxles. Emphasis is on the operating principles, construction, adjustments, troubleshooting, and maintenance of both types of transmissions. A study of clutches, drivelines, rear axles, and differential units is also included.

AUTO 142   Electronically Controlled –   2 Credit Hours
                  Transmissions/Transaxles

This course is designed to expand on the skills developed by the student in AUTO 140 with additional experiences in the service and repair operations related to the current electronically controlled transaxle units. The emphasis of this course will be on the electronic control systems.

Prerequisites: AUTO 140

Note: Automotive Technology programs: AUTO 142 will be offered in the Summer semesters.

ASSET program: AUTO 142 will only be offered in the Winter semester in even numbered years.

AUTO 145   Manual Transmissions and   4 Credit Hours
                  Transaxles

This course includes the theory of operation, construction, diagnosis, maintenance and service of automobile manual transmissions, transaxles, and clutches. Various transmissions will be disassembled, inspected, and measured. Knowledge gained from this experience will help the technician become familiar with operation, construction, diagnosis and service of auto manual transmissions and transaxles.

Note: Automotive Terchnology programs: AUTO 145 will be offered in the Fall and Winter semesters.

ASSET program: AUTO 145 will only be offered in the Winter semester in even numbered years.

AUTO 150   Automotive Diagnosis and   2 Credit Hours
                  Engine Evaluation

An advanced course in which the student studies the application of the principles of diagnosing, locating, and correcting trouble encountered in automotive service, using various types of testing equipment. Engine diagnosis will include variable cam timing and variable displacement engine systems. Electrical diagnosis will include computer-controlled charging systems, battery and starting systems, including one-touch and remote-start systems. Fuel system diagnosis will include pressure and injector tests using active commands and relative flow analysis. Problems that occur in the servicing of the modern automobile are presented throughout this course.

Prerequisites: AUTO 100, AUTO 110, AUTO 120 or permission of the instructor

AUTO 160   Automotive Chassis Units   2 Credit Hours

A study of the construction, operation, and maintenance of the various chassis units. Steering, suspension systems, and alignment are included as well as disc and drum braking systems.

AUTO 162   ABS Brakes   3 Credit Hours

Covers the theory and operation of ABS brake and traction control systems. The design, construction and types of ABS braking systems will be included. Diagnostic techniques, troubleshooting, and repair of ABS systems, along with service techniques and hands-on experiences will be an integral component of this class.

Prerequisites: AUTO 160

Note: Automotive Technology programs: AUTO 162 will only be offered in the Spring semesters.

ASSET program: AUTO 162 will only be offered in the Winter semester in odd numbered years.

AUTO 165   Electronic Steering and   4 Credit Hours
**   Suspension**

This course covers the theory and operation of electronic steering and electronic or active suspension systems. Theory and operation of steering and suspension multiplexing will also be included in this course. Diagnosis and repair procedures along with alignment concepts and hands-on experiences will be an integral component of this course.

Prerequisites: AUTO 160

N*ote:* Automotive Technology programs: AUTO 165 will only be offered in the Spring semester.

ASSET program: AUTO 165 will only be offered in the Fall semester in odd numbered years.

AUTO 167   Brake Clinic   2 Credit Hours

Provides a review of braking systems, including an introduction to anti-lock braking systems, as well as diagnosis and trouble-shooting experiences.

AUTO 181   Technical Automotive Welding   4 Credit Hours

A basic welding course that provides instruction and practice with gas and electric welding processes relating to the repair and maintenance of the automobile.

AUTO 187   Automotive Engine Tune-Up   2 Credit Hours

Provides instruction needed for performing engine tune-up and maintenance. Ignition system operation is explained along with an introduction to basic computer engine control. Time in the laboratory is devoted to actual on-car procedures using appropriate test equipment.

AUTO 190   Automotive Technology Co-op   1 Credit Hour

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 instrutructor permission

AUTO 191   Automotive Service Co-op   2 Credit Hours

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 instructor permission

AUTO 192   Automotive Service Co-op   2 Credit Hours

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 instructor permission

AUTO 215   Automotive Engine Dynamometer 2 Credit Hours

An advanced course designed to acquaint the automotive student with the purpose, construction, and operation of the automotive engine dynamometer. Engine tests of horsepower and torque are conducted, and test cell set up of various sensor types and adaptation are part of the course instruction.

Prerequisites: AUTO 105, AUTO 120, and AUTO 131

AUTO 217   Automobile Alignment Clinic   2 Credit Hours

Designed to cover the types of front and rear suspension systems used on today's vehicles. In addition, there is in-depth coverage of alignment factors. The majority of the class is devoted to inspection, repair, and alignment of a variety of suspension systems.

AUTO 224   Automotive Air Conditioning   2 Credit Hours

A beginning course covering basic refrigeration and automotive heating, ventilation, air management, and air conditioning systems.

Note: AUTO 224 will only be offered in odd numbered years.

AUTO 225   Automotive Air Conditioning   2 Credit Hours

A beginning course covering basic refrigeration and automotive heating, venatilation, air management, and air conditioning systems.

AUTO 227   Automotive Air Conditioning   2 Credit Hours

A study of automotive air conditioning systems using a laboratory and practical presentation technique. Covers more controls and AUTO TEMP than AUTO 220.

AUTO 230   Automotive Diesel Principles   2 Credit Hours

An explanation of 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 experiences are provided to enhance classroom activities.

Prerequisites: AUTO 100 or permission of the instructor for past experience

AUTO 231   Diesel Engine Performance   4 Credit Hours
**   and Diagnosis**

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. The latest technological advancements in electronic fuel delivery systems, their diagnosis and service will be covered along with the most recent advances in diesel fuel and Bio-diesel technology. Extensive laboratory experiences are provided to enhance classroom activities.

Note: ASSET Program: AUTO 231 will only be offered in the Winter Semester in even-numbered years.

AUTO 237   Computerized Engine/Vehicle   2 Credit Hours
**   Emission Control Systems**

Explains the operating principles, diagnosis, and laboratory testing of computer controlled fuel management systems. Topics include sensor, actuator, and computer functions in maintaining catalyst stoichiometry. Diagnosis and testing with hand-held scanners and on-board digital fault systems are emphasized. State test procedures and five-gas analysis as related to computer control are covered in the laboratory sessions.

AUTO 247   Automotive Emission Control   2 Credit Hours

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. Tune-up, five-gas analysis, and oscilloscope diagnosis are covered on appropriate vehicle systems.

AUTO 260   Alternative Automotive Propulsion   3 Credit Hours
**   Systems**

This course is designed to provide the student with intermediate-level instruction on alternative automotive propulsion systems that are presently being developed for the automobile transportation industry. Course content will include instruction on theory of operation and service of alternative propulsion systems, with emphasis on safety issues and concerns regarding the servicing of these systems. Topics to be covered will include Hybrid systems, (both series and parallel) plug-in Hybrids, EV-Electric Vehicles including battery types, FCV-Fuel Cell Vehicles, Hydrogen-ICE Vehicles, Alternative Fuels and Flex Fuel Vehicles and Supplemental Assist Vehicle (capacitive, hydraulic, and inertial units).

AUTO 267   Small Engines   1 Credit Hour

Provides a basic understanding of the four-stroke and two-stroke cycle engine. In addition, necessary maintenance, diagnosing, testing, and repair of a small engine's ignition, fuel, governor, and mechanical systems are covered.

AUTO 287   Advanced Automotive Tune-Up   1 Credit Hour

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. Performance tuning, special problems, and low-emission tune-ups are covered in the laboratory sessions.

AUTO 290   Automotive Technology Co-op   2 Credit Hours

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 instructor permission

AUTO 291   Automotive Service Co-op   2 Credit Hours

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 instructor permission

AUTO 292   Automotive Service Co-op   2 Credit Hours

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 instructor permission

AUTO 293   Automotive Technology Service   4 Credit Hours
**   Experience Laboratory I**

This laboratory course is designed to provide real-world work experiences and develop entry-level skills in diagnosis and repair of basic engine service, basic electrical, brake systems, suspension systems, and steering systems. Students will also perform general preventative maintenance procedures to include oil changes and tire rotation. This course will complete the student's studies in AUTO 105, AUTO 110, AUTO 150, and AUTO 160.

Prerequisites: AUTO 105, AUTO 110, AUTO 150, and AUTO 160; or department permission

AUTO 294   Automotive Technology Service   4 Credit Hours
**   Experience Laboratory II**

This laboratory course is designed to provide real world work experiences and develop entry level skills in 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. This course will complete the student's studies in AUTO 105, AUTO 110, AUTO 120, AUTO 131, AUTO 140, AUTO 142, AUTO 145, AUTO 150, AUTO 160, AUTO 220, and AUTO 237.

Prerequisites: AUTO 105, AUTO 110, AUTO 120, AUTO 131, AUTO 140, AUTO 142, AUTO 145, AUTO 150, AUTO 160, AUTO 220, and AUTO 237; or department permission

BAC 110   Practical Accounting   4 Credit Hours

This course offers practical knowledge of bookkeeping principles for students who plan to take BAC 131 or who desire to familiarize themselves with small-business accounting. Students are introduced to the accounting cycle, the specialized journals employed by a merchandising firm, and payroll accounting.

BAC 112   Bookkeeping   4 Credit Hours

This course provides training in basic accounting and financial record keeping with an emphasis on small businesses. Topics covered include adjusting entries, correcting entries, payroll, depreciation, and inventory. An emphasis of the course will be to prepare students for the Certified Bookkeeper exams offered by the American Institute of Professional Bookkeepers (AIPB). Materials developed by the AIPB will be used in the course. To receive certification from the AIPB, candidates must complete five preparatory learning modules and pass three examinations during the semester. The examinations are prepared by the AIPB and are currently administered by Prometric Test Centers.

Prerequisites: BAC 110 or BAC 131

Henry Ford Community College

BAC 131   Principles of Accounting   4 Credit Hours

This course introduces basic financial accounting principles, including the accounting cycle, merchandise accounting, income, and asset and liability measurement.

Prerequisites: ENG 131 or eligible 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.)

BAC 132   Principles of Accounting   4 Credit Hours

This course is a continuation of BAC 131 covering corporate and manufacturing accounting. This course emphasizes the liability and equity sections of corporations. The student is introduced to cash flow and financial statement analyses.

Prerequisites: BAC 131

BAC 141   Computerized Accounting -   2 Credit Hours
**   QuickBooks**

This course introduces students to the QuickBooks computerized-accounting software package. Students will learn to design a company's accounting system for financial recordkeeping and to enter data for the general journal, special journals, accounts receivables, accounts payable, payroll, and inventory. Students will also prepare financial statements using QuickBooks software.

Prerequisites: BAC 110 or BAC 131

BAC 146   Computerized Accounting -   3 Credit Hours
**   Peachtree**

This course introduces students to the Peachtree computerized-accounting software package. Students will learn to design a company's accounting system for financial recordkeeping and to enter data for the general journal, special journals, accounts receivables, accounts payable, payroll, and inventory. Students will also prepare financial statements using Peachtree software.

Prerequisites: BAC 131

BAC 231   Asset Accounting   4 Credit Hours

This course is 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. The emphasis is on theory.

Prerequisites: BAC 132

BAC 234   Equity Accounting   4 Credit Hours

Equity Accounting is the second intermediate accounting course in a two-course sequence focusing on financial accounting and reporting in accordance with generally accepted accounting principles. This course is 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. Emphasis is on theory.

Prerequisites: BAC 231

BAC 235   Tax Accounting   3 Credit Hours

This course acquaints the student with the basic application and rationale of the federal income tax. This course provides training through specific problem assignments in a variety of situations.

Prerequisites: BAC 131

BAC 262   Cost Accounting   3 Credit Hours

This course introduces cost accounting principles followed by manufacturing firms and the planning, decision making, and cost procedures of managerial accounting.

Prerequisites: BAC 132

BBA 110   Business Language Skills   3 Credit Hours

This course trains students in the knowledge of language arts and business grammar, proofreading and word processing skills, and the ability to make decisions and to use proper judgment in preparing documents. This course is designed to strengthen students' knowledge of communication skills, to reinforce students' proofreading skills, and to compel students to make decisions while preparing realistic business documents.

Prerequisites: Basic keyboarding skills and basic knowledge of word processing

BBA 131   Introduction to Business   4 Credit Hours

This survey course presents an overall integrated picture of American business and its operations. Included are such topics as forms of business ownership, management, internal organization, production, marketing, short-term and long-term finance, insurance, accounting principles, business law, and the relationship of government to business.

BBA 133   Business Behavior and   3 Credit Hours
**   Communication**

Introduces students to the basics of appropriate behavior and communication in a business environment. Personal, interpersonal, and group behaviors are discussed, including etiquette, culture and gender issues, and problem solving. Interacting with superiors, peers, subordinates, and clients in person, on the phone, and in presentations is examined. Students will engage in role-playing to learn to deal with situations that can arise on the job.

BBA 153   Customer Service   3 Credit Hours

This course helps students understand 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. Special areas of emphasis include effective communication skills, positive attitudes, problem solving, strategies for coping with challenging and dissatisfied customers, retention of customers, methods of measuring customer satisfaction, and motivational techniques. Upon successful completion of this course, students will qualify to test for a Professional Certification in Customer Service from the National Retail Federation Foundation.

BBA 157   Call Center/Help Desk Practicum   1 Credit Hour

This course trains students to work as a Customer Service Representative (CSR) in a call center or help desk environment. Proper telephone procedures such as greeting customers, effective listening, appropriate responses to inquiries and issues, handling difficult customers, and closing calls while using a personal computer are discussed and practiced. Simulated calls will be used as a learning tool. An on-site tour of a call center will be part of the course so that students may understand the environment of the call center.

Prerequisites: BCA 101, BCA 106, and BBA 155

BBA 161   Introduction to Industrial   1 Credit Hour
Distribution

A survey course introducing students to the Industrial Distribution industry. The course will explore the role of distribution as one of the functions of marketing. Topics will include the channels of distribution, supply chain management, role of wholesalers and distributors in the supply chain, logistics, inventory control and management, and the importance of proper pricing and markup. Various models of distribution will be discussed.

BBA 231   Business Office Communications 3 Credit Hours

Introduces the basic principles and practices underlying business communication. This course is designed to improve business writing skills by helping students prepare effective business documents that are clear, concise, coherent, complete, courteous, and correct. Some of the documents are created in the classroom using personal computers.

Prerequisites: BBA 110

BBA 235   Office Administration Practicum   4 Credit Hours

Designed to provide practical, hands-on study and training for the administrative business office professional. Emphasis is based on developing expertise in the responsibilities required for the management and control of information processing functions.

Prerequisites: BCA 143 and BCA 145

Co-requisite: BBA 231

BBA 250   International Business   3 Credit Hours

This course focuses on the dimensions of conducting business in the international arena and examines the political, economic, and legal systems of diverse countries. Trade patterns; foreign investment methods; economic growth rates; ethics; international trade theories; government intervention; exporting, importing, and countertrading; human resources management; and marketing and competition in the global marketplace are examined.

Prerequisites: BBA 131

BBA 252   Principles of Marketing   3 Credit Hours

A basic survey focusing on marketing functions and institutions, the policies of marketing agencies, and fundamental reasons for current marketing channels. This course also covers the retailing and wholesaling of consumer goods and raw materials. Attention is given to pricing policies and practices, unfair methods of competition, and recent governmental activities affecting marketing.

Prerequisites: BBA 131

BBA 254   Logistics and Supply Chain   3 Credit Hours
Management

This course introduces students to supply-chain management and the impact of globalization, technological change, and demanding customers on the supply chain. Included in this course are the role of logistics, materials management, and physical distribution; alternative supply-chain management strategies; flow of information; and political and economic issues involved in the supply-chain design.

Prerequisites: BBA 131

BCA 101   Computer Keyboarding   3 Credit Hours

Designed to teach students keyboarding skills on the personal computer. Terminology, basic formatting, the alpha keyboard, symbols, and the ten-key numeric pad are introduced. As the semester progresses, accuracy and speed building are emphasized.

BCA 106   Introduction to Windows   2 Credit Hours

An eight-week course that introduces students to the Windows operating system on a personal computer. Topics include the Windows environment, file management, customizing the system, Windows accessory programs, and the sharing and exchanging of data between programs.

BCA 125   Introduction to the Internet &   3 Credit Hours
Web Pages

This course introduces students to the Internet and the creation and design of web pages. A variety of browsers and search engines are utilized to find information on the World Wide Web. Popular Internet tools such as e-mail, file downloads, file compression, streaming audio and video, and image scans are utilized. Web page software is used to design and create web pages. The maintenance of web pages is examined.

BCA 140   Software Applications   3 Credit Hours

This course covers the fundamentals of computer literacy with an emphasis on software usage literacy. Hands-on training in software application programs includes word processing, spreadsheets, and data base. Assignments include problem-solving and critical-thinking development components. A version of MS Office is used.

Prerequisites: Ability to keyboard 25 words per minute

Note: This course meets the graduation requirement for General Education HFCC Computer Literacy requirement.

BCA 143   Word Processing   3 Credit Hours

Instructs students in the use of word processing software. Students learn to input, file, format, print, retrieve, and revise documents. As the semester progresses, more advanced functions are taught including tables, columns, graphics, merging, and sorting. A version of MS Word will be utilized.

Prerequisites: BCA 140

BCA 145   Spreadsheet   3 Credit Hours

Presents both spreadsheet design concepts and hands-on experience in the use of spreadsheet software. Includes use of a worksheet with graphics and a database management program. Students are required to integrate user-interface concepts, commands, worksheet mechanics, and applications in a problem-solving environment. MS Excel will be utilized.

Prerequisites: BCA 140

BCA 147   Database Applications   3 Credit Hours

Explains a database management system and database design strategies. Students use hands-on case studies to learn database principles and then apply those principles to create database tables, forms, queries, and reports. Each student designs and develops a customized database. A version of Microsoft Access will be used.

Prerequisites: BCA 145 or permission of instructor

BCA 152   Presentation Software   2 Credit Hours

This course introduces a presentation graphics software that enables students to create effective presentations. Students create overhead transparencies, color slide shows, and print materials. Presentations include clipart, scanned photographs, data from CD's, presentation sounds, video clips, and documents from other software applications. MS PowerPoint will be utilized.

Prerequisites: BCA 140

BCO 190   Business Cooperative Education   1 Credit Hour

Designed to provide practical, on-the-job work experience related to a particular area of business study. From one to four credit hours may be applied toward a degree program in the Division. Students interested in co-op must have the approval of the appropriate Cooperative Education Specialist prior to registration.

Prerequisites: Permission of the Cooperative Education Specialist.

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings, or weekends depending on employer needs.

BCO 191   Business Cooperative Education   1 Credit Hour

Designed to provide practical, on-the-job work experience related to a particular area of business study. From one to four credit hours may be applied toward a degree program in the Division. Students interested in co-op must have the approval of the appropriate Cooperative Education Specialist prior to registration.

Prerequisites: Permission of the Cooperative Education Specialist.

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters. (Spring/Summer is a full 15-week semester). Placements may be days, evenings, or weekends depending on employer needs.

BCO 192   Business Cooperative Education   1 Credit Hour

Designed to provide practical, on-the-job work experience related to a particular area of business study. From one to four credit hours may be applied toward a degree program in the Division. Students interested in co-op must have the approval of the appropriate Cooperative Education Specialist prior to registration.

Prerequisites: Permission of the Cooperative Education Specialist.

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings or weekends depending on employer needs.

BCO 193   Business Cooperative Education   1 Credit Hour

Designed to provide practical, on-the-job work experience related to a particular area of business study. From one to four credit hours may be applied toward a degree program in the Division. Students interested in co-op must have the approval of the appropriate Cooperative Education Specialist prior to registration.

Prerequisites: Permission of the Cooperative Education Specialist.

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings, or weekends depending on employer needs.

BCO 194   Business Cooperative Education   1 Credit Hour

Designed to provide practical, on-the-job work experience related to a particular area of business study. From one to four credit hours may be applied toward a degree program in the Division. Students interested in co-op must have the approval of the appropriate Cooperative Education Specialist prior to registration.

Prerequisites: Permission of the Cooperative Education Specialist.

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings, or weekends depending on employer needs.

BCO 290   Business Cooperative Education   2 Credit Hours

Designed to provide practical, on-the-job work experience related to a particular area of business study. From one to four credit hours may be applied toward a degree program in the Division. Students interested in co-op must have the approval of the appropriate Cooperative Education Specialist prior to registration.

Prerequisites: Permission of the Cooperative Education Specialist.

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings, or weekends depending on employer needs.

BCO 292   Business Cooperative Education   2 Credit Hours

Designed to provide practical, on-the-job work experience related to a particular area of business study. From one to four credit hours may be applied toward a degree program in the Division. Students interested in co-op must have the approval of the appropriate Cooperative Education Specialist prior to registration.

Prerequisites: Permission of the Cooperative Education Specialist.

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings, or weekends depending on employer needs.

BEC 133   Basic Economics   3 Credit Hours

This course provides an overview of the topics covered in BEC 151-Macro Economics and BEC 152-Micro Economics, including the influence on total output, particularly monetary and fiscal policy; detailed analysis of firm decision-making in both product and resource markets; and the principles of international trade. This course serves those students needing only one economics course or those students who want to learn more about the free enterprise system.

BEC 151   Principles of Macro Economics   3 Credit Hours

This course examines the theoretical foundations of aggregate economic policies. Areas of study include 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 and economic growth, and international trade and the balance-of-payments accounts.

Prerequisites: ENG 131 or 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)

BEC 152   Principles of Micro Economics   3 Credit Hours

This course examines the foundation of price theory. Areas of study include elements of a free market system, utility theory, cost-and-production theory, market structure, resource allocation, market imperfections, government intervention, and international economics.

Prerequisites: ENG 131 or 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   Beginning Investment   3 Credit Hours

Designed to appeal to all students regardless of program major. Introduces students to basic investing principles by examining the security selection process. A careful examination of risk-free, debt, equity, and real estate asset classes leads to students selecting securities and mutual funds to build an investment portfolio. The mechanics of setting up accounts, the buying and selling of securities, and the tax aspects of various accounts are also discussed.

BFN 141   Personal Finance   3 Credit Hours

This course is designed to appeal to all students regardless of program major. Everyday financial concerns are examined including obtaining and managing credit, buying insurance, and financing the purchase of a car or home. Longer-term goals such as saving for college tuition and retirement are also explored. The use of stocks, bonds, and mutu al funds to reach these objectives is also examined. The tax implications of financial decisions are also examined.

BFN 253   Principles of Finance   3 Credit Hours

This course introduces students to the financing of the modern business enterprise. Topics include financial statement analysis, working capital management, capital accumulation and budgeting, the valuation of securities, and global financial principles.

Prerequisites: BAC 131 and BBA 131

BIO 110   Biotechnology and Human Affairs 4 Credit Hours

Introduction to biotechnology for everybody. Investigates the science of biotechnology and its applications in fields of human endeavor, and the ethical implications of this rapidly-expanding technology. Course 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 a placement test score that allows enrollment in ENG 131

BIO 130   Evolution and Behavior   4 Credit Hours

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. This course is for students in all fields of study who wish to learn about the revolutionary contributions of behavioral and evolutionary biology. Four hours of lecture per week; no laboratory.

Prerequisites: A Reading test score sufficient to allow placement into ENG 131 or Satisfactory (S) completion of ENG 081.

BIO 131   Introductory Biology   4 Credit Hours

A study of living organisms including: cell biology, genetics, plant structure and function (emphasizing flowering plants), ecology, and animal structure and function (emphasizing human digestion, respiration, circulation, excretion, and reproduction). Lectures and laboratory work are coordinated. Three hours of lecture and three hours of lab per week.

Prerequisites: A Reading test score sufficient to allow placement into ENG 131 or Satisfactory (S) completion of ENG 081.

BIO 134   Essentials of Anatomy and   5 Credit Hours
**   Physiology**

BIO 134 is a comprehensive study of all body systems in the time-frame of a one-semester course. Emphasis is on how chemisty, cell biology, and specific anatomy permit the specific functioning of organs and systems. While this course is designed to meet the requirements of several Allied Health curricula, it does not substitute for the BIO 233/234 required by the Nursing, Respiratory Therapist, Sugical Technologist, Radiographer and Physical Therapist programs at HFCC. Four hours of lecture and two hours of lab per week.

Course Descriptions

**BIO 135   Microbiology for Allied Health   4 Credit Hours
            Sciences**

A general microbiology course specifically designed to meet the needs of health service personnel who don't need the extensive laboratory experience involved in BIO 251. Emphasis is on the biology of microbes, epidemiology and disease transmission, sterile techniques, basics of immunity, the microbiology of wounds, and current regulations regarding blood-borne pathogens and biohazardous wastes. Three hours of lecture and two hours of lab per week.

Prerequisites: A Reading test score sufficient to allow placement into ENG 131 or Satisfactory (S) completion of ENG 081.

BIO 138   Environmental Science   3 Credit Hours

Environmental Science is an interdisciplinary study, combining 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. Current environmental concerns are discussed. Human modification of natural systems and strategies for promoting environmental health are emphasized. Three hours of lecture per week.

Prerequisites: A Reading test score sufficient to allow placement into ENG 131 or Satisfactory (S) completion of ENG 081.

BIO 139   Environmental Science Laboratory 2 Credit Hours

Current environmental concerns are investigated. Included are field trips to local sites during the lab period. Particular focus will be given to the Rouge River watershed. This course meets for three hours of lab work per week.

Suggested Co-requisite: BIO 138

BIO 141   Botany   4 Credit Hours

Introduces all fields of plant biology and the diversity of plant life inhabiting the biosphere. Included are field trips to local natural areas to study plant ecology and laboratory experiments in plant genetics and plant physiology. Topics of current environmental concern relating to botany are covered. Three hours of lecture and four hours of lab per week.

Prerequisites: BIO 131 or BIO 150 or BIO 152 or equivalent (with a grade of C or better)

Note: Offered occasionally depending on student demand.

BIO 143   Zoology   4 Credit Hours

Examines the structure and function of various animals. Emphasis is on the taxonomic relationships, evolution, embryology, and natural history of the major animal groups, from the single-cell protozoa to the higher animals. Lecture and laboratory work are coordinated. Three hours of lecture and four hours of lab per week.

Prerequisites: BIO 131 or BIO 150 or BIO 152 or equivalent (with a grade of C or better)

Prerequisites: Offered occasionally depending on student demand.

**BIO 150   Biology: Organisms, Genes,   4 Credit Hours
            and Ecology**

An introductory biology course designed to meet the needs of students interested in transferring to a four-year institution with a major in biological science and for other students with a background and an interest in biology including pre-pharmacy, pre-medical, and pre-dental programs. Lectures focus on diversity and unity of patterns found in living organisms from the perspectives of physiology, inheritance, ecology, and evolution. 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-level high school biology with a B or better or BIO 131 or BIO 152 with a C or better or permission of instructor.

A Reading test score sufficient to allow placement into ENG 131 or Satisfactory (S) completion of ENG 081.

**BIO 152   Biology: Cells and Molecular   4 Credit Hours
            Biology**

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: Preparatory biology with a grade of B or better; or BIO 131 or BIO 150 with a C or better; or permission of the instructor.

CHEM 131 (CHEM 141 recommended for biology majors).

A Reading test score sufficient to allow placement into ENG 131 or Satisfactory (S) completion of ENG 081.

BIO 233   Anatomy and Physiology I   4 Credit Hours

Lectures cover 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)

A Reading test score sufficient to allow placement into ENG 131 or Satisfactory (S) completion of ENG 081.

BIO 234   Anatomy and Physiology II   4 Credit Hours

Covers special senses, endocrine, circulatory, lymphatic, immunity, respiratory, digestive, urinary and reproductive systems. Labs are sequenced with and reinforce lecture content. Three hours of lecture and two hours of lab per week.

Prerequisites: BIO 233 at HFCC with a grade of C or better, or permission of the instructor

A Reading test score sufficient to allow placement into ENG 131 or Satisfactory (S) completion of ENG 081.

Course Descriptions

BIO 251   Microbiology   5 Credit Hours

Introduction to 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. Emphasis is on studying 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 per week.

Prerequisites: BIO 131, or BIO 150 and 152, or the equivalent with a grade of C or better; CHEM 131 (CHEM 141 is recommended).

A Reading test score sufficient to allow placement into ENG 131 or Satisfactory (S) completion of ENG 081.

BIO 261   Nucleic Acids   5 Credit Hours

BIO 261 focuses on the structure and function of nucleic acids 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 genomic fields. This course is designed 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

BIO 262   Proteins   5 Credit Hours

BIO 262 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. Seven hours of integrated lecture and laboratory per week.

Prerequisites: CHEM 141, BIO 152, and ENG 131

BIO 263   Biotechnology Internship   1 Credit Hour

A 60- to 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 HFCC Biotechnology faculty. This course is designed to satisfy the requirements of the Biotechnology program.

Prerequisites: Demonstrated competence in laboratory skills, admission to the Biotechnology program, and permission of instructor

BLW 253   Business Law and the Legal   4 Credit Hours
Environment

This course introduces the business student to common law and statutory and agency processes. This course surveys the following business law topics: contracts, product liability, corporations, partnerships, agency and federal regulation of consumer product safety, securities, unfair trade practices, and legal research.

Co-requisite: ENG 131

BMA 110   Business Mathematics   3 Credit Hours

This course presents basic math problems from a business person's point of view. Included is a short review of addition, subtraction, multiplication, and division. Decimals, percentages, and fractions and the relationships among them are also discussed. Emphasis is on story problems. Other topics that may be included are payroll, interest, bank notes, insurance, annuities, weights, measures, commissions, inventory, and taxes.

Prerequisites: A grade of C or better in MATH 074 or a satisfactory grade on the math placement test

CHD 201   Child Develpment: Introduction to 3 Credit Hours
Creative Child Care

This course is the first in a 2-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 that 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: PSY 131 and PSY 152

CHD 202   Child Develpment: CDA Portfolio/ 3 Credit Hours
Assessment Preparation

This course is the second in a 2-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 6 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   3 Credit Hours
Development

This course explores the physical, social, cognitive and emotional environments necessary for quality care of infants and toddlers. CDA functional areas taught in this course are as follows: Safe, Healthy, Learning Environment, Infant Development, and Observing children's behavior as they pertain to infants and toddlers. This course 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.

CHD 221   Child Development: School-Age   3 Credit Hours
Competencies

This course is the first course in a series of three preparatory courses to enable the candidate to acquire the skills, knowledge, and documentation needed to be ready for the assessment process for the Michigan School-Age Credential.

Course Descriptions

**CHD 222   Child Development: School-Age   3 Credit Hours
Portfolio Preparation**

This course is the second course in a series of three preparatory courses to enable the candidate to acquire the skills, knowledge, and documentation needed to be ready for the assessment process for the Michigan School-Age Credential.

Prerequisites: CHD 221

CHD 231   Inquiry-Based Preschool Curriculum 3 Credit Hours

This course will examine inquiry-based learning and how it relates to a child-centered, integrated preschool curriculum. 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 will be integrated into class discussions to help students gain insight into the best practices with young children. This course is designed for present and future teachers, administrators and the general public who participate in decisions relating to early childhood curriculum.

Prerequisites: ENG 132 and PSY 152

**CHD 232   Observation & Assessment   3 Credit Hours
in Early Childhood Education**

This course will examine a variety of formal and informal assessment techniques used in early childhood classrooms. The importance of observing young children and how to use these observations will be emphasized. 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. The course is designed for present and future teachers, administrators and the general public who participate in decisions relating to early childhood assessment.

Prerequisites: ENG 132 and PSY 152

Co-requisites: CHD 233

Note: Course offered in class or 50% online.

**CHD 233   Observation & Assessment in   1 Credit Hour
Early Childhood Education Practicum**

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 activites 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 activites and for assisting the lead teacher in communicating children's development with families.

Prerequisites: ENG 132 and PSY 152

Co-requisites: CHD 232

Note: Course offered in class or 50% online.

**CHD 241   Developmentally-Appropriate   3 Credit Hours
Practices in Child Care Center
Administration**

This course examines the role of the child care administrator in directing successful early childhood centers, following developmentally-appropriate practices. Topics will include: policy development, accreditation standards, personnel management, ethical decision-making, safety, childcare licensing regulations, communications skills, professionalism, health, safety, and appropriate business practices. CDA functional areas taught in this course are as follows: Safe, Healthy, Learning Environment, Professionalism, and Program Management.

Note: Course offered in class or 50% online.

CHEM 091   Preparatory Chemistry   2 Credit Hours

A basic introduction to chemistry that 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, satisfies the high school chemistry admission requirement for some Nursing and Health Career programs.

Prerequisites: MATH 070 or the equivalent

CHEM 095   Chemical Skills   3 Credit Hours

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 demonstration per week.

Prerequisites: 1 year of high school algebra or the college equivalent

**CHEM 111   Chemical Skills for   4 Credit Hours
Pre-Professional Programs**

Includes the study of dimensional analysis; atomic structure; stoichiometry; molarity; the periodic table; nomenclature; reactions and equations, and properties of gases, and the laboratory skills that support these topics. This course is intended to prepare students majoring in science, engineering, mathematics, pharmacy, or other pre-professional programs to take the standard general chemistry sequence required in these programs. No credit after any 100 level or above chemistry course. Does not satisfy any elective requirement in the Pre-Professional Chemistry program. 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.

CHEM 131   Principles of Chemistry   4 Credit Hours

An introduction to 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 HFCC 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: 1 year of high school algebra or equivalent

Note: Students with no previous chemistry background should take CHEM 091

CHEM 132   Principles of Organic and   4 Credit Hours
**   Biological Chemistry**

This is the second course in a two-semester sequence. Course work is divided into two parts. The first part is an introduction to organic chemistry, with special emphasis on nomenclature and functional group reactivity. The second part addresses the topics of biochemistry and metabolism 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   5 Credit Hours
**   Inorganic Chemistry I**

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: One year of high school algebra or the college equivalent. Also required as a prerequisite is a passing grade on the chemistry pretest or CHEM 095 with Satisfactory (S) grade; or CHEM 131 with a grade of C or better.

CHEM 142   Principles of General and   5 Credit Hours
**   Inorganic Chemistry II**

A continuation of CHEM 141 with special emphasis on 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

Suggested Prerequisites: MATH 175

CHEM 151   Chemical Instrumentation and   3 Credit Hours
**   Laboratory Techniques**

Fundamentals of chemical laboratory measurements and techniques. Course topics include: collection and interpretation of meaningful data; statistical analysis of data; calibration of instruments; method validation; recordkeeping; solution making; and measurement of pH. This course is designed 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 220   Introduction to Quantitative   2 Credit Hours
**   Analysis**

An introduction to quantitative analysis. This course is primarily designed to complement the two-semester sequence in general chemistry by providing an introduction to quantitative analysis (analytical chemistry) that is included in the general sequence at some transfer institutions. Four hours of integrated lecture and laboratory per week.

Prerequisites: Completion of CHEM 141 (with a grade of C or better) or concurrent enrollment in CHEM 142.

CHEM 241   Organic Chemistry I   4 Credit Hours

An introduction emphasizing structural theory, stereochemistry, physical properties, reaction mechanisms, and functional group chemistry. This course covers the first semester of a full year course. CHEM 241 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 grade of C or better or permission of the instructor

CHEM 242   Organic Chemistry II   4 Credit Hours

A continuation of CHEM 241 with emphasis on 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   Organic Chemistry Laboratory I   2 Credit Hours

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 241 can be a co-requisite with instructor's permission).

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CHEM 244 Organic Chemistry Laboratory II   2 Credit Hours

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 exaphenylbenzene, an antibacterial drug sufanilamide, 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).

Note: Offered occasionally based on student demand.

CHN 131   Elementary Mandarin Chinese I   4 Credit Hours

CHN 131 is a beginning level course, emphasizing the basic skills of reading, writing, speaking, and listening in Mandarin Chinese within communicative contexts. Students will learn the elementary pronunciation and grammatical principles necessary for comprehending and expressing simple ideas in both spoken and written Mandarin. Topics of Chinese culture will also be presented. A variety of technologies, media, and other supplementary materials will be used to enhance learning.

CHN 132   Elementary Mandarin Chinese,   4 Credit Hours
**   Continued**

CHN 132, second-semester Mandarin Chinese, is a continuation of CHN 131 and further builds reading, writing, speaking, and listening skills within communicative contexts. Students will continue to expand their knowledge of pronunciation and grammatical principles. Topics of Chinese culture will also be presented. A variety of technologies, media, and other supplementary materials will be used to enhance learning.

Prerequisites: CHN 131, one year of high school Chinese, or permission of the instructor

CIS 100   Introduction to Information   3 Credit Hours
**   Technology**

This course will survey the field of computer technology and information management. Topics emphasized in this course include: computerhardware, the use of the Internet for communication, e-commerce, information retrieval, the social impact of technology, computer security, networking, and industry-related careers. Computer laboratory sessions will briefly introduce students to the Windows operating system, Internet browsers, e-mail, word processing, spreadsheets, databases, and presentation software.

Note: This course meets the graduation requirement for General Education Outcome 2: Computer Literacy.

CIS 105   Desktop Operating System   4 Credit Hours
**   Concepts**

A beginning course focusing on client side desktop operating systems, including installing, using and maintaining the system. The class will familiarize the student with 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. An introduction to system configuration, troubleshooting and system maintenance also will be included.

Prerequisites: CIS 100

CIS 107   PC Hardware/Software   2 Credit Hours
**   Installation**

An intermediate course that will teach the student advanced techniques in PC operations (including hardware/software installation and system upgrading/maintenance), system management and PC performance optimization. Actual hardware and software will be installed by the students.

Prerequisites: CIS 100

CIS 111   SQL for Database Development   3 Credit Hours

An intermediate course familiarizing the student with the SQL language to retrieve and modify tables within a SQL Server database management system. The queries will include outer joins, summary queries and subqueries. Students will use normalization techniques to design and create a database structure. Views and stored procedures also will be discussed. Front-end forms will be created to interface with the back-end table structures.

Prerequisites: One semester of any programming language or work-related experience

CIS 112   Introduction to Networking   3 Credit Hours

An introductory course covering the basics of Local and Wide Area Networking. Topics will include discussion of the OSI model, network protocols, media architecture and hardware. It will also cover WANs, remote connectivity, TCP/IP, and the Internet as well as the troubleshooting of common network problems.

Prerequisites: CIS 100

CIS 113   Wireless LANs   2 Credit Hours

An intermediate course covering Wireless Networking. Topics will include the coverage of the IEEE 802.11 standards and relationship to the OSI model. The class will also cover the planning, installation, configuration and troubleshooting of Wireless Networking products.

Prerequisites: CIS 112

CIS 114   Introduction to Novell NetWare   3 Credit Hours
**   Administration**

An introduction covering the basics of Novell NetWare Administration. Topics will include 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

CIS 121   Introduction to the Internet   2 Credit Hours

The Internet is used by millions of people throughout the world to share information and ideas and to search for information on all kinds of topics electronically. This course introduces the student to the Internet, how it was developed, and how it works. The student will become familiar with the services and tools available, such as e-mail, Telnet, FTP, Gopher and the World Wide Web. The student will access information through popular online services and will learn about some of the major sources of information.

CIS 122   Web/Internet Technologies   3 Credit Hours

A beginning course familiarizing the student with website usability, web page authoring, the Internet, networking, and security fundamentals. Skills obtained will include introduction to web programming and development in HTML, ASP and Fireworks.

CIS 123   Web Pages   2 Credit Hours

A beginning course that teaches students current web page development techniques and methodologies. Topics to be discussed will include: graphical web development tools, formatting, layout, navigation, database integration, accessibility, and browser compatibility. Significant hands-on lab time will be dedicated to developing and publishing a professional Web site.

**CIS 124   Introduction to Windows Server   3 Credit Hours
              Administration**

An introductory course covering the basics of Microsoft Windows Server Administration. Topics will include installation and configuration of the server operating system, connecting client workstations, domain and server management, system monitoring and maintenance as well as the configuration of network printing.

Prerequisites: CIS 112

CIS 125   Principles of Programming Logic   4 Credit Hours

A beginning course thoroughly acquainting the student with programming logic techniques. Structured methods of business programming are stressed. Topics include business reports, arrays, file maintenance, data validation, character fields, functions and modules. The student uses the microcomputer lab for compilation and testing.

Prerequisites: Completion of or concurrent enrollment in CIS 100

**CIS 126   XHTML/HTML/CSS Web   4 Credit Hours
              Programming**

This course will provide students with a comprehensive mastery of HyperText Markup Language (HTML) coding practices. Additional topics include an understanding and use of XHTML, Cascading Style Sheets (CSS), and Validation according to the guidelines of the World Wide Web Consortium (W3C). Students will create an entire Web site using HTML and CSS.

**CIS 129   Introduction to UNIX with Shell   4 Credit Hours
              Scripting**

An intermediate-level course that will teach students the fundamentals of the UNIX Operation System. This will include the file system, e-mail, editor and standard UNIX utilities. Advanced forms of utilities, regular expressions, and shell scripts will be covered. There will be emphasis on understanding how the UNIX shell operates.

Prerequisites: CIS 125

CIS 130   Visual Basic .NET Programming   3 Credit Hours

An intermediate programming course using Visual Basic .NET for Windows application development. Coding and debugging techniques are covered for an object oriented environment. Also covered is the common Windows form controls used in a graphical user interface application.

Prerequisites: CIS 125 or work-related experience

**CIS 132   Active Server Pages .NET   3 Credit Hours
              Programming**

An intermediate course that will teach the students advanced technologies of a scripting language used for Web programming. Topics include state management, the proper use of code-behind files, ADO.NET skills for handling database data, web services, web server validation, user and custom server controls.

Prerequisites: CIS 130

CIS 157   A+ Hardware   4 Credit Hours

This course is intended to cover the hardware section of the A+ Certification Exam. All types of hardware components will be studied in detail. Installation, configuration, troubleshooting of hardware will be performed. The student will experience hands-on interactive labs with actual hardware components.

Prerequisites: CIS 100

CIS 158   A+ Operating Systems   4 Credit Hours

This course is intended to cover the software section of the A+ Certification Exam. Various operating systems will be covered from a PC repair technician perspective: how the operating system interacts with the PC's hardware, the boot process, troubleshooting and interaction with application software. The student will experience hands-on interactive labs with various actual operating systems and application installations.

Prerequisites: CIS 100

CIS 160   COBOL Programming   3 Credit Hours

An intermediate level course that introduces the student to the COBOL programming language and the mainframe-programming environment. Students will develop programs and modify existing programs to meet specifications.

Prerequisites: CIS 125

CIS 162   Perl Programming   4 Credit Hours

An intermediate-level course that will teach the student the benefits of a powerful scripting language. Topics include basic Perl program structure, flow control fundamentals used under different platforms, search and replace techniques, shortcuts, associative arrays, normalizing, sorting lists using multiple sort orders and file manipulation. It will also include data types, pattern matching and subroutines. Lastly, an introduction to CGI (Common Gateway Interface) programming will be presented.

Prerequisites: CIS 125 and CIS 129

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CIS 170   **"C" Programming**   **3 Credit Hours**

An intermediate course familiarizing the student with an interactive text editor and the "C" programming language. These features are taught through detailed lectures and coding laboratory assignments. Students design, code, test, and debug programs using the "C" language.

Prerequisites: CIS 125 or MATH 180

CIS 171   **Java Programming**   **3 Credit Hours**

An intermediate-level course familiarizing the student with the Java programming language and its various components using detailed lectures and coding laboratory assignments. Students design, code, test, and debug programs using the Java language.

Prerequisites: CIS 170

CIS 172   **JavaScript Programming**   **3 Credit Hours**

An intermediate-level course in which the student becomes familiar with the JavaScript programming language and its various components. These features are taught through detailed lectures and coding laboratory assignments. Students design, code, test, and debug programs using the JavaScript language, a computer language developed by Netscape for advanced internet development.

Prerequisites: CIS 121 and CIS 170

CIS 186   **Game Programming**   **4 Credit Hours**

An intermediate course that will familiarize students with the process, concepts, and techniques of game programming. Topics will include 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**   **2 Credit Hours**

The course introduces students to the installation, configuration, and management of web server software. Students gain hands-on experience installing and administering the two dominant web server software platforms: Apache web server and Microsoft Internet Information Server (IIS). Topics include: web server security, performance monitoring and tuning, virtual hosting, proxy servers, and supporting database and dynamic content. This is an excellent course for anyone interested in pursuing or working in the network, server, or web administration; web development; or computer information systems fields.

Prerequisites: CIS 100

CIS 212   **Networking II**   **3 Credit Hours**

The course is intended to cover additional Local and Wide Area Networking topics that will aid the student in preparing for the Comp-Tia Network + Certification test. Topics will include: Network Operating System basics (Netware, UNIX, and Windows 2000 Server); maintaining and upgrading networks; ensuring integrity and availability; network security; network design and implementation; advanced troubleshooting techniques; review and practice of all topics for the Certification Exam.

Prerequisites: CIS 112

CIS 215   **Advanced Visual Basic .NET**   **3 Credit Hours**
           Database Programming

This is an advanced programming course that focuses on writing Windows application forms that interface with a database management system using the VB.NET language. The topics covered are class development; inheritance and polymorphism; input validation; error handling; exception handling; relational databases and SQL; accessing data with ADO.NET; ASP.NET introduction; arrays; collections and multi-threading.

Prerequisites: CIS 111 (or CIS 270) and CIS 130

CIS 220   **System Analysis and Design**   **3 Credit Hours**

An advanced course involving the study of techniques used by the systems analyst to design and implement computerized business information systems. Each student participates in a systems project designed to reinforce course material. Written and oral communication skills necessary for the information technology professional are emphasized.

Prerequisites: CIS 111, CIS 125 and one more CIS course

CIS 221   **Instructional Technology for**   **3 Credit Hours**
           Elementary Teachers

This computer course introduces elementary education majors to the implementation, application and issues of microcomputers in education. Topics include computer literarcy, classroom use of hardware and software for student learning and computer resources to stay current with multi-media technology.

Prerequisites: Enrollment in Pre-Education program

Note: This course meets the graduation requirement for General Education Outcome 2: Computer Literacy.

CIS 222   **Web Database Development**   **4 Credit Hours**
           With PHP

Students will develop a database-backed e-commerce site that includes a product catalog, search functionality, login capabilities, order processing, and site administration. PHP will be used extensively to interact with the database. Additional topics include database design, MySQL, security, alternative scripting and platform options, in-house and hosted storefront options, and e-commerce business and marketing concepts.

Prerequisites: CIS 122

CIS 223   **Instructional Technology for**   **3 Credit Hours**
           Secondary Teachers

This computer course introduces secondary education majors to the implementation, application and issue of microcomputers in education. Topics include computer literacy, classroom use of hardware and software for student learning, and computer resources to stay current with multi-media technology.

Prerequisites: Enrollment in Pre-Education program

Note: This course meets the graduation requirement for General Education Outcome 2: Computer Literacy.

CIS 227   Dreamweaver Web Authoring   4 Credit Hours

A web authoring course focused on the theory and design of web construction. Topics will include: information architecture concepts, web project management, scenario development and performance evaluations. This course will also introduce and evaluate the most widely used web authoring tools in industry, such as Macromedia Dreamweaver.

Prerequisites: CIS 126 and ART 107

CIS 229   UNIX System Administration   4 Credit Hours

Covers the effective administration of a UNIX system. Discussion is provided on the internals of the UNIX Operating System. Laboratory exercises include system start-up and shutdown, file system management, adding and configuring backups and restorations, device management, system security, and system accounting. Each student is required to complete successfully a series of comprehensive exercises to demonstrate proficiency in system administration.

Prerequisites: CIS 125 and CIS 129

CIS 230   C++ Programming   3 Credit Hours

An advanced course for students who have a basic understanding of arrays, pointers, structures, and file I/O. It includes theory and application in developing expanded skills in areas such as data and structures and migrating from "C" to "C++".

Prerequisites: CIS 170

CIS 232   C# Programming   4 Credit Hours

An advanced course for students who have a basic understanding of arrays, pointers, structures and object oriented programming. The goal of this course is to provide students with the knowledge and skills they need to develop C# applications for the Microsoft .NET Platform. The course focuses on C# program structure, language syntax, and implementation details.

Prerequisites: CIS 170, CIS 171 or CIS 230

CIS 235   Advanced Flash   3 Credit Hours

This course provides instruction and hands-on laboratory experience on advanced Flash development necessary for careers in web multimedia design and development. Topics include: 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 270   Database Management Systems   3 Credit Hours

An advanced course familiarizing the student with the organization and utilization of a client/server database. Detailed instruction covers database terminology, data structure design, data retrieval and manipulation (including the use of SQL), and application program development oriented to the ORACLE database. The first half of the course concentrates on the use of SQL and the second half explores the use of forms and reports.

Prerequisites: CIS 111

CIS 271   Advanced Java   4 Credit Hours

This course provides lecture, demonstration, and practical programming exercises in 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.

Prerequisites: CIS 171

CIS 272   Project Management   4 Credit Hours

An advanced course involving the study of project management techniques used by the information technology profession, including Microsoft Project software, project context, integration, scope, time, cost, quality, human resources, communications, risk, and procurement management. The course provides a foundation for the CompTIA IT Project+ certification.

Prerequisites: Completion or concurrent enrollment in CIS 220 or permission of instructor

CIS 280   Information Assurance and   4 Credit Hours
**   Security**

This course will provide a comprehensive understanding of Information Assurance and Security as defined in the "National Training Standard for Information Systems Security Professionals." It will build on material learned in other courses, and introduce information assurance skills that must be demonstrated at a high level of performance to address government and industry security needs.

Prerequisites: CIS 112

CIS 295   Network Design and   3 Credit Hours
**   Implementation**

This is the final course in the Network Administration degree program. This capstone course provides learning experiences in the design, implementation and support of a Local Area Network. This course covers basic LAN design methods and tools, NetWork Operating Systems, LAN implementation considerations, LAN hardware, and network troubleshooting techniques. Students will design and implement an actual LAN in the lab complete with file servers, workstations, hubs, switches, and routers.

Prerequisites: Approval of the department contact Brent Fulton at brent@hfcc.edu or 313-845-6426.

Note: Offered every year in the Winter semester.

CLT 100   Computer Literacy Test   0 Credit Hours

CNT 110   CCNA: Networking Fundamentals 4 Credit Hours

This course is the first of four courses preparing students for the CCNA (Cisco Certified Network Associate) certification. This course will introduce students to fundamental networking concepts and technologies. Course topics include: the OSI and TCP/IP network models; networking devices and components; network addressing schemes; types of network media; building simple networks; and basic router and switch configuration.

Note: CNT 110 is offered the first 8 weeks of both the Fall and Winter semesters

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CNT 115   Network Infrastructure Essentials 4 Credit Hours

A basic course designed for students interested in the physical aspects of voice and data network cabling and installation. This hands-on, lab-oriented course focuses on cabling issues related to data and voice connections and provides an understanding of the industry and its worldwide standards, types of media and cabling, physical and logical networks, as well as signal transmission.

Prerequisites: CNT 110 or CIS 112 or permission of instructor

CNT 120   CCNA: Routing Protocols and   4 Credit Hours Concepts

This course is one of four courses preparing students for the CCNA (Cisco Certified Network Associate) certification. Students will develop an understanding of how a router learns about remote networks and determines the best path to those networks. Topics include: static and dynamic routing; routing protocol configuration; and implementing, verifying, and troubleshooting routing operations.

Prerequisites: CNT 110

Note: CNT 120 is offered the second 8 weeks of both the Fall and Winter semesters.

CNT 210   CCNA: LAN Switching and   4 Credit Hours Wireless

This course is one of four courses preparing students for the CCNA (Cisco Certified Network Associate) certification. Topics include: switching concepts and switch operations; switch configuration; Virtual Local Area Networks (VLANs); Inter-VLAN routing; VLAN Trunking Protocol; wireless network components and standards; and basic wireless configuration.

Prerequisites: CNT 110

Note: CNT 210 is offered the first 8 weeks of both the Fall and Winter semesters, and in the Spring.

CNT 220   CCNA: WAN Technologies   4 Credit Hours

This course is one of four courses designed to prepare students for the CCNA (Cisco Certified Network Associate) certification. Topics include: implementing basic switch security measures; configuring and implementing Access Control Lists (ACLs); implementing various WAN technologies including Frame Relay and Point-to-Point Protocol; and troubleshooting WANs.

Prerequisites: CNT 110 and CNT 120

Note: CNT 220 is offered during the second 8 weeks of both the Fall and Winter semesters, and during the Summer.

CNT 231   CCNA: Security Specialization   4 Credit Hours

This course is intended for students with CCNA training and/ or equivalent experience who are interested in competency in the technologies that Cisco uses in its security infrastructure. Students will acquire the skills needed to secure Cisco routers and switches including the installation, troubleshooting and monitoring of network devices to maintain integrity, confidentiality and availability of data and devices. Other topics include recognizing network threats and vulnerabilities, and mitigating security threats. This course helps prepare students for the CCNA Security certification exam.

Prerequisites: CNT 220, CCNA Certification, or permission of instructor.

CNT 260   Network Security: Security + Prep   4 Credit Hours

This course is an introduction to network security concepts, communication security, infrastructure security, organizational security and basic cryptography. The course helps prepare students for the CompTIA Server+ certification exam.

Prerequisites: CNT 120 or permission of the instructor

CNT 291   CCNP: Building Scalable   4 Credit Hours Internetworks

This course is one of four courses designed to prepare students for the Cisco Certified Networking Professional (CCNP) certification. This course teaches advanced skills required to implement and support enterprise-class IP routing networks. Topics include scalable network design, EIGRP routing, multi-area OSPF routing, Integrated IS-IS routing, route optimization, BGP, IP multicasting, and IPv6 addressing.

Prerequisites: CNT 220 or Cisco CCNA Certification or permision of instructor.

Prerequisites: CNT 291 will only be offered in the Winter semester in even numbered years.

CNT 293   CCNP: Building Multilayer   4 Credit Hours Switched Networks

This course is one of four courses designed to prepare students for the Cisco Certified Networking Professional (CCNP) certification. This course teaches advanced skills required for building enterprise-class switched networks with integrated voice and wireless applications. Topics include campus networks, VLAN implementation, Spanning Tree Protocol, inter-VLAN routing, network redundancy, wireless LANs, VoIP, and switch security issues.

Prerequisites: CNT 220 or Cisco CCNA Certification or permission of instuctor.

Note: CNT 293 will only be offered in the Winter semester in even numbered years.

CNT 295   CCNP: Implementing Secure   4 Credit Hours Converged WANs

This course is one of four courses designed to prepare students for the CCNP (Cisco Certified Network Professional) certification. Topics include: teleworker configuration and access; Frame-mode MPLS; site-to-site IPSec VPN; security strategies; Cisco device hardening; and Cisco IOS Firewall features.

Prerequisites: Approval of the department - contact Brent Fulton at brent@hfcc.edu or 313-845-6426.

Note: CIS 295 will be offered every year in the Winter semester in odd numbered years.

CNT 297   CCNP: Optimizing Converged   4 Credit Hours
Networks

This course is one of four courses designed to prepare students for the CCNP (Cisco Certified Network Professional) certification. Topics include: VoIP implementation; QoS implementation; Auto QoS implementation; wireless security; and basic wireless management.

Prerequisites: CNT 220 or Cisco CCNA Certification or permission of the instructor

Note: CNT 297 will only be offered in the Fall Semester in odd numbered years.

COLL 101   College Success   3 Credit Hours

This course is designed to help students achieve academic success. Students will become aware of techniques in note taking, time management, and stress management. The course will also promote the development of a basic vocabulary for a beginning student, as well as the ability to understand oneself and others. Students will also learn to navigate the college environment and to understand and appreciate the importance of diversity.

COLL 105   Language Skills for College   3 Credit Hours
Success

A course designed for Dual Enrollment high school students, emphasizing reading strategies and skills that will prepare students for success in college level content-area and English composition courses, including those measured by a standardized placement test. Students will learn how to make connections with a variety of authentic texts, practice strategies needed for critical reading, and expand their academic vocabulary. Online assignments that complement classroom activities and COMPASS pre- and post-testing will also be required. COLL 105 does not substitute for any required English courses. 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.

Co-requisites: Must be a Dual Enrollment high school student

COUN 110   Human Potential Seminar   2 Credit Hours

Uses the group process, which enables each individual to discover and use strengths, talents, and abilities more efficiently. Through goal setting and value clarification, one learns to think positively about oneself and become a more self-directing person.

COUN 111   Advanced Human Potential   2 Credit Hours
Seminar

Uses the group process and the tools developed in COUN 110 to 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 permission of the instructor

COUN 114   Stress Management –   2 Credit Hour
A Personal Approach

Provides 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.

COUN 115   Assertiveness Training   1 Credit Hour

An experiential course designed to improve communication and behavior. Students learn to differentiate between assertiveness, passiveness and aggressiveness. Through lectures, discussion, and role-playing, a person begins to become more assertive.

COUN 116   Assertiveness in Daily Living   1 Credit Hour

An advanced course in assertiveness focusing on communication problems with parents, siblings, friends, relatives, and strangers, including specific assertive strategies for successful communication with difficult people. Emphasis is on role-playing situations such as refusing a request, asking a favor, responding to criticism, and anger management.

COUN 118   Assertiveness at Work   1 Credit Hour

An advanced course in assertiveness that discusses how to get the most out of one's work environment. One learns how to apply for a job, assertively prepare a boss for a raise, and negotiate salary. In addition, assertive strategy is offered for successfully handling both criticism from peers and a performance review from the boss.

COUN 119   Issues in Personal Growth   2 Credit Hours

This course is designed to give participants an opportunity to learn about and discuss the specific blocks present in their lives. Students will become aware of how they hinder their ability to do academic work and find friendship, love, and happiness. Small group interaction will be a part of this course.

COUN 120   Career Exploration   1 Credit Hour

Designed to assist students in exploring and assessing their interests, needs, and values in relation to possible occupations and careers. Both readings and small group discussion are utilized.

COUN 125   Life Work Planning   3 Credit Hours

Discussion, testing, and computer research enable participants to examine their own resources, strengths, and constraints to determine what is realistic for future change. Decision-making tools are taught so that effective planning results in harmony between one's life and work. Potential trouble areas are examined through problem-solving techniques.

COUN 127   Job Interview Counseling   1 Credit Hour

Offers successful strategies to fight the anxiety that comes with a job interview. Students learn creative methods to secure an interview, what to wear at the interview, how to field questions, what to ask the interviewer, and post-interview follow-up. Each student must have a resume in order to benefit from this class.

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COUN 128   Active Parenting   2 Credit Hours

Provides classroom discussions, video examples, and a supportive group setting for students to learn the basic principles of active parenting of both children and teens. Students are encouraged to apply these principles to their own situations.

COUN 129   Personality Type and Success   2 Credit Hours

Through the use of the Myers-Briggs Type Indicator, participants will develop a greater understanding and appreciation of self and others. Understanding type differences will promote better interpersonal relationships in the home, work, and other areas of one's life. Differences in problem-solving and decision-making techniques will also be explored.

CRJ 131   Introduction to Law Enforcement   3 Credit Hours
**   and Criminal Justice**

An overview of the criminal justice system in the U.S. Topics surveyed are the history of law enforcement; the political, sociological, and philosophic 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.

Note: This course meets the graduation requirement for General Education Outcome 1: American Society, Events, Institutions and Cultures.

CRJ 132   Police Administration Staff and   3 Credit Hours
**   Line Operations**

Focuses on uniformed police operations, both patrol and traffic, as well as principles of organization, management, planning, and crime prevention.

CRJ 134   Criminal Investigation   3 Credit Hours

An introduction to 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   3 Credit Hours

Studies the legal and philosophical basis of the juvenile justice process along with a review of the juvenile court procedures in Michigan. Problems related to delinquency and its control are discussed.

CRJ 136   Corrections I   3 Credit Hours
**   Introduction to Corrections**

A study of the history and philosophy of corrections. An investigation is made of probation and parole and the impact of prisoner rights law on the system as a whole.

CRJ 138   Probation and Parole   3 Credit Hours

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.

CRJ 140   Identity Theft: Prevention &   3 Credit Hours
**   Awareness**

This course will provide students with an overview of the identity theft problem in America. It will include current statistics from around the nation, profiles of specific cases, various prevention techniques and steps to take if you become a victim.

CRJ 141   Corrections Clients - Human   3 Credit Hours
**   Growth and Development**

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.

CRJ 234   Criminalistics: Criminal   3 Credit Hours
**   Investigation Laboratory Techniques**

Offers laboratory experience in the fundamentals of investigation, including fingerprinting techniques and the examination of hair, fiber, glass, and firearms and tool marks.

CRJ 235   Computer Forensics and Cyber   3 Credit Hours
**   Crime Investigations**

This course introduces the student to fundamental principles of computer investigations. Emphasis will be on computer forensics tools, information protection, professional development and security. The course 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 HFCC Computer Literacy requirement

CRJ 251   Criminal Law   4 Credit Hours

A study of the basic elements of criminal law with particular emphasis on definitions of Michigan crimes.

CRJ 252   Criminal Procedure   4 Credit Hours

A continuation of 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. Both Michigan and federal constitutional issues are discussed.

Prerequisites: CRJ 251

CRJ 253   Legal Issues in Corrections/   4 Credit Hours
**   Probation and Parole**

An introduction to constitutional issues relating to corrections. Study is made of court processes, with particular emphasis on major cases affecting corrections, including probation and parole.

CRJ 285   Topics in Criminal Justice/Law   3 Credit Hours
**   Enforcement**

An exit course covering a series of critical issues facing law enforcement personnel. The primary goals are to help the student understand the diverse roles of the public police and prepare for entry into the job market.

Prerequisites: ENG 131 and CRJ 131 (plus 3 additonal credit hours of Criminal Justice courses)

CRJ 286   Topics in Corrections/   3 Credit Hours
**   Probation and Parole**

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 and CRJ 136 (plus 3 additonal credit hours of Criminal Justice courses)

CRJ 287   Police Academy   21 Credit Hours

This course is designed to prepare recruits in the proper techniques of investigation, crime scene process, patrol procedures, operations and techniques. Emphasis will be placed on conflict mediation, report writing, and detention and prosecution of prisoners. First aid, investigations, evidence collection, disaster control, civil disorders and tactical operations will be covered in the course.

Prerequisites: Written consent of Criminal Justice Director at Henry Ford Community College and approval of Director of Schoolcraft Community College Police Academy

CRJ 291   Criminal Justice Internship   3 Credit Hours

An internship program that provides the student field experience with municipal, county, state, and federal criminal justice agencies and related agencies in the private sector.

Prerequisites: A grade point average of at least 2.8, completion of 12 credit hours of criminal justice courses, and written consent of the Criminal Justice Director before registration.

CRJ 292   Criminal Justice Internship II   3 Credit Hours

A continuation of CRJ 291, designed to enhance the opportunity of selected students to prepare for specific employment.

Prerequisites: Successful completion of CRJ 291. A grade point average of at least 2.8, completion of 12 hours of criminal justice, and written consent of the Criminal Justice Director before registration.

DNC 121   Beginning Tap   2 Credit Hours

A dance form derived from a combination of syncopated African rhythms, Irish clogging, and folk dance. Basic rhythms and steps are explored at a level appropriate for the class. Shoes are discussed during the first class meeting.

DNC 131   Beginning Ballroom   2 Credit Hours

Provides students the opportunity to learn the basics of Ballroom and Latin dance in a group setting. Students are taught to recognize and execute basics of Waltz, Tango, Foxtrot, Rumba, Cha Cha, Mambo, and Samba and maneuver around the dance floor with confidence.

DNC 141   Beginning Ballet   2 Credit Hours

A dance form originating in the court of Louis XIV. The movement vocabulary, therefore, is in French. This course connects movement with the French term, permitting the student to properly execute the movement and build on a basic movement vocabulary at the barre, at centre, and through the dance space. A universal movement system, classical dance can be understood throughout the world.

DNC 151   Beginning Modern Dance   2 Credit Hours

Beginning Modern Dance is a beginning level course that provides an exploratory look at dance as a limitless way to express oneself in human movement. Primary emphasis is on developing a basic Modern Dance vocabulary from which to build fresh movement material as well as improving health and fitness of the body, the instrument of dance.

DNC 152   Intermediate Modern Dance   2 Credit Hours

Intermediate Modern Dance looks at this genre as an art form that has a limitless way to express oneself in human movement. Primary emphasis is on building from basic Modern vocabulary, developing ways to find original movement material, and on improving health and fitness of the body, the instrument of dance.

Prerequisites: DNC 151 or permission of the instructor

DNC 161   Beginning Jazz Dance   2 Credit Hours

Beginning Jazz Dance is a course in which students learn this big, bold percussive movement with many styles. Primary emphasis is on developing knowledge of and experience in basic Jazz vocabulary accompanied by jazz rhythms and syncopation.

DNC 162   Intermediate Jazz Dance   2 Credit Hours

A continuation of DNC 161, exploring further the characteristic jazz movements with the use of more intricate footwork and movement phrases or combinations.

Prerequisites: DNC 161 or permission of the instructor

DNC 230   Beginning Choreography   3 Credit Hours

The course provides opportunities to use individual creativity through the composition of dance phrases and studies. With the emphasis on "learning by doing," a student can discover how to manipulate the dance elements of time, space and energy and create thematic material from which to build an entire dance. Movement will mainly be composed for solo rather than group works.

Prerequisites: Any level of Ballet, Modern, or Jazz class, or concurrent enrollment in such a class, or permission of the instructor

DNCA 221   College Dance Company I   3 Credit Hours

Provides advanced dance students the experience of performing in a variety of genres and settings.

Prerequisites: Admission by audition each term
Co-requisite: Any level Ballet, Modern or Jazz

DNCA 222   College Dance Company II   3 Credit Hours

Provides advanced dance students the experience of performing in a variety of genres and settings.

Prerequisites: Admission by audition each term
Co-requisite: Any level Ballet, Modern or Jazz

DNCA 223   College Dance Company III   3 Credit Hours

Provides advanced dance students the experience of performing in a variety of genres and settings.

Prerequisites: Admission by audition each term.
Co-requisite: Any level Ballet, Modern or Jazz

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DNCA 224   College Dance Company IV   3 Credit Hours

Provides advanced dance students the experience of performing in a variety of genres and settings.

Prerequisites: Admission by audition each term.

Co-requisite: Any level Ballet, Modern or Jazz

DRAF 110   Introduction to Industrial Drafting 3 Credit Hours

A drafting course for the student who plans to pursue the program in Industrial Drafting and CAD Technology or needs instruction in the basics of drafting. Units of instruction include the use of drafting instruments, lettering techniques, geometric construction, orthographic projection, pictorial drawing, basic dimensioning, section and auxiliary views, introduction to assembly drawings, and interpretation of drawings.

Suggested Co-requisites: Recommended concurrent with DRAF 120

DRAF 120   Introduction to CAD   4 Credit Hours

A basic computer-aided drafting class for the student planning to pursue the program in Industrial Drafting and CAD Technology. Topics considered are general computer operations, geometric construction, construction of orthographic drawings, auxiliaries, sectioning, and dimensioning.

Prerequisites: Completion of or concurrent enrollment in DRAF 110

DRAF 123   Introduction to CATIA V5   2 Credit Hours

An introductory course in which the student will learn the basics of CATIA V5 and its functionality. The student will use Part Design, Sketcher, Drafting, and Assembly Design Workbenches to make models that are properly constructed and constrained. CATIA's tools and toolbars will be demonstrated and used in these Workbenches.

Prerequisites: DRAF 120, equivalent CAD class, CAD work experience, or permission of instructor.

DRAF 125   CATIA V5 Level II   2 Credit Hours

This course will extend the skills and knowledge of CATIA V5 that were learned in the previous class (DRAF 123). Some Workbenches will be expanded upon from the previous class, and others will be introduced. Topics will include advanced part design, advanced assemblies, kinematics simulations, the use of the specification tree, creating design tables, and using component catalogs.

Prerequisites: DRAF 123

DRAF 127   CATIA V5 Level III   2 Credit Hours

This operations course is in the use of the Drafting and Generative Shape Design (GSD surfacing) Workbenches. The application of dimensions, tolerances, and the creation of advanced views will be learned in the Drafting environment. Instruction in surfacing will include extruding and the creation of simple and complex surfaces in the Generative Shape Design Workbench.

Prerequisites: DRAF 123

DRAF 130   Technical Descriptive Geometry   3 Credit Hours

An intermediate-level drafting course in advanced projection techniques. Auxiliary views are used to manipulate geometry to define the relationship between points, lines, planes, and solids. The course also includes topics on revolution, intersections, and developments.

Prerequisites: DRAF 110

DRAF 142   Industrial Detailing   4 Credit Hours

An intermediate-level class in 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. Set up and application of CAD dimensioning styles and tolerances are utilized.

Prerequisites: DRAF 110 and DRAF 120

DRAF 210   Die Design   3 Credit Hours

An advanced drawing- and process-oriented course in the layout and design of production press work dies. Typical dies examined 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   2 Credit Hours

An advanced course providing an insight into the study of mechanisms, their motions, and related skeletal construction. Calculations are made to determine size and capacity requirements 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, Tools   3 Credit Hours

An advanced process-oriented drafting course in design, layout, and detail of production tooling. Consideration is given to locating, clamping, and tolerancing jigs and fixtures for the manufacture of an industrial part. Standard parts catalogs and library reference material 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   2 Credit Hours

An advanced drawing course that examines the demands of product drafting. The design process is applied in the development of a product with consideration given to its function, material, 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   CAD Advanced Techniques   4 Credit Hours

A CAD course to develop skill in the advanced operations of making three-dimensional drawings. Solids analysis and the manipulation of geometry using auxiliary views are practiced. Concepts of descriptive geometry and detailing are reviewed and expanded as they relate to CAD model geometry.

Prerequisites: DRAFT 110 and DRAF 120. Completion of or concurrent enrollment in DRAF 130 and DRAF 142

DRAF 260   Advanced CAD Applications   4 Credit Hours
              Solid Modeling

A course in three-dimensional, feature-based parametric solid CAD. This course has the student 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: DRAFT 110 and DRAF 120. Completion of or concurrent enrollment in DRAF 130 and DRAF 142

EDU 201   Introduction to Education   3 Credit Hours

This course is an introduction to the field of education. Course topics include the teacher certification process, professionalism, state standards, and high-stakes testing. Students will be introduced to lesson planning, instructional techniques, and classroom instruction. The student will develop their e-portfolio, a program requirement.

EDU 201 is to be taken concurrently with the corresponding section of EDU 202, 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. Service learning hours in PSY 152 do not count for EDU 202.

Prerequisites: ENG 131, ENG 132, and PSY 131

Co-requisites: CIS 221 or CIS 223, and EDU 202

EDU 202   Introduction to Education Practicum 1 Credit Hour

EDU 202 is a required 45-clock hour practicum, to be taken concurrently with the corresponding section of EDU 201. 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, as well as the various career paths in education, certification and endorsement. Activities allow students to interact with and use resources such as the GLCEís, Entry-Level Standards for Michigan Teachers (ELSMT), Michigan Curriculum Framework (MCF), and Universal Design for Learning (UDL). (See EDU 201 for more information.)

This course is not to be taken concurrently with PSY 152. Service learning hours in PSY 152 do not count for pre-student teaching hours in EDU 202.

Prerequisites: ENG 131, ENG 132, and PSY 131

Co-requisites: CIS 221 or CIS 223, and EDU 201

ELEC 103   Basic Electricity   4 Credit Hours

A beginning course covering the fundamentals of electricity as applied to the electrical field. Topics include electron theory, Ohm's Law, circuits, magnetism, inductance, capacitance, and alternating current circuits. Students will use both computer simulation and construct circuits, voltmeters, ammeters, power supplies, signal generators, and oscilloscopes during lab.

Co-requisites: ELEC 100 is recommended but not required

ELEC 106   Basic Electronics   3 Credit Hours

Introduces the fundamentals of solid-state components found in electronic circuits. Topics include solid state diodes, field effect transistors, and bipolar transistors. Students learn the characteristics of these components and some basic circuits in which they are commonly used. A software program is used to simulate various electronic circuits.

Suggested Prerequisites: Completion of or concurrent enrollment in ELEC 103 is recommended

ELEC 115   Digital Circuits I   3 Credit Hours

An introductory course for electronics majors that covers: digital concepts; binary, hexadecimal, and BCD number systems; TTL and CMOS integrated circuit logic gate technology; Boolean algebra; logic tables; combinational logic; monostable and biostable multivibrators; storage registers; asynchronous counters; and the use of digital electronic simulation software. About half of class time is devoted to hands-on laboratory experiments.

ELEC 120   Basic Hydraulics   3 Credit Hours

An introductory course designed to familiarize the student with basic hydraulic principles, laws, components, and symbols. Students are introduced to safety, the use of tools, and procedures in the design, building, testing, troubleshooting, and repair of industrial hydraulic systems. This course includes lectures, demonstrations, and laboratory activities.

ELEC 145   AC/DC Rotating Machines   3 Credit Hours

An intermediate-level course concentrating on the theory and application of DC motors and generators, AC alternators, and single-phase and three-phase induction motors. Single-phase and three-phase transformers are also covered. This course includes both lectures and laboratory activities with verification of several circuit principles.

ELEC 155   Analog Electronics 1   3 Credit Hours

An intermediate-level course covering fundamental circuits and their characteristics, designed to provide a sound understanding of rectifier circuits and amplifier systems. Laboratory work consists of experiments in rectification, filtering, amplification, and coupling.

Prerequisites:t ELEC 103

ELEC 185   Pneumatics   3 Credit Hours

Explores the principles of fluid power pneumatics as they apply to industrial systems. Various pneumatic components are studied with respect to their functions within pneumatic power and control systems. This course will consist of both lecture and laboratory work.

ELEC 190   Electronics Technology Co-op   1 Credit Hour

An advanced course offering practical work experience in the Electronics Robotics Technology field through participation in a supervised cooperative education program. This course integrates work and classroom experience.

Prerequisites: 16 ELEC credit hours and permission of the instructor

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings, or weekends depending on employer needs.

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ELEC 195   AC/DC Circuit Analysis   3 Credit Hours

A laboratory-oriented intermediate-level course for electronics majors including the study of DC single- and multi-source circuitry with the application of Loop, Node, and Thevenin's theorems. Also included are AC reactive circuits using both phasors and complex numbers for determining reactance, impedance, and power factor.

Prerequisites: ELEC 103

ELEC 200   Ladder Diagrams and Motor   3 Credit Hours
**   Controls**

Covers the fundamentals of electrical ladder diagrams and motor control circuits. Ladder logic, as well as labels, documentation, and symbology of electrical drawings, is presented with the use of ladder diagrams for troubleshooting. The student designs and draws control circuits for three-phase induction motors and wires these circuits in the motor control lab. Several single phase control circuits are included in laboratory exercises. Also included in the lab exercises are sequencing electro-pneumatic devices. This course is equivalent to TAE 200, which is currently a required course for electrical apprentices. This course will introduce students to the variable frequency drive to control three-phase motor speed.

Prerequisites: ELEC 103

ELEC 205   Analog Electronics II   3 Credit Hours

An intermediate-level course including discussion of differential amplifiers; operational amplifiers; power amplifiers; oscillators; rf and modulation circuits; voltage-controlled oscillators; phase-locked loops; linear and switching voltage regulators; triggered semiconductor devices such as the SCR, diacs, and triacs; and LASER applications.

Prerequisites: ELEC 155

ELEC 215   Digital Circuits II   3 Credit Hours

An advanced digital course for electronics majors. Topics include synchronous counters, decoders, storage registers, shift registers, clock and timing circuits, serial and parallel adder circuits, Liquid Crystal Displays and drivers, digital-to-analog and analog-to-digital converters, multiplexers and demultiplexers, memory technology, and the use of digital electronic simulation software. About half of class time is devoted to hands-on laboratory experiments.

Prerequisites: ELEC 115

ELEC 245   Programmable Controllers   3 Credit Hours

Begins with a thorough discussion of the Allen Bradley PLC-5/25 programmable controller system characteristics, followed by a detailed presentation on using the programmable controller to solve the automated control problem. The ultimate objective is to prepare the student to be able to adapt to any PLC system, regardless of manufacturer, in a minimum of time. The course includes approximately 28 hours of lecture followed by 32 hours of laboratory work. This course is equivalent to TAE 245, which is currently a required course for electrical apprentices.

ELEC 255   Instrumentation Systems   3 Credit Hours

An intermediate-level hands-on course providing the student with an understanding of, and experience with, instrumentation systems. Transducers studied include LVDTs, strain gages, accelerometers, load cells, magnetic pickups, and temperature detectors. Computer-based data acquisition is used extensively, including use of LABVIEW Graphical programming language.

Prerequisites: ELEC 155

ELEC 260   Automation Controls and Robotics 3 Credit Hours

A course intended for advanced students with a basic understanding of the programmable controller. Control specifications written by the student for laboratory automation machines and industrial robots are used to implement controls for non-synchronous and synchronous operation of the machine. Specific topics include techniques, terminology, and documentation currently used in automated manufacturing.

Prerequisites: ELEC 245 with a grade of C or better

ELEC 295   Microprocessor Systems   3 Credit Hours

An advanced-level hands-on course based on the study of the Motorola MC68HC11 microcontroller. Specific topics covered are 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.

Prerequisites: ELEC 215

ELI 001   Beginning ESL I   6 Credit Hours

Using a vocabulary of about 1,000 words, students will be able to communicate in English in speech, reading, and writing according to the situation, purpose, and roles of participants in circumstances centered on the following themes and using the following grammatical forms. This course is designed to prepare students for ELI 002.

Prerequisites: Students must have writing skills scores of 10-35 and reading skills scores of 10-37 on the COMPASS test.

ELI 002   Beginning ESL II   6 Credit Hours

This course is designed for non-native speakers of English who need to improve speaking, writing or listening skills. The focus of this course will be on vocabulary, sentence structure and conversational English. There is special emphasis on the use of computer software and the web. Students will role-play and use microphones to improve their pronunciation via software video, and true-to-life activities. This course is designed to prepare students for ELI 003.

Prerequisites: Students must have writing skills scores of 36-41 and readingskills scores of 38-45 on the ESL COMPASS test.

ELI 003   Intermediate ESL I   6 Credit Hours

This course is designed to introduce students to the parts of speech, sentence variety, paragraph reading, communication in social situations, and cross-cultural differences. Students will have the opportunity to share their views and discussions that revolve around transference and language acquisition. There is special emphasis on the use of computer software and the web. Students will role-play and use microphones to improve their pronunciation via software, video, and true-to-life activities. This course is designed to prepare students for ELI 004.

Prerequisites: Students must have writing skills scores of 42-47 and reading skills scores of 46-56 on the ESL COMPASS test.

ELI 004   Intermediate ESL II   6 Credit Hours

Using a vocabulary of about 3,600 words, students will be able to communicate in English in speech, reading, and writing according to the situation, purpose, and roles of participants in circumstances centered on the following themes and using the following grammatical forms. This course is designed to prepare students for ELI 005.

Prerequisites: Students must have writing skills scores of 48-54 and reading skills scores of 57-69 on the ESL COMPASS test.

ELI 005   Advanced ESL College   6 Credit Hours
**   Preparatory Reading and Writing I**

This course emphasizes ESL intermediate-level college preparatory reading and writing skills. Students practice study systems, memory strategies, test preparation skills, and organizational skills while improving vocabulary, dictionary skills, understanding of idioms, and spelling. Students practice comprehension skills such as distinguishing general and specific terms, recognizing main ideas, and drawing conclusions. With frequent writing assignments, this course stresses grammatical accuracy, oral and written sentence patterns, and the basic principles and types of paragraph writing. There is special emphasis on the use of computer software and the web and the use of near-native speech. It substitutes for ENG 078 and ENG 091 and, if passed, qualifies the student for ENG 081 and ENG 092 and ELI 006.

Prerequisites: Students must have writing skills scores of 55-70 and reading skills scores of 70-81 on the ESL COMPASS test.

ELI 006   Advanced ESL College   6 Credit Hours
**   Preparatory Reading and Writing II**

This course is designed to provide college preparatory reading and writing instruction at an advanced level. Students learn note taking and test preparation skills and practice specialized reading in social science, literature, and mathematics. Reading also focuses on making inferences, retaining concepts, organizing facts, and making judgments. A major objective of the course is to prepare students to write college-level expository essays free from major sentence structure errors, faulty agreement problems, and inappropriate diction. Students continue their study of troublesome structures such as noun clauses, infinitive phrases, and conditional expressions. Students speak and understand at a near-fluency level. It substitutes for ENG 081 and ENG 092 or ENG 093 and if passed, qualifies the student for ENG 131.

Prerequisites: Students must have writing skills scores of 71-85 and reading skills scores of 82-87 on the ESL COMPASS test or have passed ELI 005 or both English 078 and ENG 091.

ELI 008   Computer-Assisted Individualized   1 Credit Hour
**   Learning**

A lab course designed to assist all college students for whom English is a second language. This course is specifically developed for students who, although admitted to college, realize that their limited English prevents them from achieving the success they desire. Students work with computer software designed for second-language learners first to assess individual needs and then to meet them accordingly. Computer-assisted instruction is offered in pronunciation, reading, writing, grammar, and vocabulary skills. Students receive individual instructor attention. Evaluation is based on successful completion of assigned work, improvement, and attendance. This course does not substitute for any other English course at HFCC. Students may enroll up to the fourth week of classes.

ELI 009   Pronunciation and Conversation   3 Credit Hours
**   for the Non-native Speaker**

A developmental course to improve pronunciation and conversational skills of non-native speakers who already have at least intermediate level fluency in English. This course is especially designed for professionals and those students who have learned English primarily from textbooks and who have had little opportunity for oral practice.

Prerequisites: Students must have at least an intermediate-level of fluency in English.

ELI 010   Pharmacy College Admissions   2 Credit Hours
**   Test Preparation -Verbal, Reading,**
**   and Writing Sections**

This course is designed to prepare students for three sections of the PCAT (Pharmacy College Admissions Test): verbal, reading comprehension and writing. The verbal section measures general, non-scientific word knowledge and usage using analogies and sentence completion. The reading comprehension section measures the ability to comprehend, analyze, and evaluate reading passages on science-related topics and the writing section introduces sample topics along with brief descriptions of the writing subtest and explanations on how the essays are scored. The course contains diagnostic pretests to determine specific areas of weakness and specific test-taking strategies and tactics to help enhance students' knowledge in the convention of language. The "critical thinking" essay is the focal point of the writing component.

Prerequisites: Students must be enrolled in the Pre-pharmacy program.

ELI 014   Advanced Reading and   3 Credit Hours
**   Vocabulary**

This course is designed to provide ESL college preparatory reading and grammatical review geared to meet the needs of the high-intermediate and advanced students prior to taking ENG 131. The course will enable students to review and reinforce their vocabulary skills, and understanding of idioms and expressions. The course will encourage students to read and appreciate essays, short stories, and novels written by a variety of American authors.

Prerequisites: Students must have writing skills scores of 71 or higher and reading skills scores of 82 or higher on the ESL COMPASS Test. Any English as a second language learner who is currently enrolled in the college and who has successfully completed ENG 078 and ENG 091 is eligible.

ELI 015   Advanced Grammar and Spelling   3 Credit Hours

This course is designed to provide ESL college preparatory grammar and spelling instruction at an advanced level. Students learn basic and complex rules of spelling English words. Instruction also focuses on grammatical structures that are particularly troublesome for second language learners of English.

Prerequisites: Students must have writing skills scores of 55 or higher and reading skills scores of 70 or higher on the ESL COMPASS Test. Any English as a second language learner currently enrolled in the college is eligible.

EMS 100   EMT-Basic Fundamentals   9 Credit Hours

This lecture course presents the technical knowledge and skills necessary for certification as a Basic Emergency Medical Technician (EMT-B). This course focuses on Basic Life Support (CPR), airway management, poisoning emergencies, splinting, disaster management, bleeding, shock, emergency child birth, and psychological emergencies, as well as extrications. This course meets the recommendations of the National Department of Transportation for EMT- Basics. Note that successful completion of this course is required for individuals wishing to take the National Registry Certifying Exam for EMT-Basics.

Co-requisites: Concurrent enrollment in EMS 106 and EMS 109 is required.

Completion of or concurrent enrollment in AH 105,

Suggested Prerequisites: AH 100

Students attempting any EMS class should have a minimum ASSET Reading score of 43 or a COMPASS Reading score of 84. For the Writing requirement, assessment scores should allow placement into ENG 131 This requirement may also be satisfied by successful completion of the required developmental courses.

All EMS 100 students must have a current CPR card for the Healthcare Provider, American Heart Association, prior to the 8th week of the EMS 100 level courses. (This can be met by completing AH 105.)

EMS 106   EMT-Basic Procedures   2.5 Credit Hours

This laboratory course is designed to develop overall patient management skills required for Basic EMT. This covers equipment, assessment, evaluation, treatment, documentation, communication and more. Subject matter complements the required co-requisite lecture course in EMS 100 (EMT- Basic Fundamentals). This lab focuses on all essential skills required for the successful completion of the National Registry standard practical examination. This course meets the recommendations of the National Department of Transportation for EMT- Basics.

Co-requisites: Concurrent enrollment in EMS 100 and EMS 109 is required.

Completion of or concurrent enrollment in AH 105.

Suggested Prerequisites: AH 100

Students attempting any EMS class should have a minimum ASSET Reading score of 43 or a COMPASS Reading score of 84. For the Writing requirement, assessment scores should allow placement into ENG 131 This requirement may also be satisfied by successful completion of the required developmental courses.

All EMS 100 students must have a current CPR card for the Healthcare Provider, American Heart Association, prior to the 8th week of the EMS 100 level courses. (This can be met by completing AH 105.)

EMS 109   EMT-Basic Clinical Externship   2 Credit Hours

This course provides a structured clinical experience in the hospital and in the prehospital emergency medical service environment. The purpose of this course is to provide the students an opportunity to demonstrate learned assessment skills, under supervision, in real-life situations. This course meets the recommendations of the National Department of Transportation for EMT- Basics. Note that successful completion of this course is required for individuals wishing to take the National Registry Certifying Exam for EMT-Basics. (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: Health forms and hepatitis information (See the Health Careers Division). These packets will also be available to EMS students during the first week of school and will be handed out during the EMS 100 course.

Co-requisites: Concurrent enrollment in EMS 100 and EMS 106 is required. Completion of or concurrent enrollment in AH 105.

Suggested Prerequisites: AH 100

Students attempting any EMS class should have a minimum ASSET Reading score of 43 or a COMPASS Reading score of 84. For the Writing requirement, assessment scores should allow placement into ENG 131 This requirement may also be satisfied by successful completion of the required developmental courses.

All EMS 100 students must have a current CPR card for the Healthcare Provider, American Heart Association, prior to the 8th week of the EMS 100 level courses. (This can be met by completing AH 105.)

EMS 200   Paramedic   3 Credit Hours

This lecture course begins with an overview of EMS systems, injury preventions, medical, legal, and ethical issues as well as general patient assessment. The course progresses the student through advanced assessments in the areas of respiratory and neurologic conditions. The course ends with a focus in pathophysiology as it relates to body functions in the presence of disease or injury.

Prerequisites: Acceptance into the Paramedic program. This is done via a waiting list and is managed through the EMS Program Manager in Health Careers.

Students must have a current NREMT certificate or a current EMT-B MI state license, and have passed the following courses with a C or better: AH 100, AH 120, BIO 233, and BIO 234.

Completion of or concurrent enrollment in BIO 234.

Valid Healthcare Provider CPR Card or equivalent.

ASSET Math score of 39 or above on the Numerical Skill Unit or COMPASS Pre-Algebra score of 39 or above or successful completion of MATH 074.

ASSET Reading score of 43 or COMPASS Reading score of 84 or successful completion of ENG 081.

ASSET Writing score of 44 or COMPASS Writing score of 78. Successful placement into or completion of ENG 131 fulfills the writing requirement.

Co-requisites: EMS 205, EMS 210, and EMS 290.

Note: All advanced-level EMS students must maintain a current CPR card for the Healthcare Provider, American Heart Association.

EMS 205   Paramedic Lab. I   3 Credit Hours

This laboratory course is designed to develop overall patient management skills. This covers equipment, assessment, evaluation, treatment, documentation, communication and more. Subject matter is complementary to the student's corresponding lecture courses in EMS 200 and EMS 210. This particular Lab focuses on team building techniques, IV and medication administration, and the management of respiratory and cardiac patients.

Prerequisites: Acceptance into the Paramedic program. This is done via a waiting list and is managed through the EMS Program Manager in Health Careers.

Students must have a current NREMT certificate or a current EMT-B MI state license, and have passed the following courses with a C or better: AH 100, AH 120, BIO 233, and BIO 234.

Completion of or concurrent enrollment in BIO 234.

Valid Healthcare Provider CPR Card or equivalent.

ASSET Math score of 39 or above on the Numerical Skill Unit or COMPASS Pre-Algebra score of 39 or above or successful completion of MATH 074.

ASSET Reading score of 43 or COMPASS Reading score of 84 or successful completion of ENG 081.

ASSET Writing score of 44 or COMPASS Writing score of 78. Successful placement into or completion of ENG 131 fulfills the writing requirement.

Co-requisites: EMS 200, EMS 210, and EMS 290.

Note: All advanced-level EMS students must maintain a current CPR card for the Healthcare Provider, American Heart Association.

EMS 210   Paramedic II   3 Credit Hours

This lecture course begins with an overview of basic pharmacology and then introduces students to advanced pharmacological concepts. Intravenous access with fluid and medication administration is the main focus leading into full patient assessment & management. The emphasis is placed upon ventilation, airway, and cardiovascular patients. The course builds to the clinical

Prerequisites: Acceptance into the Paramedic program. This is done via a waiting list and is managed through the EMS Program Manager in Health Careers.

Students must have a current NREMT certificate or a current EMT-B MI state license, and have passed the following courses with a C or better: AH 100, AH 120, BIO 233, and BIO 234.

Completion of or concurrent enrollment in BIO 234.

Valid Healthcare Provider CPR Card or equivalent.

ASSET Math score of 39 or above on the Numerical Skill Unit or COMPASS Pre-Algebra score of 39 or above or successful completion of MATH 074.

ASSET Reading score of 43 or COMPASS Reading score of 84 or successful completion of ENG 081.

ASSET Writing score of 44 or COMPASS Writing score of 78. Successful placement into or completion of ENG 131 fulfills the writing requirement.

Co-requisites: EMS 200, EMS 205, and EMS 290.

Note: All advanced-level EMS students must maintain a current CPR card for the Healthcare Provider, American Heart Association.

EMS 215   Paramedic Lab II   4 Credit Hours

This laboratory course is designed to develop overall patient management skills. This covers equipment, assessment, evaluation, treatment, documentation, communication and more. Subject matter is complementary to the student's corresponding lecture courses in EMS 220 and EMS 230. This particular lab focuses on the management of the cardiac patient, mega-code scenarios, spinal immobilization, traumatic injuries and traumatic resuscitation.

Prerequisites: EMS 200, EMS 205, EMS 210, and EMS 290

These courses must be successfully completed within the immediately preceding fall semester. All program entry prerequisites, without exception, must be completed by this time.

Co-requisites: EMS 220, EMS 230, and EMS 295.

Suggested Prerequisites: ENG 131 and ENG 132. It is recommended that students place into ENG 131 prior to attempting any EMS course.

Note: All advanced-level EMS students must maintain a current CPR card for the Healthcare Provider, American Heart Association.

EMS 220   Paramedic III   4 Credit Hours

This lecture course helps students to understand the pathophysiology of respiratory disease and neurological emergencies, then integrates this knowledge with assessment findings to develop a field impression and deliver appropriate treatments. This course dedicates an exceptional amount of time detailing 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.

This course is field-based and is self-scheduled with our Clinical Coordinator after the Mid-Term exams for EMS 100 and EMS 106. Students must successfully pass their Mid-Term Exams, turn in complete Health Packets, proof of health insurance, and have purchased the required uniform pants & shoes prior to being allowed to go to the EMS 109 Clinical. Students will receive information from the Clinical Coordinator during the first week of courses. The Clinical Coordinator will come to see students during the EMS 100 class time since EMS 109 does not formally meet on campus.

Prerequisites: EMS 200, EMS 205, EMS 210, and EMS 290

These courses must be successfully completed within the immediately preceding fall semester. All program entry prerequisites, without exception, must be completed by this time.

Co-requisites: EMS 215, EMS 230, and EMS 295.

Suggested Prerequisites: ENG 131 and ENG 132. It is recommended that all students place into ENG 131 prior to attending any EMS course.

Note: All advanced-level EMS students must maintain a current CPR card for the Healthcare Provider, American Heart Association.

EMS 225   Paramedic Lab III   2 Credit Hours

This laboratory course is designed to develop overall patient management skills. This covers equipment, assessment, evaluation, treatment, documentation, communication and more. Subject matter is complementary to the student's corresponding lecture course in EMS 240. This particular lab focuses on pediatric, gynecological and obstetric patients. A large focus is dedicated to patient management that incorporates the use of all ALS skills presented in the program.

Prerequisites: EMS 220, EMS 215, EMS 230, and EMS 295. These courses must be successfully completed within the immediately preceding winter semester.

Co-requisites: EMS 240 and EMS 299.

Suggested Prerequisites: ENG 131 and ENG 132. It is recommended that students place into ENG 131 prior to attempting any EMS course.

Note: All advanced-level EMS students must maintain a current CPR card for the Healthcare Provider, American Heart Association.

EMS 230   Paramedic IV   4 Credit Hours

This lecture course helps students to understand the pathophysiology of cardiovascular disease and to recognize and treat the associated dysrhythmias. Students will develop a broad understanding of the anatomy and physiology (review), general pathophysiology, assessment and management of emergencies in the areas of hematology, gastroenterology, toxicology and substance abuse, urology and nephrology, behavioral and psychiatric disorders, and environmental emergencies. This course completes with a special section on geriatric considerations.

Prerequisites: EMS 200, EMS 205, EMS 210, and EMS 290. These courses must be successfully completed within the immediately preceding fall semester. All program entry prerequisites, without exception, must be completed by this time.

Co-requisites: EMS 220, EMS 215, and EMS 295.

Suggested Prerequisites: ENG 131 and ENG 132. It is recommended that students place into ENG 131 prior to attempting any EMS course.

Note: All advanced-level EMS students must maintain a current CPR card for the Healthcare Provider, American Heart Association.

EMS 240   Paramedic V   3 Credit Hours

This lecture course covers specialty topics such as OB/GYN, newborn resuscitation, and pediatrics. 12-Lead ECG is also covered. This includes 12-Lead ECG application and interpretation.

Prerequisites: EMS 220, EMS 215, EMS 230, and EMS 295. These courses must be successfully completed within the immediately preceding winter semester.

Co-requisites: EMS 225 and EMS 299.

Suggested Prerequisites: ENG 131 and ENG 132. It is recommended that students place into ENG 131 prior to attempting any EMS course.

Note: All-advanced level EMS students must maintain a current CPR card for the Healthcare Provider, American Heart Association.

EMS 290   Advanced Clinical I   4 Credit Hours

This competency-based course provides the paramedic student with a structured clinical experience in the hospital and field environments. Students must complete designated tasks in specific topic areas. This set of clinical rotations emphasizes intravenous access and global patient management for patients in the operating room and the emergency department. Students are also exposed to a variety of cardiac diseases and dysrhythmias.

Prerequisites: Acceptance into the Paramedic program. This is done via a waiting list and is managed through the EMS Program Manager in Health Careers.

Students must have a current NREMT certificate or a current EMT-B MI state license, and have passed the following courses with a C or better: AH 100, AH 120, BIO 233, and BIO 234.

Completion of or concurrent enrollment in BIO 234.

Valid Healthcare Provider CPR Card or equivalent.

ASSET Math score of 39 or above on the Numerical Skill Unit or COMPASS Pre-Algebra score of 39 or above or successful completion of MATH 074.

ASSET Reading score of 43 or COMPASS Reading score of 84 or successful completion of ENG 081.

ASSET Writing score of 44 or COMPASS Writing score of 78. Successful placement into or completion of ENG 131 fulfills the writing requirement.

Co-requisites: EMS 200, EMS 205, and EMS 210.

Note: All advanced-level EMS students must maintain a current CPR card for the Healthcare Provider, American Heart Association.

EMS 295   Advanced Clinical II   4 Credit Hours

This competency-based course provides the paramedic student with a structured clinical experience in the hospital and field environments. Students must complete designated tasks in specific topic areas. This set of clinical rotations emphasizes airway management skills in the operating room and in the field, global cardiac patient management in the intensive care unit, neurologic assessments and trauma patient management in a variety of clinical settings.

Prerequisites: EMS 200, EMS 205, EMS 210, and EMS 290. These courses must be successfully completed within the immediately preceding fall semester. All program entry prerequisites, without exception, must be completed by this time.

Co-requisites: EMS 215, EMS 220, and EMS 230.

Suggested Prerequisites: ENG 131 and ENG 132. It is recommended that students place into ENG 131 prior to attempting any EMS course.

Note: All advanced-level EMS students must maintain a current CPR card for the Healthcare Provider, American Heart Association.

Course Descriptions

EMS 299   Advanced Clinical III   4 Credit Hours

This competency-based course provides the paramedic student with a structured clinical experience in the hospital and field environments. Students must complete designated tasks in specific topic areas. This set of clinical rotations emphasizes a multitude of situations experienced in an urgent care facility. Students 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. Students who do not need extended rotations may (depending on contracts and availability) choose a "global" rotation at a specialty site. This may include any one of the following (based on contracts and availability): flight team, intubation animal lab, burn unit, advanced morgue, human cadaver lab, geriatric facility, dialysis lab, cancer center, or psychiatric center.

Prerequisites: EMS 220, EMS 215, EMS 230, and EMS 295. These courses must be successfully completed within the immediately preceding winter semester.

Co-requisites: EMS 225 and EMS 240.

Suggested Prerequisites: ENG 131 and ENG 132. It is recommended that students place into ENG 131 prior to attempting any EMS course.

Note: All advanced-level EMS students must maintain a current CPR card for the Healthcare Provider, American Heart Association.

ENG 074   Grammar Power   3 Credit Hours

Since knowledge of grammar empowers speech and writing, this course is designed to serve 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. 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 ENG 088, ENG 091, ENG 092 or ENG 093.

ENG 076   College Reading Laboratory -   1 Credit Hour
            NET/COMPASS Prep

A course designed to improve reading proficiency to prepare students to pass the Nursing Entrance Test (NET) or COMPASS test required for medical fields with the aid of laboratory instructors, computer software, handouts, and other lab materials. Any student interested in preparing for these tests may enroll in laboratory courses where individualized attention is given based upon diagnostic test results. Students will spend a minimum of 17 hours a semester in the laboratory for ENG 076.

ENG 078   Developmental Reading for the   3 Credit Hours
            Non-Native Speaker

A developmental course to prepare non-native speakers to read at an acceptable reading level for ENG 081/ENG 082. This course is required for all non-native speakers whose scores on the ESL COMPASS Reading Test fall between 70-81. These students must take ENG 078 prior to or concurrently with ENG 091 or ENG 092. Laboratory work is required.

ENG 079   Basic Reading   3 Credit Hours

ENG 079 is a developmental course to prepare native speakers to read at an acceptable level for ENG 081. Students will improve their reading comprehension skill by engaging with a variety of fiction and non-fiction texts and focusing on vocabulary improvement. Laboratory 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.

ENG 081   Developmental College Reading   3 Credit Hours

A developmental course designed to prepare students to read at an accpetable level for college courses including ENG 131, ENG 132 and ENG 135. Reading strategies and skills that will prepare students for success in college level content-area and English composition courses are emphasized. This course is required of students who must enroll in ENG 093 and whose score on the ASSET/COMPASS Reading test is below the cut-off score established by the English Division. Laboratory work is required. Students required to take this course must achieve the equivalent of a 10.5 reading level to pass this course.

Prerequisites: Students must earn a COMPASS Reading test score that falls between 51-81 or pass ENG 078 and/or ENG 079 with a grade of S (Satisfactory).

ENG 082   Academic Reading, Speaking,   3 Credit Hours
            and Listening for the Non-Native Speaker

ENG 082 is a three-credit hour, generally non-transferable reading course, emphasizing reading strategies and skills that will prepare non-native speakers 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 091or ENG 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 that falls between 82 – 87, successfully complete ELI 05 or pass ENG 078 with a grade of satisfactory (S).

ENG 083   College Reading Laboratory   1 Credit Hour

A course designed to improve reading proficiency at all levels with the aid of laboratory instructors, computer software, handouts, and other Lab materials. Any student may enroll in these laboratory courses where individualized attention is given based upon diagnostic test results. Students will spend a minimum of 17 hours a semester in the laboratory for ENG 083.

ENG 084   College Reading Laboratory   2 Credit Hours

A course designed to improve reading proficiency at all levels with the aid of laboratory instructors, computer software, handouts, and other Lab materials. Any student may enroll in these laboratory courses where individualized attention is given based upon diagnostic test results. Students will spend a minimum of 32 hours a semester in the laboratory for ENG 084.

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ENG 086   College Writing Laboratory   1 Credit Hour

This Learning Lab course can be elected to improve writing skills or can be taken to supplement HFCC composition courses such as ENG 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 HFCC.

**ENG 088   Basic Writing: Sentences to   3 Credit Hours
             Paragraphs**

ENG 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 ENG 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 ENG 093.

Prerequisites: COMPASS Writing score at or below 22 or ASSET Writing score at or below 31.

**ENG 091   Basic Writing for the Non-Native   3 Credit Hours
             Speaker: Sentences to Paragraphs**

ENG 091 is a three-credit hour, generally nontransferable developmental writing course. It is designed to prepare non-native speakers for ENG 092 or ENG 093. Students will learn several sentence patterns, grammatical and mechanical skills, and various methods for developing and organizing paragraphs. Supplemental laboratory assignments and conferences will be required. A grade of S (Satisfactory) is required for entry into ENG 092 or ENG 093.

Prerequisites: Students must receive ESL COMPASS Writing test scores that fall between 55 and 70, or successfully complete ELI 005.

Co-requisites: Depending on their placement test scores, students may be required to take a reading course in conjunction with ENG 091.

**ENG 092   Basic Writing for the Non-Native   3 Credit Hours
             Speaker**

A developmental course for students who speak English as a second language. It is designed to prepare students to write compositions meeting ENG 131 and ENG 132 objectives. In addition to reviewing the types of skills taught in ENG 091, students will learn more advanced grammatical and mechanical skills and sentence patterns. These skills will be demonstrated in several types of short essays and other assignments. Supplemental laboratory work and conferences will be required. Students must earn a grade of S (Satisfactory) before enrolling in ENG 131.

Prerequisites: Students must earn ESL COMPASS Writing test scores between 71 and 85 or successfully complete ELI 006.

**ENG 093   Basic Writing: Paragraphs to   3 Credit Hours
             Essays**

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 ENG 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 ENG 131, ENG 132 or ENG 135. Students must earn a grade of S (Satisfactory) before enrolling in ENG 131.

Prerequisites: Students must have Writing Skills scores of 32-43 on the ASSET test or 23-77 on the COMPASS test.

Co-requisite: Students who have not scored at least 43 on the ASSET Reading test or at least 82 on the COMPASS Reading test must be concurrently enrolled in ENG 081 or they must have passed that course.

**ENG 121   Assisting with Elementary   3 Credit Hours
             Reading**

This course is designed for individuals who are either working in elementary classrooms as paraprofessionals or who desire to be employed in that capacity. It introduces students to 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 (Satisfactory) in ENG 093 and a grade of S (Satisfactory) in ENG 081 is required.

Note: ENG 121 fulfills HFCC General Education Outcomes for Critical Thinking and Problem Solving.

ENG 131   Introduction to College Writing   3 Credit Hours

ENG 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 (Satisfactory) in ENG 092 or ENG 093, and a grade of S (Satisfactory) in ENG 081 if required.

Note: This course meets the graduation requirement for General Education Outcome 4 and 5: Information Literacy and Written Communication.

**ENG 131   Honors: Introduction to College   3 Credit Hours
Writing**

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 synthesizing multiple sources 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.

Note: This course meets the graduation requirement for General Education Outcome 4 and 5: Information Literacy and Written Communication.

ENG 132   College Writing and Research   3 Credit Hours

ENG 132 is the second course in the two-semester college-level reading and writing sequence that begins with ENG 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. Students will then use the source materials to complete a college-level research paper.

Prerequisites: A grade of C- or better in ENG 131.

Note: This course meets the graduation requirement for General Education Outcome 4 and 5: Information Literacy and Written Communication.

**ENG 132   Honors: College Writing and   3 Credit Hours
Research**

ENG 132 (Honors) is the second course in a two-semester college-level reading and writing sequence that begins with ENG 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.

Prerequisites: A grade of C- or better in ENG 131.

Note: This course meets the graduation requirement for General Education Outcome 4 and 5: Information Literacy and Written Communication.

**ENG 135   Business and Technical Writing   3 Credit Hours
and Research**

Designed for students interested in developing professional workplace communication skills, ENG 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: A grade of C- or better in ENG 131.

Note: This course meets the graduation requirement for General Education Outcome 4 and 5: Information Literacy and Written Communication.

ENG 139   Creative Writing   3 Credit Hours

An elective writing course that provides students at any level of experience a firm grasp of the fundamentals of imaginative self-expression. The assignments are diverse, ranging from traditional to contemporary forms of poetry, fiction, 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.

Prerequisites: A satisfactory score on the English placement test or a grade of S (Satisfactory) in ENG 093 and a grade of S (Satisfactory) in ENG 081, if required.

**ENG 231   Introduction to Literature: Poetry   3 Credit Hours
and Drama**

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: A grade of C or better in ENG 131.

ENG 232   Introduction to the Short Story   3 Credit Hours

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: A grade of C or better in ENG 131.

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ENG 233   Introduction to the Novel   3 Credit Hours

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: A grade of C or better in ENG 131.

ENG 234   Topics in Literature   3 Credit Hours

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: A grade of C or better in ENG 131.

ENG 235   American Literature Before 1900   3 Credit Hours

Through discussion and written analysis, ENG 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: A grade of C or better in ENG 131.

Note: This course meets the graduation requirement for General Education Outcome 1: American Society, Events, Institutions and Cultures.

ENG 236   American Autobiography   3 Credit Hours

This course will introduce students to published essays, narratives, autobiographies, memoirs, journals, diaries and essays by Americans who have significantly influenced the social, cultural, and political composition of America. This course will also examine issues such as gender inequality and religious institutions that compose American society.

Prerequisites: A grade of C or better in ENG 131.

Note: This course meets the graduation requirement for General Education Outcome 1: American Society, Events, Institutions and Cultures.

ENG 237   American Literature Since 1900   3 Credit Hours

Through discussion and written analysis, ENG 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: A grade of C or better in ENG 131.

Note: This course meets the graduation requirement for General Education Outcome 1: American Society, Events, Institutions and Cultures.

ENG 239   Reading in Modern American   3 Credit Hours   Poetry

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. Students will learn the techniques and strategies American poets developed to write powerfully of the vast social and cultural changes affecting modern Americans' lives.

Prerequisites: A grade of C or better in ENG 131.

ENG 241   Shakespeare   3 Credit Hours

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: A grade of C or better in ENG 131.

ENG 243   Women's Lives in Literature   3 Credit Hours

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.

ENG 245   The Bible as Literature   3 Credit Hours

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: A grade of C or better in ENG 131.

ENG 246   Introduction to Children's   3 Credit Hours   Literature

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: A grade of C or better in ENG 132 or ENG 135.

ENG 248   African American Literature   3 Credit Hours

A survey of African American Literature from its eighteenth-century beginnings to the modern era, emphasizing the reading and analysis of representative texts in all genres, including poetry, slave narrative, fiction, essay, and drama.

Prerequisites: A grade of C or better in ENG 131.

ENG 295   Directed Study in English   1 Credit Hour

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: A grade of C or better in ENG 131 and permission of the Associate Dean.

ENG 296   Directed Study in English   2 Credit Hours

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: A grade of C or better in ENG 131 and permission of the Associate Dean.

ENG 297   Directed Study in English   3 Credit Hours

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: A grade of C or better in ENG 131 and permission of the Associate Dean.

ENGR 130   Introduction to Engineering   3 Credit Hours

Instructional course work and projects deal with real-world application of teamwork, technical, economic, safety, environmental, social and ethical aspects of engineering as related to engineering problems. Technical communication skills include reporting of a team on engineering projects. Discussion of engineering ethics is presented.

Prerequisites: Pre-engineering enrollment; MATH 110, MATH 112 or high school algebra and trigonometry

Note: Recommended for students interested in pursuing a career in engineering.

ENGR 201   Science of Materials   3 Credit Hours

An introductory course in 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

Suggested Prerequisites: Concurrent enrollment in PHYS 231 and MATH 183 is recommended

ENGR 232   Statics   3 Credit Hours

Covers basic concepts and principles of statics including an introduction to the mechanics of materials. Among the topics covered are 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

Note: Recommended for students transferring to engineering school.

ENGR 233   Dynamics   3 Credit Hours

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: ENGR 232

Note: Recommended for students transferring to engineering school.

ENT 100   Basic Workplace Skills   1 Credit Hour

This course is designed to prepare students to function effectively as a multi-level skilled trade or service technician in the energy/maintenance technology/ trade and apprentice fields with emphasis on basic workplace skills and knowledge. The course will emphasize the hands-on aspect of basic skills where possible in a workplace laboratory setting. The course is designed to include the immediate and essential workplace skills required of installation, service, operation and maintenance technicians entering various multiskilled operation and maintenance technician fields. This course covers general workplace and worker personal and employment skills along with safety and hazardous or environmental concerns for workers on the job. The elements in this course meet or exceed the requirements of various certification agencies.

Note: Partial online course

ENT 101   Introduction to Energy   2 Credit Hours

Introduces students to Energy Technologies and Renewable Energies by providing the study of basic energy conversion systems, differing energy systems and measurement of their basic method for measuring, monitoring, calculating, and analyzing pressure flow, temperature, humidity, electrical, pneumatic, gas analysis, power systems, energy conversions and types related to natural gas, solar energy, fossil fuels, wind, nuclear energy, biomass energy, thermal energy, fuel cells and energies of the future.

Prerequisites: Basic exposure and introduction course to Energy Technology or Fundamentals of Renewable Energies.

ENT 103   AC and DC Electricity   3 Credit Hours

This is an introductory course in electricity, covering the fundamentals of AC and DC circuits and circuit calculations. Included are electrical definitions, units of electrical measure, series and parallel resistive circuits, capacitance, and inductance. The use of meters and oscilloscopes will be included during lab experiences along with an introduction to basic wiring and the troubleshooting of circuit faults.

Note: Partial online course

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ENT 104   Heating Technology   4 Credit Hours

Prepares students as service technicians on residential and light commercial gas, oil, and electric forced-air and hot-water heating systems and related equipment. Lab experiences duplicate workplace skills accounting for 40-60% of the course including familiarization with equipment and systems; planned service checking; troubleshooting; and consideration for installation, repair, and replacement of components using appropriate service tools and instruments.

Prerequisites: Completion of or concurrent enrollment in ENT 107.

Note: Partial online course

ENT 105   Introduction to RACH   2 Credit Hours

An introductory course in heating, air conditioning, and refrigeration, providing the student with basic principles in each of the major subjects related to refrigeration. The students will have an orientation to the service and maintenance technician's jobs in the field. Practical laboratory sessions involve copper tubing, test instruments, tools, and equipment.

Note: Partial online course

ENT 106   Sheet Metal Fabrication   2 Credit Hours

An introductory, hands-on course that exposes students to the process of layout and fabrication of standard sheet metal fittings. The student, through the use of demonstrations and laboratory exercises, constructs a minimum of twelve standard fittings. This course is 80% hands-on with the remainder concentrating on layout, tools, and safety.

ENT 108   Introduction to Heating and   2 Credit Hours
**   Cooling Codes**

A basic course which introduces the student to the Michigan Mechancial (International Mechanical Code) and AGA Gas Codes. This course benefits the student requiring some knowledge of code early in his or her preparation for job entry-level skills in the Heating and Cooling and Power Engineering certificate and degree programs.

Prerequisites: ENT 104 and ENT 113, or permission of the instructor

ENT 109   HVAC Installation and Start-Up   2 Credit Hours

This course provides the student with entry-level HVAC basic technical hands-on skills for installing and starting up an HVAC system. The course will emphasize practical applications of installation and start-up techniques. It will provide examples and simulations of projects that will require knowledge in sheet metal construction and installation, basic electricity and refrigeration as well as the procedures and safety steps for effectively installing and starting up HVAC systems. Good for hands-on experience, 80% lab experience.

Prerequisites: ENT 101, ENT 103, ENT 104, ENT 105, ENT 106, ENT 108 and ENT 113.

Co-requisites: Completion of or concurrent enrollment in ENT 119.

Note: Course offered: Mondays, 3:30 p.m. - 5:30 p.m.

ENT 113   Refrigeration Technology   4 Credit Hours

Designed to prepare students as multi-level service technicians in the refrigeration field, covering basic refrigeration system design and components/equipment for various domestic, residential, and light commercial systems. Subjects include refrigeration characteristics, charging, evacuation, dehydration, and recovery. The student will use refrigeration system tools, materials, instruments for installation, and repair of refrigeration system. Hands-on wiring and circuit troubleshooting related to maintaining both mechanical and electrical in refrigeration systems. 608 Refrigeration Certification, refrigeration handling test conductd on the last day of class.

Prerequisites: ENT 101, ENT 103, ENT 104 and ENT 105
Completion of or concurrent enrollment in ENT 101 and ENT 104

ENT 119   Air Conditioning Technology   4 Credit Hours

Prepares students to be multi-level service technicians on residential and light commercial units/installations. This is a course that covers a combination of heating and air-conditioning systems. This course covers 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. Emphasis is on hands-on troubleshooting and maintaining residential and light commercial total systems. Students use past-gained knowledge of troubleshooting HVAC equipment through learned process functions of mechanical, electrical components, and electrical diagrams.

Prerequisites: ENT 101, ENT 103, ENT 104, ENT 105 and ENT 113

ENT 124   Construction Blueprint Reading   2 Credit Hours

This is a print-reading course that familiarizes students with skilled trades, construction industry/trades, architecture including: Energy (HVAC) Technology, plumbing, pipefitting, electrical, carpentry, steel and other related construction technical and trades. Included are project management and estimating. Topics will include an introduction to print reading, working fractions and decimals, measurement, and volume measurement. Of great importance to the trades and technical industry is learning how to use fractional rulers and tape measures. This course includes exposure to lines, symbols, and differing types of drawing views along with working notes and the importance of title blocks. This course differs from that of machine blueprint reading as it is related to the construction trades and technical trades.

ENT 125   Steam and Hot Water Heating   2 Credit Hours
**   Systems**

A pipefitting-plumbing preparation course for technical construction apprentices and those interested in seeking hydronic plumbing-pipefitting skills. This course familiarizes students with the proper selection, sizing, and installation of pipe and fittings related to hydronic and steam systems. The student is introduced to the principles of steam and hydronic systems, converter trap sizing, steam traps, and skimming boilers. Application exercises allow students the opportunity to design and lay out typical systems. This course includes lecture and labs.

**ENT 141   Power Engineering I - Energy   2 Credit Hours
Conversion Fundamentals**

A course in applied power and facilities plant fundamentals designed to provide introductory practical science studies for students entering the power, facilities, HVAC, and process operation and maintenance fields. Covers practical science and labs for basic thermodynamics, plant visits, operation and maintenance fundamentals with exercises and experiences that meet or exceed requirements of National Skill Standards for heat, power, HVAC, and facilities technicians and engineers.

Note: Partial online course

**ENT 145   Power Engineering II – Boilers   4 Credit Hours
and Auxilairies**

An applied technology course designed to prepare students to take necessary boiler-steam licensing exams and prepare them to function effectively as multi-skilled power or process plant engineers, boiler operators or heating plant operators. Students 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.

Prerequisites: Completion of or concurrent enrollment in ENT 141

Note: Partial online course

**ENT 201   Applied Instrumentation: 3 Credit Hours
Electronics**

An intermediate course designed to provide an overview of electronic instruments. Emphasis is placed on the operation and use of electronic instruments by use of application exercises for specific components. Introduction to microprocessor uses is provided.

Prerequisites: ENT 104 or TAEL 102

ENT 212   Commercial Heating   3 Credit Hours

An advanced college-level heating course covering large commercial/industrial burners, light commercial rooftop units, building and plant commercial-industrial heating controls, equipment, and systems. Lab experiences, which duplicate workplace skills, account for 40-50% of the course and include an online study of manufacturer's equipment and instructions, planned service checking, troubleshooting components and systems, repairs, and replacement of components using appropriate service tools, equipment, and instruments.

Prerequisites: Equivalent field experience to ENT 103 or equivalent electrical course

Suggested Pre-requisites: ENT 104 or equivalent heating course or permission of the instructor

Note: Partial online course

ENT 216   Light Commercial Refrigeration   3 Credit Hours

An advanced course in the service and installation of light commercial refrigeration and air conditioning units. Laboratory experience (50% of the course) includes installation, repair, replacement of major and minor components, and troubleshooting of such items as terminal air conditioning units, rooftop units, ice machines, walk-in coolers, and retail store equipment. Students make extensive use of electrical schematic diagrams, manufacturers' service information, service tools, equipment, and instruments.

Prerequisites: ENT 103, ENT 104, ENT 105 and ENT 113

ENT 219   RACH Light Commercial Systems   3 Credit Hours

An advanced course continuing the study of light commercial heating, air conditioning/cooling systems. The focus is on the lash up, installation, and troubleshooting of all associated controls and control packages. Through lectures and laboratory experiences, students gain knowledge of the functions, operations and components in relation to pneumatic, electronic and DDC (Direct Digital Control), building control systems.

Prerequisites: ENT 104, ENT 113, and ENT 119

Co-requisites: ENT 212 and ENT 216

**ENT 230   Michigan Mechanical Contractor   4 Credit Hours
Licensing Preparation**

Lectures and a variety of testing preparation exercises that help the advanced technician prepare to be potential State of Michigan Mechanical Contractors through the state's licensing exams. Along with the required qualifications, students are given preparation orientation and pre-examination work that prepare for the examinations, classifications, rules and regulations, refrigeration, limited heating service, limited refrigeration and air-condition service to HVAC equipment. Self-study, 50% of this class, online assignments.

Prerequisites: ENT 100 and 200-level classes or verifiable industry work experience through registered State of Michigan Mechanical Contractor, company apprenticeship, or other listed Mechanical Contractor. Letter of verification or W-2 reflecting actual field experiences for five years.

Co-requisite: ENT 108

Note: Partial online course

ENT 231   Applied Digital Control Systems   3 Credit Hours

The use of feedback, feedforward, ratio, and Cascade control is covered in appropriate settings. Electronic instrumentation is studied with solid-state electronics and the use of integrated circuitry, as well as digital logic as an introduction to microprocessor control. Final control elements and sizing of control-valves are also covered.

Prerequisites: ENT 201 or TAEL 115

Course Descriptions

Course Descriptions

ENT 241   Refrigeration Operator   3 Credit Hours
License Review

Designed for refrigeration operators seeking a license. This course covers the fundamentals of operation and maintenance, focusing on license examination subjects such as knowledge of basic refrigeration, problems in heat transfer and refrigeration system operation, and knowledge of special systems. Students answer questions, work problems, and sketch components and systems.

Prerequisites: ENT 105 (Students may take the MFMT 241 online course to meet objectives provided by this course)

Note: Partial online course

ENT 255   LEED Green Building Certification 2 Credit Hours
Preparation

Leadership in Energy and Environmental Design (LEED) Green is the shorthand term for the concept of sustainable development as applied to the building industry. This course focuses on the updating or building of new buildings using new and existing energy-efficient technologies. Concepts that will be studied include high-energy building performance; sustainability; and energy savings related to heating, cooling, electrical, water consumption, and solid waste reduction.

ENT 256   Power Engineering III - Steam   4 Credit Hours
Plant Operation Lab

A comprehensive applied technology course that is designed to prepare learners to take necessary boiler and steam licensing exams and to prepare them to function effectively as multi-skilled power or process plant engineers operating primarily turbines, engines, power plant electrical, air compressors, industrial-commercial cooling systems, advanced control systems, and related equipment. Lab experiences duplicate workplace skills meeting requirements of National Skill Standards and may account for 40% of the course. Learners complete plant visits during the course. This is a partially online course.

Suggested Co-requisites: ENT 141 and ENT 145

Note: Partial online course

ENT 259   Power Engineering IV -   3 Credit Hours
Plant/Building Operations &
Maintenance

An advanced 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 and mechanical equipment and systems in buildings and plants are covered for management of maintenance, with hands-on interfacing to plan project and the required maintenance and repair, along with continuing oversight to insure continuity of operation.

Prerequisites: Enrolled in Power/Building Engineering program, and suggested completion of or concurrent enrollment in ENT 141; or permission of the instructor

Note: Partial online course

ENT 260   Energy Systems Management   4 Credit Hours

A course in the technical, economic, and regulatory aspects of effective energy management, providing in-depth coverage of the Energy Policy Act and offering a comprehensive learning and problem-solving forum for those who want a broader understanding of the latest energy cost-reduction techniques and strategies. Laboratory applications emphasize both residential and commercial energy systems with use of software and energy simulations.

Prerequisites: ENT 101, ENT 103, ENT 104, ENT 105, ENT 113, ENT 119 and ENT 219.

ENT 265   Energy Systems Design   5 Credit Hours

A course presenting 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 103, ENT 104, ENT 105, ENT 108, ENT 109, ENT 113, ENT 119 and ENT 219.

Co-requisites: Completion of or concurrent enrollment in ENT 216.

ENT 267   Bidding and Estimating for the   2 Credit Hours
Mechanical Contractor

A course to provide the Mechanical Contractor the basic skills for conducting an estimate for mechanical construction. The course will emphasize practical applications of estimating techniques. There will be a review of basic computer skills in Windows, Word, Excel and software functions. Blueprint reading skills will also be covered. The course will use commercially available software for setting-up and detailing assigned projects.

ENT 269   Project Management   2 Credit Hours

This course relates to a project management approach to planning, scheduling, and controlling a project through the use of case study methods analysis. Participants will understand new and best project management techniques, organization principles, and group synergism. The course will use various Microsoft software programs.

Prerequisites: None; however, suggested completion of or concurrent enrollment in HFCC business classes related to Microsoft computer programs - Word, Excel, PowerPoint, and Project.

FRE 131   Elementary French I   4 Credit Hours

FRE 131 is a beginning level course, emphasizing the basic skills of reading, writing, speaking, and listening in French within communicative contexts. Students will learn the elementary pronunciation and grammatical principles necessary for comprehending and expressing simple ideas in both spoken and written French. Topics of francophone culture will also be presented. A variety of technologies, media, and other supplementary materials will be used to enhance learning.

FRE 132   Elementary French II   4 Credit Hours

FRE 132, second-semester French, is a continuation of FRE 131 and further builds reading, writing, speaking, and listening skills within communicative contexts. Students will continue to expand their knowledge of pronunciation and grammatical principles. Topics of francophone culture will also be presented. A variety of technologies, media, and other supplementary materials will be used to enhance learning.

Prerequisites: FRE 131, one year of high school French, or permission of the instructor

**FRE 141   Elementary Conversation   3 Credit Hours
            in French**

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 FRE 132, FRE 231 or FRE 232.

Prerequisites: FRE 131 or one year of high school French or permission of instructor.

FRE 231   Second Year French   4 Credit Hours

FRE 231, third-semester French, is the first of two intermediate-level courses focusing on communication skills in a cultural context. It develops reading, writing, speaking, and listening skills and deepens studentsí knowledge of pronunciation and grammatical principles. Topics of francophone culture will also be presented. A variety of technologies, media, and other supplementary materials will be used to enhance learning.

Prerequisites: FRE 123, or two years of high school French, or permission of instructor

FRE 232   Second Year French, Continued   4 Credit Hours

FRE 232, fourth-semester French, is a continuation of FRE 231, focusing on communication skills in a cultural context. It continues to develop reading, writing, speaking, and listening skills and to deepen studentsí knowledge of pronunciation and grammatical principles. Topics of francophone culture will also be presented. A variety of technologies, media, and other supplementary materials will be used to enhance learning.

Prerequisites: FRE 231, three years of high school French, or permission of the instructor

FRE 296   Directed Study in French   2 Credit Hours

Individual study of a topic of special interest in the area of French for the student, to be undertaken under the direction of a member of the French staff. Appropriate methods of research are applied, and the results reported in a research paper. This class may be repeated once for credit.

Prerequisites: Open to any student who has completed FRE 132

GEOG 131   Principles of Physical Geography   4 Credit Hours

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.

GEOG 132   World Regional Geography   3 Credit Hours

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.

GEOG 138   Geography of Michigan   3 Credit Hours

A comprehensive survey examining the spatial distribution of the human and environmental landscapes of Michigan. Particular attention is given to the historical geography of settlement and human use of the natural environment.

**GEOG 231   Introduction to Geographic   3 Credit Hours
            Information Systems**

An overview introducing the basic concepts, techniques, and applications of geographic information systems (GIS). Enables students to create spatial data files using GIS software and to manipulate and analyze data. Two hours of lecture/discussion and two hours of laboratory per week.

GEOL 131   Physical Geology   4 Credit Hours

An introduction to 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 hour course with three (3) hours of lecture and two (2) hours of laboratory per week.

GER 131   Elementary German I   4 Credit Hours

GER 131 is a beginning level course, emphasizing the basic skills of reading, writing, speaking, and listening in German within communicative contexts. Students will learn the elementary pronunciation and grammatical principles necessary for comprehending and expressing simple ideas in both spoken and written German. Topics of Germanic culture will also be presented. A variety of technologies, media, and other supplementary materials will be used to enhance learning.

GER 132   Elementary German II   4 Credit Hours

GER 132, second-semester German, is a continuation of GER 131 and further builds reading, writing, speaking, and listening skills within communicative contexts. Students will continue to expand their knowledge of pronunciation and grammatical principles. Topics of Germanic culture will also be presented. A variety of technologies, media, and other supplementary materials will be used to enhance learning.

Prerequisites: GER 131, one year of high school German, or permission of the instructor

**GER 141   Elementary Conversation   3 Credit Hours
            in German**

An enrichment course entirely conducted in German designed for students wishing to expand active vocabulary, improve oral facility, and write simple compositions. Class discussions are based on assigned readings, student reports, and current events. This course is transferable but not a substitute for a basic language requirement. It can be taken concurrently with GER 231 or GER 232.

Prerequisites: Two years of high school German, a minimum of one year of college German or permission of the instructor

GER 231   Second Year German   4 Credit Hours

GER 231, third-semester German, is the first of two intermediate-level courses focusing on communication skills in a cultural context. It develops reading, writing, speaking, and listening skills and deepens students' knowledge of pronunciation and grammatical principles. Topics of Germanic culture will also be presented. A variety of technologies, media, and other supplementary materials will be used to enhance learning.

Prerequisites: GER 132, two years of high school German, or permission of the instructor

GER 232   Second Year German, Continued   4 Credit Hours

GER 232, fourth-semester German, is a continuation of GER 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 francophone culture will also be presented. A variety of technologies, media, and other supplementary materials will be used to enhance learning.

Prerequisites: GER 231, three years of high school German, or permission of the instructor.

**HCS 103   Employment Skills for Health   1 Credit Hour
            Careers**

A lecture course designed to guide the students toward greater understanding of the healthcare industry as well as the organizational behavior work within that industry. Networking, communication skills, conflict management, organization systems, management/employee issues are explored. Students will also develop marketing strategies for health care positions as well as develop strategies for improving their career options.

HCS 106   Introduction to Phlebotomy   1 Credit Hour

This lecture/laboratory course introduces the basic theory and techniques of blood specimen collection. This course focuses upon proper aseptic technique, specialized equipment, adult/pediatric specimen collection procedures including difficult draws, specialized collection procedures, specimen handling, as well as safety issues. Quality issues, communication skills, and legal issues are also discussed. Students are required to perform several venipunctures and skin punctures on their lab partners during this course. This course is specifically designed as either an optional or required support course for students in one of the health career/nursing programs. This course does not include a clinical component and is not designed to satisfy the national requirements for a certification in phlebotomy.

Prerequisites: Currently enrolled student in one of the health career/nursing programs or permission of department. Good manual dexterity skills required. Documented completion of the first inoculation in the Hepatitis B vaccine series or a signed waiver. Documents to be presented by the student at the first class session.

HCS 124   Basic Health Assessment   1 Credit Hour

This is a lecture/laboratory course which focuses upon the theory and techniques involved with basic patient assessment through vital signs. Course also addresses the issues of medical asepsis, universal precautions, and patient transportation/movement.

HCS 131   Computers in Health Care   3 Credit Hours

Computerized equipment and systems have become vital components within the health care industry. This lecture/lab course is designed to guide health care and nursing students in the fundamentals of computer terminology while stressing applications that are important to the delivery of health care. Students also will review legal and ethical considerations in the processing of confidential patient and medical information.

Prerequisites: Basic keyboarding skills recommended.

Note: This course meets the graduation requirement for General Education Outcome 2: Computer Literacy

HIST 111   Ancient World History   3 Credit Hours

This course will cover the rise of civilization to the decline of major world civilizations in the early Common Era (c.200 to c. 750 CE). It will include study of the ancient civilizations of Mesopotamia, Egypt, India, China, and the Greco-Roman world.

HIST 112   Early Modern World History   3 Credit Hours

The study of world civilizations during the transition from the Ancient classical times to the Modern Period, i.e., the Medieval and Early Modern periods (c.600 B 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 and the rise of Islam and Abbasid, Seljuk, and Ottoman empires; the Mongol Empire; the Aztec and Incan civilizations; and the European Middle Ages, Renaissance, and Reformation.

Course Descriptions

HIST 113   Modern World History   3 Credit Hours

Study of world civilizations from the seventeenth to the twentieth century. The course emphasizes the Scientific, Political and Industrial Revolutions and their global impact. Cultural and political events that have affected national or international politics, such as the Enlightenment, nationalism, imperialism, and communism, will also be included.

HIST 151   American History I   3 Credit Hours

Covers Colonial America and the United States through the Civil War period.

Note: This course meets the graduation requirement for General Education Outcome 1: American Society, Events, Institutions and Cultures.

HIST 152   American History II   3 Credit Hours

Covers the United States since the Civil War period.

Note: This course meets the graduation requirement for General Education Outcome 1: American Society, Events, Institutions and Cultures.

HIST 225   The Modern Middle East   3 Credit Hours

Proceeding from the traditional civilizations in the Middle East, examines the impact of the industrialized powers, nationalism, industrialization, and religious and cultural change.

HIST 230   History of England to 1688   3 Credit Hours

A survey of 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.

HIST 235   The Era of the Vietnam War   3 Credit Hours

Traces the causation factors leading to the escalation of U.S. involvement in the Vietnam conflict from 1945 until 1975. Within the historical context of colonial rule over Vietnam, as well as the struggle for Vietnamese nationalism, the political, diplomatic, and military strategy of the United States will be emphasized.

HIST 236   The American Civil War   3 Credit Hours

A study of the American Civil War, including the causes, personalities, soldiers, social groups, significant battles, and legacy of America's defining conflict from 1820-1877.

HIST 237   The Cold War, 1917-1991:   3 Credit Hours
**   Capitalism, Communism, and**
**   the Contest for Global Domination**

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 collapse of the Soviet state in 1991.

HIST 238   The History of Rome,   3 Credit Hours
**   753 BCE-500 CE**

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.

HIST 240   Coming to the New World: 3 Credit Hours
**   American Ethnic and Immigration**
**   History From First Nations to the Present**

Traces the history of immigrants to North America and the United States from before Columbus to the present. There will be a particular focus on issues of cultural contact and conflict in American society. There will also be emphasis on issues of immigrant assimilation and acceptance into mainstream American cultures.

HIST 241   The Revolutionary War Era   3 Credit Hours

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.

HIST 242   The United States and World   3 Credit Hours
**   War II**

A study of 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 U.S. as a world leader (1935-1945).

HIST 244   Sea Power! A History of the   3 Credit Hours
**   U.S. Navy and American**
**   Maritime Heritage**

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 U.S. Navy, Marine Corps, Coast Guard and Merchant Marine in shaping the polices and culture of the United States.

HIST 255   African-American History   3 Credit Hours

A history of African-American citizens in the Colonies and the United States from African beginnings to the present. Particular emphasis is placed upon the conditions of slavery and on the cultural development of African-American peoples since the Emancipation.

HIST 257   History of Women in the   3 Credit Hours
**   United States**

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. This course also describes the activities and accomplishments of women in the building of the United States.

HIST 260   American Social History Since 1875 3 Credit Hours

A social history of the United States since the late nineteenth century, with special attention to changes resulting from industrialization and urbanization.

HIST 262   American Labor History   3 Credit Hours

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.

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HIST 265   History of Michigan   3 Credit Hours

A general survey of the historical development of Michigan from the French exploration to the present. The economic, social, and political development of the state is studied as a part of the history of the United States.

HIST 295   Directed Study   1 Credit Hour

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 depends on the number of credit hours.

Prerequisites: Any two history classes and written consent of the instructor

HIST 296   Directed Study   2 Credit Hours

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 depends on the number of credit hours.

Prerequisites: Any two history classes and written consent of the instructor

HIST 297   Directed Study   3 Credit Hours

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 depends on the number of credit hours.

Prerequisites: Any two history classes and written consent of the instructor

HIT 150   Basic Coding: Theory and Practice   3 Credit Hours

Provides the theory and practice of coding diseases and procedures using ICD-9-CM for inpatient facilities. Incorporates practice in this coding using planned exercises and prototype medical documents. Explores the Prospective Payment System and the significance of Diagnosis Related Groupings. Surveys medical documents, both electronic and paper based, that serve as resources for coding for inpatient reimbursement. Examines the practices and importance of confidentiality of medical information and HIPAA guidelines.

Prerequisites: AH 100, MOA 100, and BCA 140

A score of 43/84 on the ASSET/COMPASS Reading test or successful completion of ENG 081.

Co-requisites: MOA 110

Suggested Prerequisites: Although not a required prerequisite, anatomy and physiology is recommended for this course.

HIT 230   Ambulatory Coding   3 Credit Hours

The course provides 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 such as ambulatory surgery, emergency care, outpatient care, long term care, observation as well as for care rendered by health care practitioners especially physicians.

Prerequisites: HIT 150, MOA 100, and MOA 110.

A score of 43/84 on ASSETT/COMPASS Reading test or successful completion of ENG 081.

HONORS 151 Honors Colloquium   3 Credit Hours

An interdisciplinary humanities course that examines a given topic or problem from a variety of approaches. Emphasis is placed on the interchange of ideas among the honors students under the direction of the course instructor.

Prerequisites: Henry Ford II Honors Program

HONORS 231 Honors Directed Study   1 Credit Hour

In this sophomore-level directed study, students are challenged to apply the knowledge and research skills acquired in their freshman year in the Henry Ford II 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 Henry Ford II Honors Program students and faculty held at the end of the semester.

Prerequisites: ENG 131 Honors, ENG 132 Honors and HONORS 151, and Henry Ford II Honors Program

HONORS 232 Honors Directed Study   1 Credit Hour

In this sophomore-level directed study, students are challenged to apply the knowledge and research skills acquired in their freshman year in the Henry Ford II 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 Henry Ford II Honors Program students and faculty held at the end of the semester.

Prerequisites: ENG 131 Honors, ENG 132 Honors and HONORS 151, and Henry Ford II Honors Program

HONORS 233 Honors Directed Study   1 Credit Hour

In this sophomore-level directed study, students are challenged to apply the knowledge and research skills acquired in their freshman year in the Henry Ford II 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 Henry Ford II Honors Program students and faculty held at the end of the semester.

Prerequisites: HONORS 231, HONORS 232, and Henry Ford II Honors Program

HONORS 234 Honors Directed Study   1 Credit Hour

In this sophomore-level directed study, students are challenged to apply the knowledge and research skills acquired in their freshman year in the Henry Ford II 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 Henry Ford II Honors Program students and faculty held at the end of the semester.

Prerequisites: HONORS 231, HONORS 232, and Henry Ford II Honors Program

HONORS 251 Great Works   3 Credit Hours

An introduction to seminal works from a range of disciplines, including literature, philosophy, history, religion, anthropology, psychology, and science. Each "great work" will be explored 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: ENG 131, open to non-honors students

HOSP 101   Wines of the World   1 Credit Hour

Examines the major grape varieties, the effect of soil and climate, classification system and the unique methods of various wine makers. Instruction focuses on the major wine producing area giving complete guidelines for reading a wine label as well as purchasing, storing, and serving.

Note: 5 sessions course - see schedule for dates that the class meets.

HOSP 103   Major Wine Grape Varieties   1 Credit Hour

An advanced class for those students interested in examining varietal wines from many broad geographical areas. Students learn to identify alcohol, acid, sugar, and tannin in wines. Vintage and specialty wines are studied. This course provides information relating to the challenges of wine service in the hospitality industry.

Suggested Prerequisites: HOSP 101

Note: 5 sessions course - see schedule for dates that the class meets.

HOSP 105   Applied Food Service Sanitation   2 Credit Hours

A study of 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. Students passing the examination given by the Educational Foundation of the National Restaurant Association at the completion of this course, are awarded the Serve Safe Food Protection Manager Certificate, which is recognized by the state health department.

Note: Students are required to complete or concurrently enroll in HOSP 105 before enrolling in any culinary arts food preparation classes.

HOSP 108   Creative Cookery   3 Credit Hours

Explores the art of cooking, including international dishes, fundamentals of ingredients, and catering techniques. This course stimulates the imagination, brings out originality, and perfects skills, from the initial concept to purchasing, preparation, and presentation of foods.

Note: Chefs uniform required to be purchased for culinary lab - contact department on process to order uniforms before first class session.

HOSP 109   Banquets and Catering   3 Credit Hours

Explore the art of cooking, including international dishes, fundamentals of ingredients, and catering techniques. This course stimulates creativity; brings out originality; and builds skills from the initial concept to purchasing, preparation, and presentation of foods.

HOSP 110   Introduction to Hospitality Industry   3 Credit Hours

Surveys career opportunities in the hospitality industry. Presents hospitality as a single, yet interrelated industry, emphasing problem-solving tools rather than answers, and points out trends, past and present. The following areas will be explored: marketing, franchising, food service operations, hotel operations, and tourism.

HOSP 115   International Cooking   4 Credit Hours

Demographic changes and the accessibility of travel have altered our cultural perspective of the world pertaining to a culinary journey. Students will develop a comprehensive picture of cuisines throughout the world.

Note: Cognate course for the Culinary Arts - Associate in Applied Science degree.

Chefs uniform required to be purchased for culinary lab - contact department on process to order uniforms before first class session.

HOSP 121   Introduction to Quality Food   2 Credit Hours
          Preparation - Lecture

This Laboratory class covers basic concepts in food and baking preparation, and techniques used in food service operations. This course includes the mastery of basic culinary terminology, proper use of tools and equipment, interpretation of recipes and formulas, and production methodology. Emphasis is placed on proper safety and sanitation.

Co-requisites: Concurrent enrollment in HOSP 124 and HOSP 125 is required.

Suggested Prerequisites: HOSP 105

Course Descriptions

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**HOSP 124   Introduction to Professional   3 Credit Hours
                   Cooking Lab**

Students will be introduced to basic concepts in food preparation and techniques in the food service operations. This course includes proper use of kitchen procedures with hands-on food production methods. Students will utilize the principles, standards, and practices involved in professional quantity food production. Students will rotate in production areas, which will include the following: pantry, soups, stocks, sauces, vegetables, and the entrée department.

Co-requisites: Concurrent enrollment in HOSP 121 and HOSP 125 is required.

Note: Chefs uniform required to be purchased for culinary lab - contact department on the process to order uniforms before first class session.

**HOSP 125   Introduction to Professional   3 Credit Hours
                   Baking Lab**

Students will be introduced to basic concepts in professional baking. This course covers the preparation and techniques in bakery operations. Students will utilize the principles, standards, and practices involved in professional quantity bakery production. Students will rotate in production areas, which will include the entire department, such as, but not limited to, quick breads, cookies, yeast products, layered dough, pies, basic cakes, cheesecakes, simple pastries, and doughnuts.

Co-requisites: Concurrent enrollment in HOSP 121 and HOSP 124 is required.

Note: Chefs uniform required to be purchased for culinary lab - contact department on the process to order uniforms before first class session.

HOSP 130   Food and Nutrition   3 Credit Hours

Examines basic concepts of nutrition, food composition, food technology, and controversies in nutrition and marketing nutrition in the food service business. Discussion and study topics include carbohydrates, fats, protein, vitamins, minerals, RDA, food labeling, menu planning, weight management, cardiovascular disease, nutrition and cancer, modifying recipes for health and lower calorie content.

HOSP 140   Advanced Food Preparation   8 Credit Hours

Provides practical experience in quantity food preparation. This class is designed so that each unit of the kitchen is emphasized. Students participate in broiling, sauteing, meat cutting, baking, preparing buffets, and identifying products. They demonstrate their culinary skills in the student training dining room Fifty-One O One Restaurant - Student & Culinary Art Center.

Prerequisites: Completion of or concurrent enrollment in HOSP 124 and HOSP 125

Suggested Prerequisites: HOSP 105

Note: Chefs uniform required to be purchased for culinary lab - contact department on process to order uniforms before first class session.

HOSP 145   Ice Carving and Design   3 Credit Hours

The student will be introduced to safety procedures related to ice handling, describe tools and equipment used in ice carving, identify qualities of carving ice, and discuss proper care and sharpening of tools. Basic skills will include shaping, rounding, and sculpturing ice displays. The student will demonstrate the use of hand and power tools used for ice sculpturing. Upon completion, the student will be able to carve an ice sculpture from a single block.

**HOSP 150   Dining Room Service and   3 Credit Hours
                   Operations**

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.

HOSP 160   Hospitality Purchasing   3 Credit Hours

Explains procedures for purchasing food and beverages for hotels, restaurants, and institutions. Emphasis is placed on markets, federal and trade grades, governmental regulations, packaging, comparative versus price buying, yields, and quality controls.

Prerequisites: Completion of or concurrent enrollment in HOSP 110

HOSP 170   Food and Beverage Controls   3 Credit Hours

The student becomes familiar with various food and beverage cost control systems. This course emphasizes food and beverage cost calculation, inventory control, and profit. In addition, a detailed study of calculating the cost of wines, spices and beer will be made.

Prerequisites: Completion of or concurrent enrollment in HOSP 110

Suggested Prerequisites: BMA 110 or higher

HOSP 190   Hospitality Studies Co-Op   1 Credit Hour

Offers practical work experience within a hospitality or tourism related organization through participation in a supervised cooperative education program. This course integrates work experience, classroom instruction, and related career issues.

Prerequisites: Permission of the Cooperative Education Specialist, office T-112

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings, or weekends depending on employer needs.

**HOSP 210   Hospitality Supervision and   3 Credit Hours
                   Leadership**

Principles of supervision and management are explained as they apply specifically to the hospitality industry. The student is exposed to the following: 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, leadership styles and motivation strategies, tips for handling employee conflicts, time management, managing change, professional development for managers and supervisors, and trends in the hospitality industry.

Prerequisites: HOSP 110 or concurrent enrollment

**HOSP 221   Front Office Procedures and   3 Credit Hours
              Guest Services**

Designed to familiarize the student with the major profit center of the lodging industry (the rooms division). It also includes an analysis of the various jobs in the hotel-motel front office. Emphasis is on the guest cycle: reservations, rooming, registration, guest relations, night audit, and check-out procedures.

Prerequisites: Completion of or concurrent enrollment in HOSP 110

Suggested Prerequisites: BCA 140

Note: Required for all Hotel, Restaurant Management students, can be used as a cognate course for Culinary Arts degree.

HOSP 231   Advanced Baking & Pastry   6 Credit Hours

Provide advance study of commercial baking skills, which will enable the students to become industry ready. The course will stress the fundamentals of baking and the production and presentions of cakes and pastries. Students will receive in-depth instruction in the art of cake designing, baking and decorating wedding cakes, fondant cakes, European pastries, petit fours and specialty desserts.

Prerequisites: HOSP 140

Note: Chef uniform required to be purchased for culinary lab - contact departments on the process to order uniforms before first class session.

HOSP 235   Ice Carving for the Professional   3 Credit Hours

This course is designed for the professional Ice Carver. The student will apply many ice-carving techniques using hand and power tools. Ice sculptures carved during class include single- and multi-block designs, custom-colored logo designs, and functional ice carvings used on culinary food buffets. Additional ice-carving experience may be developed through the HFCC Ice Carving Club.

Prerequisite: HOSP 145

HOSP 241   Garde Manger & Menu Planning   6 Credit Hours

The course will emphasize the art of food preparation and focus on cold foods. Topics of instruction include the preparation and presentation of salads, sandwiches, hors d'oeuvres, cold sauces & dressings, pate & terrine, and sausage making. Students receive in-depth instruction in catering and menu planning. Additional topics reviewed include American Regional Cuisine and Leading sauces and their respective Small sauces.

Prerequisites: HOSP 140

Note: Chef uniform required to be purchased for culinary lab - contact department on the process to order uniforms before first class session.

HOSP 245   Hotel and Restaurant Desserts   3 Credit Hours

Examines the specific principles of the baking process. This course is designed to provide practical information for the individual serious about the baking industry. This course includes volume banquet desserts, chocolate decorating, sugar casting, and the intricacy of cake decorating. Additional attention is focused on assembling and presenting desserts, including tortes, petit fours, French pastries, candies, and decorative centerpieces. Emphasis will be placed on understanding formulas, along with proper weights and measures.

Note: This course is required for the Culinary and Baking Certificate, and can be used as an elective in the Culinary Arts Associate degree.

Chefs uniform required to be purchased for culinary lab - contact department on the process to order uniform before first class session.

HOSP 250   Hospitality and Travel Marketing   3 Credit Hours

This course introduces the hospitality management student to the needs and values of cooperative marketing effort among hotels, airlines, restaurants, travel agents, and others in the industry. Discussion and study topics include marketing, research and analysis, development and implementation of marketing plans and strategies, advertising, promotions, public relations, and pricing structures.

Suggested Prerequisites: HOSP 110

Note: Chefs uniform required to be purchased for culinary lab - contact department on the process to order uniform before first class session.

HOSP 255   Professional Cake Decorating   3 Credit Hours

Designed to introduce the practical information for the individual serious about creating and producing decorated cakes, from start to finish. This course will include information on many types of decorated cakes and the application of different kinds of icings, including buttercream icing and rolled fondant. Basic skills will include hands-on preparation of borders, variation of flowers, decorations, and the art of cake writing. Additional attention will include wedding cakes, gumpaste flowers, and fondant work.

HOSP 279   Culinary Arts I - Lecture   2 Credit Hours

This class covers basic concepts in food and baking preparation, and techniques used in the food services operation. This course includes the mastery of basic culinary terminology, proper use of tools and equipment, interpretation of recipes and formulas, and production methods. Emphasis is placed on proper safety and sanitation.

Suggested Prerequisites: HOSP 105

Co-requisite: HOSP 280

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HOSP 280   Culinary Arts I   3 Credit Hours

Students will become acquainted with the application of basic concepts in food preparation and techniques in food service operations. This course includes proper use of kitchen procedures with hands-on food production methods. The student will utilize the principles, standards and practices involved in professional quantity food production. Students will be responsible for cleaning up their work areas and making sure all items are washed and properly stored.

Suggested Prerequisites: HOSP 105

Note: Intended for evening students only - HOSP 280 and HOSP 285 can be substitued for HOSP 121, HOSP 124 and HOSP 125 for graduation requirements.

Chefs uniform required to be purchased for culinary lab- contact department on process to order uniforms before first class session.

HOSP 285   Culinary Art II   3 Credit Hours

A continuation of HOSP 280 covering recipe conversions and modification to produce a variety of food items. Special categories discussed are baking principles and preparation of cold and hot entrees. Students are required to cover menu planning, and demonstrate a mystery basket in the culinary lab.

Prerequisites: HOSP 280

Suggested Prerequisites: HOSP 105

Note: Intended for evening students only - HOSP 280 and HOSP 285 can be substitued for HOSP 121, HOSP 124 and HOSP 125 for graduation requirements.

Chefs uniform required to be purchased for culinary lab - contact department on the process to order uniform before first class session.

HOSP 290   Hospitality Studies Co-Op   2 Credit Hours

Offers practical work experience within a hospitality or tourism related organization through participation in a supervised cooperative education program. This course integrates work experience, classroom instruction, and related career issues.

Prerequisites: Permission of the Cooperative Education Specialist, office T-112

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings, or weekends depending on employer needs.

HPE 120   Lifetime Fitness (Rotating Skill)   2 Credit Hours

This course rotates fitness activities for each term's class with up-to-date movement for health and enjoyment. Overall body conditioning may include such activities as Tae Bo, Kick Boxing Aerobics, Step Aerobics or Pilates. Refer to the subtitle for the specific activity following the course title "Lifetime Fitness."

HPE 127   Aquacise   2 Credit Hours

Emphasizes the importance of physical fitness through water exercise. Students should achieve improvement in cardiovascular endurance, flexibility and strength from participation in this class. An understanding of the proper methods needed to achieve physical fitness and proper weight management will be presented. Participants do not need to know how to swim!

HPE 140   Lifetime Wellness   2 Credit Hours

The most prominent cause of death and disability in North America are diseases that are largely lifestyle related. Statistics indicate that nearly 80% of these deaths could be prevented by following a positive lifestyle. That is the focus of this course. The class will assess the student's current level of wellness and provide the tools necessary to improve and motivate the student to practice heathier lifestyles throughout adulthood.

HPE 142   Advanced First Aid   3 Credit Hours

Provides information and skills for identifying life-threatening conditions and carrying out emergency procedures at the scene of an accident. The American Red Cross Emergency Response certificate is issued if student performance is satisfactory. Also, a student may become certified in Basic Life Support for the professional rescuer. This course is useful to any adult in his or her daily life.

HPE 150   Physiology of Exercise   3 Credit Hours

Designed to teach the basic physiological principles of exercise. The student will learn what changes occur to the body during exercise and as a result of regular exercise. Emphasis is on applied exercise physiology to improve health and fitness of the general population and how to optimize performance. Ideal for the student interested in pursuing further study in the health or physical education field. Also, the serious exercise participant may find this class useful in establishing an individualized exercise program. Physical therapists, nutritionists, and health care professionals find this class a complement to their fields of study.

HPE 151   Methods of Teaching Aerobic   3 Credit Hours
**   Exercise**

A course for the individual interested in ideas and teaching techniques used when instructing exercise classes and personal training. The student learns what should be included in a total exercise program and how to develop appropriate exercises for different segments of the population. This course is designed to help students pass industry certification exams in personal training and group exercise.

HPE 152   Tests and Measurements   2 Credit Hours

Provides a background of tests and measurements in health and physical education, including methods for evaluating the health-related and skill-related components of physical fitness. Tests include anthropometric measurement, stress testing, and posture evaluation. Students also learn to evaluate test results and understand how they can be useful to the exercise participant. This course is required in the Fitness Leadership program.

HPE 153   Nutrition   2 Credit Hours

Emphasizes the importance of proper nutrition through the understanding of basic nutrition principles and their application to everyday life. Dietary requirements of protein, carbohydrates, fats, vitamins and minerals are explained along with their food sources. Other topics include digestion and metabolism; weight loss, weight gain and stabilization; water balance and exercise.

HPE 154   Facilities and Equipment   2 Credit Hours

Explains the planning and operation of an athletic or health club facility. Specifically, this course includes instruction in the operation of a swimming pool, the selection and care of exercise and strength equipment and the management of a locker room. This is a required course in the Fitness Leadership program.

HPE 156   Personal Training   3 Credit Hours

This course prepares students for the American Council on Exercise (ACE) Personal Trainer Certification Exam and other national exams. Students obtain the skills and knowledge needed to provide personal training to clients in a fitness center as well as one-on-one instruction.

HPE 192   Internship in Physical Education   2 Credit Hours

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. Students are 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.

HPE 253   Nutrition for the Professional   3 Credit Hours

A course designed to teach health care professionals the basics of nutrition and its application to disease, growth and development.

HPE 260   Health, Nutrition, and PE   3 Credit Hours

This course will provide information in the three areas of Health, Nutrition and Physical Education that the classroom teacher will need for knowledge and practical use in teaching. Teaching strategies and projects in Health and Nutrition as well as movement education and games will be presented. The emphasis will be for potential teachers to provide learning experiences for children's development of positive lifestyle behaviors, as well as to fulfill objectives for the Michigan Model for Health.

HPEA 104   Basketball I   2 Credit Hours

Instruction in the fundamental skills of basketball with a comprehensive discussion and implementation of the rules and etiquette.

HPEA 105   Bowling I   2 Credit Hours

Instruction in the fundamental skills of bowling with a comprehensive discussion and implementation of the rules, etiquette and terminology of the game.

Note: This class is held off-campus. The location varies each semester.

HPEA 106   Golf I   2 Credit Hours

Instruction in the fundamental skills of golf, including proper use of woods and irons, putting and specialty shots. Rules, terminology and etiquette will be presented.

Note: This class is held off-campus. The location varies each semester.

HPEA 109   Tennis I   2 Credit Hours

Provides instruction in the fundamental skills of tennis, including proper grips, ground strokes, volleys and serves. The rules, terminology, scoring and etiquette of tennis are stressed.

HPEA 110   Volleyball I   2 Credit Hours

Covers the fundamental skills, strategy, history, rules and values of volleyball. The student gains social experiences 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 is included as it pertains to disease prevention and weight prevention.

**HPEA 117   Weight Training and   2 Credit Hours
                Physical Conditioning I**

Includes the principles and proper technique in strength and cardiovascular conditioning including evaluation of all components of physical fitness. Emphasis is on flexibility, strength cardiovascular conditioning, muscular endurance, and body composition. The course includes nutrition and exercise as it relates to weight management and disease prevention. Risk factors are discussed.

HPEA 126   Aerobic Dance   2 Credit Hours

An exercise class that uses movement to music for the purpose of producing a more fit cardiorespiratory system. The benefits are similar to those experienced in jogging, cycling, swimming and cross country skiing. In addition, included in the class is strength and flexibility training. Absolutely no dance background is required.

HPEA 127   Aquacise   1 Credit Hour

Designed to emphasize the importance of physical fitness through water exercise. The benefits of swimming, proper exercise alignment, and various creative exercises will be incorporated into this class. No swimming skill is required. This course is held off campus. The location varies each semester.

Note: This class is always offered in the evening during the first 8 weeks of the fall semester only.

**HPEA 155   Relax Techniques for Stress   2 Credit Hours
                Management**

Teaches the physiology of the stress response and how to recognize this response. Emphasis is on the use of stress reduction techniques and how to incorporate these into one's lifestyle.

HPEA 204   Basketball II   2 Credit Hours

Further develops the fundamental skills of basketball, encourages a strong interest in the improvement of team play, and explores the different types of offenses and defenses used in the game.

Prerequisites: HPEA 104 or permission of the instructor

HPEA 205   Bowling II   2 Credit Hours

Designed for students interested in acquiring intermediate-level skills in bowling. Emphasis is on refinement of basic skills and competition in league bowling. This class is held off-campus. The location varies each semester.

Prerequisites: HPEA 105 or permission of the instructor

Note: This class is held off-campus. The location varies each semester.

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HPEA 206   Golf II   2 Credit Hours

Continuation of HPEA 106. Includes a review of basic skills as well as instruction in course management, competitive events, and the rules of golf.

Prerequisites: HPEA 106 or permission of the instructor

Note: This class is held off-campus. The location varies each semester.

HPEA 209   Tennis II   2 Credit Hours

Offers a review of the basic skills, forehand, backhand, and serve, with greater focus on auxiliary strokes, volley, overhead, lob, and spin. Through analysis, drill work, and competitive play, students develop greater ball control, consistency, and court strategy.

HPEA 210   Volleyball II   2 Credit Hours

Designed to develop intermediate skills in volleyball. Emphasis is on court position and strategy, refinement of skills, and tournament play.

HPEA 217   Weight Training and Physical   2 Credit Hours
**   Conditioning II**

Continuation of HPEA 117 including the principles and proper technique in strength and cardiovascular conditioning including evaluation of all components of physical fitness. Emphasis is on flexibility, strength cardiovascular conditioning, muscular endurance, and body composition. The course includes nutrition and exercise as it relates to weight management and disease prevention. Risk factors are discussed.

HUM 101   Introduction to the Humanities   3 Credit Hours

Introduces the visual arts, music, and drama of Western and Non-Western societies. This course teaches appreciation of the arts through the study of individual works. It 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.

Prerequisites: ENG 131

ICO 191   Industrial Co-op   2 Credit Hours

Offers practical work experience within the student's program of study through participation in a supervised cooperative education program. This course integrates work experience, classroom instruction, and related career issues.

Prerequisites: Permission of the Cooperative Education Specialist

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings, or weekends depending on employer needs.

ICO 192   Industrial Co-Op (2)   2 Credit Hours

Offers practical work experience within the student's program of study through participation in a supervised cooperative education program. This course integrates work experience, classroom instruction, and related career issues.

Prerequisites: Permission of the Cooperative Education Specialist

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings, or weekends depending on employer needs.

ICO 193   Industrial Co-op   1 Credit Hour

Offers practical work experience within the student's program of study through participation in a supervised cooperative education program. This course integrates work experience, classroom instruction, and related career issues.

Prerequisites: Permission of the Cooperative Education Specialist

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings, or weekends depending on employer needs.

ICO 291   Industrial Co-Op (3)   2 Credit Hours

Offers practical work experience within the student's program of study through participation in a supervised cooperative education program. This course integrates work experience, classroom instruction, and related career issues.

Prerequisites: Permission of the Cooperative Education Specialist

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings, or weekends depending on employer needs.

ICO 292   Industrial Co-Op (4)   2 Credit Hours

Offers practical work experience within the student's program of study through participation in a supervised cooperative education program. This course integrates work experience, classroom instruction, and related career issues.

Prerequisites: Permission of the Cooperative Education Specialist
Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings, or weekends depending on employer needs.

ICO 293   Industrial Co-op   1 Credit Hour

Offers practical work experience within the student's program of study through participation in a supervised cooperative education program. This course integrates work experience, classroom instruction, and related career issues.

Prerequisites: Permission of the Cooperative Education Specialist

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings, or weekends depending on employer needs.

INTR 180   Design and User Needs   3 Credit Hours

An introduction to human factors as they affect the design of interior environments including physiological, sociological, and psychological needs of users. Emphasis on 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.

INTR 181   Principals of Design   3 Credit Hours

Introduction and application of design principles and elements as they relate to interiors. Development of professional visual presentation techniques through the creation of interior design boards and models. Introduction to the design process and aesthetic conceptualization techniques.

INTR 182   **Interior Design Materials and**   **3 Credit Hours**
                Components

An investigation into the characteristics, properties, and uses of materials, components and construction methods as specified by interior designers. Emphasis on performance, use, maintenance, and sustainability of materials and finishes. Quantity calculations, installation methods, workroom practices and resource development will also be explored.

Prerequisites: INTR 180, INTR 181, and ENG 132

INTR 280   **History of Design - Antiquities**   **3 Credit Hours**
                to Present

A survey of the chronological history of architecture, furniture and interiors from Ancient Egypt to the present. Emphasis on the relationship between major cultural, political, social and economic events upon significant movements in architecture and design.

Prerequisites: INTR 182 and INTR 183

INTR 281   **Residential Design Studio**   **3 Credit Hours**

Introduction to the interior design process and the development of functional and aesthetically pleasing environments. Emphasis is on programming, ideation, analysis, concept development, space planning, design development, documentation and graphic communication culminating in the presentation of residential projects.

Prerequisites: ACT 110 and INTR 183

Co-requisites: INTR 280

INTR 283   **Lighting and Environmental**   **3 Credit Hours**
                Systems for Interiors

Introduction to the fundamentals of lighting design and developing basic understanding of acoustical, electrical, plumbing and climate control systems and their impact on environmental, energy and economic issues. Emphasis is on the lighting design process, principles and theories, light sources, lamps and energy conservation.

Prerequisite: INTR 281

INTR 284   **Commercial Design Studio**   **3 Credit Hours**

This studio course integrates 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. The course incorporates human factors, Universal Design principles and building codes. Environmentally responsible product selection and specification will result from research and evidence-based design.

Prerequisite: INTR 281

Co-requisite: INTR 283

INTR 285   **Professional Practice for**   **3 Credit Hours**
                Interior Designers

Examination of 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.

Prerequisite: INTR 281

Co-requisite: INTR 284

INTR 287   **Interior Design Synthesis**   **3 Credit Hours**

This studio course is a rigorous capstone experience wherein students apply critical thinking and highly developed design skills to real life situations. Students will update their design portfolios, develop a professional resume and participate in mock employment interviews. The final studio project will include both team work and individual development of an interior design project for a real client.

Prerequisite: INTR 284

ITAL 131   **Elementary Italian I**   **4 Credit Hours**

ITAL 131 is a beginning level course, emphasizing the basic skills of reading, writing, speaking, and listening in Italian within communicative contexts. Students will learn the elementary pronunciation and grammatical principles necessary for comprehending and expressing simple ideas in both spoken and written Italian. Topics of Italian culture will also be presented. A variety of technologies, media, and other supplementary materials will be used to enhance learning.

ITAL 132   **Elementary Italian II**   **4 Credit Hours**

ITAL 132, second-semester Italian, is a continuation of ITAL 131 and further builds reading, writing, speaking, and listening skills within communicative contexts. Students will continue to expand their knowledge of pronunciation and grammatical principles. Topics of Italian culture will also be presented. A variety of technologies, media, and other supplementary materials will be used to enhance learning.

Prerequisites: ITAL 131, or one year of high school Italian, or permission of instructor

ITAL 141   **Elementary Conversation**   **3 Credit Hours**
                in Italian

An enrichment course, ITAL 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 ITAL 132, ITAL 231 or ITAL 232.

Prerequisites: One year of high school Italian, one semester of college Italian, or permission of the instructor

ITAL 295   Directed Study in Italian   1 Credit Hour

Individual study of a topic of special interest in the area of Italian language, literature, or culture to be undertaken under the direction of an instructor. Appropriate methods of research and investigation are applied and the results reported in a final creative product such as a research paper, electronic or physical report (such as an electronic media presentation, Web page, or display board), or other creative product together with a bibliography. This class may be repeated once for credit.

Prerequisites: A grade of C or better in ITAL 131, ITAL 132, ITAL 231, or ITAL 232; OR equivalent OR permission of instructor

ITAL 296   Directed Study in Italian   3 Credit Hours

Individual study of a topic of special interest in the area of Italian language, literature, or culture to be undertaken under the direction of an instructor. Appropriate methods of research and investigation are applied and the results reported in a final creative product such as a research paper, electronic or physical report (such as an electronic media presentation, Web page, or display board), or other creative product together with a bibliography. This class may be repeated once for credit.

Prerequisites: A grade of C or better in ITAL 131, ITAL 132, ITAL 231, or ITAL 232; OR equivalent OR permission of instructor

ITAL 297   Directed Study in Italian   3 Credit Hours

Individual study of a topic of special interest in the area of Italian language, literature, or culture to be undertaken under the direction of an instructor. Appropriate methods of research and investigation are applied and the results reported in a final creative product such as a research paper, electronic or physical report (such as an electronic media presentation, Web page, or display board), or other creative product together with a bibliography. This class may be repeated once for credit.

Prerequisites: A grade of C or better in ITAL 131, ITAL 132, ITAL 231, or ITAL 232; OR equivalent OR permission of instructor

JOUR 131   News Writing   3 Credit Hours

A course designed to be an introduction to news writing. Students learn to write news stories, thought-provoking opinion columns, and stimulating reviews. Students also read and analyze professional newspapers. All major assignments are required to be word processed.

JOUR 134   Advertising   3 Credit Hours

A course designed to be an introduction to 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). All major assignments are required to be word processed.

**LGA 120   Introduction to the Law and   2 Credit Hours
             Paralegalism**

This course sets forth the scope of paralegal employment including on-the-job realities of the occupation, ethics, and the language of the law office. The numerous skills required to be successful are examined by introducing students to legal terminology, judicial and legislative systems, professional responsibility, interviewing and factual investigations, and law office management.

Prerequisites: ENG 131

LGA 121   Legal Writing and Research I   2 Credit Hours

This course sets forth the scope of language in the law office, carefully examines its numerous skills, and promotes a sense of confidence in the various writing activities of a law office.

Prerequisites: LGA 120

Co-requisites: BBA 110, BLW 253, and ENG 131

LGA 122   Legal Writing and Research II   3 Credit Hours

This course introduces legal bibliography and library tools and teaches the basic skills of legal research and the techniques for legal writing. Through a series of progressively complex exercises, students develop their ability to analyze, interpret, and communicate factual information and legal thought.

Prerequisites: LGA 121

LGA 123   Computer-Assisted Legal Research 3 Credit Hours

In addition to traditional law library resources, paralegals utilize the Internet and other electronic resources in all areas of law practice. This course provides advanced instruction in Westlaw® and other Internet resources as well as advanced legal research techniques.

Prerequisites: LGA 122, BLW 253, and ENG 131

LGA 125   Legal Ethics   1 Credit Hour

This course is designed to orient students to the laws and regulations in Michigan regarding paralegals, attorneys, and non-attorney employees in the legal industry. Students study portions of the Michigan Rules of Professional Conduct, the unauthorized practice of law, attorney-client confidentiality, conflicts of interest, attorney advertising, and the various roles non-attorney employees perform in the legal industry. Emphasis will be on professional and ethical responsibilities. This course will include lecture, class discussion, and legal research.

Co-requisites: ENG 131

**LGA 130   Trial Practice and Appeals   3 Credit Hours
             Civil and Criminal**

This course provides an understanding of trial practice in both civil and criminal trials beginning with a review of the preparation of the basic pleading necessary to institute and respond to a civil law suit and the necessary elements of a criminal complaint, warrant, and grand-jury indictment. The course focuses on the discovery process under both the state and federal court rules.

Prerequisites: LGA 121, BLW 253, and ENG 131

Course Descriptions

LGA 133   Wills and Trusts   2 Credit Hours

This course is a study of the basic provisions of wills and trusts and their effect on the distribution of assets.

Prerequisites: LGA 121, BLW 253, and ENG 131

LGA 135   Family Law   3 Credit Hours

This course is a survey of general divorce procedures beginning with the pre-commencement interview to determine underlying problems of the parties and possible solutions and to collect pertinent data regarding property, custody, support, or other relief available. Procedures that are introduced include commencement of various actions, functions of Friend of the Court, miscellaneous motion procedures, and order preparation and enforcement. Additionally, marital counseling, support actions, and paternity actions are introduced.

Prerequisites: LGA 121, BLW 253, and ENG 131

LGA 136   Probate Administration   3 Credit Hours

This course provides information and procedures with respect to the administration of the estate of a decedent from the time of the notification of death through the final distribution. Included is an examination of court procedure, forms, and documents. Consideration is also given to the tax aspect of estate administration and to client contact.

Prerequisites: LGA 121, BLW 253, and ENG 131

LGA 137   Property Law   2 Credit Hours

This course presents the principles of property law with particular emphasis on the types of property, property rights, landlord and tenant rights, easements, and bailment. This course is designed to give students a general understanding of the property concepts that permeate the field of law.

Prerequisites: LGA 121, BLW 253, and ENG 131

LGA 138   Corporate and Tax Law   3 Credit Hours

This course explains the various forms that a business association may take, such as sole proprietorship, partnership, and incorporation. The structure, power, formation, registration, rights, and liabilities to the public of each type of association are included. This course surveys the theory of taxation behind each business association and its ramifications on ownership.

Prerequisites: LGA 121, BLW 253, and ENG 131

LGA 139   Commercial Law and Collection   2 Credit Hours

This course explains commercial law, including contract formation, the rights and duties of the parties, and their remedies upon default. This course acquaints the student with the sale of goods and the remedies of buyer and seller in the marketplace, as well as the collection process, including debtor and creditor relief, judgments, small claims, bankruptcy, consumer protection, and bills and notes.

Prerequisites: LGA 121, BLW 253, and ENG 131

LGA 141   Personal Injury and Torts   3 Credit Hours
Litigation

This course explains the substantive law of negligence, tort, and personal-injury litigation. This course introduces pre-trial case preparation including screening clients, gathering evidence, organizing files, interviewing, and drafting pleadings by the paralegal.

Prerequisites: LGA 121, BLW 253, and ENG 131

LGA 150   Case Management   2 Credit Hours

This course provides an introduction to the management of document and information organization and case computerization. This study promotes best practices and use of industry standards in connection with document control, document storage systems, case computerization, and case-estimating skills used in the legal field.

Prerequisites: BCA 140, completion of or concurrent enrollment in LGA 121

LGA 292   Legal Assistant Internship   2 Credit Hours

Offers credit for actual work experience in a legal office. Students should have completed most of the course work in the Legal Assistant program before applying for the internship.

Prerequisites: Permission of the Cooperative Education Specialist

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings, or weekends depending on employer needs.

LGA 293   Legal Assistant Internship   3 Credit Hours

Offers credit for actual work experience in a legal office.

Students should have completed most of the course work in the Legal Assistant program before applying for the internship.

Prerequisites: Permission of the Cooperative Education Specialist

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer is a full 15-week semester). Placements may be days, evenings, or weekends depending on employer needs.

LGA 294   Legal Assistant Internship   4 Credit Hours

Offers credit for actual work experience in a legal office. Students should have completed most of the course work in the Legal Assistant program before applying for the internship.

Prerequisites: Permission of the Cooperative Education Specialist

Note: Co-op is available for the Fall, Winter, and Spring/Summer semesters (Spring/Summer for a full 15-week semester). Placements may be days, evenings, or weekends depending on employer needs.

MATH 011   Pre-Algebra Placement Review   1 Credit Hour

This course is intended a s review for students who originally placed into MATH 074-Pre-Algebra. Topics covered include fractions, decimals, percents, signed numbers, linear equations, ratios and proportions. Students who successfully complete the course will be allowed to retake the Math placement test.

Course Descriptions

Henry Ford Community College

MATH 064 Basic Mathematics   3 Credit Hours

This course is intended as a preparation for MATH 074 or as a review of arithmetic. Topics covered include place value, an introduction to fractions and decimals, arithmetic with whole numbers and arithmetic with decimal numbers.

MATH 074 Pre-Algebra   4 Credit Hours

This course is intended to prepare students for algebra in MATH 080 or MATH 100. Topics covered include fractions, percents, measurement and geometry, signed numbers, linear equations and proportions. Techniques of problem solving and applications are included throughout the course.

MATH 080 Beginning Algebra   3 Credit Hours

This course is intended as a developmental course for students who need to develop skills in beginning algebra topics. Topics covered 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. Techniques of problem solving and applications are included throughout the course.

Prerequisites: A grade of C or better in MATH 074 or a satisfactory score on the Math placement test

MATH 100 Basic Technical Mathematics   4 Credit Hours

This course is intended for students in technology programs who have not had one year of algebra and one year of geometry or who need to review beginning algebra and geometry. Topics include a review of arithmetic, an introduction to the graphing calculator, working with approximate numbers, dimensional analysis, beginning algebra, geometry, trigonometry and statistics. This course emphasizes practical technical applications.

Prerequisites: A satisfactory score on the Math placement test

MATH 101 Mathematics for Health Careers   4 Credit Hours

Provides the mathematical skills required for various careers in the health professions. Topics include computational skills, essential algebraic concepts, ratio and proportion, measurement and geometry, and an introduction to data analysis with problems chosen to represent those commonly encountered in health careers. Problem-solving strategies are included throughout the course.

MATH 103 Technical Mathematics   4 Credit Hours

This course is intended for students in technology programs who have had MATH 100 or one year of Beginning Algebra. Topics covered include 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.

Prerequisites: A grade of C or better in MATH 100 or a satisfactory score on the Math placement test

MATH 104 Mathematics for Food Service   4 Credit Hours
Careers

This course provides the mathematical skills required for various careers in the food service professions. Topics covered 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 food.

Prerequisites: A grade of C or better in HOSP 121 or concurrent enrollment in HOSP 121

Note: MATH 104 requires the use of a scientific calculator. Any calculator capable of calculating the values of trigonometric, logarithmic and exponential functions is acceptable.

MATH 110 Intermediate Algebra   4 Credit Hours

Topics covered include solving linear, quadratic, rational, and square root equations, solving linear and compound inequalities, an introduction to functions, rational expressions, exponents, radicals, and solving systems of linear equations. Techniques of problem solving and applications are included throughout the course along with modeling data using linear and quadratic functions.

Prerequisites: A grade of C or better in MATH 080 or a satisfactory score on the Math placement test

MATH 112 Trigonometry   3 Credit Hours

Intended for students in a technical or science program that requires a knowledge of trigonometry. Topics include circular functions and their graphs, identities, conditional equations, the solution of triangles, vectors, and physical applications. This course does not satisfy the MATH 180 prerequisite.

Prerequisites: A grade of C or better in MATH 110 or MATH 103 or a satisfactory score on the Math placement test

MATH 115 College Algebra   5 Credit Hours

Topics covered include coordinate geometry, functions and their graphs, algebraic and graphical solutions of equations and inequalities, graphs and zeros of polynomial functions, Fundamental Theorem of Algebra, conic sections, linear modeling, systems of equations and inequalities, matrices and their operations, sequences and series, and the Binomial Theorem. Techniques of problem solving and applications are included throughout the course along with an introduction to the usage of graphing calculators.

Prerequisites: A grade of C or better in MATH 110 or a satisfactory score on the Math placement test

MATH 121 Mathematics for Elementary   3 Credit Hours
Teachers I

Intended for students who are involved in a curriculum for elementary teachers. Topics include problem solving, an introduction to logic, set theory, number theory, numeration systems, whole numbers, and fractions. Concept development, communication skills, both oral and written, and problem solving skills will be addressed in accordance with the NCTM Standards. Topics in algebra will be integrated throughout.

Prerequisites: A grade of C or better in MATH 110 or a satisfactory score on the Math placement test.

Completion of or concurrent enrollment in ENG 131

Course Descriptions

MATH 141   Introduction to Statistics   4 Credit Hours

This course is intended 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. Topics covered include 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, students will use a statistical software package to conduct data analysis and solve applied problems.

Prerequisites: A grade of C or better in MATH 110 or satisfactory score on the Math placement test

Note: A graphing calculator is required of each student. The Mathematics Division recommends and uses the TI-83 or TI-83/84 Plus Graphing Calculator.

MATH 150   Finite Mathematics   4 Credit Hours

For students in business administration and the social sciences. Topics include mathematical models, sets, systems of equations, linear programming, the mathematics of finance, and probability. Students are exposed to using technology for business-related applications.

Prerequisites: A grade of C or better in MATH 110 or a satisfactory score on the Math placement test

MATH 153   Calculus for Business, Life   5 Credit Hours
**   and Social Science**

For students in business and life and social sciences but not engineering, mathematics, or physical science majors. This course is an introduction to the study of differential and integral calculus of algebraic, logarithmic, and exponential functions of one variable. Topics covered include graphical, numerical and algebraic determination of derivatives and definite integrals, applications of the derivative including minima and maxima, and integration and its applications. Applications are included throughout the course. Credit cannot be earned for both MATH 153 and MATH 180.

Prerequisites: A grade of C or better in MATH 115 or MATH 150 or MATH 175, or a satisfactory score on the Math placement test

MATH 175   Precalculus   5 Credit Hours

Topics include algebraic, graphical, and numerical representations of functions, including composition and inverses of functions. The primary focus is the study of rational functions, exponential and logarithmic functions, and trigonometric functions of real numbers and angles. Also included are analytic trigonometry, solutions of triangles, polar coordinates and vectors. Techniques of problem solving and applications are included throughout the course requiring the frequent usage of graphing calculators.

Prerequisites: A grade of C or better in MATH 115 or a satisfactory score on the Math placement test

MATH 180   Calculus I   5 Credit Hours

For students whose program of study requires 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 MATH 180.

Prerequisites: A grade of C or better in MATH 175 or a satisfactory score on the Math placement test

MATH 183   Calculus II   5 Credit Hours

Topics include applications of the integral, techniques of integration, numerical integration, improper integrals, solutions of differential equations, polynomial approximations of functions, and infinite series. Numerical, graphical, and algebraic approaches are used whenever possible. Applications are included throughout the course.

Prerequisites: A grade of C or better in MATH 180

MATH 221   Mathematics for Elementary   3 Credit Hours
**   Teachers II**

Intended for students who are involved in a curriculum for elementary teachers. Topics include the rational numbers, the integers, the real numbers, algebra, and topics from geometry. Geometer's Sketchpad will be used to develop geometry content. Concept development, communication skills, both oral and written, and problem solving skills will be addressed in accordance with the NCTM Standards.

Prerequisites: A grade of C or better in MATH 121 and a grade of C or better in ENG 131

MATH 225   Mathematics for Elementary   3 Credit Hours
**   Teachers III**

This course is intended for students who are involved in a curriculum for elementary teachers. Topics include geometry, probability and statistics. Geometer's Sketchpad will be used to develop geometry content. Computer software will be used to enhance the probability and statistics units. Concept development, communication skills, both oral and written, and problem solving skills will be addressed in accordance with the NCTM Standards.

Prerequisites: A grade of C or better in MATH 221

MATH 275   Discrete Mathematics   4 Credit Hours

Intended for students in a computer engineering or computer science program. Topics include logic, methods of proof, set theory, algorithms, recursion, correctness, relations, partial orderings, graphs, trees, Boolean algebra, grammars, and finite-state machines. Various applications are included throughout the course.

Prerequisites: A grade of C or better in MATH 180 or MATH 175 or concurrent enrollment in MATH 180

MATH 280 Calculus III   **5 Credit Hours**

Topics covered include 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. Numerical, graphical, and algebraic approaches are utilized whenever possible. Applications are included throughout the course.

Prerequisites: A grade of C or better in MATH 183

MATH 283 Linear Algebra   **3 Credit Hours**

An introduction to matrix algebra and linear algebra. Topics include systems of linear equations, matrix operations and properties of matrices, determinants, the vector space Rn, general vector spaces, inner product spaces, linear transformations, and eigenvalues and eigenvectors. Various applications are presented.

Prerequisites: A grade of C or better in MATH 183

MATH 289 Differential Equations   **4 Credit Hours**

Introduces ordinary differential equations by means of numerical, graphical, and algebraic analysis. Topics include 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. Various applications are covered throughout the course.

Prerequisites: A grade of C or better in MATH 280, or a grade of C or better in MATH 183 and concurrent enrollment in MATH 280

MATH 291 Topics in Mathematics   **1 Credit Hour**

This course is designed to explore 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: Permission of instructor

MATH 292 Topics in Mathematics   **2 Credit Hours**

This course is designed to explore 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: Permission of instructor

MATH 293 Topics in Mathematics   **3 Credit Hours**

Designed to explore selected topics as determined by an instructor. The specific topic or topics are announced together with the prerequisites each term. The student can repeat the course for additional credit when different topics are offered. This course may not be applied toward fulfilling the specific degree requirements for an associate degree.

Prerequisites: Permission of the instructor

MFMT 100 Workplace Skills   **2 Credit Hours**

A course designed to prepare students to function effectively as a multi-level power-facilities technician in the energy, power, and facilities technology fields with emphasis on basic workplace skills along with safety and hazardous or environmental concerns for workers on the job. The elements in the course meet or exceed the requirements of various certification agencies.

Note: 100% online course

MFMT 101 Energy Technology Applications   **2 Credit Hours**

Introduces the student to energy conversion, the study of energy sources, basic energy conversion concepts, applied mechanics, and measurement of their basic quantities. The learner identifies and uses the basic methods for measuring, monitoring, and calculating energy as applied to energy conversion, conservation, and use in various simple machines and power systems.

Note: 100% online course

MFMT 102 Applied Mechanical Skills (PO)   **2 Credit Hours**

An introductory course in the elements of industrial power transmission, motion control, basic hydraulics and pneumatics, alignment, measuring mechanical systems operation and application of mechanical systems and components to industrial process, production operation, and maintenance. Students study and apply procedures for the removal, repair, and installation of machine components and further study methods of installation, lubrication practices, and maintenance procedures for industrial machinery. Includes study of techniques for calibration and repair of electromechanical devices and practie in computations pertaining to industrial machinery.

MFMT 103 Industrial Computer Application   **2 Credit Hours**

This is an introductory course appropriate for all technical and skilled trade students. The course is designed to provide computer familiarity, not proficiency. Industrial applications of computers will be stressed. Computer software, programming, storage/input/output devices and controls as they apply to industry will be explored. Design as well as hands-on, primarily competency based. The course will provide experiences and demonstrations in keyboarding, window programs, word processing, spreadsheets, databases, computer graphics, basic programming, time permitting two-dimensional computer aided drafting.

Note: This course meets the graduation requirement for General Education Outcome 2: Computer Literacy

100% online course

MFMT 105 Basic HVACR – Power   **2 Credit Hours**

A basic course in heating, air conditioning, and refrigeration providing the learner with exposure to the basic principles, tools, materials, equipment, and components in each of the major subject areas. The course provides orientation to the multi-skilled technician's job in the HVACR field for building engineers, power engineers, processing operating and maintenance technicians, and others engaged in HVACR operations.

Note: 100% online course

MFMT 107 Basic Electrical – Power   2 Credit Hours

An introductory course covering the electrical elements required of multi-skilled technicians in the heating, power, process, instrumentation, facilities operation, and maintenance fields, HVAC service and maintenance fields, and manufacturing maintenance field. The study of schematic diagrams and the application of test instruments to check electrical components such as motors, relays, solid state circuits, and switches are covered.

Note: 100% online course

**MFMT 114 Energy Conversion Principles,   2 Credit Hours
          Tools, Instruments, Processes**

An online course in applied facilities and power plant fundamentals designed to provide introductory practical science studies for students entering the power, facilities, HVAC, and process operation and maintenance fields. Covers: tools; instruments; materials and practical science including basic thermodynamics; plant visits; operation and maintenance fundamentals with exercises and experiences that meet or exceed requirements of National Skill Standards for heat, power, HVAC, and facilities technicians and engineers.

Note: 100% online course

**MFMT 115 Boiler(LP)/Heating Plant   2 Credit Hours
          Operation & Maintenance**

An introductory online course for orientation to 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. Study materials which are taken from workplace literature and actual field systems and utilize a workbook to complete multi-skilling tasks similar to those completed by skilled technicians in the field.

Prerequisites: This is an online course which must be taken on the computer and students taking the course must be computer literate using basic DOS, Windows, word processing, e-mail, Internet and other computer capabilities effectively. Your computer equipment must be connected to an Internet service and have Internet capability. This course does not offer any assistance in using the computer, using software programs nor in troubleshooting your equipment or your computer systems.

Note: 100% online course

**MFMT 116 HP Boiler Operation/Maintenance   2 Credit Hours
          and License Prep**

An online High Pressure and 3rd Class Boiler, Power or Process Plant Operation/Maintenance and License Preparation course covering the necessary information on skills, knowledge and competencies for persons employed as boiler operators and plant engineers or seeking positions as plant multi-skilled facilities technicians. Students are required to complete sketches, workbook exercises, and optional field activities along with quizzes and exams related to the study materials and field systems.

Prerequisites: Suggest 1-2 years of field experience operating boilers and power plant equipment or equivalent education or training program-courses or permission

Note: 100% online course

**MFMT 116a 3rd Class Turbine/Engine   2 Credit Hours
          License Prep**

Additional preparation in the Turbine/Engine, Auxiliaries and Refrigeration areas for License Preparation for 3rd Class Steam and Refrigeration or 4th Class NIULPE Licenses. This is a course covering the necessary information on skills, knowledge and competencies for persons employed as boiler operators and plant engineers or seeking positions as plant multi-skilled facilities technicians. Building-plant major equipment and controls maintenance for systems are covered to allow the employed or prospective engineer/technician to grasp the elements of operating procedures, required maintenance and repair, along with continuing oversight to ensure continuity of operation. Students study materials which are taken from workplace literature and actural field systems and utilize a workbook to complete sketches, workbook exercises, and optional field activities along with quizzes and exams related to the study materials and field systems.

Note: 100% online course

**MFMT 151 Power and Process Plant   5 Credit Hours
          Operation**

This course is designed to prepare a student to function effectively as an entry level Stationary Steam Apprentice or introductory personnel, upon starting their term at a plant as an apprentice or as an introduction to power and process plants operation & maintenance. This course 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. The course emphasizes a hands-on approach to the study of basic skills where possible in a workplace laboratory setting. This course covers general workplace and personal safety along with hazardous or environmental concerns for workers on the job. The elements in the course meet or exceed the requirements of various certification and licensing agencies. May be conducted as an online course.

**MFMT 155 Data Acquisition for Energy and   2 Credit Hours
          Maintenance Technicians**

This course provides a hands-on approach to various data communications functions found in industrial and commercial facilities environments and in the interface to the outside world including access to wide area networks (WAN), i.e., communications between temperature control systems and manufacturing conveyor controls and data acquisition.

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**MFMT 162 Boiler Installers - Repairers   5 Credit Hours
                License Review**

Boiler Installers License Review is a course designed to cover the Michigan code requirements for the installation and repair of low pressure and high pressure boilers. Persons taking this course and expecting to prepare to "write" for the Michigan Boiler Installers or Boiler Repair Licenses must have a minimum of 5 years of experience in all phases of boiler installation/repair in the class of license for which the applicant is applying. For qualification to "write" for the license, applicants must also be able to document (for inspection if required) a minimum of 4 installations they have made. Taking this course does not qualify the student to take the license exam.

Prerequisites: Meet the requirements or have equivalent background and experience required to take the State of Michigan Boiler Installers or Repairers License Exam or permission

**MFMT 172 Introduction to Process   5 Credit Hours
                Technology Operations**

A course designed to provide an introduction to process technology operations. This course focuses on basic operating principles of equipment and systems used in the process technology industry such as valves, piping, pumps, compressors, generators, motors, lubrication systems, heat exchangers, furnaces, boilers, cooling towers, separators, reactors and distillation columns and the associated instrumentation and diagrams of such facilities. The basic mechanical design characteristics, scientific principles, and the interactions of the various pieces of plant equipment are explored. Basic laboratory experiences are provided in major equipment areas as they are available.

MFMT 174 Process Technology II Systems   5 Credit Hours

Advanced process technology course providing study of the interrelation of process equipment and process systems including related scientific principles. Students will arrange process equipment into basic systems, describe the purpose and function of specific process systems, explain how factors affecting process systems are controlled under normal conditions, and recognize abnormal process conditions.

Prerequisites: MFMT 172

Co-requisites: PEFT 182

MFMT 192 Power Facilities Practicum   2 Credit Hours

This course is designed to provide learners with various forms of field experience as required by licensing agencies. Students are assigned to an industrial plant or field-type situation where they can be exposed to the activities and tasks performed by power engineers. Students may sign up for the practicum more than one time to increase their field experience and/or qualify for a license exam.

Prerequisites: Permission from instructor based upon courses/ programs completed

MFMT 196 Independent Study   2 Credit Hours

This course is designed to provide field experience based on the availability of equipment systems and field-oriented workstations as selected or determined by the instructor. The student can repeat the course when different topics are available. This 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 204 Introduction to Embedded   2 Credit Hours
                Microcontrollers**

This course is designed to provide a fundamental understanding of microcontrollers and how they are integrated into various machines and operating equipment. The course will emphasize practical applications of microcontroller technology through the use of hands-on laboratory experiments. The materials and labs are designed for entry-level students in the field of Manufacturing Maintenance Technology.

MFMT 222 Manufacturing Fabrication   2 Credit Hours

This course is designed to prepare students to function effectively as multi-skilled maintenance technicians with emphasis on basic and intermediate material fabrication skills and knowledge. The course will emphasize the hands-on aspect of materials fabrication where possible in a workplace laboratory setting. May be conducted as an online course.

Prerequisites: ENT 141 or completion of or concurrent enrollment in MFMT 114

MFMT 223 Facilities Fabrication   2 Credit Hours

This course is designed to prepare students to function effectively as multi-skilled maintenance technicians with emphasis on basic and intermediate material fabrication skills and knowledge. The course will emphasize the hands-on aspect of materials fabrication where possible in a workplace laboratory setting. May be conducted as an online course.

Prerequisites: ENT 141 or completion of or concurrent enrollment in MFMT 114

MFMT 224 Automated Control Systems I   2 Credit Hours

A course designed to provide an overview of automated control systems in manufacturing and facilities maintenance. Experiences are provided in the fundamentals of instrumentation calibration, solid-state components, microprocessors, logic circuits, and programmable logic controllers areas. Learners must be prepared to access simulation, computer interface, and similar materials online for completion of this course.

Prerequisites: MFMT 107

Note: 100% online course

MFMT 228 Building-Plant Major Equipment/ Controls Maintenance I   2 Credit Hours

An online advanced course covering the necessary skills, knowledge and competencies for persons seeking positions as building and plant multi-skilled facilities technicians. Building-plant maintenance for mechanical, electrical, heating/cooling-HVAC and related auxiliary systems and associated controls are identified and covered to allow hands-on interfacing through planning projects, completing set up procedures, required maintenance and repair, along with continuing oversight to insure continuity of operation. This course may be conducted online.

Prerequisites: MFMT 114 or equivalent courses or permission

Note: 100% online course

MFMT 229 Building-Plant Major Equipment/ Controls Maintenance II   2 Credit Hours

An advanced course covering the necessary skills, knowledge and competencies for persons seeking positions as building and plant multi-skilled facilities technicians. Building-plant maintenance procedures and processes are covered for management of maintenance, structure and architectural portions of buildings, domestic hot water and potable water systems, plumbing and piping systems, elevators and transport systems, electric distribution and co-gen systems, waste disposal systems, fire and life safety systems, lighting systems and associated controls with hands-on interfacing to plan projects, complete set up procedures, the required maintenance and repair, along with continuing oversight to ensure continuity of operation. This course may be conducted online.

Prerequisites: ENT 141, MFMT 114 or equivalent courses or permission

Note: 100% online course

MFMT 234 Facilities Capstone Project 1   2 Credit Hours

Advanced course providing a project approach to completing a capstone activity using workplace competencies. Students will utilize all skills and knowledge developed in pre-requisite courses. Students must complete entire project development to allow hands-on interfacing through planning, completing set up procedures, performing required maintenance and repair, along with testing and evaluation of proper operation. Students work in labs which duplicate the workplace completing multi-skilling tasks similar to those completed by skilled technicians in the field.

Prerequisites: Permission based upon program completed

MFMT 235 Facilities Capstone Project 2   2 Credit Hours

Advanced course providing a project approach to completing a capstone activity using workplace competencies. Students will utilize all skills and knowledge developed in pre-requisite courses. Students must complete entire project development to allow hands-on interfacing through planning, completing set up procedures, performing required maintenance and repair, along with testing and evaluating proper operation. Students work in labs which duplicate the workplace completing multi-skilling tasks similar to those completed by skilled technicians in the field.

MFMT 241 Power Engineering / Refrigeration License Review   5 Credit Hours

An online advanced college level course provided for 1st, 2nd and 3rd Class Refrigeration Operator License Review and Refrigeration Journeyman. Provides information and review of the fundamentals of refrigeration and special systems covered on license exams. Students are required to answer questions, work problems and sketch components on commercial-industrial refrigeration equipment and systems.

Prerequisites: Basic Refrigeration course or equivalent field experience

Note: 100% online course

MFMT 248 Power Engineering - Steam License Review   5 Credit Hours

An advanced online 1st, 2nd Class Steam License Review course covering 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 review of national, state and local steam and boiler codes. Includes solving typical power plant problems, and practical exam skills.

Prerequisites: The course is designed for students who have the necessary work experience and practical preparation to qualify to write for local license agency courses such as the City of Detroit, City of Dearborn or for nationally identified examination agency exams such as NIULPE (National Institute for the Uniform Licensing of Power Engineers) 1st Class, 2nd Class or Chief Engineer's license examination. Normally 3-10 years of power engineering field experience is required for applicants to qualify for taking these license exams. The examinations are designed to 1) Test the applicants' knowledge in the area in which the license is being sought and, 2) Measure the applicants' ability to solve problems, interpret the steam code to operate a steam power plant safely and prudently.

Students study materials which are taken from workplace literature and actual field systems and utilize a workbook to complete multi-skilling tasks similar to those completed by skilled technicians in the field. Students are required to complete sketches, workbook exercises, and optional field activities along with quizzes and exams related to the study materials and field systems.

Power Engineers and Stationary Engineers seeking a First and/or Second Class Steam License have been working in the field a minimum of 5-6 years after completing their education or apprenticeship. Being an online course, prospective students should be computer literate, able to access the Internet readily, be familiar with e-mail systems, have the ability to easily work in a windows and Internet browser environment, be comfortable communicating in writing, be self-motivated and able to spend 6-12 hours of their time per week devoted to course study. Prospective students must have access to an Internet-capable computer utilizing a browser such as Internet Explorer or Netscape Navigator or must work from a computer in an on-campus lab.

Note: 100% online course

MGT 230   Principles of Management   3 Credit Hours

This course is a study of the functions, principles, and philosophy of modern management, as well as the nature and structure of organizations. Brief consideration also is given to recent developments in corporate decision making and styles of managerial leadership. Classes consist of lectures, discussions, and case studies.

Prerequisites: ENG 131 or 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)

MGT 231   Supervision and Teambuilding   3 Credit Hours

This course is designed for supervisors, individuals recently promoted to supervision, and employees interested in moving into a supervisory role. Through this highly interactive class, students will be assisted in developing and improving their supervisory skills. Students will learn effective leadership techniques that will enable them to build strong teams that achieve synergy. Students will be able to examine their leadership style and compare it to more effective models. Role-playing and discussion sessions are an integral part of most class sessions.

MGT 232   Human Resources Management   3 Credit Hours

This course examines business organization and management as they apply to the personnel functions of recruitment selection, placement, induction, and training. Attention is given to job analysis; evaluation; maintenance; and measurement of morale, union-management relations, and the economic and physical security of employees.

MGT 237   Psychology in the Workplace   3 Credit Hours

This course is an introduction to psychological theory, research, and practice as they relate to the business environment. Workplace issues examined include selection criteria and predictors, training and development, performance appraisal, employee motivation and satisfaction, and occupational health.

MGT 238   Labor-Management Relations   3 Credit Hours

This course examines the principles underlying the management-union 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 through lecture, discussion, and case analysis. Additionally, the purpose and problems of employee benefit plans are analyzed. Both principles and techniques of collective bargaining are emphasized.

MGT 240   Creative Problem Solving   3 Credit Hours

This course operates as a workshop with emphasis on experimentation, group studies, and students' input based on the expression of their needs. This course examines the history of creativity, recent findings of creativity research, and the application of those findings to problem-solving techniques. The introduction of such techniques to the work place is studied and planned.

MGT 241   Small Business Management   3 Credit Hours
**   & Entrepreneurship**

This course examines the role of small business and entrepreneurship in the economy. The role of and need for a business plan when starting a business are examined. Financial, marketing, management, and location considerations are examined. Internet and online businesses are discussed. Students prepare a business plan for a start-up business of their choosing.

Co-requisites: BBA 131

MOA 100   Medical Office Procedures I -   3 Credit Hours
**   Administrative**

Serves as the foundation course for the Medical Assistant and Medical Receptionist and Medical Insurance Specialist programs. This course presents the administrative and office skills needed for understanding the significance of membership in a service profession. Topics included are personal qualifications, employability skills, ethical/legal responsibilities, receptionist duties, scheduling appointments, telephone techniques, filing, maintaining patient records, billing and collecting fees, bookkeeping, and computer applications.

Prerequisites: A score of 43/84 or above on the ASSET/ COMPASS Reading test or satisfactory completion of ENG 081.

A score of 39/39 or above for ASSET/COMPASS Math test or successful completion of MATH 074 or MATH 101.

Co-requisites: AH 100

Note: Students considering either the Medical Office Assistant, the Medical Receptionist, or Medical Insurance Specialist programs need to coordinate their schedule with the health careers advisor.

Please review the Admission Requirements for the Medical Assistant Program as well as the recommendations for the Medical Receptionist and Medical Insurance Specialist programs.

MOA 110   Processing Health Insurance   2 Credit Hours
**   Claims**

This lecture/lab course is designed as an introductory insurance billing course centering on the medical office as well as physician insurance billing. It presents the coding procedures using the CPT/HCPCS Manual and related ICD-9 diagnosis necessary for billing Blue Shield, Medicare, Medicaid, and commercial carriers. Students will complete insurance claim forms for each of the major carriers.

Prerequisites: A score of 43/84 or above on the ASSET/ COMPASS Reading test or satisfactory completion of ENG 081.

A score of 39/39 or above for ASSET/COMPASS Math test or successful completion of MATH 074 or MATH 101.

Co-requisites: Suggested completion of or concurrent enrollment in AH 100 and MOA 100

Course Descriptions

**MOA 120   Medical Office Computer   2 Credit Hours
              Applications**

Lecture and laboratory experiences will introduce the learner to microcomputer applications unique to the medical office. Applications will include the following computerized tasks: establishing information files, appointments, patient account information, accounts receivable, aging accounts, insurance billing, recall notice, and production reports.

Prerequisites: AH 100, BCA 140, and MOA 100.

A score of 43/84 or above on ASSET/ COMPASS Reading test or satisfactory completion of ENG 081.

Keyboarding skills of 30 words per minute.

Knowledge of MS Word processing software.

Co-requisites: MOA 110

**MOA 150   Medical Office Assistant   5 Credit Hours
              Procedures II-Clinical**

An advanced course designed for students admitted to the program, includes the medical assisting principles and procedures specifically related to the clinical area, such as vital signs, administration of medications, venipuncture, medical and surgical asepsis, assisting with examinations and treatments, electrocardiography, routine diagnostic laboratory tests, and medical emergencies.

Prerequisites: Admission to the MOA program.

AH 100, BIO 134 or BIO 233 and BIO 234, MOA 100, MOA 110, and MOA 120.

A score of 43/84 or above on ASSET/COMPASS Reading test.

A score of 39/39 or above on ASSET/COMPASS Math Numerical Skills test.

Co-requisites: MOA 160, MOA 170, HPE 142, and PSY 131

MOA 160   Basic X-Ray Techniques   2 Credit Hours

Designed for medical assistants and other health care workers who assist with radiographic procedures in ambulatory care facilities. This lecture/lab course focuses upon the basic components of radiation protection, radiation safety, basic radiologic positioning, fundamental procedures, equipment, special studies, darkroom procedure as well as film processing.

Prerequisites: Successful completion of AH 100.

A score of 43/84 or above on the ASSET/COMPASS Reading test or successful completion of ENG 081.

Note: MOA 160 is also highly recommended for students applying for admission to HFCCs Radiographer program.

MOA 165   Physician Billing Concepts   4 Credit Hours

This lab/lecture course focuses upon the physician office billing process. Both paper and electronic claims are presented with an emphasis on correctly billing primary, as well as secondary claims.

Prerequisites: MOA 110 and AH 100

A score of 43/84 or above on ASSET/COMPASS Reading test or satisfactory completion of ENG 081.

Keyboarding skills of 30 words per minute.

Knowledge of MS Word processing software.

Co-requisites: HIT 150 and HIT 230

MOA 168   Facility Billing Concepts   4 Credit Hours

This lecture/lab course focuses upon the billing process unique to health care facilities. The hospital billing environment, coding, payment methods, UB92 claims will be addressed together with billing simulations.

Prerequisites: AH 100 and MOA 110

A score of 43/84 or above on ASSET/COMPASS Reading test or satisfactory completion of ENG 081.

Co-requisites: HIT 150 and HIT 230

MOA 170   Medical Correspondence   3 Credit Hours

Emphasizes spelling, grammar, punctuation, as well as specific writing styles for medical assistants and medical receptionists. This course focuses upon the variety of correspondence encountered in an ambulatory health care facility. Lecture and laboratory activities lead to an exit performance of speed, accuracy and clarity in the preparation of printed documents.

Prerequisites: Successful completion of AH 100 and MOA 100.

Keyboarding skills of 30 words per minute.

Knowledge of MS Word processing software.

MOA 181   Medical Collection & Legal Issues 3 Credit Hours

This advanced physician billing course focuses upon payment posting, fee schedules, HMO capitation eports, rejections, billable/non-billable services, claim status, and collections. Ethics in relation to billing and billing issues will also be discussed.

Prerequisites: MOA 165 and MOA 168

A score of 43/84 or above on ASSET/COMPASS Reading test or satisfactory completion of ENG 081.

MOA 190   Medical Office Externship   4 Credit Hours

A capstone clinical externship for the medical assistant student, including 184 hours of clinical experience in an assigned ambulatory care facility. This course also includes a structured seminar component.

Prerequisites: Successful completion of all MOA Required Core and Required Support Courses and permission of the Program Director.

Note: 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).

**MOA 205   Insurance Coding and   3 Credit Hours
              Reimbursement**

This lecture/laboratory course will further develop the methods and skills necessary for optimal reimbursement for services rendered in a healthcare setting. Billing and reimbursement cycle, HIPAA, diagnostic coding and procedural coding, coding compliance, claims processing, as well as physician and hospital coding reimbursement will be developed. This course will also provide an overview of the key financial circumstances impacting the healthcare delivery system.

Prerequisites: MOA 165 and MOA 168

A score of 43/84 or above on ASSET/COMPASS Reading test or satisfactory completion of ENG 081.

A score of 39/39 or above on ASSET/COMPASS Math test or successful completion of MATH 074 or MATH 101.

MPS 100   Manufacturing Processes I   6 Credit Hours

A beginning hands-on course with theory in which the student gains experiences in manufacturing processes involving turning, threading, drilling, reaming, tapping, milling, and shaping. Part processing, machines, and tooling used along with speeds and feeds and inspection techniques are covered in relation to operations. Safety is an integral part of the course.

MPS 110   Manufacturing Processes II   6 Credit Hours

A hands-on course with some theory in which the student gains advanced manufacturing processes experience on the lathe, mills, and grinders. The proper and safe use of equipment and tools used in performing machining operations is integral to this course. The efficient use and the troubleshooting of carbide, ceramic, and diamond cutting tool materials are covered.

Prerequisites: Completion of or concurrent enrollment in MPS 100, or permission of the instructor

MPS 120   Practical Problems In Machine   4 Credit Hours
**   Tools I**

A course for students who wish to increase their machining efficiency and quality of workmanship. Individualized instruction helps the student overcome deficiencies in machining on the lathe, drill press, and shaper. Tool sharpening, set-up, and safety are stressed.

Prerequisites: Completion of or concurrent enrollment in MPS 100

MPS 125   Practical Problems in Machine   4 Credit Hours
**   Tools II**

Designed to 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. Safe work habits are stressed.

Prerequisites: Completion of or concurrent enrollment in MPS 120

MPS 130   Quality Control Gaging and   4 Credit Hours
**   Inspection**

A beginning course that covers the following manufacturing inspection methods: layout; surface plate techniques; tool and instrument reading and uses; and floor and receiving inspection. Surface finish measurement, introduction to SPC techniques, and GDT are integral portions of this course.

MPS 140   Introduction to CNC   4 Credit Hours

A beginning course covering the basic concepts of computer numerical control (CNC). Experience is obtained through the setup, operation, and programming of a CNC Mill and CNC Lathe.

Prerequisites: Completion of or concurrent enrollment in MPS 100

MPS 145   CNC Operations   6 Credit Hours

Introduces the student to the concept of computer numerical control (CNC) operations as they exist in the manufacturing environment. Students acquire skills in setup, operation, and programming of the CNC Mill and CNC Lathe through MDI and off-line programming.

Prerequisites: MPS 140 or permission of instructor

MPS 146   Introduction to CNC Machine   1 Credit Hour
**   Tool Probing**

This course covers the elementary functions of use and application of the electronic probe on a Vertical Machining Center. Topics covered in this course 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. Students will be involved in both classroom and laboratory applications activities.

Prerequisites: MPS 145

MPS 147   Basic Macro Programming   1.5 Credit Hours
**   for CNC**

This is an introductory course to Macro programming as applied to CNC machine tools. Basic elements of this type of programming include: defining a macro; defined variables vs. undefined variables; the use and application of arithmetic, logical and Boolean operators. This course includes both classroom and application based activities in the CNC laboratory.

Prerequisites: MPS 145

MPS 148   Advanced CNC Probing   1 Credit Hour

This course takes the student to the next level in the use and application of the electronic probe on CNC machine tools. Students will be involved in writing their own 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. Students will prove their work on the CNC Vertical Machining Center.

Prerequisites: MPS 145, MPS 146, and MPS 147

MPS 150   SPC In Manufacturing   4 Credit Hours

Covers the use of SPC (Statistical Process Control) 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. Formulas pertaining to various charts, gage R & R, Cp, and Cpk are covered.

MPS 160   Computer-Assisted Programming 4 Credit Hours

An introductory course in computer-assisted part programming. The student will use CAD/CAM software running on a personal computer (PC). Programming for both the CNC Mill and CNC Lathe will be done in this class.

Prerequisites: MPS 140 or departmental approval

MPS 170   Advanced Computer-Assisted   4 Credit Hours
**   Programming**

A study in advanced methods of part programming using CAD/CAM software on a personal computer (PC). Special emphasis is placed on programming three-dimensional parts. Class assignments will also include multiple-part programming.

Prerequisites: MPS 160

MPS 210   Non-Traditional Machining   4 Credit Hours

An advanced course covering theory in the "nontraditional" material removal techniques applying mechanical, chemical, electrical, and thermal energies. Practical experience includes electrode development and operation of EDM machine.

Prerequisites: MPS 110

MPS 275   Advanced CNC Operations   6 Credit Hours

Concentrates on the total aspects of computer numerical control (CNC) as applied in manufacturing today. This course covers estimating for CNC manufacturing, DNC, tool selection, cutting tool material selection, and small batch production.

Prerequisites: MPS 145

MUS 107   Concert Choir   1 Credit Hour

Four semesters of Concert Choir including preparation and performance of a broad spectrum of choral music, from classical to pop, show tunes, and jazz. At least two performances are scheduled each semester, often accompanied by band or orchestra. These courses are open to college students and adult members of the community. New singers may audition during the first week of class. No preparation is necessary, only a good ear and a clear voice.

MUS 108   Concert Choir   1 Credit Hour

Second of four semesters of Concert Choir including preparation and performance of a broad spectrum of choral music, from classical to pop, show tunes, and jazz. At least two performances are scheduled each semester, often accompanied by band or orchestra. These courses are open to college students and adult members of the community. New singers may audition during the first week of class. No preparation is necessary, only a good ear and a clear voice.

Prerequisites: Follow course sequence

MUS 109   Wind Ensemble   1 Credit Hour

Four semesters of wind Ensemble (symphony band) including preparation and performance of standard concert band 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.

MUS 110   Wind Ensemble   1 Credit Hour

Four semesters of wind Ensemble (symphony band) including preparation and performance of standard concert band 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.

MUS 111   Jazz Lab Band   1 Credit Hour

Four semesters of Jazz Lab Band, including preparation and performance of 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. New instrumentalists should contact the director to arrange for an audition prior to the first rehearsal.

MUS 112   Jazz Lab Band   1 Credit Hour

Four semesters of Jazz Lab Band, including preparation and performance of 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. New instrumentalists should contact the director to arrange for an audition prior to the first rehearsal.

MUS 113   Applied Music   1 Credit Hour

Four sequential semesters of weekly ½ hour private lessons intended to improve vocal or instrumental musicianship through study with a professional teacher. Students should contact the applied music lead teacher 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 fee to the private instructor.

Note: Follow course sequence

MUS 114   Applied Music   2 Credit Hours

Four sequential semesters of weekly ½ hour private lessons intended to improve vocal or instrumental musicianship through study with a professional teacher. Students should contact the applied music lead teacher 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 fee to the private instructor.

Note: Follow course sequence

MUS 115   Applied Music   1 Credit Hour

Four sequential semesters of weekly ½ hour private lessons intended to improve vocal or instrumental musicianship through study with a professional teacher. Students should contact the applied music lead teacher 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 fee to the private instructor.

Note: Follow course sequence

MUS 116   Applied Music   2 Credit Hours

Four sequential semesters of weekly ½ hour private lessons intended to improve vocal or instrumental musicianship through study with a professional teacher. Students should contact the applied music lead teacher 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 fee to the private instructor.

Note: Follow course sequence

Course Descriptions

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MUS 117   Class Piano I   2 Credit Hours

Beginning piano students learn to read and play piano music. Instruction takes place in the HFCC digital piano lab.

MUS 118   Class Piano II   2 Credit Hours

Builds upon skills developed in MUS 117 (Piano 1). Instruction takes place in the HFCC digital piano lab.

Prerequisites: MUS 117 or permission of the instructor

MUS 121   Jazz Improvisation   2 Credit Hours

Two sequential 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.

Note: Follow course sequence

MUS 122   Jazz Improvisation   2 Credit Hours

Two sequential 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.

MUS 123   Voice Techniques I   2 Credit Hours

This course 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. This course is for singers of all ages and interests.

MUS 126   Digital Recording Studio   3 Credit Hours
**   Engineering I**

This course provides hands-on experience in digital audio engineering. Students will learn to engineer recording sessions by working in an actual recording studio with live musicians. The course 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: TCM 151 or permission of the instructor

Co-requisites: MUS 127

Note: Students should have strong computer skills. A fundamental understanding of music theory is recommended.

MUS 127   Digital Audio Mastering I   3 Credit Hours

This course provides hands on experience and guided practice in digital audio mixing and mastering. Students will learn to prepare complex digital audio files for duplication. The course covers basic techniques in mixing room acoustics, preparing audio for mixing, software plug-ins, trouble shooting audio problems, equalization, stereo imagery, noise limitation, and bit conversion. Students will work with professional audio production software.

Prerequisites: TCM 151 or permission of instructor

Co-requisites: MUS 126

Note: Students should have strong computer skills. A fundamental understanding of music theory is recommended.

MUS 130   Music Appreciation   3 Credit Hours

This basic appreciation course includes a study of the elements of music and emphasizes listening skills, music vocabulary, and an open-mindedness toward all music. Fulfills Humanities requirements.

MUS 132   Music Literature   3 Credit Hours

A survey of 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.

MUS 133   The History of Rock and Roll   3 Credit Hours

This course covers Rock & Roll from its origins to the present. A field trip to The Rock & Roll Hall of Fame is offered. This course is primarily for the non-music major and fulfills Humanities requirements.

MUS 134   Music Fundamentals   3 Credit Hours

Explains how to read music, including notes, clefs, rhythms, time signatures, scales, intervals, and basic chords. This course is recommended for the student who has a minimal background in music.

MUS 138   Music Theory I   3 Credit Hours

This course covers basic elements of music including pitch, intervals, triads, major and minor keys, time signatures and rhythm.

Suggested Co-requisite: MUS 141

MUS 139   Music Theory II   3 Credit Hours

Second semester Music Theory, covering triads in inversion, phrase and cadences, harmonic progressions, and four part harmonization.

Prerequisites: MUS 138 or permission of the instructor

Co-requisites: MUS 142

MUS 141   Sight Singing/Ear Training I   2 Credit Hours

This course teaches singing and the transcribing of simple melodies, as well as fundamental conducting techniques for the development of rhythmic skills. This course is recommended for all instrumental and vocal musicians.

Co-requisites: MUS 138

MUS 142   Sight Singing/Ear Training II   2 Credit Hours

This course is a second semester of sight singing and ear training. Students learn to sing and transcribe two-part and four-part pieces in major and minor keys. More challenging than MUS 141. This course is recommended for aspiring full-time music students.

Prerequisites: MUS 141 or permission of the instructor

Co-requisites: MUS 139

MUS 143   Show Choir   1 Credit Hour

Four sequential semesters of Jazz Choir, covering preparation and performance of a variety of jazz and popular music. This group performs for college as well as community functions. Auditions are held during the first week of class.

Prerequisites: Audition only

MUS 144   Show Choir   1 Credit Hour

Four sequential semesters of Jazz Choir, covering preparation and performance of a variety of jazz and popular music. This group performs for college as well as community functions. Auditions are held during the first week of class.

Prerequisites: Audition only

Course Descriptions

**MUS 147   Basic Music I for the Elementary   3 Credit Hours
Classroom Teacher**

Develops useful musical skills for future elementary classroom teachers. No prior musical experience is necessary.

MUS 149   Music Synthesis   2 Credit Hours

Teaches how to combine the power of the computer with MIDI equipment to create and manipulate digital music. This course covers current practices in music synthesis including basic theory and the creation of printed music. Basic knowledge of music fundamentals, personal computers, and piano keyboard is recommended but not required.

MUS 151   Introduction to Music Technology 3 Credit Hours

This course introduces the uses of technology in creating, promoting and managing music. Students will gain practical experience through hands-on projects. Topics to be covered include basic computer operation, MIDI set-up and uses, using music notation software, using music instruction software, and the uses of spreadsheets and word processors to manage musical events. Students are required to spend time outside of class in the music technology lab in order to complete assignments.

MUS 152   Music Notation with Finale I   2 Credit Hours

This course provides basic instruction in the use of "Finale" by Coda. "Finale" is the industry standard for music software. Students will use the music technology lab to gain hands-on experience with Finale. Topics to be covered include basic document set-up, using templates, use of the tool palettes, importing and saving files, and file playback. Students must have a basic knowledge of how to use a computer.

MUS 207   Concert Choir   1 Credit Hour

Three out of four semesters of Concert Choir including preparation and performance of a broad spectrum of choral music, from classical to pop, show tunes, and jazz. At least two performances are scheduled each semester, often accompanied by band or orchestra. These courses are open to college students and adult members of the community. New singers may audition during the first week of class. No preparation is necessary, only a good ear and a clear voice.

Note: Follow course sequence

MUS 208   Concert Choir   1 Credit Hour

The fourth semester of Concert Choir including preparation and performance of a broad spectrum of choral music, from classical to pop, show tunes, and jazz. At least two performances are scheduled each semester, often accompanied by band or orchestra. These courses are open to college students and adult members of the community. New singers may audition during the first week of class. No preparation is necessary, only a good ear and a clear voice.

Note: Follow course sequence

MUS 209   Symphonic Wind Ensemble   1 Credit Hour

Three of the four semesters of Wind Ensemble (symphony band) including preparation and performance of standard concert band 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.

Note: Follow course sequence

MUS 210   Symphonic Wind Ensemble   1 Credit Hour

The fourth semester of Wind Ensemble (symphony band) including preparation and performance of standard concert band 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.

Note: Follow course sequence

MUS 211   Jazz Lab Band   1 Credit Hour

Three out of four semesters of Jazz Lab Band, including preparation and performance of 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. New instrumentalists should contact the director to arrange for an audition prior to the first rehearsal.

Note: Follow course sequence

MUS 212   Jazz Lab Band   1 Credit Hour

Fourth semester of Jazz Lab Band, including preparation and performance of 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. New instrumentalists should contact the director to arrange for an audition prior to the first rehearsal.

Note: Follow course sequence

MUS 213   Applied Music   1 Credit Hour

Four sequential 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 lead teacher 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 fee to the private instructor.

Note: Follow course sequence

MUS 214   Applied Music   2 Credit Hours

Four sequential 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 lead teacher 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 fee to the private instructor.

Note: Follow course sequence

Course Descriptions

MUS 215   Applied Music   1 Credit Hour

Four sequential 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 lead teacher 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 fee to the private instructor.

Note: Follow course sequence

MUS 216   Applied Music   2 Credit Hours

Four sequential semesters of weekly hour private lessons intended to improve vocal or instrumental musicianship through study with a professional teacher. Students should contact the applied music lead teacher 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 fee to the private instructor.

Note: Follow course sequence

MUS 232   Music History I   3 Credit Hours

An intensive course providing a practical background in Western music from Greek Antiquity to 1750. Musical forms, styles, composers, compositions, and important influences on the development of Western music are covered through text readings, listening examples, and class discussion.

MUS 233   Music History II   3 Credit Hours

An intensive course providing a practical background in Western music from 1750 to the present. Musical forms, styles, composers, compositions, and important influences on the development of Western music are covered through text readings, listening examples, and class discussion.

MUS 238   Music Theory III   3 Credit Hours

Fourth semester of Music Theory, building upon skills developed in MUS 139.

Prerequisites: MUS 139 or permission of the instructor

MUS 243   Show Choir   1 Credit Hour

Third and fourth semesters of Show Choir.

Prerequisites: MUS 144

MUS 244   Show Choir   1 Credit Hour

Third and fourth semesters of Show Choir.

Prerequisites: MUS 144

NCS 100   Competency Evaluated Nurse Aide   16 Credit Hours

Basic nursing skills necessary to perform the duties of a nurse aide are acquired. The course incorporates 90 hours of theory, 128 hours of clinical laboratory practice, and 52 hours in a clinical agency. Successful mastery allows testing at the state level to receive the C.E.N.A. designation. Course includes attendance in class 8:30 a.m. - 4:30 p.m., 4 days per week.

Prerequisites: High school graduate or GED

NSG 083   Supplement to Nursing and   1 Credit Hour
**   Self-Care II and III**

Supplemental course designed in two sections, taken concurrently, to provide special help with NSG 150-Nursing and Self-Care II, and NSG 155-Nursing and Self-Care III. Emphasis is on the use of critical thinking to facilitate application of psychiatric and medical-surgical nursing theory to clinical practice. One hour of lecture per week.

Note: Student must be enrolled NSG 150 and NSG 155. Students should be sure to choose the supplemental that starts with the course taken during the first 8 weeks.

NSG 085   Supplement to Nursing and   1 Credit Hour
**   Self-Care IV**

Supplemental course designed to be taken concurrently with NSG 221 and NSG 222—Nursing and Self-Care IV, in order to provide special help with the course. Emphasis is on the use of critical thinking to facilitate application of medical-surgical nursing theory to clinical practice. One to one-and-a-half hours of lecture per week.

Co-requisites: NSG 221 and NSG 222

NSG 087   Supplement to Nursing and   1 Credit Hour
**   Self-Care V**

Supplemental course designed in two sections, taken concurrently, to provide special help with NSG 250—Nursing and Self-Care V. Emphasis is on the use of critical thinking to facilitate application of maternity and pediatric nursing theory to clinical practice. One or two hours of lecture per week for ten weeks.

Co-requisites: NSG 250

Note: Students should select the section that matches the area of NSG 250 they are currently in. If they are in OB the first five weeks, they should choose the supplemental that starts with OB concepts and not the one that starts with Pediatrics.

NSG 091   Nursing Systems II: LPN Transition 1 Credit Hour

Course required of all students registered and admitted into the LPN-ADN Advanced Placement status. The course will provide a detailed overview of the Advanced Placement program and methods available to receive nursing course credits. Students will begin the process of assimilation into the advanced, second semester, NSG 155, NSG 150, depending upon review of LPN program. The course will introduce Dorothea Orem's Self-Care Deficit Theory Model, document math competency in medication administration, and validate application of the nursing process. Individual advisement will be available to each student.

Prerequisites: Acceptance into the Nursing Program as an Advanced Placement student articulating to the ADN program. Permission of the Associate Dean of Nursing and LPN Facilitator required.

**NSG 095   Calculating Medication   1.5 Credit Hours
             Dosages I**

Aids the student entering the nursing program who experiences difficulty with mathematics. Emphasis is on working actual clinical medication and intravenous problems with accuracy and proficiency in a realistic time period. Proficiency in calculating dosages is gained through class work, practice problems, and practice timed testing. Three hours of class per week for eight weeks.

Prerequisites: Enrollment in the first year of the Nursing program or in current nursing practice or approval of the division

Note: Day or evening offerings depend on student requests and availability of instructors.

**NSG 096   Calculating Medication   1.5 Credit Hours
             Dosages II**

Aids the student experiencing difficulty with calculating dosages who desires more intensive assistance. Emphasis is on working complex dosages and intravenous and pediatric calculations with accuracy in a realistic time period. Proficiency in calculating dosages for medical/surgical and pediatric clients is gained through class work, practice problems, and practice time testing. Three hours of class per week for eight weeks. Summer semester only.

Prerequisites: Enrollment in the second year of the Nursing program or in current nursing practice

**NSG 097   Calculating Pediatric   0.5 Credit Hours
             Medication Dosages**

Aids the student experiencing difficulty with calculating dosages. Emphasis is on working pediatric medication/intravenous problems with accuracy within a realistic time period. Knowledge of the process of calculating pediatric dosages based on weight, body surface area, and intravenous flow rates is gained. Proficiency is attained through classwork, practice problems, and practice timed testing. Four hours of class on two Saturdays. Winter semester only.

Prerequisites: Enrollment in a pediatric nursing course

Co-requisites: NSG 250

**NSG 098   Calculating Medication   0.5 Credit Hours
             Dosages - Advanced Medical-Surgical Nursing**

This course is designed for the student entering the second year nursing classes who needs assistance with dosage calculations. Emphasis is on complex medication and ICU medication dosage calculations. Students gain proficiency in calculating medication dosage problems for advanced medical/surgical clients through classwork, timed practice tests, and assigned homework problems.

Prerequisites: Enrollment in NSG 221/NSG 222

**NSG 101   Beginning Health and Physical   2 Credit Hours
             Assessment**

This course will outline beginning knowledge and demonstrate skills necessary to perform a health assessment on an adult client. At the end of the term, the student will be expected to demonstrate a comprehensive head-to-toe physical assessment at the beginner level. This course is recommended for students entering the nursing program, re-admitting to the program, or supplementing beginning skills and knowledge of physical assessment.

Prerequisites: BIO 233 and BIO 234

NSG 120   Nursing and Health Care Systems I   2 Credit Hours

Socializes the student nurse into today's nursing and introduces concepts necessary for functioning at optimal levels as a student and ADN graduate nurse. This course includes Orem's Self-Care Deficit Theory of Nursing; principles of major theories such as role, learning, systems, and change; professional values and ethics; legal issues; trends and components of the health care delivery system. Two consecutive hours of theory per week.

Prerequisites: Acceptance to the Nursing program

Note: The theory portion of this course is taught during the day. The students who enter the program in fall take the course in fall. Those who enter in winter semester take it in winter.

NSG 126   Nursing and Self-Care I   7 Credit Hours

Introduces the nursing process and Orem's Self-Care Model as the conceptual model for nursing practice. Laboratory practice precedes clinical experience with actual clients. In clinical experience the emphasis is on development of competence for ADN roles. Proficiency in dosage calculation is required for continuation in the course. Four hours of theory, twelve hours of clinical practice per week in an acute hospital or extended care setting.

Prerequisites: Acceptance to the Nursing program

Co-requisites: NSG 120

Note: It is strongly suggested that all non-nursing support courses are completed prior to entry to the Nursing program. There is one section of theory taught in the evening during the fall only. This course is taken in fall by students who are accepted in the fall and in winter by those accepted in the winter.

NSG 150   Nursing and Self-Care II   5 Credit Hours

Continues development of the nursing process to assist psychiatric adult clients with diagnoses related to indirect self-destructive behavior, inability to relate with others, alterations in mood, severe anxiety, social maladaptation, and psycho-physiological conditions. Legal/ethical standards for ADN practice are explained. Therapeutic communication and therapeutic use of self are emphasized. Five hours of theory and fifteen hours of clinical practice per week for 7.5 weeks in a mental health care setting.

Prerequisites: NSG 120, 126, BIO 233, and PSY 131

Suggested Prerequisites: NSG 155

Note: It is highly suggested that the student complete PSY 253 prior to taking this course and not concurrently. This course is offered in winter for students accepted into the program in fall. It is offered in spring or summer for students accepted into the program in winter.

NSG 155   Nursing and Self-Care III   5 Credit Hours

Continues development of competency in the nursing process to help adults achieve self-care goals. Principles, concepts, and factors related to the client's health state are emphasized. Legal/ethical dimensions of practice are integrated with nurse agency, ADN role, and standards of care. Current issues and trends in delivery of quality health care are included. Proficiency in dosage calculation is required for continuation in the course. Five hours of theory and fifteen hours of clinical practice per week for 7.5 weeks in an acute hospital care setting.

Prerequisites: NSG 120, NSG 126, BIO 233, and PSY 131

Co-requisites: NSG 150

Note: It is suggested that students complete PSY 253 and BIO 234 prior to taking this course. This course is offered in winter for students who are accepted into the program in fall. It is offered in spring or summer for students who are accepted into the program in winter.

NGS 185   Basic Pathophysiology for Nursing 3 Credit Hours

This is a preparation course for students desiring a beginning understanding of Pathophysiology as it applies to nursing content. The content of this course would prepare students for the nursing content of the first year of the nursing program and complements the content of the NSG 155 Medical/Surgical course. This course provides a background for the more complex NSG 285 pathophysiology course.

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   2 Credit Hours

Provides beginning theoretical concepts related to caring for the critically ill client for the student or practicing nurse who is considering specializing in this area. This course covers different content areas than NSG 204. It meets three hours per week for ten consecutive weeks.

Prerequisites: Enrollment in the third semester of the Nursing program or a licensed nurse, and completion of BIO 234

Note: This theory course assists students who are approaching the beginning of their second year to apply medical/surgical concepts, integrate medications, and understand the need for accurate lab results in planning client care. It is a wonderful enhancement course for students who are not sucecssful with the first attempt at NSG 221, 222.

This course is offered only spring or summer, not both. See class schedule.

NSG 210   Healing Practices: Alternative   3 Credit Hours
**   and Complementary Therapies**

Introduces the student to a variety of healing philosophies and beliefs. Discussion covers the resurgence of natural healing and the role of the National Center for Complementary and Alternative Medicine (NCCAM). Topics may include: herbal medicine, nutrition, supplements, homeopathy, naturopathy, mind-body therapies, posture/mobility/movement therapies, touch and bodywork, chiropractic, energy therapies, Eastern therapies, and other traditional and indigenous therapies. Can also be taken for independent study with permission of the instructor.

Prerequisites: (NOTE: All interested nurses, members of the college community, and local community members are invited.)

Note: Course is offered according to student request and availability of instructor.

NSG 221   Nursing and Self-Care IV - Part I   5 Credit Hours

Provides development of competency in applying the nursing process in the care of adults with common medical-surgical problems affecting the cardiac, urinary, gastro-intestinal and endocrine systems with emphasis on oxygenation, urinary elimination and metabolism. This course emphasizes principles, concepts, and factors related to the client's health state, as well as issues, trends, legal and ethical accountability, and promotion of quality care in nursing practice. Proficiency in in dosage and IV calculation is required for continuation in the course. Six hours of theory, twelve hours of clinical practice (including one hour of data collection) per week in an acute hospital setting is required.

Prerequisites: AH 120, BIO 233, 234; NSG 150, 155; PSY 131, 253; and SOC 131

NSG 222   Nursing and Self-Care IV - Part II   5 Credit Hours

Provides continued development of competency in applying the nursing process to adults with common medical-surgical problems of nutrition, reproductive health and for clients with neurosensory and musculoskeletal disorders. Discussion of the community role in disaster nursing is continued. Principles, concepts, and factors related to client's health state, as well as issues, trends, legal and ethical accountability, and promotion of quality care in nursing practice are emphasized. Proficiency in dosage and IV calculation is required for continuation in the course. Six hours of theory, twelve hours of clinical practice (including 1 hour of data collection) per week in an acute hospital setting is required.

Prerequisites: AH 120, BIO 233, 234; PSY 131, 253; NSG 150, 155; and SOC 131

NSG 250   Nursing and Self-Care V   7 Credit Hours

Develops competency in using the nursing process to help the child (birth through adolescence) and childbearing-family achieve self-care goals, applying scientific principles, concepts, and factors related to the child and the family as a self-care agent. Current issues, trends, legal and ethical accountability, and the promotion of quality care are integrated into nursing practice. Five hours of theory, twelve hours of clinical practice per week for ten weeks (five weeks in pediatric setting and five weeks in maternity setting).

Prerequisites: NSG 150, 155, 221, 222; BIO 233, 234; PSY 131, 253; SOC 131; and ENG 131, 132

Note: It is suggested that nursing students take all non-nursing support courses before entering the program. However, students may elect to take POLS 131 at this time. Students spend the first five weeks in pediatric nursing or in maternity nursing. After five weeks they switch to the opposite speciality.

NSG 255   Nursing and Health Care   3 Credit Hours

Emphasizes the transition phase from student to ADN graduate nurse, focusing on management strategies necessary for setting priorities, including organizing and delegating work when responsible for a group of clients and applying prior learning in delivery of nursing care, work relationships, and legal and ethical accountability in the promotion of quality care. Three hours of theory, fifteen hours of clinical per week for five weeks in an acute hospital or extended care setting.

Prerequisites: NSG 150, 155, 221, 222, 250; BIO 233, 234; PSY 131, PSY 253; SOC 131; and ENG 131, 132

Note: This is the capstone course for nursing. All non-nursing courses should be completed at this point with a C or better. A computer competency test or computer course that fulfills the college requirement for computer literacy should be completed as well.

NSG 285   Pathophysiology for Nurses   4 Credit Hours

This course covers the etiology of diseases, the pathophysiological changes occurring in the body, and the clinical features of the disease. Diagnostic methods, complications of each disorder, prognosis and treatment plans are reviewed. Emphasis is placed on helping RNs and nursing students understand the disease process and apply concepts to clinical practice, including pharmacological measures and treatment modalities. The course uses critical thinking skills to integrate pathophysiological concepts and enhance the learning process.

Prerequisites: Passing grade of C or better in BIO 233 and 234 or equivalent, or Registered Nurse licensure

Note: This course assists students with a greater understanding of the disease process. It is an elective open to all nursing students or those who are considering a nursing career. Students who fall out of NSG 155, NSG 221, or NSG 222 are strongly advised to take this course.

**OPT 101   Introduction to Ophthalmic   3 Credit Hours
                  Technology**

This course will introduce the roles and responsibilities of the health care professionals directly involved in vision care. Career options and the key elements of medical ethics for ophthalmic medical personnel will be topics for discussion. Course will provide an overview of the comprehensive medical eye examination including documentation protocol and will include units on ophthalmic terminology and abbreviations.

Prerequisites: Acceptance into the Ophthalmic Technician program and departmental approval

Co-requisites: AH 100, BIO 135, and OPT 134

OPT 134   Ocular Anatomy and Pathology   3 Credit Hours

This course will focus upon the structures and functions of the eye and orbit. It will explain the clinical manifestations of select pathophysiologic conditions of the eye specific to the role of the ophthalmic technician.

Prerequisites: BIO 134, acceptance into the Ophthalmic Technician program and departmental approval

Co-requisites: AH 100, BIO 135, and OPT 101

OPT 150   Applied Ophthalmic Optics   3 Credit Hours

A study of the fundamental optical principles including the electromagnetic spectrum, properties of light as waves and particles, geometric optics, and object-image relationships. The clinical applications of optical principles will be developed in this lecture course.

Prerequisites: BIO 134, BIO 135, OPT 101, and OPT 134

Co-requisites: AH 120 and OPT 160

OPT 160   Ocular Measurements I   5 Credit Hours

This lecture/laboratory course is designed to develop an understanding of the basic ophthalmic equipment and measurement protocol, instrument calibration, maintenance, and infection control. The students will then apply this information to specific clinical situations related to vision care.

Prerequisites: BIO 134, BIO 135, OPT 101, and OPT 134

Co-requisites: AH 120 and OPT 150

OPT 180   Ocular Measurements II   5 Credit Hours

Overview of special tests and procedures ordered for subspecialty services such as cornea and external disease, glaucoma, neuro-ophthalmology, oculoplastics, pediatric ophthalmology, and retina. This course will present a decision-making approach to the process of data collection. Emphasis will be placed upon designing examination strategy based upon the type of problem presented.

Prerequisites: OPT 134, OPT 150 and OPT 160

OPT 200   Clinical Optical Procedures   5 Credit Hours

This lecture/laboratory course will focus upon 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: BIO 134, OPT 150, OPT 160, and OPT 180

Co-requisites: OPT 290 and SRG 101

Course Descriptions

OPT 220   Ophthalmic Photography   2 Credit Hours

An introduction to 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 134, OPT 180, OPT 200, OPT 290, and SRG 101

Co-requisites: OPT 240, OPT 260 and OPT 293

OPT 240   Ophthalmic Surgical Assisting   2 Credit Hours

An introduction to ophthalmic surgical procedures, including the indications, goals, and steps of select ophthalmic procedures. Principles of asepsis, care and maintenance of ophthalmic surgical instruments will be emphasized.

Prerequisites: OPT 134, OPT 180, OPT 200, OPT 290, and SRG 101

Co-requisites: OPT 220, OPT 260 and OPT 293

OPT 260   Current Issues in Vision Care   1 Credit Hour

An exploration of issues and trends in healthcare delivery, including certification requirements and systematic review for the national certification examination for ophthalmic technicians.

Prerequisites: OPT 200 and OPT 290

Co-requisites: OPT 220, OPT 240, and OPT 293

OPT 290   Clinical Externship I   4 Credit Hours

Structured clinical experiences in which students observe and participate in selective practical activities at affiliating ophthalmology clinics. Skill development in charting, communicating with patients, performing non-invasive tests, maintaining an examination room and selected ophthalmic equipment. Students must document 240 clinical hours.

Prerequisites: AH 105, MOA 100, OPT 160, and OPT 180

Co-requisites: OPT 200 and SRG 101

OPT 293   Clinical Externship II   6 Credit Hours

Continuation of structured clinical experiences with an emphasis on gaining speed, accuracy, and clarity in advanced clinical skills. Students must document 360 clinical hours.

Prerequisites: OPT 200, OPT 290, and SRG 101

Co-requisites: OPT 220, OPT 240, and OPT 260

OPT 297   Clinical Externship III   6 Credit Hours

Continuation of 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 203, OPT 220, and OPT 240

PEFT 108   Portfolio Development   1 Credit Hour

This is a course designed to provide the means for learners to develop a portfolio which is required if the learner wishes to obtain credit for experiental or other college-level learning activities or experiences.

PEFT 112   Technical Communication-Power 2 Credit Hours

A basic course in applied power-process-facilities fundamental communication designed to provide introductory and advanced exposure, skills, and knowledge to writing and plant-oriented communications, diagramming, drawing, review, and regular use of PID, CAD-type prints, piping, and system prints by reading and interpreting them.

Note: 100% online course

PEFT 143   Power Engineering Boilers   3 Credit Hours

A course covering 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. Students are required to interface with actual or virtual plants as part of the activities for this course.

Co-requisites: MFMT 114

PEFT 180   Power - Heating Plant Lab   2 Credit Hours

Basic course providing initial exposure to 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.

Co-requisites: Suggest concurrent with two or more of the following: MFMT 114 or ENT 141; MFMT 105 or ENT 106; MFMT 107 or ENT 103; MFMT 143 or ENT 145; MFMT 115: MFMT 223; MFMT 224; or permission based upon field experience or courses/ programs completed.

PEFT 182   Power Fundamentals Lab   2 Credit Hours

Lab and/or field experiences related to introduction of power plant and heating plant layout and equipment. Start up and shut down boilers, operate pumps, test and maintain boiler water quality. Work with the fundamental principles of direct current and alternating current circuits and machines. Work with basics of industrial measurement and control with emphasis on power plant instrumentation.

Co-requisites: Suggest concurrent with two or more of the following: MFMT 114 or ENT 141; MFMT 105 or ENT 106; MFMT 107 or ENT 103; MFMT 143 or ENT 145; MFMT 223; MFMT 224; or permission based upon field experience or courses/programs completed.

PEFT 184   Power Systems O & M Lab   2 Credit Hours

An advanced lab course which provides lab and/or field experiences related to high-pressure and low-pressure boilers, turbines, generators, and auxiliary systems including starting, stopping, operating, and analyzing outputs under load conditions.

Co-requisites: Suggest concurrent with two or more of the following: MFMT 143 or ENT 145; MFMT 246 or ENT 256; MFMT 229 or ENT 259; PEFT 154 or ENT 212; MFMT 223; MFMT 224; or permission based upon field experience or courses/programs completed.

PEFT 246   Steam Plant Prime Movers   3 Credit Hours

An advanced course designed to prepare learners 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 Skill Standards and license exams.

Co-requisites: Suggested MFMT 114 and/or MFMT 143

Note: 100% online course

PEFT 247   Combined & CoGen Plants   3 Credit Hours

An advanced course covering the necessary power engineering skills and knowledge required for operation and maintenance of gas turbine and combined cycle plants. This course 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-exercises include workplace skills required by National Standards and licensing exams.

Co-requisites: Suggested MFMT 114 and/or MFMT 143

Note: 100% online course

PHIL 131   Introduction to Logic   3 Credit Hours

Examines the methods and principles of assertion and validity in argumentation. This course includes the study of the nature of logic and its relationship to language, informal fallacies, and both traditional and modern symbolic methods of deduction.

Note: First semester course for all students.

**PHIL 133   History of Philosophy to   3 Credit Hours
              the 18th Century**

An introduction to the history of Western Philosophy from its origins in Greece to the rise of science. Six stages of intellectual development will be examined from Thales to Hobbes.

Note: Second semester course for all students.

PHIL 135   History of Modern Philosophy   3 Credit Hours

A continuation of the history of Western philosophy focusing on the major philosophers and major developments through the twentieth century from Descartes through Wittgenstein. Influential currents such as rationalism, empiricism, idealism, romanticism, Marxism, Darwinism, positivism, pragmatism, phenomenology, existentialism, and analysis are examined.

Note: Third semester course for all students.

PHIL 137   Topics in Philosophy   3 Credit Hours

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. The range of philosophy is as broad as human experience. Diverse areas such as philosophy of religion, philosophy of science, aesthetics, philosophy of law, business ethics, biomedical ethics, or philosophy of language may be the current topic offered that semester. Topics vary each semester and with each instructor.

PHIL 139   Ethics   3 Credit Hours

Ethics emphasizes practical and normative ethical questions as well as analytical or metaethical questions. This course provides a systematic examination of problems by covering various classical and contemporary theories which include standards or criteria of moral action, the nature and justification of both value judgments and moral judgments, the nature of ethical knowledge, the meaning of ethical terms, intelligent decision-making, and free will vs determination.

Note: Fourth semester course for all students.

**PHT 100   Introduction to Pharmacy   2 Credit Hours
              Technology**

An introduction to the role of the pharmacy technician in the delivery of pharmacy services. Discussion topics include ethical, legal, and professional issues related to the practice of pharmacy. Special emphasis is placed on pharmaceutical terminology, specific distribution systems, pharmacy standards, and the role of the technician. Two hours of lecture per week.

Prerequisites: Acceptance into the Pharmacy Technician program

Co-requisites: PHT 124

Note: Please see the admission requirements for the Pharmacy Technician program.

PHT 119   Outpatient Pharmacy Externship   2 Credit Hours

Assignment to selected outpatient pharmacy facilities for directed 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 rotations include sixteen hours per week in the clinical area.

Prerequisites: Acceptance into the Pharmacy Technician program and PHT 100, PHT 124, and PHT 132.

Co-requisites: PHT 125, PHT 150, PHT 165, and PHT 175.

Note: The eight week externship rotation begins in March. You must be enrolled in and passing all of the following courses while completing the Outpatient Externship rotation: PHT 125, PHT 150, PHT 165, and PHT 175.

**PHT 124   Pharmacology I for Pharmacy   3 Credit Hours
              Technicians**

The first of a two-course sequence in pharmacology for pharmacy technicians. The course examines general pharmacological concepts, principals, actions, side effects, dosage forms, and route of administration. The course will cover concepts in drug development and drug usage, focusing on antibiotics, antifungal, antihistamines, decongestants, antitussives, expectorants, anesthetics, and analgesics. Additionally, special consideration to drug effects upon the nervous system is highlighted.

Prerequisites: Acceptance into the Pharmacy Technician program

Co-requisites: PHT 100 and AH 100

Course Descriptions

PHT 125   Pharmacology II for Pharmacy   3 Credit Hours
Technicians

The second part of a two-course sequence in pharmacology for pharmacy technicians. The course will cover systems including respiratory, gastrointestinal, endocrine, renal, and cardiac. Muscle relaxants, topicals, and vitamins and nutritional supplements are also studied in this course. Chemotherapy and infection control are highlighted. Students learn to recognize inconsistencies in orders, routes of administration, and frequency of administration. Three hours of lecture per week.

Prerequisites: PHT 124

Co-requisites: PHT 150 and PHT 175

PHT 132   Basic Pharmacy Software   2 Credit Hours
Applications

Computer technology has become a vital component of pharmacy practice in all settings (community, long term care, hospital and home infusion). This course will introduce various specialized pharmacy compounding software programs: out-patient and in-patient medication dispensing, drug information, pharmacokinetics, management, quality assessment and procurement. The course will also emphasize record keeping, third-party billing as well as drug distribution systems.

Prerequisites: Acceptance into Pharmacy Technician program

Co-requisites: PHT 100, PHT 124 and HCS 131

PHT 144   Pharmacy College Admission   2 Credit Hours
Testing (PCAT) and Current Issues
in Pre-Pharmacy

This seminar course will provide an overview of the pharmacy profession including licensure, areas of practice, career options, and pharmacy workplace issues. General pharmacy school information including the PHARM D curriculum, the considerations in selecting a school of pharmacy, and admission requirements will be discussed. A mock PCAT exam will be given to determine the student's strengths and weaknesses. Select test preparation options will then be discussed.

Suggested Prerequisites: BIO 152, CHEM 141, ENG 131, CIS 100 or BCA 140 are recommended prerequisites (but not required), as well as, CHEM 142, ENG 132, PHYS 131, and SPC 131.

PHT 150   Pharmaceutical Calculations   3 Credit Hours

Applies basic mathematical skills in calculations required for the usual dosage determinations, as well as solution preparations using weight, metric, household, and apothecary systems. Discussion in applying ratio and proportion, allegations, and business calculations in pharmacy operations. Two lecture hours per week and one hour computer lab per week.

Prerequisites: PHT 100, PHT 124, and MATH 101 or MATH 110

Co-requisites: PHT 125, PHT 165 and PHT 175

PHT 165   Issues in Pharmacy   2 Credit Hours

Explores today's health care environment, emphasizing the issues facing pharmacy and the pharmacy technician. Skills, talents, and tools required to cope today and succeed tomorrow will be discussed and practiced. This course covers such workplace topics as communication issues, CQI for the pharmacy, legal issues, teamwork concepts, and conflict resolution tools. Student participation, role- playing, and other interactive learning methods are emphasized.

Prerequisites: Acceptance into the Pharmacy Technician program and PHT 100

PHT 175   Applied Pharmacy Systems   4 Credit Hours

Gives detailed instruction in medication distribution systems, including in-patient systems, preparation of intravenous admixtures, prescription dispensing to ambulatory patients, compounding, manufacturing and repackaging, and inventory control systems. Instruction also includes inpatient and out patient software for order entry and patient profiles. Two hours of lecture per week and two hours of laboratory per week.

Prerequisites: PHT 100, PHT 124, and PHT 132

Co-requisites: PHT 125, PHT 150 and PHT 165

PHT 193   Pharmacy Externship   3 Credit Hours

Assignment 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, and long-term care pharmacy locations. A special ten- to twelve-week spring, summer, or fall session includes thirty-two or twenty-four hours per week in the clinical area.

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: Successful completion of all required Pharmacy Technican course work

Note: Externship options are as follows:

Hospital: 8 weeks/3 days/8 hr-days; or 6 weeks/4 days/8 hr-days
Home Infusion: 4 weeks/3 days/8 hr-days; or 3 weeks/4 days/8 hr-days
Long Term Care: 3 weeks/3 days/8 hr-days; or 2 weeks/4 days/8 hr-days

PHYS 120   Technical Physics   4 Credit Hours

Designed to give students in technical and apprenticeship programs an understanding of physical principles and their application to industry. This course consists of a study of measurements, forces, motion, and vectors; energy, power, and machines; properties of materials and fluids; and heat and heat transfer. Three hours of lecture and two hours of laboratory per week.

Prerequisites: Completion of or concurrent enrollment in MATH 103

PHYS 121   Technical Physics (Continued)   4 Credit Hours

A continuation of PHYS 120 into wave motion, electricity, and DC electrical circuits, atomic physics, and nuclear physics. Designed to give students in technical and apprenticeship programs an understanding of physical principles and their application to industry. Three hours of lecture and two hours of laboratory per week.

Prerequisites: PHYS 120

Course Descriptions

PHYS 131   General Physics   4 Credit Hours

A liberal arts course in 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 each week.

Prerequisites: MATH 110 and MATH 112 or equivalent Math course placement test

PHYS 132   General Physics (Continued)   4 Credit Hours

A continuation of PHYS 131. Units on electricity, magnetism, light, and modern physics are included. Three hours of lecture and three hours of laboratory per week.

Prerequisites: PHYS 131 with a grade of C or better

PHYS 133   Principles of Physics   4 Credit Hours

A one-semester survey course on physical principles of motion, energy, fluids, electromagnetism, waves, light, radiation, and the atom. This course is designed to meet the need for a one-semester course in physics in many areas including Allied Health, and teacher education. It is also popular with students in business and other areas who need to fulfill a science lab requirement. Three hours of lecture and two hours of laboratory per week.

Prerequisites: MATH 080 or equivalent on the Math placement test.

PHYS 241   Mechanics   4 Credit Hours

A general course designed to meet the requirements for engineering and physics majors. Special emphasis is placed on relating physical principles to mathematical techniques in problem solving. The lecture and laboratory course covers vectors, one- and two-dimensional motion, forces, work, energy, momentum, rotational motion, and gravitation. Three hours of lecture and three hours of lab each week.

Prerequisites: Completion of or concurrent enrollment in MATH 180

PHYS 242   Sound, Light, and Thermodynamics 4 Credit Hours

A general course designed to meet the requirements for engineering and physics majors. Special emphasis is placed on relating physical principles to mathematical techniques in problem solving. The lecture and laboratory course covers simple harmonic and wave motion, sound, geometric and physical optics, fluids and thermodynamics. Three hours of lecture and three hours of lab each week.

Prerequisites: PHYS 241 and MATH 180

Completion of or concurrent enrollment in MATH 183

PHYS 243   Electricity and Magnetism   4 Credit Hours

A general course designed to meet the requirements for engineering and physics majors. Special emphasis is placed on relating physical principles to mathematical techniques in problem solving. The lecture and laboratory course covers the various aspects of electromagnetism, including the study of electric charge, electric fields, circuits, magnets, magnetic fields, electromagnetic induction, motors, generators, and electromagnetic waves. Three hours of lecture and three hours of lab each week.

Prerequisites: PHYS 242 and MATH 183

Co-requisites: Completion of or concurrent enrollment in MATH 280

PLMB 100   Fundamentals of Plumbing and   2 Credit Hours
**   Pipefitting**

A plumbing preparation course for construction candidates, apprentices, and those interested in the plumbing-pipefitting trade. This course familiarizes students with the proper selection of materials for installation and repair of gas, domestic water, sewer, soil, waste, and vent systems and various pipefitting systems. The course also gives the candidate familiarity with proper procedures related to design and layout of residential and commercial systems. The use of blueprints and isometric diagrams is reviewed throughout the course. This course includes lecture and some minor labs.

PLMB 110   Drains, Wastes, and Vents   2 Credit Hours

Introduction to the proper selection of materials for the installation and repair of sewer, soil, waste, and vent systems. Proper procedures for the design and layout of residential and commercial systems are also covered. The use of blueprints and isometric diagrams is reviewed throughout the course.

PLMB 120   Steam and Hot Water   2 Credit Hours
**   Heating Systems**

A pipefitting-plumbing preparation course for technical construction apprentices and those interested in seeking hydronic plumbing-pipefitting skills. This course familiarizes students with the proper selection, sizing, and installation of pipe and fittings related to hydronic and steam systems. The student is introduced to the principles of steam and hydronic systems, converter trap sizing, and traps and boilers. Application exercises allow students the opportunity to design and lay out typical systems. This course includes lecture and labs.

PLMB 250   Plumbing-Pipefitting Codes   2 Credit Hours

Introduces the use and application of the Michigan (International) Plumbing Code. The student reviews each code for its content and application, not memorization. Examples provide real-life situations. The student codes plumbing and pipefitting situations. The student becomes familiar with the code for fast access for industry use. A major portion of the questions on the State of Michigan Plumber-Pipefitters licensing exam is directly from the Michigan (International) Plumbing Code book.

Prerequisites: PLMB 100 or TAPP 100

PLMB 275   Practical Plumbing Lab-State   4 Credit Hours
**   License Preparation**

This course familiarizes the apprentice and journeyman students with the subject of pipes and tubes, their uses, the materials of which they are made, and some of the related general specifications. This class will be 25% lecture related to safety, tools/equipment, and demonstrations prepping for 75% hands-on in the lab. This class is designed to introduce the candidate to existing and new process skills related to plumbing-pipefitting.

Prerequisites: All pre-275 level classes or industry experience

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**PLMB 280   Plumbing-Pipefitting State of   2 Credit Hours
              Michigan License Preparation**

A course that helps Plumbers-Pipefitters, Apprentices, and near Journeymen prepare to take the State of Michigan Journeyman's exam. Lectures, independent work, and on-line activities along with a variety of testing exercises prepare potential candidates for the various sections of the license examination. Areas of study include State of Michigan construction laws, rules and regulations, administration, codes, and review of hands-on skill requirements needed to pass the section tests.

POLS 090   Supplement to Political Science   1 Credit Hour

A supplemental course designed to be taken concurrently with POLS 131. Emphasis is on note-taking, outlining, and textbook study as well as the vocabulary and content of the POLS 131 course.

Co-requisites: Concurrent enrollment in POLS 131

**POLS 131   Introduction to American   3 Credit Hours
              Government and Political Science**

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. Mechanisms of popular control (public opinion, pressure groups, political parties, elections) and formal structure are examined. Additional components include foreign policy, public policy, and contemporary events.

Note: This course meets the graduation requirement for General Education Outcome 1: American Society, Events, Institutions and Cultures.

**POLS 135   American Legal Systems and   3 Credit Hours
              Processes**

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 secretarial, and paralegal, as well as those considering law school.

POLS 152   International Relations   3 Credit Hours

Designed to help the student understand the diverse phenomena of international relations, the complex patterns of political and economic conflict, interdependence between nation-states and non-governmental organizations. The student is encouraged to think critically and analytically about the world and develop a healthy skepticism toward simple solutions to complex world problems. This course also surveys American foreign policy.

POLS 155   State and Local Government   3 Credit Hours

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. City governments are studied using Detroit as a basis for comparison.

**POLS 200   Introduction to Peace and   3 Credit Hours
              Conflict Studies**

This course 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 will be central to this course. The course will focus on international and intra-state conflicts including civil wars, social strife, and rebellion. The investigation of specific conflicts and the strategies of conflict resolution will employ case studies and other social scientific methods. Students will learn about the causes and consequences of conflict and ways to objectively understand them.

PSCI 131   Introduction to Physical Science   4 Credit Hours

Covers topics from the five major areas of physical science - astronomy, physics, chemistry, geology, and meteorology - in order to help non-science majors understand and appreciate the interaction between energy and matter in nature. Laboratory experiences are designed to improve scientific intuition and develop confidence in dealing with science. Three hours of lecture and two hours of laboratory per week.

PSCI 133   Atomic Science   2 Credit Hours

A non-mathematical introduction to the basic concepts of atomic energy. This course is designed to help the non-scientific student enjoy and appreciate current trends in science, nuclear reactions, and atomic energy in particular. The approach taken is historical and philosophical. Effort is made to place concepts in their relation to prevalent world thinking. Two hours of lecture per week.

Note: Offered occasionally based on student demand.

PSCI 135   Sound & Light in Fine-Arts   4 Credit Hours

Offered as a general education science course for students interested in Fine-Arts, specifically, Music, Art or Theater. 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.

PSY 090   Supplement to Psychology   1 Credit Hour

A supplemental course designed to be taken concurrently with PSY 131. Emphasis is on note-taking, outlining, and textbook study as well as the vocabulary and content of the PSY 131 course.

Co-requisite: Concurrent enrollment in PSY 131

PSY 131   Introductory Psychology   3 Credit Hours

Introduces elementary concepts and principles related to the scientific study of behavior and 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.

Course Descriptions

PSY 152   Child Psychology   3 Credit Hours

The class provides information on the physical, emotional, intellectual, and social development of the child and adolescent. This includes a variety of theories, recent research, and practical application. The course consists of a 20-hour field experience at a child-care facility to be determined by the student's academic goals.

Prerequisite: PSY 131 with a C grade or better

PSY 161   Human Sexuality   3 Credit Hours

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.

Prerequisite: PSY 131 with a C grade or better

PSY 251   Abnormal Psychology   3 Credit Hours

Students will explore the nature and causes of various forms of abnormal behavior, including schizophrenia, depression, anxiety disorders, etc. Disorders will be viewed from psychological, cultural, developmental, and historical perspectives. This class will explore the symptoms, etiology, and treatment of each disorder.

Prerequisite: PSY 131 with a C grade or better

PSY 253   Life Span Development   3 Credit Hours

The study of change in the behavioral processes of individuals as a function of aging throughout the life span. The course begins with prenatal concerns and progresses through the years of infancy, childhood, adolescence, adulthood, and aging. Course content includes theory and research associated with biological, cognitive, affective, and social development.

Prerequisite: PSY 131 with a C grade or better

PSY 254   Social Psychology   3 Credit Hours

Introduces the social forces affecting people's lives and how people affect their group. This course examines three areas of behavior resulting from intentional influence, membership in a group, and social interaction. Self-perception, behavior and attitude, attraction, aggression, altruism, and group process are also explored. This course may be taken for credit in either psychology or sociology but not both. (See SOC 254.)

Prerequisites: PSY 131 and SOC 131 or permission of the instructor

PSY 256   Educational Psychology   3 Credit Hours

This experiential approach to learning combines theory with practice and increases students' understanding and application of educational psychology theory. The course enhances students' abilities to observe children's behavior in a natural setting and apply their observations to theory. Students learn about different instructional techniques and their appropriateness in the school setting.

Course topics include theories of learning and cognition, how academic, social, emotional and physical development proceeds, and the implications for instruction of a diverse population, as well as how to deal with those implications effectively. Managing classroom discipline, motivating students to learn, leading classroom instruction, and assessing K-12 students' learning are also discussed.

PSY 256 is to be taken concurrently with the corresponding section of PSY 294-Educational Psychology Practicum, which involves placement in a classroom setting. Course assignments in PSY 256 are coordinated with PSY 294. Students seeking elementary certification are placed in a classroom in Grade 1-6. Students seeking secondary certification are placed in a Grade 7-12 classroom. Students seeking CDA credentials are placed in a preschool setting. See PSY 294 for more information.

This course is not to be taken concurrently with PSY 152. Observation hours in PSY 152 do not count for PSY 256.

Prerequisites: ENG 131, ENG 132, and PSY 131 with a C grade or better
Co-requisite: PSY 294

PSY 257   Health Psychology   3 Credit Hours

This course explores the psychological dimensions of health and the prevention and management of illness. The interaction between biological, social, and psychological factors in health and medical problems is emphasized. 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 better

PSY 260   Adolescent Psychology   3 Credit Hours

This course is intended for students seeking a degree in secondary education and/or psychology. Adolescent Psychology will expose the student to the major areas of adolescent behavior and development. Some of the areas will include but not be limited to: 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 better

PSY 294   Educational Psychology Practicum 1 Credit Hour

PSY 294 is a required 45-clock hour practicum, to be taken concurrently with the corresponding section of PSY 256-Educational Psychology. The practicum experience increases educational psychology students' understanding and application of the educational psychology courses' theory into practice. Course assignments for students enrolled in PSY 294 will be coordinated between the PSY 256 instructor at HFCC and the HFCC student's assigned school practicum. Scheduling of the 45-clock hours will be coordinated between the HFCC student and the coordinating teacher at the practicum placement, according to the student's hours available.

Course topics include theories of learning and cognition, how development proceeds, and the implications for instruction of a diverse population as well as how to deal with those implications effectively. Managing classroom discipline, motivating students to learn, leading classroom instruction, and assessing K-12 students' learning are applied to the classroom setting through a variety of projects.

Students seeking elementary certification are placed in a classroom in Grade 1-6. Students seeking secondary certification are placed in a Grade 7-12 classroom. Students seeking CDA credentials are placed in a preschool setting.

This course is not to be taken concurrently with PSY 152. The observation hours in PSY 152 do not count for pre-student teaching hours in PSY 294.

See PSY 256 for more information.

Prerequisites: ENG 131, ENG 132, and PSY 131 with a C grade or better

Co-requisite: PSY 256

PSY 296   The Exceptional Child   3 Credit Hours

This course will increase the understanding of the characteristics, identification, assessment and instruction of students with exceptionalities. Psychology students, current teachers, future teachers and para-professionals will increase their knowledge of special education children and their environments, and learn how to service children with exceptionalities. Includes theories, laws and procedures surrounding special education. The main labels of special education that will be discussed and researched are: 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. Also discussed will be the 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 a C grade or better

PTA 102   Introduction to Physical   2 Credit Hours
**   Therapy Practice**

Introduces the student to health care and specifically the field of physical therapy. Course content includes instruction in 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. Students will also learn about the role of the PTA, various methods of documentation used in physical therapy, and the structure and function of the American Physical Therapy Association. Current issues and trends in physical therapy will be discussed and students will become familiar with the Guide to PT Practice.

Prerequisites: Admission to the PTA program

Co-requisites: PTA 108, PTA 132, and PTA 165

PTA 108   Therapeutic Techniques I   3 Credit Hours

Provides instruction in patient care with an emphasis on physical therapy interventions. Course content includes massage, body mechanics, bed mobility and positioning, PROM exercise, transfers, gait training, patient and family education, and the use of wheelchairs and assistive devices. Students practice techniques in a guided lab setting.

Prerequisites: Admission to the PTA program

Co-requisites: PTA 102, PTA 132, and PTA 165

PTA 118   Exercise Techniques I   2 Credit Hours

Provides instruction in therapeutic exercise procedures utilized by physical therapist assistants. Course content includes 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. Course focuses on theory only.

Prerequisites: PTA 102, PTA 108, PTA 132, and PTA 165

Co-requisites: PTA 119, PTA 142, and PTA 225

PTA 119   Exercise Techniques II   4 Credit Hours

Provides 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. Students practice techniques in a guided lab setting.

Prerequisites: PTA 102, PTA 108, PTA 132, and PTA 165

Co-requisites: PTA 118, PTA 142, and PTA 225

PTA 132   Kinesiology for PTAs   3 Credit Hours

Focuses on a review of surface anatomy and functional anatomy, muscles and muscle function, proper posture and analysis of posture, and gait analysis and deviations. A lab component familiarizes the student with functional aspects of human motion. Medical terminology is reinforced.

Prerequisites: Admission to the PTA program and BIO 233

Co-requisites: PTA 102, PTA 108, and PTA 165

Course Descriptions

PTA 142 Therapeutic Modalities 3 Credit Hours

Provides instruction in the principles, indications, contraindications, and precautions of physical agents including heat, cold, water, electrical stimulation, traction, light, and sound. Students practice techniques in a guided lab setting.

Prerequisites: Admission to the PTA program, PTA 102, PTA 108, PTA 132, PTA 165, BIO 234, and PHYS 133

Co-requisites: PTA 118, PTA 119, and PTA 225

PTA 165 Life Span Development for PTAs 2 Credit Hours

Explains the normal gross motor development of humans from infancy on. The early developmental sequence and reflexive maturation are related to rehabilitation techniques utilized with adult patients. The development of adults, the aging process, and death and dying are discussed. Psychosocial and cognitive issues throughout the life span will be incorporated into course material.

Prerequisites: Admission to the PTA program and BIO 233

Co-requisites: PTA 102, PTA 108, and PTA 132

PTA 225 Applied Pathology for PTAs 4 Credit Hours

Instruction provided in a classroom setting in the signs, symptoms, etiology, course, prognosis, medical intervention, and treatment of diseases with an emphasis on diseases commonly encountered in physical therapy. Medical terminology is reinforced. Instruction provided in patient care with emphasis on physical therapy interventions relevant to the body system involved in various pathologies. Course content includes aseptic technique and wound care, cardiac rehab and chest PT, and selected manual therapy techniques. Students practice techniques in a guided lab setting.

Prerequisites: PTA 102, PTA 108, PTA 132, and PTA 165

Co-requisites: PTA 118, PTA 119, and PTA 142

PTA 250 Extremity Orthopedics 4 Credit Hours

Provides instruction in the etiology, course, prognosis, medical intervention, and treatment of orthopedic conditions of the extremities. Course content includes physical therapy intervention. Students practice techniques in a guided lab setting.

Prerequisites: Admission to the PTA program and PTA 132

Co-requisites: PTA 254

PTA 254 Spinal Orthopedics 3 Credit Hours

Provides instruction in the etiology, course, prognosis, medical intervention, and treatment of orthopedic conditions of the spine. Course content includes physical therapy intervention. Students practice techniques in a guided lab setting.

Prerequisites: Admission to the PTA program and PTA 132

Co-requisites: PTA 250

PTA 262 Rehabilitation of Neurological Conditions I 2 Credit Hours

Provides review of basic neuroanatomy and neurophysiology followed by instruction in the theory and rationale of the treatment approach for the patient with neurological involvement. Emphasis is on the functional approach to patient treatment including the use of Neurodevelopmental Treatment and Proprioceptive Neuromuscular Facilitation for adults with neurological conditions such as traumatic brain injury and cerebrovascular accidents.

Prerequisites: Admission to the PTA program and PTA 132

Co-requisites: PTA 250, PTA 254, PTA 264, and PTA 291

PTA 264 Rehabilitation of Neurological Conditions II 4 Credit Hours

Provides opportunity for application of the techniques learned in PTA 262 with an emphasis on the functional approach to patient treatment. This includes the use of Neurodevelopmental Treatment and Proprioceptive Neuromuscular Facilitation for adults with neurological conditions such as traumatic brain injury and cerebrovascular accidents. Students practice techniques in a guided lab setting.

Prerequisites: Admission to the PTA program and PTA 132

Co-requisites: PTA 250, PTA 254, PTA 262, and PTA 291

PTA 270 Physical Therapist Assistant Seminar 1 Credit Hour

This course is intended to integrate classroom and practical clinical experiences. The course includes student presentations and discussions as well as review and reinforcement of clinical skills, medical terminology, and effective communication skills.

Prerequisites: Admission to the PTA program and PTA 291

Co-requisites: PTA 295

PTA 291 Clinical Externship I 2 Credit Hours

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 will begin to integate information from all previoius course work to assist in those delegated components of patient care.

Prerequisites: Admission to the PTA program, PTA 108, PTA 118, PTA 119, PTA 142, and PTA 225

Co-requisites: PTA 250, PTA 254, PTA 262, and PTA 264

PTA 295 Clinical Externship II 9 Credit Hours

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 will be integrating classroom knowledge and laboratory experience to achieve the competencies of an entry-level Physical Therapist Assistant as outlined by the APTA.

Prerequisites: Admission to the PTA program and PTA 291

Co-requisites: PTA 270

Course Descriptions

For course availability, refer to Class Schedule booklet or **www.hfcc.edu/courses**

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RAD 101   Introduction to Radiography   1 Credit Hour

Provides an overview of radiography and its role within health care delivery. Student responsibilities are outlined. Students are oriented to the academic and administrative structure, key departments and personnel, and the profession as a whole. Basic principles of radiation protection, basic equipment manipulation, and types of diagnostic examinations are introduced.

Prerequisites: Admission to the Radiographer program

Completion of or concurrent enrollment in BIO 233

Co-requisites: RAD 108, RAD 109, RAD 111, and RAD 118

RAD 109   Clinical Education I   3 Credit Hours

A clinical course offering structured experiences in chart recognition, basic assessment, patient communication, and basic radiographic procedures and policies.

Prerequisites: Admission to the Radiographer program

Co-requisites: RAD 101, RAD 108, RAD 111, and RAD 118

RAD 111   Principles of Radiation Protection 2 Credit Hours

Provides an overview of the principles of radiation protection, including responsibilities of the radiographer for the patients, personnel, and public. This course addresses the concepts of As Low As Reasonably Achievable, stochastic and nonstochastic effects, and effective absorbed dose equivalent limits. Regulatory agencies are identified, and the involvement of those agencies in radiation protection is discussed.

Prerequisites: Admission to the Radiographer program

Co-requisites: RAD 101, RAD 108, RAD 109, and RAD 118

RAD 114   Basic Patient Care in Radiography 3 Credit Hours

Course is designed to develop the basic concepts of patient care, including consideration for the physical as well as psychological needs of the patient and family. Content is designed to introduce basic concepts of pharmacolgy and the theory and practice of basic venipuncture. Both routine and emergency patient care procedures are described, as well as infection control procedures using standard precautions.

Prerequisites: Acceptance into the Radiographer program

Co-requisites: RAD 101, RAD 109, RAD 111, and RAD 118

RAD 118   Radiographic Positioning I   3 Credit Hours

This is the first of a five semester curriculum in radiographic positioning and procedures. The material is presented through lecture and laboratory components. The course provides a knowledge of positioning terminology, chest, abdomen, and upper extremity procedures. Students will be presented with positioning guidelines during lecture. Psychomotor skills and common knowledge are reinforced through laboratory assignments. Film critique is also a part of the course.

Prerequisites: Admission to the Radiographer program

Co-requisites: RAD 101, RAD 108, RAD 109, and RAD 111

RAD 158   Radiographic Positioning II   3 Credit Hours

This lecture/laboratory course is the second of a five-semester curriculum focusing upon radiographic positioning and procedures. The course describes positioning terminology as well as shoulder girdle, lower extremity, and pelvic girdle procedures. Students will be presented with specific positioning guidelines. Positioning skills in concert with specific radiographic procedures will be reinforced through lab assignments. A film critique is also a part of this course.

Prerequisites: RAD 101, RAD 108, RAD 109, RAD 111, RAD 118 and BIO 233

Co-requisites: BIO 234, RAD 161, RAD 171, RAD 190 and RAD 257

RAD 161   Imaging Equipment   1 Credit Hour

This course is designed to provide knowledge routinely utilized to produce diagnostic images. Various recording media and techniques are discussed. The major emphasis will be on the components of the diagnostic x-ray tube and fluoroscopic imaging systems. Other imaging equipment, such as CT, MRI, and digital imaging are also described.

Prerequisites: RAD 101, RAD 108, RAD 109, RAD 111 and RAD 118

Co-requisites: RAD 158, RAD 171, RAD 190, and RAD 257

**RAD 171   Principles of Exposure and   3 Credit Hours
            Film Evaluation**

This course focuses upon the factors that govern and influence the production of the radiographic image. The course details the main properties of radiograph density, contrast, detail and distortion as well as the factors that control and/or contribute to producing a quality image. The parameters of film evaluation will be developed in this course. Lecture material is supplemented with lab experiments. The elements of film critique and film evaluation will remain a major component of the remaining units of this program.

Prerequisites: RAD 101, RAD 108, RAD 109, RAD 111, and RAD 118

Co-requisites: RAD 158, RAD 161, RAD 190, and RAD 257

RAD 188   Radiographic Positioning III   2.5 Credit Hours

This lecture/laboratory course is the third of a five-semester curriculum focusing upon radiographic positioning and procedures. The course describes radiographic anatomy as well as positioning of the vertebral column and the bony thorax. Students will be presented with specific positioning guidelines. Positioning skills in concert with specific radiographic procedures will be reinforced through lab assignments. A film critique is also a part of this course.

Prerequisites: RAD 158, RAD 161, RAD 171, RAD 188, RAD 190 and RAD 257

Co-requisites: HCS 131 and RAD 194

RAD 190   Clinical Education II   3 Credit Hours

A structured clinical course focusing on basic radiographic equipment, techniques, procedures, and positioning. Patient interaction is also a component of this course.

Prerequisites: RAD 109

Co-requisites: BIO 234, RAD 158, RAD 161, RAD 171, and RAD 257

RAD 194   Clinical Education III   1 Credit Hour

A structured clinical course focusing on procedures and techniques needed for radiographic studies of the upper and lower extremities, chest, abdomen, trunk, and spine. Patient interaction will also be a component of this course.

Prerequisites: RAD 190

Co-requisites: HCS 131 and RAD 188

RAD 197   Clinical Education IV   3 Credit Hours

This is a structured clinical course with emphasis on increasing technical proficiency in chest, abdomen, upper extremities, lower extremities, hip, pelvis and spine radiographic examinations.

Prerequisites: RAD 194, departmental approval

RAD 209   Clinical Education V   3 Credit Hours

A structured clinical course emphasizing the radiographic procedures involving the spine and bony thorax.

Prerequisites: RAD 197

Co-requisites: PHYS 133, RAD 206, RAD 212, and RAD 227

**RAD 214   Pathology and Cross Sectional   2 Credit Hours
Anatomy**

Content is designed to introduce concepts related to disease and etiological considerations with emphasis on radiographic appearance of disease and impact on exposure factor selection. Course is designed to establish a knowledge base in basic cross sectional anatomy of head, neck, thorax and abdomen. Hybrid course 50% online.

Prerequisites: RAD 188

Co-requisites: RAD 209, RAD 227, and RAD 267

Note: 50% online course

RAD 227   Radiographic Positioning IV   3 Credit Hours

Designed to address, through lecture and laboratory sessions, radiographic anatomy and positioning of the skull, facial bones and paranasal sinuses.

Prerequisites: RAD 188

Co-requisites: RAD 206, RAD 209 and RAD 212

RAD 257   Radiographic Positioning V   2 Credit Hours

This is a section of a five semester curriculum in radiologic positioning and procedures. This course will cover the equipment needs, contrast requirements, and general procedures for radiographic examinations of the gastrointestinal tract, biliary tract, and urinary system. Consideration will also be given to special procedures in diagnostic radiography. Additionally, students will study and evaluate radiographic images of these procedures.

Prerequisites: RAD 101, RAD 108, RAD 109, RAD 111 and RAD 118

Co-requisites: RAD 158, RAD 161, RAD 171 and RAD 190

RAD 267   Radiation Physics   4 Credit Hours

This lecture course focuses upon fundamental physics for radiographic technology including electrostatic, electrodynamic, electromagnetic induction, fundamentals of X-ray generating equipment, x-ray production, and beam characteristics. X-ray photon interactions with matter will be reviewed. Hybrid course 50% online.

Prerequisites: RAD 206, RAD 209, RAD 212, and RAD 227

Co-requisites: RAD 166, RAD 274, and RAD 290

Note: 50% online course

RAD 270   Image Acquisiton and Display   3 Credit Hours

Course is designed to establish a knowledge base in factors that govern the film-screen image production process. Course is designed to establish a knowledge base in the components, principles and operation of digital imaging systems found in diagnostic radiology. Factors that impact image acquisition, display, archiving and retrieval are explained. Guidelines for selecting exposure factors and evaluating images within a digital system assist students to bridge between film-based and digital imaging systems. Principles of digital system quality assurance and maintenance are also presented.

Prerequisites: RAD 171

Co-requisites: RAD 274 and RAD 290

RAD 274   Radiation Biology   2 Credit Hours

This lecture course provides an overview of the principles related to the interaction of radiation with the living systems. Radiation effects on biological molecules and organisms as well as the factors affecting the biological response are presented. Acute and chronic effects of radiation are discussed.

Prerequisites: RAD 206, RAD 209, RAD 212, and RAD 227

Co-requisites: RAD 166, RAD 267, and RAD 290

**RAD 284   Principles of Computed   1 Credit Hour
Tomography**

Course is designed to provide entry-level radiography students with basic principles of Computed Tomography (CT) imaging. 100% online.

Prerequisites: RAD 161 and RAD 267

Co-requisites: RAD 286 and RAD 295

Note: 50% online course

RAD 286   Registry Review   2 Credit Hours

A comprehensive review designed to prepare the radiographic technology student for the registry examination. The basic intent is to facilitate an orderly review based upon the topics itemized in the registry index. Test-taking strategies are also discussed.

Prerequisites: RAD 166, RAD 267, and RAD 294

Co-requisites: RAD 298, ENG 132/ENG 135, and HCS 106

RAD 290   Clinical Education VI   3 Credit Hours

A structured clinical course emphasizing the radiographic procedures involving the face, skull, and sinuses.

Prerequisites: RAD 209

Co-requisites: ENG 131, POLS 131, RAD 166, RAD 267, and RAD 274

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RAD 295   Clinical Education VII   2 Credit Hours

This is a structured clinical course emphasizing radiographic procedures involving the facial bones, skull, sinuses, contrast studies, mobile and surgical radiography. Structured clinical experiences are offered in some speciality rotations which may include Ultrasound, Computed Tomography, Magnetic Resonance Imaging, Radiation Therapy, Mammography and Positron Emission Tomography.

Prerequisites: RAD 290, departmental approval

Co-requisites: RAD 284, RAD 286, and ENG 132/ENG 135

REEN 101   Survey of Renewable Energy   2 Credit Hours
**   Sources**

This course is a survey course to introduce the student to the concept of Renewable Energy. It will identify Renewable Energy Sources that are available today, as well as look at those sources of energy that are predicted to become available in the near future. The topics to be covered will include solar and photovoltaic systems, geothermal systems, wind systems, energy from bio-mass, and fuel cell systems. This course will identify how these systems function technically and will also discuss how they will affect both our environment and economy. Demonstrations of the various energy sources as well as lab exercises are included.

REEN 110   Geothermal Systems and Water   2 Credit Hours
**   Furnace Technology**

This course will introduce the student to the topic of Geothermal Energy. It will identify geothermal energy sources and give an overview of how geothermal energy is being used today. A major emphasis of the course will be residential heating using geothermal technology. The installation of a geothermal furnace in a residential application will be covered. This will include an initial survey of the home and property, sizing of the unit, and the choice of the type of loop system to use. Installation and maintenance of a geothermal heating system will be covered. A working water furnace system will be available for laboratory activities.

REEN 120   Wind, Solar, and Fuel Cell   2 Credit Hours
**   Technology**

This course is designed to explore the theory of operation and applications of the following technologies: passive and active solar collectors, photovoltaic cells, wind generators, and fuel cells. All of these technologies are available today in limited applications, but any or all of them could hold the promise of being able to supply a major portion of tomorrow's renewable energy needs.

REEN 130   Smart Home Control Technology   2 Credit Hours

This course will help the student identify both the advantages and drawbacks of using Smart Home Technology. It will let the student explore all of the options currently available in the different types of systems and technologies available. The topics discussed will include the economics of Smart Home Technology, Smart Home Technology and conservation of energy, and how Smart Home Technology can improve a standard of living. Demonstrations of the Technology and laboratory exercises will be included.

REEN 140   Co-Generation and Back Up   2 Credit Hours
**   Power**

This course is designed to introduce the student to the topics of Co-Generation and Back-Up Power for use in a residence or business. The cost of energy today has become an incentive for many to look to alternative energy sources for both home and business. Increased pressures on the power grid have resulted in power failures that have convinced some to install Back-Up Power systems. This course will look at the various types of both Back-Up Power Units and Uninterruptible Power Units available today. Site survey, planning, cost, and the installation and maintenance of the units will be covered.

RTH 100   Principles of Respiratory Care   3 Credit Hours

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. Three hours of lecture per week.

Prerequisites: Acceptance into the Respiratory Therapist program

Co-requisites: RTH 125

RTH 125   Respiratory Care Procedures I   5 Credit Hours

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.

Prerequisites: Acceptance into the Respiratory Therapist program

Co-requisites: RTH 100

RTH 160   Respiratory Therapy   2 Credit Hours
**   Pharmacology**

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 stressed. Two hours of lecture per week.

Prerequisites: RTH 100 and RTH 125

Co-requisites: RTH 175

RTH 175   Respiratory Care Procedures II   5 Credit Hours

This course provides instruction in therapeutic procedures utilized by the respiratory therapist. Course content includes airway care, emergency life support, bronchial hygiene, and lung expansion therapy. Students practice these procedures in a guided laboratory setting. Three hours of lecture and two hours of laboratory per week.

Prerequisites: RTH 100 and RTH 125

Co-requisites: RTH 160

RTH 180   RT Clinical Sciences   3 Credit Hours

This course focuses on the clinical application of science to the practice of respiratory care. Topics include common microbial pathogens seen with pulmonary infection, infection control guidelines, oxygenation, acid-base balance, and the physical principles of ventilation in health and disease. Emphasis is placed on blood gas interpretation, capnography, puncture techniques, protection of the respiratory therapist, and disinfection and sterilization of respiratory care equipment.

Prerequisites: RTH 100 and RTH 125

RTH 194   Clinical Therapeutics   2 Credit Hours

Selected experience in health care facilities for clinical practice with oxygen delivery systems and basic patient assessment techniques. Six clinical hours per week.

Prerequisites: BIO 233, RTH 100, and RTH 125

Co-requisites: BIO 234, RTH 160, RTH 175, and RTH 180

RTH 210   Ventilator Management I   4 Credit Hours

A study of the theories, techniques, and equipment used to achieve adequate spontaneous and artifical ventilation in the adult patient. Two and one-half hours of lecture and one and one-half hours of laboratory per week.

Prerequisites: RTH 160, RTH 175, RTH 180, RTH 194, and BIO 234

RTH 216   Cardiopulmonary Testing   2 Credit Hours

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. Two hours of lecture per week.

Prerequisites: BIO 234

RTH 235   Neonatal and Pediatric   3 Credit Hours
**   Respiratory Care**

A study of the anatomy, physiology, and pathophysiology of the premature neonate through adolescence. This is followed by an extensive overview of respiratory therapeutics related to the care of the neonatal/pediatric patient. Two hours of lecture and two hours of laboratory per week.

Prerequisites: RTH 210 and RTH 291

RTH 245   Applied Respiratory Care   2 Credit Hours

Emphasizes the assessment and management of patients with cardiopulmonary disease. Students apply the techniques and concepts learned in their first year to common disease states seen in the critical care areas. Two hours of lecture per week.

Prerequisites: RTH 210 and RTH 291

Co-requisites: RTH 216 and RTH 292

RTH 275   Therapeutic Management   1 Credit Hour

This laboratory course provides the student an opportunity to apply in simulated settings concepts learned throughout the program. Students spend two hours each week working on computerized clinical case study simulations, selecting appropriate treatments and managing patients.

Prerequisites: RTH 216, RTH 235, RTH 245, and RTH 292

Co-requisites: RTH 285

RTH 285   Advanced Respiratory Concepts   3 Credit Hours

A study of the current theory and techniques encountered by the respiratory therapist in a variety of clinical settings. Emphasis is placed on advanced ventilatory applications, cardiopulmonary monitoring, and the Respiratory Care Professional's dynamic role in the health care setting. Three hours of lecture per week.

Prerequisites: RTH 216, RTH 235, RTH 245, and RTH 292

Co-requisites: RTH 275

RTH 291   Advanced Clinical Therapeutics   4 Credit Hours

Develops the clinical skills related to airway management, removal of bronchopulmonary secretions, CPR, and oxygenation. Students also evaluate, modify, and monitor patients' responses to respiratory treatment regimes. A ten-week directed clinical experience which includes fifteen hours per week in selected clinical sites.

Prerequisites: RTH 160, RTH 175, RTH 180, and RTH 194

Co-requisites: RTH 210

RTH 292   Clinical Practicum   5 Credit Hours

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 employed for mechanical ventilatory support and systemic oxygenation. Fifteen hours per week of directed clinical experience.

Prerequisites: RTH 210 and RTH 291

Co-requisites: RTH 216, RTH 235, and RTH 245

RTH 294   Advanced Clinical Practicum   8 Credit Hours

Further develops the clinical skills and techniques used to manage patients requiring mechanical ventilatory support in the hospital, subacute and home care setting. Twenty-four hours per week of directed clinical experience.

Prerequisites: RTH 216, RTH 235, RTH 245, and RTH 292

Co-requisites: RTH 275 and RTH 285

SCI 131   Revolutions in Science   3 Credit Hours

Explores the development of modern Western science from its origins in the ancient world to the present day. Students will develop an understanding of major scientific theories through the study of selected original writings in translation as well as modern commentaries.

Prerequisites: A previous college-level science course is recommended.

Note: Non-lab science class

SCI 160 Science Laboratory Workplace Skills 3 Credit Hours

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 recordkeeping; 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

SCI 210 Introduction to Science for Elementary Education 4 Credit Hours

This is the first science course in a sequence intended for pre-service elementary school education majors. The course will introduce students interested in elementary school teaching 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.

Prerequisites: A grade of C or better in MATH 080 or a satisfactory score on the Math placement test

Note: This course may have special transfer opportunities to certain schools of education. Consult with the Director of the Pre-Education program for details.

SCI 212 Earth Science for Educators 4 Credit Hours

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.

Prerequisites: A grade of C or better in MATH 080 or a satisfactory score on the Math placement test

Suggested Prerequisites: SCI 210 is a recommended, but not required, prerequisite.

SCI 213 Learning by Inquiry: Life Science 4 Credit Hours

This course is designed to provide pre-service elementary and middle school teachers with the necessary tools, knowledge, and motivation to teach basic biological concepts. In this course students will integrate major biological themes and understand how the topics covered in the course fulfill the National Science Education Standards and the Michigan Curriculum Framework. Students will use inquiry-based learning.

Prerequisites: A grade of C or better in MATH 080 or a satisfactory score on the Math placement test.

Note: This course may have special transfer opportunities to certain schools of education. Consult with the Director of the Pre-Education program for details.

SOC 090 Supplement to Sociology 1 Credit Hour

A supplemental course designed to be taken concurrently with SOC 131. Special help is provided with the vocabulary and content of SOC 131, as well as with note-taking and study techniques.

Prerequisites: Concurrent enrollment in SOC 131

SOC 131 Introduction to Sociology 3 Credit Hours

Introduces the sociological approach to understanding human behavior. Students investigate how a society's culture and social organization shape actions and influence everyday life. Connections between the individual and society are explored in relation to all aspects of social life, including family, work, social inequality, religion, politics, and the economy. This course provides the basis for further study in sociology and social work.

Note: This course meets the graduation requirement for General Education Outcome 1: American Society, Events, Institutions and Cultures.

SOC 132 Marriage and the Family 3 Credit Hours

Makes the student 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.

SOC 151 Contemporary Social Problems 3 Credit Hours

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

SOC 152 Women, Men, and Society 3 Credit Hours

Uses 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. Emphasis is on increasing student understanding of how and why the everyday experiences of women and men can differ significantly in such areas as employment, education, politics, law, medical care, sexuality, and domestic life.

SOC 251 Ethnic and Racial Diversity in Society 3 Credit Hours

Introduces students to the sociological study of ethnic and racial groups. Students explore 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. Emphasis on current patterns and consequences of immigration will be studied. Ethnic and racial diversity in other societies will also be explored.

Prerequisites: SOC 131

SOC 253 Sociology of Deviance 3 Credit Hours

This course introduces the sociological approach to understanding deviant behavior. A wide range of perspectives and theoretical formulations will be used to explain the onset, persistence and desistence of deviance. How one becomes deviant, the social construction of deviant behavior, the impact of societal responses to deviance and processes used to control deviant behavior will be explored. Both formal and informal responses to deviant behaviors will be discussed including criminalization and stigmatization, and their cross-cultural variation. Particular forms of deviance including homicide, domestic violence, mental illness, alcohol and drug abuse, sexual deviance, property and white collar/organized crimes will discussed.

Prerequisites: SOC 131

SOC 254 Social Psychology 3 Credit Hours

Introduces the social forces affecting people's lives and how people affect their group. This course examines three areas of behavior resulting from intentional influence, membership in a group, and social interaction. Self-perception, behavior and attitude, attraction, aggression, altruism, and group process are also explored. This course may be taken for credit in either psychology or sociology but not both. (See PSY 254.)

Prerequisites: PSY 131 and SOC 131 or permission of the instructor

SPC 131 Fundamentals of Speaking 3 Credit Hours

Designed to meet the needs of the beginning student. Emphasis is on the development of skill in oral communication through practice in extemporaneous speaking.

SPC 145 Interpersonal Communication 3 Credit Hours

Explores the process of communication between individuals in relatively informal, face-to-face situations that occur in family, social, and work groups.

SPC 232 Health Communication 3 Credit Hours

Surveys the interaction of health care and communication issues. This course examines communication theories as applied to health care issues and the role and effectiveness of persuasive and informational mass media campaigns in the health field. The focus is on ethical issues, decision-making skills, and such subjects as listening, interpersonal communication, message observation and analysis, and decision making.

Prerequisite: SPC 131

SPN 131 Elementary Spanish I 4 Credit Hours

SPN 131 is a beginning level course, emphasizing the basic skills of reading, writing, speaking, and listening in Spanish within communicative contexts. Students will learn the elementary pronunciation and grammatical principles necessary for comprehending and expressing simple ideas in both spoken and written Spanish. Topics of Hispanic culture will also be presented. A variety of technologies, media, and other supplementary materials will be used to enhance learning.

SPN 132 Elementary Spanish II 4 Credit Hours

SPN 132, second-semester Spanish, is a continuation of SPN 131 and further builds reading, writing, speaking, and listening skills within communicative contexts. Students will continue to expand their 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: SPN 131, one year of high school Spanish, or permission of the instructor

SPN 231 Second Year Spanish III 4 Credit Hours

SPN 231, third-semester Spanish, is the first of two intermediate-level courses focusing on communication skills in a cultural context. It develops reading, writing, speaking, and listening skills and deepens studentsí 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: SPN 132, or two years of high school Spanish, or permission of instructor

SPN 232 Second Year Spanish IV 4 Credit Hours

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 studentsí 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: SPN 231, or three years of high school Spanish, or permission of instructor

SPN 295 Directed Study in Spanish 1 Credit Hour

Individual study of a topic of special interest in the area of Spanish language, literature or culture, to be undertaken under the direction of an instructor. Appropriate methods of research and investigation are applied, and the results reported in a final creative product such as a research paper, electronic or physical report (such as electronic media presentation, Web page or display board) or other creative product together with a bibliography. This class may be repeated once for credit.

Prerequisites: Grade of a C or better in SPN 131, SPN 132, SPN 231 or SPN 232 or equivalent and permission of the instructor

SPN 296 Directed Study in Spanish 2 Credit Hours

Individual study of a topic of special interest in the area of Spanish language, literature or culture, to be undertaken under the direction of an instructor. Appropriate methods of research and investigation are applied, and the results reported in a final creative product such as a research paper, electronic or physical report (such as electronic media presentation, Web page or display board) or other creative product together with a bibliography. This class may be repeated once for credit.

Prerequisites: Grade of a C or better in SPN 131, SPN 132, SPN 231 or SPN 232 or equivalent and permission of the instructor

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SPN 297   Directed Study in Spanish   3 Credit Hours

Individual study of a topic of special interest in the area of Spanish language, literature or culture, to be undertaken under the direction of an instructor. Appropriate methods of research and investigation are applied, and the results reported in a final creative product such as a research paper, electronic or physical report (such as electronic media presentation, Web page or display board) or other creative product together with a bibliography. This class may be repeated once for credit.

Prerequisites: Grade of a C or better in SPN 131, SPN 132, SPN 231 or SPN 232 or equivalent and permission of the instructor

**SRG 101   Introduction to Surgical   4 Credit Hours
            Technology**

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 role 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 are required.

Prerequisites: Acceptance into the SRG program

Co-requisites: AH 100, BIO 233, HCS 103, and HCS 124

SRG 120   Surgical Procedures I   4 Credit Hours

This lecture/laboratory course is 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. Two OR observations are required.

Prerequisites: AH 100, BIO 135, BIO 233, HCS 103, HCS 124, and SRG 101

Co-requisites: BIO 234, ENG 131, SRG 140, and SRG 160

SRG 140   Surgical Techniques I   2 Credit Hours

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

Co-requisites: SRG 120 and SRG 160

SRG 150   Surgical Techniques II   2 Credit Hours

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 120, SRG 140, and SRG 160

SRG 160   Surgical Pharmacology   3 Credit Hours

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: AH 100, BIO 135, BIO 233, and SRG 101

Co-requisites: SRG 120 and SRG 140

SRG 209   Clinical Externship I   5 Credit Hours

A clinical practicum developing concepts learned in SRG 101. 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: BIO 233, BIO 234, SRG 101, SRG 120, SRG 140, SRG 150, and SRG 160

Co-requisites: SRG 220

SRG 220   Surgical Procedures II   4 Credit Hours

A lecture/laboratory course designed to develop further the student's knowledge of surgical specialties and clinical practice, including cardiovascular, thoracic, neurologic, oral, ophthalmic, reconstruction, pediatric, and geriatric procedures. The scheme or steps as well as the instrumentation of the common procedures performed are emphasized.

Prerequisites: BIO 233, BIO 234, SRG 101, SRG 120, SRG 140, SRG 150, and SRG 160

Co-requisites: SRG 209

SRG 240   Issues in Surgical Technology   4 Credit Hours

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 and applied physics in the operating room 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 CST exam. Written and oral presentations by the students are key elements of this course. All students will be required to take the national CST exam.

Prerequisites: SRG 209 and SRG 220

Co-requisites: SRG 290

Course Descriptions

SRG 290   Clinical Externship II   8 Credit Hours

A clinical practicum that further develops clinical proficiency. Students are assigned to an affiliated 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. Students scrub solo for some surgical procedures. Students must prepare a case study. Twenty-four hours per week.

Prerequisites: SRG 209 and SRG 220

Co-requisites: SRG 240

SSC 131   A Survey of the Social Sciences   3 Credit Hours

Surveys the several disciplines found under the general heading of the social sciences: anthropology, economics, geography, ecology, demography, psychology, sociology, and political science. This course also presents the development of each discipline and its important concepts.

Note: This course meets the graduation requirement for General Education Outcome 1: American Society, Events, Institutions and Cultures.

SSC 235   Topics in Social Science   3 Credit Hours

Provides special study in an area of social science, organized by subject, field of inquiry, or other criteria. This course 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 Social Science Division office.

STH 131   Theatre Appreciation   3 Credit Hours

A survey course consisting of lecture and discussion classes in the components, methods and history of theatrical production. Subject areas may include but are not limited to acting, directing, technical theater and history.

STH 132   Acting I   3 Credit Hours

An introduction to basic acting techniques, theories of acting, and rehearsal procedures. Emphasis is placed on modern and contemporary comedies and dramas. Students engage in relaxation, concentration, and vocal exercises. Attention is given to formal script analysis and breaking down dialogue and action into objective and intentions. Students will perform scenes from contemporary plays.

STH 133   Technical Theatre   3 Credit Hours

Offers practical application of the fundamentals of set construction, rigging, painting, sound, lighting, and special effects.

STH 134   Technical Theatre Specialties: 3 Credit Hours
**   Rotating Skills Course**

A laboratory class providing intensive 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. Students work on understanding theory through practical application on multiple projects.

STH 135   Introduction to Stage Makeup   3 Credit Hours

An analysis of the basic functions of stage makeup and a demonstration of techniques of makeup application. Students explore age, animal, fantasy, horror, and foam latex prosthetic makeup techniques. Students design and apply their own makeups as well as design and apply makeups for HFCC mainstage productions.

STH 140   One Act Play Production   3 Credit Hours

Offers lecture and practice in the organization and specific skills necessary for the public performance of one-act plays. Students are provided opportunities in the areas of acting, assistant directing, stage management, publicity, and house management.

Prerequisites: STH 132 or permission of the instructor

STH 142   Theatrical Production   3 Credit Hours

Offers lecture and practice in the organization and specific skills necessary for the performance of full-length comedy, drama, musical, or evening of one-act plays for the new Playwright's Workshop.

STH 144   Improvisation for the Actor   3 Credit Hours

Introduces the principles and practice of improvisational techniques as applied to performance.

STH 145   Stage Combat   3 Credit Hours

Theory and practice in the skills necessary for basic theatrical fencing, broadsword fighting, falling, and hand to hand combat.

STH 149   Children's Theatre Production   3 Credit Hours

Offers lecture and practice in the organization of specific skills necessary for the public performance of children's plays. Students are provided opportunities in the areas of acting, assistant directing, stage management, publicity, and house management. Students participate in HFCC's annual Children's Theatre presentation.

STH 150   Stagecraft   3 Credit Hours

Basic survey of the major techniques and theories of scenography in the modern theatre, including but not limited to: scenery, tools, properties, rigging, blueprints, lighting, painting, costumes, sound production, the use of computers, and special effects. This course includes classroom lecture and demonstration.

STH 155   Theatre   3 Credit Hours

For students who participate in extra-curricular activities. They may, with the approval of the director of the activity, enroll for three hours of credit per semester.

Prerequisites: Permission of the director of the activity

STH 232   Acting II   3 Credit Hours

An introduction to basic acting techniques, theories of acting, and rehearsal procedures. Emphasis is placed on modern and contemporary comedies and dramas. Students engage in relaxation, concentration, and vocal exercises. Attention is given to formal script analysis and breaking down dialogue and action into objective and intentions. Students will perform scenes from contemporary plays.

STH 233   Advanced Technical Theatre   3 Credit Hours

Includes participation in the technical aspects of the semester's production. Students are assigned to key technical positions in the areas of lighting, shifting, rigging, properties, painting, building, sound, makeup, costumes, and special effects.

STH 234   Technical Theatre Specialties: 3 Credit Hours
Rotating Skills Course

A laboratory class providing intensive 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. Students work on understanding theory through practical application on multiple projects.

STH 235   Topics in Theatre   3 Credit Hours

Provides special study in the area of theater, organized by style, production approach, historical period, or other criteria. This course may be taken twice for credit, for a maximum of six credit hours, 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.

STH 238   Theatre History   3 Credit Hours

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. Emphasis is placed on individual research and projects.

STH 242   Advanced Theatrical Production   3 Credit Hours

Designed to allow students who have had STH 142 to further explore areas of practical theatre production.

Prerequisites: STH 142

STH 255   Lighting   3 Credit Hours

An examination of the processes, techniques and principles involved in lighting the stage, studio and location. Students learn the properties of light, color media, and stage lighting equipment. An opportunity to participate in the stage lighting of HFCC production is provided.

STH 256   Directing   3 Credit Hours

An introduction to directing for the stage, surveying the areas of composition, picturization, movement, rhythm, auditions, casting, rehearsals, and actor psychology.

STH 257   Pantomine & Physical Techniques 3 Credit Hours
For the Actor

An exploration of the importance of the body in the acting process, with an emphasis on practical experience. Various technique and improvisational exercises will be used to develop a greater sensitivity to and accuracy with emotional expression and physical characterization in the variety of styles.

STH 259   Experimental Theatre Production 3 Credit Hours

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: STH 132 or permission of the instructor

STH 262   Introduction to Motion Capture   3 Credit Hours

A lab-based computer class dealing with the principles of Motion Capture Performance and Motion Capture Production for use in Virtual Theatricality, Motion Pictures, Gaming, Television, Web Media and Motion Studies. This course provides an introduction to the motion capture pipeline from setting up the lab and capturing data to applying the data to animated characters in MotionBuilder. This introductory class will be limited to body capture only.

Prerequisite: ART 209 with a grade of C or better

STH 263   Intermediate Motion Capture   3 Credit Hours

A lab-based computer class dealing with the principles of Motion Capture Performance and Motion Capture Production for use in Virtual Theatricality, Motion Pictures, Gaming, Television, Web Media and Motion Capture Studies. This course provides an intermediate bridge to the final class in the Motion Capture Systems Technician course sequence. This course will focus on cleaning and editing data, hand capture, and facial capture.

Prerequisite: STH 262 with a grade of C or better

STH 264   Advanced Motion Capture   3 Credit Hours
Application

A lab-based computer class dealing with the principles of Motion Capture Performance and Motion Capture Production for use in Virtual Theatricality, Motion Pictures, Gaming, and Motion Studies. This course is the final sequence in the Motion Capture Systems Technician course sequence.

Prerequisite: STH 264 with a grade of C or better

STH 281   Theatre Capstone   1 Credit Hour

Provides the required assessment of knowledge and skills for students in their last semester of course work for the Associate in Arts Degree in Theater.

SWC 131   Science In Western Culture   3 Credit Hours

Considers science in its philosophical, religious, and methodological contexts throughout history, by studying examples from ancient Greek and Arabic thought, natural philosophy in the Middle Ages, the scientific revolution, and the rise of modern science. Emphasis is on understanding the nature of scientific enterprise and interactions between science and its cultural matrix. This course can be used toward fulfilling the graduation requirements for the Associate in Arts, Associate in Science, and Associate in General Studies degree programs.

TADV 060   Basic Skills for the Skilled Trades 4 Credit Hours

Designed to provide 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. This review includes reading comprehension, arithmetic comprehension, spatial relations, graphic arithmetic, and mechanical concepts.

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TADV 100   Basic Print Reading   2 Credit Hours

This course is designed to familiarize students with the fundamentals needed for presenting concepts and techniques to various segments of today's industry. Topics include the alphabet (use) of lines; the projection of various shapes and surfaces; presentation of hidden details; and the methods, units of measurement, and techniques used for locating details in a variety of drawings.

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TADV 120   Introduction to Fabrication   1 Credit Hour

This course will introduce students to the fundamentals of basic welding and fabrication. This is an 18-hour survey course that includes 6 hours of lecture and 12 hours of hands-on instruction. This course is designed to familiarize students with the shop environment, basic print reading, basic welding, and basic fabrication functions to prepare students for entry-level positions in either manufacturing or manufacturing maintenance positions. Students will fabricate and assemble a welded project during the three 6-hour sessions.

TADV 121   Introduction to Hydraulics   1 Credit Hour

This course will introduce students to the world of industrial and manufacturing hydraulics. This is an 18-hour survey course that includes 6 hours of lecture and 12 hours of hands-on instruction. This course is designed to familiarize students with basic hydraulic functions to prepare students for entry-level positions in either manufacturing or manufacturing maintenance positions. The student will assemble hydraulic components and sub-systems and operate a hydraulic system during the three 6-hour sessions.

TADV 122   Introduction to Material Handling   1 Credit Hour

This course will introduce students to industrial and manufacturing material handling. This is an 18-hour survey course that includes 6 hours of lecture and 12 hours of hands-on instruction. This course is designed to familiarize students with material handling components and functions to prepare students for entry-level positions in either manufacturing or manufacturing maintenance positions. The student will assemble a complete and operational conveyor during the three 6-hour sessions.

TADV 123   Introduction to Industrial Electrical 1 Credit Hour

This course will introduce new students to the world of industrial electricity. This is an 18-hour survey course that includes 6 hours of lecture and 12 hours of hands-on instruction. Students will explore basic elements of industrial applications of electrical circuits, components, tools, and concepts to prepare students for entry-level positions in manufacturing or manufacturing maintenance positions. The student will build basic industrial circuits and perform tests to understand basic electrical function and limits during the three 6-hour sessions.

TADV 124   Introduction to Industrial Controls   1 Credit Hour

This course will introduce new students to machine control using relay logic. This is an 18-hour survey course that includes 6 hours of lecture and 12 hours of hands-on instruction. This course is designed to familiarize students with the basics of electrical control hardware, electrical drawings, and control logic to prepare students for entry-level positions in manufacturing or manufacturing maintenance positions. The student will perform basic PLC-related functions during the three 6-hour sessions.

Prerequisites: TADV 123

TADV 125   Introduction to Integrated   1 Credit Hour
Manufacturing

This course will introduce students to integrated manufacturing systems. This is an 18-hour survey course that includes 6 hours of lecture and 12 hours of hands-on instruction. This course will familiarize students with technology of a complex integrated manufacturing system through working with SMC-FMS-200. Students will trace the manufacturing processes of feeding, handling, verification, and loading operations to make the student aware of the technology of complex integrated manufacturing systems and to prepare students for entry-level positions in manufacturing or manufacturing maintenance positions. The students will define the functional components of individual modules of the system during the three 6-hour sessions.

Prerequisites: TADV 123 and TADV 124

TADV 181   Topics in Skilled Trades   1 Credit Hour

This is a one-credit hour course that will provide the skilled trades community the opportunity to receive 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. Students may repeat the course for credit when different topics are offered.

Prerequisites: Permission of department

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TADV 182   Special Topics in Skilled Trades   2 Credit Hours

This is a two credit hour course that will provide the skilled trades community the opportunity to receive 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, other employers or individuals who have recognized a need for training. Students may repeat the course for credit when different topics are offered.

Prerequisites: Permission of department

TADV 283   Advanced Topics in Skilled Trades 3 Credit Hours

This is a three credit hour course that will 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, other employers or individuals who have recognized a need for training. Students may repeat the course for credit when different topics are offered.

Prerequisites: Permission of department

TAEL 102   DC and AC Electricity   3 Credit Hours

This is an introductory course in electricity, covering the fundamentals of both DC and AC circuits and circuit calculations. Included are electrical definitions, units of electrical measure, series and parallel resistive circuits, capacitance, and inductance. The use of meters and oscilloscopes will be included during lab experiences, along with an introduction to basic wiring and the troubleshooting of circuit faults.

Prerequisites: Completion of or concurrent enrollment of TAMA 110

Note: TAEL 102 replaces TAEL 103

TAEL 105   AC Theory and Equipment   4 Credit Hours

Covers advanced AC theory. The topics of right triangle trig and complex numbers are included in the class to be used for reactance and impedance calculations. Three-phase power applications with delta and wye distribution and calculations are included. The electrical equipment discussed in this class includes single- and three-phase transformers, induction heating equipment, and several types of AC lighting equipment.

Prerequisites: Completion of or concurrent enrollment in TAEL 102 and TAMA 120

TAEL 106   Electronics Theory   4 Credit Hours

A laboratory-oriented course stressing the fundamental theories of electronic components and elementary semi-conductor circuit applications. The topics covered will include power supplies, amplifiers, oscillators, and semi-conductor controls. The use of test equipment, including the oscilloscopes and meters, is an essential part of this course.

Prerequisites: TAEL 103

TAEL 115   Digital Theory   2 Credit Hours

A theory and laboratory course covering the fundamental concepts of digital theory. Topics include gates, logic circuits, counters, timers, and display circuits.

TAEL 145   DC and AC Motors   4 Credit Hours

Includes the fundamentals of both DC and AC motors. DC generators are included along with series, shunt, and compound DC motors. Basic DC starters and control circuits are covered. Both single-phase and three-phase AC induction motors are included along with synchronous, wound-rotor, and universal motors. AC alternators are compared to DC generators.

Prerequisites: TAEL 105

TAEL 150   DC Motors and Controls   2 Credit Hours

Explains the theory of operation of DC motors and generators. DC motor starters and control circuits are covered. Laboratory experiences help the student understand the concepts presented in class. Maintenance and installation of DC machines is also a part of this course.

Prerequisites: TAEL 102

TAEL 200   Ladder Diagrams and Motor   4 Credit Hours
Controls

Covers the fundamentals of electrical ladder diagrams and motor control circuits. Ladder logic, as well as labels, documentation, and symbology of electrical drawings, is presented along with the use of ladder diagrams as a troubleshooting tool. Students design and draw several control circuits for three-phase induction motors and wire these circuits in the motor control lab. Several single-phase control circuits are included in the laboratory exercises.

Prerequisites: TAEL 145

TAEL 205   Industrial Electronic Controls   2 Credit Hours

This course provides an overview of industrial electronic control circuits and electronic and electrical sensor circuits. This includes a review of semiconductor and digital theory, troubleshooting techniques, and electronic components including transistors, diodes, SCRs, DIACs, TRIACs, and various ICs. The control circuits discussed include three-phase and switching power supplies, DC motor drives, AC variable frequency motor drives, and resistance welding controllers.

Prerequisites: TAEL 106

TAEL 245   Programmable Logic Controllers   4 Credit Hours

This is a laboratory-oriented course that emphasizes programming and industrial applications of programmable control equipment.

Prerequisites: TAEL 200

TAEL 260   Robotics and Automation   4 Credit Hours

This is a lab-oriented course utilizing actual machines that represent many operations in automated manufacturing. Students prepare programs to operate the machines using Allen Bradley PLC-5 processors.

Prerequisites: TAEL 245

TAEL 270   Industrial and Commercial Wiring 2 Credit Hours

Designed to acquaint the student with the materials and calculations related to lighting, motor distribution, and other circuit locations in general and hazardous locations as defined by the National Electrical Code.

Prerequisites: TAEL 105

TAEL 275   Residential Wiring   2 Credit Hours

Covers the fundamentals of residential wiring, especially the aspects of the National Electrical Code specifically applying to residential construction and repairs. Electrical supplies and hardware appropriate for residential applications are included, and residential wiring techniques are explained.

Prerequisites: TAEL 105

**TAEL 278   NEC Review and License Test   3 Credit Hours
             Prep**

This course teaches apprentice electricians and others the applications of the National Electrical Code as it relates to the electrician. Topics include the design of electrical power systems and the factors relating to a safe and reliable installation as required by the code. Testing strategies will be taught to prepare electrical apprentices to take the journeyman license test.

Prerequisites: TAEL 270 and TAEL 275

Note: TAEL 278 replaces TAEL 265

**TAEL 280   Low Voltage and Communication   2 Credit Hours
             Wiring**

Designed to give students working knowledge and practical experience in installation and maintenance of signal/low voltage wiring and signal transmission, including PC board and fiber optic repair and maintenance. The laboratory consists of experiments designed to give the student practice in the use of test equipment, basic troubleshooting, installation procedures, and repair techniques. Safety is emphasized throughout the curriculum.

Prerequisites: TAEL 105

TAEL 285   Industrial Truck Controls   2 Credit Hours

Designed to explain the operation of SCR solid state truck controls to industrial truck apprentices. Topics include review of basic electrical theory, DC generators and motors, batteries and battery charges, silicon-controlled rectifier theory, SCR truck control operation, and troubleshooting.

Prerequisites: TAEL 102

TAEL 290   High Voltage Power Distribution   2 Credit Hours

Covers the generation, transmission, and distribution of primary electrical power. Topics include 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 105

**TAEL 291   Electrical Power Distribution   2 Credit Hours
             and Transmission**

This course will cover the fundamentals of electrical power distribution. The course will cover both transmission lines and substations. The operation of distribution transformers, instrument transformers, circuit breakers, reclosers, sectionalizers, fuses, relays, and disconnects will be included. Concepts of substation and transmission line protection as well as construction will be covered.

TAEL 295   Microprocessors   2 Credit Hours

Covers the fundamentals of microprocessor circuits and microprocessor programming, including the interfacing of the microprocessor with the 'outside world' through the handling of input and output data with a Peripheral Interface Adapter (PIA).

Prerequisites: TAEL 115

TAFD 112   Construction Blueprint Reading   2 Credit Hours

This course introduces students to the prints utilized in the construction trades, such as plumbing, electrical, carpentry, welding, and energy technology. Students will learn the fundamentals and languages required to read construction drawings. Topics will include measurement, lines, symbols, drawing views, working notes, and the importance of title blocks.

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

**TAFD 115   Computer Applications for   2 Credit Hours
             Skilled Trades**

An introductory course providing familiarity rather than proficiency and stressing industrial applications. This course explores software programming, storage/input/output devices, and controls as they apply to industry. Experiences and demonstrations in keyboarding, DOS, word processors, spreadsheets, databases, computer graphics, basic programming, and two dimensional computer-aided drafting are included.

Note: This course meets the graduation requirement for General Education Outcome 2: Computer Literacy.

Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TAFD 120   Industrial Safety Awareness   2 Credit Hours

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.

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

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**TAFD 125   Industrial Safety Awareness for   3 Credit Hours
the Process Industry**

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 First Aid for Industry, Blood-Borne Disease Transmission, Cardio-Pulmonary Resuscitation (CPR), and Automated External Defibrillators (AEDs).

**TAFD 126   Process Industry - Health,   4 Credit Hours
Environment and Safety**

Process Industry - Health, Environment, and Safety is designed to provide students with an awareness and exposure to the various health, environmental, and safety issues directly associated with the process industries. This course includes a wide variety of topics including, hazard recognition, types of hazards, cyber security, engineering controls, administrative controls, personal protective equipment, safety-related equipment, first aid, and governmental regulations. Emphasis will be placed upon providing the student with extensive hands-on experiences within each topic area.

Prerequisites: TAFD 115, TAFD 120, TAFD 125, and TAPT 100

**TAFD 130   Applied Industrial Applications   3 Credit Hours
Physical Science**

Offers the apprentice an exposure to the applications of physics and chemistry found in the industrial workplace. Topics include the six elemental machines, applications of forces, motion, and work, as well as the chemistry of industrial materials and chemical interactions in the environment.

Prerequisites: TAMA 120

TAFD 150   Applied Technology   3 Credit Hours

An introductory course, appropriate for all trades, using practical concepts and examples to provide knowledge of fluid power, electricity, mechanical power transfer, and rigging. Safety is stressed throughout.

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TAFP 150   Fluid Power Systems   4 Credit Hours

Provides an introduction to the principles of fluid power as they apply to industrial systems. Various hydraulic components are presented and studied in terms of their functions within fluid power systems. This course includes both lecture and laboratory work.

Prerequisites: TAMA 120

**TAFP 160   Pneumatic Power/Pneumatic   4 Credit Hours
Control**

Explores the principles of fluid power pneumatics as they apply to industrial systems. Various pneumatic components are presented and studied with respect to their functions within pneumatic power and control systems. This course includes both lecture and laboratory work.

Prerequisites: TAFP 150

TAFP 260   Fluid Power Systems - Advanced   4 Credit Hours

Continues the exploration of the principles of fluid power as they apply to industrial systems. Various hydraulic components are presented and studied in greater depth with respect to their functions within fluid power systems. This course includes both lecture and laboratory work.

Prerequisites: TAFP 150

**TAFP 270   Fluid Power Systems - Circuit   4 Credit Hours
Design/ Troubleshooting**

Explores the principles of fluid power design and troubleshooting as they apply to industrial systems. Various hydraulic circuits are presented and studied with respect to their functions, efficiencies, and troubleshooting guidelines within fluid power systems. This course includes both lecture and laboratory work.

Prerequisites: TAFP 150

TAFP 280   Applied Electrohydraulics   3 Credit Hours

Introduces basic electrohydraulic fundamentals, components, and procedures relative to troubleshooting, maintenance, and set-up of proportional and servo valves. The theory and practice of electrohraulics are taught with hands-on laboratory experience emphasized.

Prerequisites: TAFP 150

**TAGD 110   Basic Shape and Size   3 Credit Hours
Interpretation**

Designed to introduce the concepts of shape and size description of normal surfaced, inclined (single-angle) surfaced, and cylindrical objects. Students use traditional and computer-based drafting techniques. This course covers projection of three-dimensional objects into two-dimensional representations and also the reverse process. Sketching and modeling of objects is covered.

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TAGD 120   Advanced Graphic Interpretation   3 Credit Hours

Designed to introduce the concepts of size and shape description of oblique surfaced objects. Students are introduced to sectioning and processes used in the manufacturing environment. Geometric and traditional tolerancing is studied. The work is accomplished using traditional and computer-based drafting techniques.

Prerequisites: TAGD 110

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TAGD 130   Assembly Detailing   2 Credit Hours

Designed to introduce the concepts of detailing of assembly drawings, including modeling of complex shapes and pictorial drawings of details. The students draw individual parts in their proper orientation. The work is accomplished using traditional and computer-based drafting techniques.

Prerequisites: TAGD 120

**TAGD 140 Compound Angles and   3 Credit Hours
             Advanced Projection**

Focuses on the mastery of solid trigonometric principles as they apply to the industrial workplace. Topics include solution of solid trigonometry problems using graphic and analytical solutions and problem-solving techniques.

Prerequisites: TAMA 200 and TAGD 120

TAGD 150 Tool, Jig, and Fixture Design   2 Credit Hours

Focuses on the mastery of tool-design principles as they apply to the industrial workplace. Topics include tolerances, fits, principles of tool design, template jigs and fixtures, plate and channel jigs, and materials joining fixtures. Economical design principles are discussed, and projects requiring team approaches are used.

Prerequisites: TAGD 130 and TAGD 140

**TAGD 155 Gage, Cam Layouts, and   2 Credit Hours
             Fixture Design**

Focuses on the mastery of gage design principles as they apply to the industrial workplace. Topics include gage design theory, computer-aided manufacturing, cam layout procedures, and fixturing. Projects requiring team approaches are used.

Prerequisites: TAGD 150

TAGD 160 Press Working Fundamentals   2 Credit Hours

Designed to familiarize the apprentice with basic metal deformation theory, presses and ancillary equipment, die construction, and die component identification. The student is introduced to the various die types and draws the various detail components using both traditional and computer-aided drafting.

Prerequisites: TAGD 130

TAGD 165 Cutting and Forming Dies   3 Credit Hours

Designed to introduce the apprentice to basic die design criteria and methods. The student is introduced to the various die types and draws the various die assemblies using both traditional and computer-aided drafting.

Prerequisites: TAGD 160

**TAGD 171 Descriptive Geometry: 3 Credit Hours
             Lines and Planes**

Designed to familiarize the apprentice with basic descriptive geometry theory and practice. The student uses orthographic principles to find true views of lines and planes.

Prerequisites: TAGD 120

Note: The summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

**TAGD 172 Descriptive Geometry: Planes,   2 Credit Hours
             Solids, and Developments**

Designed to familiarize the apprentice with basic descriptive geometry theory and practice. The student uses orthographic principles to find true views of planes and solids and their intersections.

Prerequisites: TAGD 171

TAGD 280 Panel Tipping   3 Credit Hours

Designed to develop the ability to convert vehicle body position drawings to required die positions in various die operations. In addition, the student learns various concepts involving strip stock development and part clearance-interference conditions. Problems include practical application of descriptive geometry.

Prerequisites: TAGD 172

TAIM 100 Industrial Materials   3 Credit Hours

Prepares students for the advance of technology beyond metallurgy in the structure of modern materials and substances. This course includes knowledgeable and practical applications of new materials as well as traditional ones. Topics include extraction of metals, identification of ferrous and non-ferrous metals, non-metals (e.g. plastics, elastomers, ceramics, wood, and paper), mechanical and physical properties of materials, non-destructive testing procedures, crystalline and crystalline structures of materials, materials forming operations, and heat treatment theory and practice.

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

**TAMA 110 Industrial Applications of Basic   2 Credit Hours
             Math Principles**

Utilizes industrial shop problems to help students relate math to job situations. Topics include addition, subtraction, multiplication, and division of whole and mixed numbers and common and decimal fractions; percentages, 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.

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TAMA 115 Metric Systems and Conversions   2 Credit Hours

Designed for students in the apprenticeship program. They are exposed to the history of measurement systems with an emphasis on the metric system and conversion techniques between metric and English systems. Applications are shop related.

**TAMA 120 Industrial Applications of   3 Credit Hours
             Algebraic Principles**

Focuses on mastery of the basic algebraic principles as they relate to the industrial environment. Topics include symbols, positive and negative numbers, equations, exponents, roots, and formulas. Practical shop problems are solved.

Prerequisites: TAMA 110

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

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TAMA 130   Industrial Applications of   2 Credit Hours
**   Geometric Principles**

Covers the fundamental principles of plane geometry with emphasis on application to the industrial environment. Angular, circular, linear, area, and volume measurement are explored in relation to the types of geometric figures and configurations found in industry.

Prerequisites: TAMA 120

TAMA 200   Industrial Application of   3 Credit Hours
**   Trigonometric Principles**

Focuses on the mastery of trigonometric principles as they apply to the industrial workplace. Topics include trigonometric functions, solution of right triangles, solution of oblique triangles, and problem-solving techniques.

Prerequisites: TAMA 130

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TAMJ 110   Materials Joining and Fabrication   3 Credit Hours
**   Fundamentals**

Covers adhesion and cohesion fundamentals, equipment, and procedures relative to shielded metal arc welding, oxy-fuel soldering and brazing, gas metal arc welding, oxy-fuel cutting, resistance spot welding, torch plastic welding, and PVC pipe joining. Topics include oxy-fuel cutting, soldering and brazing theory and practice, AC and DC welding equipment and applications, flat and horizontal welding techniques, arc welding electrodes, and gas metal arc welding principles and practices. Theory and practice of resistance spot welding, torch plastic welding, and plastic pipe joining are covered. This course is an 85% hands-on laboratory experience.

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TAMJ 112   Creative Metals I   3 Credit Hours

An introductory course in welding and metal forming. The focus is on the safety, the introduction of metal forming with Oxy/Fuel torch and Plasma Arc cutting, and the metal joining processes of Oxy/Fuel welding, SMAW stick welding, GMAW wire feed welding, and GTAW arc welding. The safety and use of shop tools will also be covered.

TAMJ 115   MJ&F: Advanced Technique   2 Credit Hours

Extends skill development of shielded metal arc and gas metal arc welding, and gas and electric arc cutting. This course continues to build on the structure of adhesion, cohesion, cutting theory, and the transfer of knowledge to shop applications for people who will use these processes in their work. It is an 85 % hands-on laboratory experience.

Prerequisites: TAMJ 110

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TAMJ 116   Creative Metals II   3 Credit Hours

An advanced course in welding and metal forming. The focus is on safety, the advanced techniques of metal forming with Oxy/Fuel torch and Plasma Arc cutting, the metal joining processes of Oxy/Fuel welding, SMAW stick welding, GMAW wire feed welding, and GTAW arc welding, and how to use these techniques in a creative way.

Prerequisites: TAMJ 112

TAMJ 120   MJ&F: GTAW/GMAW Techniques   2 Credit Hours

Covers the theoretical knowledge as well as 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); special welding processes; mechanical testing of welds; metal surfacing; and welding in flat, horizontal, and vertical positions. This course is a 90% hands-on laboratory experience.

Prerequisites: TAMJ 110

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TAMJ 125   MJ & F: ASME Pipe and Pressure   2 Credit Hours
**   Vessel Welding**

Provides, in a preparatory fashion, the theoretical knowledge and the practice for skill development for people interested in becoming welders qualified by the American Society of Mechanical Engineers (ASME). Topics include procedures in setup, welding, electrodes, and the ASME test. This is a 95% hands-on laboratory course.

Prerequisites: TAMJ 115

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TAMJ 145   MJ & F: Advanced Gas Torch   2 Credit Hours
**   Techniques**

An advanced course designed to increase oxy-fuel gas torch techniques and procedures used in welding, brazing, and soldering. Topics include preparation of gray iron castings with process procedures for welding and brazing, welding of wire rope/cable, silver brazing of stainless steel, and oxy-acetylene welding of thin wall/small diameter steel pipe and pressure vessels. This course is a 95% hands-on experience.

Prerequisites: TAMJ 115

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TAMJ 230   MJ & F: ASME Pipe and   2 Credit Hours
**   Pressure Vessel Certification**

Designed for people experienced in all-position shielded metal arc welding who wish to acquire American Society of Mechanical Engineers (ASME) qualification papers. All welding test procedures conform to the ASME standards. Submitting test specimens to the local materials laboratory, an optional segment of the course, requires an additional fee.

Prerequisites: TAMJ 125

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

Course Descriptions

TAMJ 235 M J & F: GTAW and GMAW Certification   2 Credit Hours

Prepares students to become certified in all-position Gas Tungsten Arc Welding (GTAW) and/or Gas Metal Arc Welding (GMAW) in accordance with the standards of the American Society of Mechanical Engineers (ASME) or the American Welding Society (AWS). Submitting test specimens to a licensed local materials laboratory is optional and requires an additional fee. This is a 95% hands-on laboratory course.

Prerequisites: TAMJ 120 and TAMJ 125

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TAMJ 240 MJ & F: Tool and Die Welding   3 Credit Hours

A study of cast iron and alloy steels used in the tool and die industry, the effects of the alloys on tools and dies, and successful use of the welding process. Skill development in welding and repair of these cast irons and steels incorporate SMAW, GMAW, and GTAW processes. This is a 70% hands-on laboratory course.

Prerequisites: TAMJ 120

TAMN 100 Shop Tools and Techniques   3 Credit Hours

Introduces the basic tools and safety and technical information required by the skilled trades. Topics covered include 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, and pedestal grinders. Manufacturing processes are discussed.

Prerequisites: TAMA 110 and TAGD 110

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TAMN 120 Machine Tool Applications   2 Credit Hours

Presents the mechanisms, operation, tooling, and accessories of the lathe and milling machine in a lecture/demonstration format. Topics covered include precision measurement and precision measuring devices, basic machine tool operations, the theory of metal cutting, cutting tools and cutting tool materials, and cutting fluids. Safety, as it relates to the shop environment, is stressed throughout the course.

Prerequisites: TAMA 120

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TAMN 130 Advanced Manufacturing Processes   2 Credit Hours

Explains the use of conventional abrasives and super abrasives, as well as traditional grinding machines. Advanced milling applications are covered utilizing the horizontal boring mill. The application of basic and advanced cutting tool materials is covered in depth. Some of the more popular non-traditional processes are also explained, including electrical discharge machining and wire cutting; electrochemical, abrasive flow, ultrasonic, and abrasive water jet machining; electromagnetic, electro spark, and powder metallurgy forming; and various laser applications. Additional topics include rapid prototype development and robotics/automation. Students use various software in the computer laboratory related to the above topics.

Prerequisites: TAMN 120

TAMN 220 Advanced Computer Numerical Control Techniques   2 Credit Hours

Covers the fundamentals of computer numerical control (CNC) with emphasis on generic application to both vertical and horizontal milling machines. A review of the fundamentals of numerical control and programmer math is provided. Off-line computerized CNC software enables students to program CNC operations involving linear, circular, and helical interpolation. Canned cycles, auto routines, and various preparatory functions are used in programming. These programs are then utilized to machine functional work pieces on a fully operational CNC trainer.

Prerequisites: TAMA 200 and TAMN 200

TAMT 110 Mechanical Power Transmission   2 Credit Hours

Provides specialized instruction and discussion concerning installation and maintenance of mechanical transmission systems. Areas to be covered include bearings, couplings, belts, chains, shafts, pulleys, and speed reducers used in the modern factory by mechanical trades.

Prerequisites: TAMA 120

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TAMT 115 Maintenance Trades Print Reading   3 Credit Hours

Designed to meet the needs of apprentices and trainees in industrial plant maintenance trades. Topics include shape description; conventions and symbols; size description; notes and instruction associated with manufacturers' and maintenance-related drawings, including castings, weldments, and machined parts; electrical/electronic schematic and ladder diagrams; piping and fluid power-related drawings and schematics; structural and architectural drawings; and sheet metal and plant layout.

Prerequisites: TAGD 110

TAMT 123 Maintenance Print Reading: Structural Steel and Conveyors   2 Credit Hours

Responds to a request by skilled trades for a course focusing on making a basic shop drawing of structural steel shapes and print reading of conveyor structures. This course provides an introduction to steel detail drawings and print reading techniques as they relate to conveyors.

Prerequisites: TAMA 120 and TAGD 110

Course Descriptions

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TAMT 126   Maintenance Print Reading: 2 Credit Hours
                Print Layout

Introduces the techniques and procedures of plant layout and material handling. The student is led through the analysis and development of information to produce a plant layout and to develop print reading skills with emphasis on reading industrial equipment drawings. Students practice making simple plant layout drawings for the production of a part using basic drafting skills.

Prerequisites: TAGD 110

TAMT 200   Predictive Maintenance -   2 Credit Hours
                Shaft Alignment

Provides specialized instruction in the practices and equipment used in shaft alignment, the end-to-end and parallel alignments of machines. Also studied are machine failures due to rotating shaft misalignment and vibration created from shaft center lines not being in the same plane. Areas covered include inefficiencies and increased wear due to misalignment, shaft alignment methods, soft foot, thermal growth, graphing methods, and the use of computers for math calculations. Rim and Face, Reverse Dial Indicator, and Visible Laser equipment is used. This course is a 40% hands-on laboratory experience.

Prerequisites: TAMT 110 and TAMA 130

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TAMT 210   Predictive Maintenance -   2 Credit Hours
                Vibration Analysis

Provides specialized instruction in understanding machinery, vibration in rotating equipment, the most cost-effective method to reduce maintenance costs and extend machinery life. Through demonstrations and case histories, students develop a method of thinking required to sort through various symptoms to determine the root cause of vibration.

Prerequisites: TAMT 110 and TAMA 130

TAMT 220   Advanced Rigging   2 Credit Hours

Provides a study of safe rigging practices and equipment used by mechanical trades people. Topics of study include 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. This course is a 40% hands-on laboratory experience.

Prerequisites: TAMA 130

TAMT 260   Gearing   2 Credit Hours

Covers the calculation of standard screw threads such as American National, United States V, Metric, Acme, and Worm. Standard notations and formulas for spur gears, bevel gears, worm and worm wheels, and helical gears are also covered. This course also explains replacement of spur gears with helical gears, the use of idler gears, and calculations for plain and differential indexing.

Prerequisites: TAMA 200

TAPI 105   Introduction to Industrial   3 Credit Hours
                Instrumentation and Pneumatic Controls

Covers the basic principles and techniques used in the measuring and controlling of an industrial process; measuring, tuning, and calibration of pneumatic instrumentation and controls. The student will study pressure, temperature level, flow, and analytic control systems. Fundamental control techniques including open loop and closed loop control, three modes of control, cascade, adaptive, feed forward and feed back. Fundamental methods of calibration and repair of pneumatic controllers, transducers, transmitters, and control valves are covered in laboratory exercises.

Co-requisites: TAPI 120

TAPI 120   Instrumentation Print Reading   2 Credit Hours

Covers the principal aspects of drawing, reading, and interpreting of standard instrumentation and electrical drawing, diagrams, and schematics used in industry. Emphasis is placed on using ANSI, ISA, SAMA, IEEE standard symbols and standards accepted by the industry. Techniques in using drawings, diagrams, and schematics to troubleshoot and locate equipment are stressed in the course.

TAPI 201   Instrumentation: Industrial   4 Credit Hours
                Practices

This is an advanced course covering the standard practices and procedures used by Instrument, Control, and Automation qualified personnel and/or individuals in the industrial work environment. This course includes current national standards, current practices and procedures for manufacturing process start-up, equipment installations, troubleshooting, and in-shop equipment repair. Personnel and/or individuals with prior work experience or coursework in Instrumentation will benefit from this course.

Prerequisites: TAPI 120, TAPI 105 or permission of the instructor

TAPP 100   Fundamentals of Plumbing and   3 Credit Hours
                Pipefitting

Explains the development of the proper procedures for the sizing, selection, and installation of pipe and fittings. Included are the development of pipe welding templates and hands-on exercises in the bending of tubing and pipe.

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TAPP 110   Drains, Waste and Vents   2 Credit Hours

Introduction to the proper selection of materials for the installation and repair of sewer, soil, waste and vent systems. Proper procedures for the design and layout of residential and commercial systems are also covered. The use of blueprints and isometric diagrams are reviewed throughout the course.

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TAPP 120   Heating Systems   2 Credit Hours

Introduces the principles of steam and hydronic heating systems. Proper sizing and selection of converters, traps and boilers are covered. Applications exercises allow students the opportunity to design and lay out typical systems.

TAPP 250   Plumbing Code   2 Credit Hours

Introduces the use and application of BOCA Basic Plumbing Code. The student reviews each article for its content and application. Exercises provide real-life situations. The student interprets plans and drawings as they relate to plumbing and pipefitting.

**TAPT 100   Introduction to Process Practices 3 Credit Hours
             Technology**

Provides an instructor-led, web-based 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.

TAPT 110   Process Technology - Equipment   3 Credit Hours

An instructor-led, web-supported study of the equipment used within the process industry. Students will be introduced to the many process industry-related equipment concepts including purpose, components, operation, and troubleshooting.

**TAPT 120   Introduction to Process   3 Credit Hours
             Instrumentation**

An instructor-led, web-based study of physical and chemical variables and the various instruments used to sense, measure, transmit, and control these variables. It includes an introduction to control loops and their components including controllers, regulators, sensors, and final control elements. Students will create instrumentation drawings and diagrams in developing and analyzing control loops.

**TAPT 125   Process Technology -   3 Credit Hours
             Instrumentation II**

A continuation of material mastered in Process Technology - Instrumentation I. This course introduces switches, relays, and annunciator systems. The course covers signal conversion and transmission, controllers, and control schemes that maintain environmental regulations, energy efficiency, and quality of the process. The course will review microprocesser control components and control systems, power supplies, emergency shutdown procedures, and working with malfunctions.

Prerequisites: TAPT 120

TAPT 130   Process Technology - Systems   3 Credit Hours

An instructor-led, web-supported study of the interrelation of process equipment and process systems. Specifically, students will be able to arrange process equipment into basic systems; describe the purpose and function of specific process systems; explain how factors affecting process systems are controlled under normal conditions; and recognize abnorma process conditions. In addition, students are also introduced to the concept of system and plant economics.

TAPT 140   Process Technology - Quality   3 Credit Hours

An instructor-led, web-supported study of the Quality Manufacturing practices used within the process industry. Students will be introduced to the many process industry-related quality assurance concepts including operating consistency, continuous improvement, plant economics, team skills and statistical process control (SPC).

**TASM 100   Basic Sheet Metal Layout and   3 Credit Hours
             Fabrication**

Covers layout, forming, and fabrication of basic sheet metal ductwork fittings and use of hand/power tools and equipment to accomplish this task. Topics include how to fabricate square/round sheet metal ductwork, tapers, transitions, and offsets. Methods of fastening ductwork together and to each other are also explained.

Prerequisites: TAMA 120

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

TASM 110   Sheet Metal Blank Development   2 Credit Hours

The theory and practices of sheet metal-blank development by use of the empirical bend allowance formula.

Prerequisites: TASM 100

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

**TASM 120   Sheet Metal Layout: Radial and   2 Credit Hours
             Triangulation**

Covers the development of geometrical elements of structures, their intersections by the radial line, triangulation methods of sheet metal layout, the drawing of developmental layouts, and the forming of cardboard or sheet metal models.

Prerequisites: TASM 100

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

**TASM 130   Sheet Metal Layout: Applied   2 Credit Hours
             Triangulation**

Covers the development of geometrical elements of structures by the triangulation method of sheet metal layout. Students encounter practical problems requiring development of stretch-outs and making of cardboard or sheet metal models of transition pieces.

Prerequisites: TASM 120

Note: Summer semester for Skilled Trades and Apprenticeship starts in early May and ends in August. Students should consult the Class Schedule for specific course times and dates.

**TCM 131   Introduction to   3 Credit Hours
            Telecommunication**

A survey course investigating the various electronic communication media, as well as the print media, from historical, economic, and social viewpoints.

TCM 132   Film History and Criticism   3 Credit Hours

An introduction to 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

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TCM 151   Digital Audio Editing   1 Credit Hour

An intensive workshop introduction to digital audio editing, using an industry standard software editing program on computers in the Telecommunication audio production labs. Both hardware and software issues will be covered, and several short editing exercises will be completed.

TCM 157   Digital Video Editing   1 Credit Hour

An intensive tutorial introduction to the key operating features and potential of an industry-standard software program in digital video editing, utilizing the facilities of the Telecommunication computer video lab. Both hardware and software issues will be covered, and several short editing exercises will be completed.

TCM 189   WHFR-FM Staff Training   1 Credit Hour

Provides an orientation to the non-commercial, educational radio station licensed to the college. Students learn essential station rules and procedures, operation of equipment, and basic performance skills. This 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: ENG 131

TCM 235   Topics in Film Study   3 Credit Hours

Special study in an area of film study, organized by theme, genre, historical period, or other criteria. This 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 class schedule.

TCM 241   Media Writing   3 Credit Hours

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

TCM 243   Media Performance   3 Credit Hours

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.

TCM 251   Audio Production   3 Credit Hours

An introduction to the basic equipment and techniques of professional analog and digital sound recording, mixing, and editing through lecture, demonstration, and the completion of short production assignments typically found in radio broadcasting today from commercials to DJ shows. Though basic concepts will be learned, this course is not intended as experience in multi-track music production.

TCM 257   Video Production I   3 Credit Hours

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.

Co-requisite: TCM 157

TCM 258   Video Production II   3 Credit Hours

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 241 and TCM 257

TCM 261   Broadcast Journalism   3 Credit Hours

Offers study and experience in broadcast news program production from creation to presentation, utilizing, whenever possible, the HFCC FM radio station and cable television facilities. Reporting and writing skills are developed, along with production and performance skills.

Prerequisites: ENG 131 and TCM 251

TCM 294   Internship   3 Credit Hours

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 volunteer work. Positions vary from semester to semester. Student should contact the instructor for counseling and permission at least one month before the semester begins.

Prerequisites: Permission of the instructor

TCM 295   Directed Study   3 Credit Hours

Instructor-guided work on a student-initiated project in the Telecommunication field, either scholarly or creative or both.

Prerequisites: Permission of the instructor

WR 090   Supplement to World Religion   1 Credit Hour

A supplemental course designed to be taken concurrently with WR 131. Emphasis is on notetaking, outlining, and textbook study as well as the vocabulary and content of the WR 131 course.

Prerequisites: Concurrent enrollment in WR 131

WR 130   Introduction to the Study of   3 Credit Hours
**   Religion**

Explores the religious impulse as reflected in non-traditional as well as traditional contexts. Topics include the nature of religious experience, the Divine, the Self, and the dilemmas of freedom and mortality. Contemporary issues reflecting ethical concerns, including liberation movements, the ecological crisis, and peace and justice issues, are examined. Readings are cross-disciplinary, drawing from both the humanities and behavioral sciences.

WR 131   Comparative Religion   3 Credit Hours

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 the increasingly pluralistic modern world.

WR 232   Western Religions: Judaism,   3 Credit Hours
**   Christianity and Islam**

Students will explore the differences and commonalities among Judaism, Christianity and Islam. This class will help to sensitize students to the diverse ways that Western religious traditions pursue the basic questions of ultimate reality. The course will define religion, explore its function and purpose, and identify the origins of Western religious motifs still very much in evidence in the twentieth century.

WR 233   Eastern Religions   3 Credit Hours

This course introduces the beliefs, practices and experiences of major Eastern religions. This academic study of religion explores Eastern religious philosophies as a whole complex worldview, as well as investigates the unique beliefs and practices of several Eastern religions. This is accomplished by examining historical roots, developmental growth as well as modern versions of major Eastern religions enabling the student to understand the perspective of Eastern religious philosophies.

WR 240   Myths and Symbols: Deciphering   3 Credit Hours
**   the Messages of Sacred Traditions**

This course introduces the academic study of religious myths. This is accomplished by examining spiritual and religious perspectives of cultures as sources of myths. Symbols, themes and plots are analyzed, enabling the student to identify common characteristics and patterns in myths originating in various cultures and religions throughout human history, while offering students the opportunity to resonate with the messages of myths.
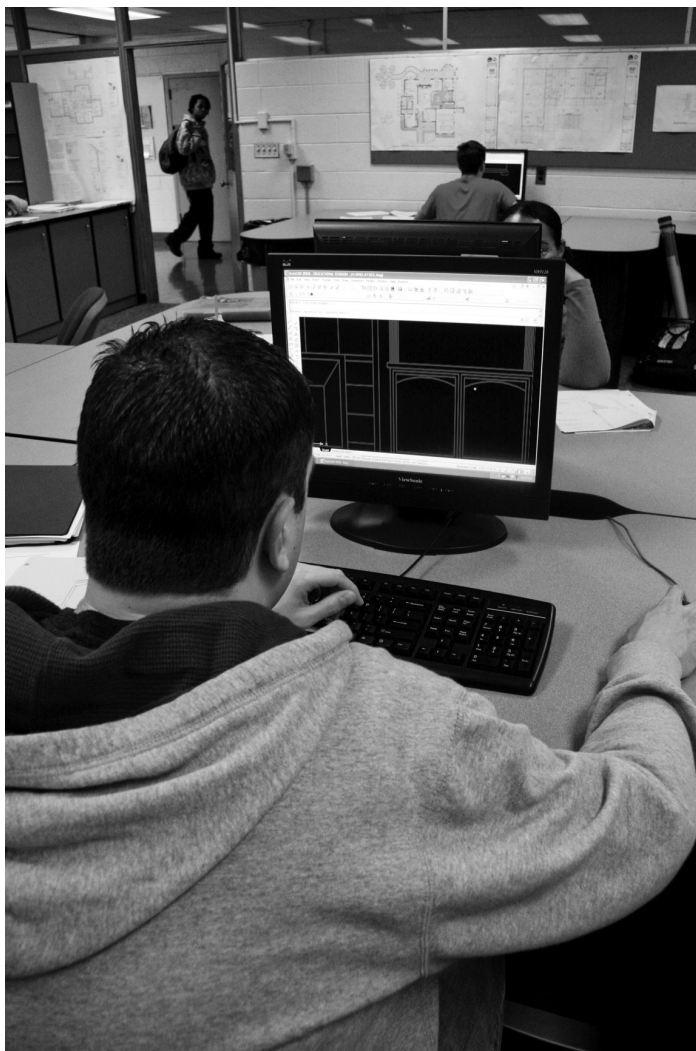
Course Descriptions

Course Descriptions

WE CAN HELP YOU

MISSION

We of Henry Ford Community College are dedicated to the education and enrichment of our students and community. As a comprehensive community college with a diverse student population, we value teaching and learning. To prepare our students for a rapidly changing world and workplace, we are committed to providing knowledge, communication skills, and cultural opportunities. We foster critical thinking, creativity, integrity, and self-esteem.

Ours is a tradition of building futures. We measure our success by the success of our students in a democratic, diverse, and increasingly technological nation.

PURPOSE

Henry Ford Community College is a comprehensive, public, non-residential community colleg e which meets the diversified post-secondary educational needs of the community by:

❶ Providing the first and second years of college-level education for students who wish to transfer to other educational institutions.

❷ Providing one- to two-year career programs for students preparing for employment.

❸ Providing courses and programs for the general education and for the social, cultural, and personal development of individuals.

❹ Providing courses and programs for those individuals who need or desire additional technical knowledge and skills, job upgrading, or retraining.

❺ Providing opportunities both for students needing or desiring more advanced intellectual challenges commensurate with their abilities and for students needing or desiring to improve basic skills.

❻ Providing counseling, guidance, and evaluation services for current students and for individuals considering further education and training.

❼ Providing educationally-related services such as speakers, resource personnel, resource materials, the use of College facilities, and special institutes or programs to organizations and individuals within the community.

❽ Providing ongoing research, development, and evaluation to improve curriculum and teaching methods.

❾ Providing the above without regard to age, sex, race, national origin, religion, marital status, or handicap while stressing the importance of students becoming effective members of society and active participants in the democratic way of life.

ACCREDITATION

Henry Ford Community College is accredited by The Higher Learning Commission, a Commission of the North Central Association of Colleges and Schools, 30 North LaSalle St., Suite 2400, Chicago, IL 60602-2504. Phone: **1-312-263-0456**. Web Address:

www.ncahigherlearningcommission.org. HFCC is also accredited by the Michigan Commission on College Accreditation.

In addition to general institutional accreditation, the Associate of Applied Science degree program in **Nursing** is approved by the Michigan Board of Nursing and accredited by the National League for Nursing, Accrediting Commission, 61 Broadway-33rd Floor, New York, NY 10016. Phone: **1-800-669-1656 ext. 153.** Web Address: **www.nlnac.org.**

The Associate in Applied Science Culinary Arts Program is accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC). The program 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.

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 (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: **1-703-669-6650**. Web Address: **www.natef.org.**

The Associate in Applied Science **Culinary Arts** Program is accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC). The program 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.

The **Medical Assistant** Certificate Program at Henry Ford Community College is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), upon the recommendation of the Medical Assisting Education Review Board (MAERB) of the American Association of Medical Assistants (AAMA) Commission on Accreditation of Allied Health Education Programs, 1361 Park Street, Clearwater, FL 33756 . Phone: **1-727-210-2350**.

The **Paramedic** program has been awarded the highest level of approval through the Michigan Department of Community Health, EMS & Trauma Systems Section, 525 W. Ottawa St., Lansing, MI 48909. Phone: **1-517-241-3025.**

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The **Pharmacy Technician** program is fully accredited through the American Society of Health-System Pharmacists, 7272 Wisconsin Avenue, Bethesda, MD 20814. Phone: **1-301-657-3000**.

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: **1-703-706-3245.**

The **Radiographer** program is accredited through the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 N. Wacker Dr., Suite 2850, Chicago, IL 60606-3182.
Phone: **1-312-704-5300.** Web Address: **www.jrcert.org.**

The **Respiratory Therapist** program is accredited through the Commission on Accreditation for Respiratory Care (CoARC), 1248 Harwood Rd., Bedford, TX 76021. Phone: **1-817-283-2835** or visit **www.coare.com**.

The **Surgical Technologist** program is accredited through the Commission on Accreditation of Allied Health Education Programs (CAAHEP) upon the recommendation of the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting (ARC-STSA).
Phone: **1-303-694-9262**. CAAHEP can be reached at **www.caahep.org** or phone: **1-727-210-2350**.

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 the student who works in the institution will be recognized by other reputable colleges and universities.

Prospective students may request documentation verifying the College's accreditation. Those who wish to review such documentation for vocational programs should contact the Office of the Vice President of Academic Affairs for Career and Technical Programs. Those who wish to review such documentation for academic programs should contact the Office of the Vice President of Academic Affairs for Arts and Sciences.

STUDENT SUPPORT SERVICES

ASSESSMENT CENTER

The Assessment Center is located on the main floor of the Learning Resources Center, LRC-117, adjacent to the University Transfer, Advising, and Career Counseling Center. The Assessment Center provides all students with English, Math and Chemistry placement testing, and orientation online. Placement testing is offered by appointment and/or a walk-in basis Monday through Thursday from 8 a.m. – 6:30 p.m. and Friday from 8 a.m. – 4:30 p.m. For more details, please contact the Assessment Center at **313-317-6503** or visit **www.hfcc.edu/courseplacement**.

ASSISTED LEARNING SERVICES

The Assisted Learning Services (ALS) office is located in the Learning Resources Center, first floor, LRC-125. The following services are offered:

Tutorial
This free service is available to all students who are experiencing difficulty in a class. To request tutoring, students must complete a Tutorial Request Form, available in the ALS office, have the instructor sign it, and return it to the ALS office. Students will then be notified of the days, times, and location of the tutorial service.

Accommodations
Students who have a documented disability may be eligible for support services. These services include:
- extended test time
- reader for tests
- writer for tests
- classroom adaptations
- note taker
- use of a tape recorder
- Sign Language interpreter

In order to receive any accommodation, the student must make an appointment with the ALS counselor and provide documentation about the disability. Students can call **313- 845-9617** to schedule an appointment.

The ALS office is open Monday, Thursday, and Friday from 8 a.m. – 4:30 p.m. and Tuesday and Wednesday from 8 a.m. – 6:30 p.m. For further information call **313-845-9617** or visit our Web site **www.hfcc.edu/als**.

CHILD DEVELOPMENT CENTER

The Child Development Center is a licensed early childhood program for children 2 years 9 months through 12 years. The Center is operated in a partnership with the Community Education Department of Dearborn Public Schools. Developmental Preschool is available during the day.

The services of the Center are available to:
- HFCC students
- HFCC staff members
- the community at large

The Center accommodates children:
- all-day
- part-time
- evening

Children participate in a learning environment while attending the Center. The Center is open Monday through Thursday from 7 a.m. – 10 p.m. and Friday from 7 a.m. – 6 p.m. during the Fall and Winter semesters. Various summer programs are also available on campus and at other Dearborn School locations. Current fees and other information can be found in the current class schedule, by calling **313-317-6527** or visit **www.hfcc.edu/children**.

COOPERATIVE EDUCATION

The **Cooperative Education Program**, or "co-op," is an excellent opportunity for students to receive academic credit for paid work experience in their field of study. Students work full- or part-time in on-campus or off-campus positions directly related to their educational and career goals.

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.

Students who participate in co-op will:
- enhance their marketability for a permanent job after graduation
- gain valuable work experience & technical expertise
- receive academic credit toward graduation (in most curricula)

- earn money to defray college expenses
- develop self-confidence, responsibility and professional competence
- integrate work experience with classroom instruction

The opportunity to participate in cooperative education is dependent on the availability of appropriate jobs in business and industry.

Eligibility Requirements

Students must meet eligibility requirements to participate in the co-op program. These include:

- completion of 50% of core course work (requirement varies by course of study)
- minimum 2.5 grade point average in core course work
- minimum cumulative grade point average of 2.0

Students from the following programs may be eligible for participation in the co-op program:

Business/Economics Division

- Accounting
- Administrative & Information Management*
- Automotive Service Management
- Business Administration
- General Business
- International Business
- Management
- Paralegal Studies

Health Careers Division

- Medical Insurance Specialist
- Medical Practice/Facility Business Management

Technology Division

- Alternative Energy
- Architecture/Construction Technology*
- Automotive Service Management
- Automotive Technology
- CAD/CAM
- Computer Information Systems
- Computer Networking Academy (CISCO)
- Electrical Technology*
- Heating & Cooling
- Hospitality Studies*
- Industrial Drafting & CAD Technology
- Manufacturing Productivity Systems
- Multi-Skilled Maintenance Engineering Tech
- Power/Building Engineer

Art Department

- Graphic Design

Students in this program must participate in co-op as a graduation requirement.

Technology and Graphic Design students who are interested in Co-op should visit the Co-op Office in the Technology Building, Room T-211J, or contact Nancy Stupsker at **313-845-6359**.

Business students seeking **on-campus positions** should visit the Co-op Office in the Reuther Liberal Arts Building, Room L-326, or contact Lynn Halton at **313-845-9703**.

Business students seeking off-campus positions should visit the Co-op Office in the Reuther Liberal Arts Building, Room L-326, or contact Mary Brill at **313-845-1710**.

Health Career students interested in Co-op should visit the Co-op Office in the Health Careers Building, Room H-233, or contact Deb Wiltshire at **313-317-1723**.

HEALTH INSURANCE FOR STUDENTS

Emergency care in case of illness or injury is provided by the College. Students needing emergency hospital care are sent by local ambulance to nearby hospitals. Ambulance service and medical care are at the student's expense.

Hospitalization insurance for sickness and accidents is available at a reduced cost to any student attending day or night classes regardless of the number of semester hours the student is taking. The deadline for obtaining insurance is one month prior to the first day of enrollment each semester. The policy protects the student twenty-four hours a day for twelve months. Athletic activities are included in the coverage, except for interscholastic sports. Claims are paid regardless of other health and accident insurance carried by the student or family.

Insurance applications are available throughout the year at the Welcome Center North in the Learning Resources Center.

HENRY FORD II HONORS PROGRAM

HFCC students may be eligible for the College's Henry Ford II Honors Program, a structured, academically rigorous program of core courses in English composition and the humanities. The program prepares students to gain admission to transfer institutions of their choice, while allowing them to excel in critical thinking and research skills.

During the first year, Honors students are matched with a faculty mentor who will work with them one-on-one throughout the program. Students also enroll in a unique Honors Colloquium and Honors English classes, and attend a Transfer Workshop to help prepare for the process of transferring to another institution of higher learning.

In the second year, students work on in-depth research projects under the guidance of faculty through the innovative Honors Directed Studies. In this setting, highly motivated Honors faculty members engage students one-on-one as they research topics covering various academic disciplines. Students are encouraged to select topics that can be presented, published, exhibited, performed, or broadcasted. Second-year students also enroll in the capstone course, Honors 251–Great Works, where they discuss and debate some of the great books and ideas of the Western canon.

For more information or to obtain an application form, contact Nabeel Abraham, Ph.D., Henry Ford II Honors Program Director, Learning Technology Building, Room 150, at **313-845-6460** or by e-mail at **nabraham@hfcc.edu**.

JOB PLACEMENT OFFICE

The mission of the HFCC Job Placement Office is to provide employment opportunities and services to students, recent graduates, alumni, and those who have earned certificates in their fields of study. The Job Placement Office posts listings of part-time and full-time employment opportunities on the office's Web site (www.hfcc.edu/careers) and on bulletin boards located in the Health Careers Education Center, Liberal Arts Building, Technology Building and the Dearborn Heights Center.

Our commitment is to continue to foster relationships that will provide full-time and part-time employment opportunities in the Metro Detroit area and beyond.

Eligibile individuals include:

- students (enrolled for at least three credit hours for the current or subsequent semesters)
- recent graduates (graduation date on transcript within the past year)

- alumni (graduation date on transcript of more than one year)

Job Search Assistance Includes:

- **On Campus Recruiting**
  Employers from business, industry, government, and education recruit during the fall and winter semesters.
- **Resume, Cover Letter and Job Document Search**
  Assistance Critiques of student job search documents including resume, cover letter, reference sheets, etc. are offered. Sample resumes and cover letters are available. Throughout the Fall and Winter semesters the Job Placement Office sponsors workshops on a wide variety of career related areas. All students and alumni are encouraged to attend.
- **Referrals to Available Positions**
  If an employer has an immediate need, a resume may be directly referred by the Job Placement Office.
- **Career Fairs**
  An annual Career Fair is held on the main campus for the majority of the curricula. The career fair involves major divisions on campus: Business, Health Sciences, Computer Science, Skilled Trades and Apprenticeship, and Technology. In February a Nursing Career Fair is held, where potential employers and four-year universities are invited to participate. Other industry specific fairs may be held throughout the academic year.

Employer Resource Information

The Job Placement Office maintains information on area employers. A list of employer websites can be obtained from the Job Placement Office.

We're here to Help!

Students or graduates who require job search assistance can register with the Job Placement Office in Room T-112, Technology Building, Monday - Friday. Fall and Winter office hours are 8:00 a.m. - 4:30 p.m. On Tuesdays the Job Placement Office stays open until 6:30 p.m. to accommodate evening students. Tuesdays are also walk-in days. Students do not
need an appointment, however students are seen on a first come, first served basis. Our computer lab is available
8:30 a.m. - 4:00 p.m. Spring and Summer office hours are
8:00 a.m. - 6:30 p.m. Our computer lab is available
8:30 a.m. - 6:00 p.m. For additional information or if you have questions, please contact us at **313-845-9618**.

You may also visit our website to review the policies and procedures, print a registration form, review available job opportunities, and request referrals. Your resume may be submitted to **careers@hfcc. edu**.

Resumes submitted to the Job Placement Office will be reviewed and kept on file for one year.

LEARNING LABORATORY

The Learning Laboratory provides academic support for students in their reading, writing, and math classes. Students also may use the lab to resolve reading, writing, and mathematical problems they may be experiencing in their other course work or in preparation for the Nursing Entrance Test. The Learning Lab delivers instruction through one-on-one tutoring in a variety of subjects, computer programs, and additional support materials such as review sheets available at the Lab or its Web site.

Those students wishing a more concentrated tutorial program in reading or writing may sign up for ENG 083 (a one-credit reading

course), ENG 084 (a two-credit reading course), or ENG 086 (a one-credit writing course). These courses include an individual diagnosis of problems and weekly conferences with an instructor.

During fall and winter semesters the Learning Laboratory is open Monday through Thursday from 8:00 a.m. – 8:40 p.m., Friday from 8:00 a.m. – 4:30 p.m. and Saturday from
9:40 a.m. – 1:40 p.m. For more information, please contact the Learning Lab at **313-845-9643**, or see **http://hfcclab.info**.

PARTNERS PLUS

In an effort to support under-represented students, Henry Ford Community College and the University of Michigan-Dearborn formed a partnership in 1993 to help provide a seamless transfer process for HFCC students to the University of Michigan-Dearborn. The Partners Plus program provides students with detailed academic advising on specific University of Michigan-Dearborn degree programs, professional development workshops, annual retreats with an award ceremony, mentoring, job opportunities, and, in some cases, financial assistance. Partners Plus serves more than 400 students each academic year and has successfully transferred many HFCC students into four-year degree programs.

See how you can better achieve your educational goal. Contact Partners Plus at **313-845-9690** or by e-mail **partnersplus@hfcc.edu** and visit **www.partnersplus.umd.umich.edu**.

PAYING FOR COLLEGE

No student should be prohibited from entering college because of a lack of money. The College, in cooperation with federal and state agencies and private sources, makes various combinations of grants, loans, on-campus employment, and scholarships available to students.

The Financial Aid Office awards financial assistance to students on the basis of need as determined through an analysis of their family profiles.

The major consideration in determining a student's award is financial need. 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 following are basic tools for determining a student's eligibility for assistance.

The student must complete the Free Application for Federal Student Aid (FAFSA) in order to apply for these types of aid:

- Bureau of Indian Affairs Scholarships
- Federal Work Study Program
- Federal Pell Grant
- William D. Ford Federal Direct Subsidized and Unsubsidized Loans
- Federal Supplemental Educational Opportunity Grant
- Federal Direct Plus Loan Program
- Michigan Adult Part-time Grant
- Michigan Work Study
- Michigan Educational Opportunity Grant
- Michigan Competitive Scholarship
- Michigan Rehabilitation Services
- Academic Competitiveness Grant.

Students are encouraged to apply over the Web at **www.fafsa.ed.gov**. Students may use the computer terminals in the Financial Aid Office for that purpose and in the Student Services Resource Room LRC-030.

When prompted, the student needs to allow their information to be released to HFCC; HFCC's school code is 002270.

Students whose files are complete before April 1 each year are given first consideration for financial aid for the following year, which consists of the summer, fall, winter and spring semesters at HFCC.

Some students' files are selected for verification. Those students will not receive financial aid until after all requested information has been submitted to the Financial Aid Office within sixty days of the end of the term or by August 31, whichever comes first.

The Financial Aid Office awards only those with high school diplomas or GEDs.

Awards of aid, because they are based on need, may be as low as $100 or as high as the amount required to pay for the student's tuition, fees, room, board, books, transportation, and miscellaneous expenses while attending Henry Ford Community College.

All programs are subject to change without notice.

Students should read the HFCC financial aid brochure and the Student Guide, a U.S. Department of Education publication, for a detailed explanation of all programs, requirements, and federal refund policies.

Federal Programs Based on Financial Need

ACADEMIC COMPETITIVENESS GRANT provides assistance to full-time students who have graduated after 1/1/2005, are Pell eligible and have completed a rigorous program of study as outlined by the U.S. Department of Education.

BUREAU OF INDIAN AFFAIRS SCHOLARSHIPS are available to needy students who are at least one-fourth American Indian and are from a tribe within the United States. Interested students should contact the Michigan Inter-Tribal Education Association, Keweenaw Bay Tribal Center, Baraga, Michigan 49908 for an application.

The FEDERAL WORK STUDY PROGRAM 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.

The FEDERAL PELL GRANT PROGRAM makes grants available to students. These grants are considered to be the floor of financial aid packages. After this award has been allotted to a student, other financial aid may be given.

FEDERAL DIRECT PLUS LOANS are for parent borrowers. This loan has a fixed interest rate. The interest accrues while the student is in school.

FEDERAL SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANTS assist students with the greatest financial need.

The WILLIAM D. FORD FEDERAL DIRECT SUBSIDIZED LOAN PROGRAM is available to students attending on at least a half-time basis. No interest accumulates until six months after termination of studies.

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.

State of Michigan Programs

The MICHIGAN ADULT PART-TIME GRANT PROGRAM is available to independent students who are enrolled part-time, have financial need, and are undergraduates.

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, students may receive scholarships for their tuition and fees, not to exceed $1,300.

The MICHIGAN EDUCATIONAL OPPORTUNITY GRANT is available to students who are Michigan residents.

MICHIGAN MERIT AWARD is a scholarship for students who do well on the MEAP test. The amount of the one-time scholarship is $2,500. A combination of the MEAP and other tests also make the student eligible. For further information, contact **www.MeritAward.state.mi.us**.

The MICHIGAN NURSING SCHOLARSHIP is for students who are enrolled in the Nursing program. The scholarship is awarded based on the agreement of the student to work in an eligible direct care nursing position in the state for a year if the student received an award based on full-time attendance. If the student does not do so, the scholarship becomes a loan with a four percent interest rate. There are various other considerations which can be found on the Web site: **www.michigan.gov/mistudentaid**.

MICHIGAN PROMISE SCHOLARSHIP is available to students graduating in 2007 and after. Michigan students with qualifying scores on the State Assessment Test may receive up to $1,000 per academic year for each of their first two years of college enrollment and up to $2,000 after completion of two years of postsecondary education with at least a 2.5 GPA. Michigan students who do not receive qualifying scores on the State Assessment Test may receive up to $4,000 after completion of two years of postsecondary education with at least a 2.5 GPA. For further information, contact **www.michigan.gov/mistudentaid**.

MICHIGAN REHABILITATION SERVICES provides assistance for the vocational training and education 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.

The MICHIGAN TUITION INCENTIVE PROGRAM (TIP) is for students from families who have received Medicaid for the prior 24 months. They should contact the Michigan Department of Social Services for more information before graduating from high school or receiving the GED. Information can be obtained by calling **1-800-243-2TIP**.

MICHIGAN WAR ORPHANS ASSISTANCE is a waiver of tuition and fees for students attending Michigan tax-supported institutions. The applicant must be the child of a wartime veteran who died or was disabled due to service-connected causes, must be between the ages of 16 and 22, and must have been a resident of Michigan for 12 months. Interested students should contact Michigan Veterans Trust Fund, 3500 North Logan, Lansing, MI 48913.

The MICHIGAN WORK STUDY PROGRAM is an employment program subsidized by the state.

The NURSE SCHOLARSHIP FUND is for students in good standing in the nursing program. Apply by May 1 in the Nursing Office.

SINGLE PARENT/DISPLACED HOMEMAKER AND SEX EQUITY GRANTS are vocational education grants for men and women that supply funds for single parents, displaced homemakers, homemakers, and persons wanting careers not traditionally associated with their sex, e.g., nursing for males and electronics for females. Interested students should contact Student Outreach and Support Services at **313-845-9629**.

Henry Ford Community College

Institutional Aid

ART DEPARTMENT TUITION GRANTS are available to four graduates from Dearborn's five high schools for summer studies in Basic Drawing and Design. Prospective applicants should contact their high school counselors.

The BOARD OF TRUSTEES SCHOLARSHIP is available to two graduates from each of Dearborn's high schools. These scholarships are awarded on the recommendation of the high school faculty. The scholarship covers the amount of tuition for 62 credit hours and must be used within three years of graduation from high school.

THE HENRY FORD II HONORS PROGRAM offers full scholarships for academically superior students. New students must have graduated from high school with at least a 3.5 grade-point average or an ACT score of 24 or higher. Presently enrolled HFCC students must have completed at least 12 hours of courses numbered 100 or above prior to application with at least a 3.5 grade-point average. Interested students should contact the Director of the Henry Ford II Honors Program prior to the March 31 application deadline.

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.

SENIOR CITIZENS TUITION GRANTS are available to residents of the Dearborn School District who are over the age of sixty.

DEPARTMENTAL SCHOLARSHIPS are available through these areas: Dance, Telecommunication, Music and Theater. Interested students should contact appropriate department or office.

Other Sources of Aid

Students may wish to review other sources of information on scholarships. The Henry Ford Community College Library has several source books. The HFCC Web Site has updated information on scholarships. Visit **www.hfcc.edu/scholarships**.

Miscellaneous scholarships are posted on the bulletin board outside the Financial Aid Office and on the first floor of the Learning Resources Center, outside Room 113. Students can also use the Web to explore additional scholarships at **www.finaid.org**.

STUDENT OUTREACH & SUPPORT (SOS)
(FORMERLY "FOCUS ON WOMEN")

Student Outreach & Support programs and services are designed to help both women and men maximize their opportunities at Henry Ford Community College and achieve their educational goals. SOS offers guidance, personal support, seminars, and special events.

In addition, a vocational education grant is available through SOS to supplement the Pell grant in paying for tuition, books and/or childcare for qualified students enrolled in approved vocational programs. The Carl D. Perkins grant serves eligible students with unmet financial need in six "special populations:" single parents, homemakers, students enrolled in programs non-traditional for their gender, individuals with a disability, those with limited English proficiency, and economically disadvantaged students. See us for details or an application.

"Back-to-School" appointments and career counseling are available for prospective students who have concerns about entering or reentering college. Brenda Hildreth, SOS Coordinator, is a Licensed Professional Counselor. Her direct number is **313-845-9757**.

Student Outreach & Support is located in room 125 of the Learning Resources Center (near Assisted Learning Services). The hours are 8 a.m. - 4:30 p.m. Monday through Thursday during the Fall and Winter semesters (Wednesdays until 6:30 p.m.) and Fridays by appointment. For assistance or further information, please visit the office, e-mail **sos@hfcc.edu** or call **313-845-9629**. All students are welcome.

UNIVERSITY TRANSFER, ADVISING, AND CAREER COUNSELING CENTER

The University Transfer, Advising, and Career Counseling Center is located in the Learning Resources Center, first floor, Room LRC-117. The following services are offered:

University Transfer

This service assists students with the selection of courses taught at HFCC which will transfer to other colleges and universities. The following resources are available:

- curriculum transfer guides for Michigan colleges and universities
- articulation agreement guides for students following specific programs at HFCC
- equivalency guides, which are alphabetical listings of HFCC classes and their transferability to other colleges and universities

Advising

This service provides advice to students regarding the implementation of their educational goals. Counselors advise students on:

- selection of courses related to an educational program curriculum/degree
- selection of an appropriate schedule/times for classes
- time management or balance of number of courses with life style
- study skills planning and development

Career Counseling

This service assists students in the lifelong process of choosing, planning, and preparing for appropriate careers. The counselors who provide this service are Licensed Professional Counselors (LPC) by the State of Michigan, with a minimum of a master's degree in guidance and counseling. Career planning services include:

- selection of a career path and a plan to implement this path through formal education, training and practical experience
- assessment of interests, values, and skills through standardized assessments and self-assessment
- assistance and support during career/life transitions
- change of self-defeating behaviors
- stress/anxiety reduction
- coping with change

The University Transfer, Advising, and Career Counseling Center, in the Learning Resources Center, is open Monday through Thursday from 8 a.m. – 6:30 p.m. and 8 a.m. – 4:30 p.m. on Friday.

For counselor availability or more information, please contact the University Transfer, Advising, and Career Counseling Center at **313-845-9611** or **313-845-9612** or visit **www.hfcc.edu/counsel**.

CAMPUS LIFE, STUDENT ACTIVITIES AND COMMUNITY SERVICES

ATHLETICS

Intercollegiate

Henry Ford Community College is a member of the Michigan Community College Athletic Association (Eastern Collegiate Conference). The nickname is the Hawks. Varsity teams participate in the following sports at the conference, state, regional, and national levels:

Men	Women
• baseball	• basketball
• basketball	• softball
• golf	• volleyball

Try-outs for all sports programs are in early Fall.

The Michigan Community College Athletic Association and the National Junior College Athletic Association regulate athletic competition and set eligibility standards for all member colleges.

Intramural

The major purpose of a college intramural program is to provide an opportunity for participation in recreational activities for all students. All currently enrolled students are encouraged to participate.

Intramural sports contribute to health, fitness, strength, and endurance, as well as to the development of wholesome recreational skills and constructive attitudes toward recreation, health, and social relationships that carry into adult life.

For more information call **313-845-9647** or visit **www.hfcc.edu/sports**.

CENTER FOR LIFELONG LEARNING

Less like school…More like fun!

It's all about YOU at the Center for Lifelong Learning (CL2) where we meet the educational need of adults of all ages in fun, convenient, non-traditional formats, including online.

Check out the hundreds of high-quality, non-credit personal enrichment and professional development classes we offer throughout the year. Whether you're interested in exploring the arts, improving your health and fitness, learning unique cooking techniques, or keeping abreast of financial trends (to name just a few), you're sure to find classes that appeal to you.

If you're interested in launching a new career or seeking professional development for career advancement, consider taking CL2 classes in property assessment, real estate, business and management, computer skills, and more. Most of them are offered for continuing education units (CEUs).

To read descriptions of all CL2 classes or actually register for one of them, visit **www.hfcc.edu/CL2**. You can also call us at 3**13-317-1500** or toll-free at **1-877-855-5252**, or stop by our conveniently located

office at the Dearborn Heights Center, 22586 Ann Arbor Trail, Dearborn Heights, MI 48127.

COLLEGE STORE

The College Store carries textbooks, computer software, supplies, clothing, and miscellaneous items. Staff members are available to answer questions and give assistance. The College Store accepts cash, personal checks, VISA, MasterCard and Discover, as well as HFCC Gift Certificates and financial aid. Students using financial aid, loans, or scholarships for College Store purchases must present a current student schedule or award letter and picture ID for each purchase. Orders are also accepted online at **collegestore.hfcc.edu**.

Store Hours
Fall and Winter Semesters
Monday-Thursday 8 a.m. – 6:30 p.m.
Friday   8 a.m. – 4:30 p.m.

Spring/Summer Hours
Monday-Thursday 8 – 6:30 p.m.

College Store Return Procedure
(Contact College Store for complete details.)
Should it be necessary to make an adjustment, the following conditions must be met:

❶ Students must have their cash register receipts. Purchases made with a charge card will be issued a charge credit. Refunds of merchandise/books originally purchased with a check may require a 10-day waiting period.

❷ Regardless of the date purchased, students have until the last day of the second week of classes to make a return on new or used textbooks. Books from classes dropped after the first two weeks are not eligible for return. For a full refund on new textbooks, books must be in perfect condition (as determined by a staff member) – free from any writing, stains, markings, or damage to the cover or binding.

❸ Textbook sales are final after the end of the second week of classes.

❹ Refunds on supplies or clothing will be made only if the item is returned unused, within one week of purchase. Blister-packed items and boxed items must be returned in their original package with the packaging in resalable condition.

Book Buy Back Procedure
Book buy back is held only during the week of final exams for fall and winter semesters. Spring/summer term buy back dates vary. The College Store does not purchase books from students at any other time. Not all books can be bought back due to overstocks and edition and title changes. Workbooks are not purchased during buy back.

For more information, please contact the College Store at **313-845-9603** or visit **collegestore.hfcc.edu**.

CORPORATE TRAINING DIVISION

Established in 1986 as the College's economic development unit, the Corporate Training Division expands workforce skills, retrains 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

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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 can be offered in credit or non-credit forms, or through seminars granting continuing educational units (CEU's). Work and learning skills assessment and the development of multi-agency learner support systems are some of the comprehensive services available through our office. 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 are invited to contact the Corporate Training Division at **313-845-9670** or visit **www.hfcc.edu/corporatetraining**. Contact the division to see how it can support your employee development goals. The division can help you meet the learning and work skill goals of your organization.

CULTURE AND COMMUNITY

When it comes to cultural enrichment, the best choices are at Henry Ford Community College. HFCC students can attend or participate in the many excellent 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, choose from clubs that match your hobbies, cultural heritage, or religious or social interests. Through these activities, hundreds of HFCC students promote education, discussion, cultural awareness and service opportunities every year. Among the many clubs at HFCC 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.

HFCC also features the award-winning student radio station WHFR-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 the thriving campus community.

The Student Bulletin offers HFCC 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.

HFCC 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 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. The center also offers activities for every taste, including an indoor aquatics area, outdoor fishing pond, jogging track, café, baseball and soccer fields, and cultural arts exhibits.

The choices for cultural enrichment become almost limitless when students drive a short distance to the City of Detroit and the surrounding areas. The choices match everyone's tastes, from cultural attractions such as the Detroit Institute of Arts, the Fox

Theater, the Detroit Opera House, and the Max M. Fisher Music Center to world-class sporting events such as Detroit Pistons basketball and Detroit Red Wings hockey, and to unique dining venues such as the Hard Rock Café.

ENGLISH LANGUAGE INSTITUTE (ELI)

The English Language Institute curriculum, through year-round instruction, helps to expedite the learning and language development of foreign students by offering them five (four during spring/summer terms) four-hour days of intensive language study or a two-and-a-half hour evening session, four days a week. The program helps second language speakers of English increase their English language proficiency for academic and professional purposes. The Institute helps students increase the test scores they need for admission to colleges, professional schools, business schools, law schools, and medical schools.

The ELI offers credit courses that range from beginning to upper-level developmental reading, writing, speaking and listening with online classes for levels 5 and 6. To register for any level, students must be proficient in their native language. Other credit courses are: ELI 008-Computer-Assisted Learning, ELI 010-Pharmacy College Admission Test preparation with a focus on only the verbal portion of the test. Non-credit courses include ELI 007-TOEFL preparation and ELI 012, a developmental course designed to improve the English business communication skills of non-native speakers.

The ELI is located on the first floor of the Liberal Arts Building, L-142, HFCC's main campus. Daytime office hours are 8 a.m. - 4:30 p.m., Monday through Friday, and evening hours are 4:30 p.m. - 9 p.m. Monday through Thursday. For information call **1-313-317-1556** or visit **www.hfcc.edu/eli** or **http://www.hfcc.net/programs/english_language_institute/**.

All students in the Language Institute qualify for a Certificate of Attendance awarded for completion of all required hours of study and a Certificate of Achievement to verify academic achievement at each level of study completed. International students are welcome. Contact the International Office for more information. **http://www.hfcc.edu/getting_started/international/**.

FIFTY-ONE O ONE RESTAURANT

FIFTY-ONE
at Henry Ford Community College
O ONE
for a memorable dining experience
www.hfcc.edu/5101

For an innovative dining experience, the best choice is HFCC's Fifty-One O One restaurant, an integral part of the College's Hospitality Studies program. Completely operated by the program's students and staff, this restaurant – conveniently located in the Student and Culinary Arts Center – allows hospitality students to perfect their craft, while guests enjoy the fruits of these educational labors.

Students working in Fifty-One O One are tomorrow's hotel and restaurant managers, chefs, dining room personnel, and food service industry professionals. As part of their studies, they rotate through the various stations in the kitchen and dining room.

Meanwhile, guests choose from a full range of menu items, including specialty salads and sandwiches, entrees, daily specials and desserts, all of which are prepared in various Culinary Arts classes.

The choices are abundant, with savory specials like chicken paprikash, seafood crepes, turkey Marsala, and vegetable noodle

florentine. It's an unusually delicious educational experience for both students and guests.

The Fifty-One O One is open during the fall and winter semesters. Lunch is served on Tuesdays, Wednesdays and Thursdays. Dinner is served on Wednesday and Thursday evenings. During the spring semester the program offers various international buffets. In addition, throughout the year the program offers special events such as an Oktoberfest buffet, St. Patrick's Day buffet, bake sales, and a scholarship dinner. Call for reservations, **313-206-5101**. For more information, visit **www.5101.hfcc.edu**.

FOOD SERVICE

From hamburgers and fries to lasagna and ribs dinners, you'll never go hungry at HFCC. The airy Pavilion in the Student and Culinary

Arts Center is open for student dining, studying and socializing whenever classes are in session. The adjoining Skylight Café is open Monday through Thursday 7:30 a.m. - 7:00 p.m. and Fridays 7:30 a.m. - 2:00 p.m. during the Fall and Winter semesters. During the Spring and Summer semesters the Skylight Café is open 7:00 a.m. - 2:00 p.m. Monday through Thursday.

Stop in for a stroll through the Skylight Café Food Court and choose your cuisine: soups, salads, entrees, custom-made sandwiches and burgers, artisan pizzas, delectable desserts and your favorite beverages are available throughout the day. The café's conscientious staff strives to provide extraordinary fare that will tingle your taste buds. Plus the Pavilion is a wireless zone - you can use a laptop to surf the web while you enjoy your favorite foods.

Inside the Skylight Café Food Court, you'll find:

- Corner Deli
- Magic Oven
- Maggie's Specials
- Boulevard Grill
- Main Course
- Sweet Endings

At our beverage center, you can pour a cup of Starbucks coffee, fresh juice, or fountain soda. Our coolers are stocked with fruit, bottled water, tea, and a variety of soft drinks. Adjacent to the café and throughout campus are vending machines for refreshments on the run. For further information, call **313-845-9648**.

HENRY FORD EARLY COLLEGE

Henry Ford Early College is a five-year combination of high school and college focused on health careers. The curriculum combines high school classes with HFCC college courses enabling the student to graduate with a high school diploma and potentially an Associate of Applied Science degree in the Pharmacy Technician, Physical Therapist Assistant, Radiographer, Respiratory Therapist, or Surgical Technologist programs. The college classes are taken under the auspices of dual enrollment at no additional cost to the student. The Early College is open to any Wayne County high school student with an interest in the health occupations.

Henry Ford Early College is a collaboration between HFCC, Dearborn Public Schools, and Henry Ford Health System and utilizes the campuses of both Henry Ford Community College and Henry Ford Health System. The ninth grade curriculum consists of all high school classes, with emphasis on math and science. Students will gradually be introduced college classes, and their schedules in 12th and 13th grades will be almost exclusively HFCC coursework and clinical rotations. Applications for Henry Ford Early College can obtained by calling **313 -317–1588**.

LIBRARY

The Fred K. Eshleman Library is located in the south half of the Learning Resources Center. This modern facility offers seating for over 560, including seven group-study rooms. The Web-based catalog allows users to search the Library's collection of over 100,000 items, including 87,000 books, 600 periodical titles, and an extensive collection of e-books. Access to a range of full-text indexes is available at 14 reference workstations. Go to **www.hfcc.edu/library** to access the library's home page.

A library card is required for check-out, and it is issued free to students. Those with questions about book loans should call **313-845-6375**.

The Media Center on the second floor houses 64 PCs. Access to the Internet, e-mail, and a wide variety of software is available. Only currently registered students may use the Media Center, and a library card is required. Those with questions may call **313-845-6386** or visit **www.hfcc.edu/library**.

Help is always available from the librarians, in person or by phone at **313-845-6377**.

During the fall and winter semesters the Library is open seven days a week for 76.5 hours. The hours vary during the spring and summer semesters and between semesters. For current Library hours or more information please call **313-845-9606** or visit **www.hfcc.edu/library**.

MICHIGAN TECHNICAL EDUCATION CENTER (M-TEC)

The Michigan Technical Education Center (M-TEC) at HFCC, located at 3601 Schaefer Road, offers state-of-the-art classrooms, conferencing and technical lab facilities to the Wayne and Monroe County regions.

The M-TEC offers in-house program development, training, and evaluation services. This includes WorkKeys services, ACT certifications, an authorized Pearson VUFC Testing Center that provides IT certification tests, and Certified Nursing Assistant testing. With HFCC faculty the M-TEC also offers College Level Examination Placement (CLEP) services.

As a state-of-the-art business training facility, the M-TEC offers a 100+ person capacity auditorium with live video conferencing and video streaming capability; a High Bay area that enables equipment-specific training; multiple meeting/training rooms and computer labs which can be flexibly arranged and configured.

M-TEC staff members are on hand to meet each customer's specific needs and create a productive setting for professional development. Hours of building operation are suited to business scheduling and there is free, convenient lighted parking.

Employers are invited to contact the M-TEC at **313-317-6600** or visit **www.hfcc.edu/mtec** to explore how Henry Ford Community College can meet the skill development needs of their companies.

OFFICE FOR WORKERS IN TRANSITION

The Office for Workers in Transition (OWIT) assists dislocated workers in returning to school for the training and education needed to transition to new employment. Located in the Learning Resource Center, OWIT staff guide individuals in selecting a program that works for them and in navigating the steps required for admission to a college program.

Call **313-845-6335** for information.

Henry Ford Community College

PERFORMANCES AND EXHIBITIONS

Co-curricular Fine Arts Activities

Henry Ford Community College offers a wide variety of opportunities for students in the fine arts area outside the classroom. These co-curricular activities are designed to enhance and expand the classroom experience to allow students to explore and develop their talents.

Art

The Sisson Art Gallery in the MacKenzie Fine Arts Center is home to several exhibitions throughout the year, showcasing not only thought-provoking works by professional artists from around the country, but the creativity of HFCC art faculty and the works of HFCC's most talented student artists, painters, graphic designers, sculptors and interior designers.

Dance

Dance students perform in their own dance concerts at HFCC as well as in the college's musical theater productions staged by the music and theater areas. In addition to classes in tap, modern dance and jazz, HFCC dance students have the opportunity to participate in the Full Circle Dance Company, which provides intensive training and performance opportunities.

Music

There are several outstanding vocal and instrumental groups at HFCC. The bands and choirs perform on campus and at local concert venues throughout the academic year. Many HFCC ensembles have also had the opportunity to participate in concert tours in the United States, Canada, and Europe. The HFCC music program has released several CDs, including recordings of every annual President's Collage concert since 1997.

Theater

HFCC's Theater program strives to offer students a wide range of opportunities, from acting, directing and writing to behind-the-scenes technical production, including 3-D virtual imaging special effects. A variety of plays are staged throughout the year, including children's theater productions, musicals, classic dramas and original works by faculty and students.

For Performing Arts auditions and announcements, contact the directors:

Theater: George Popovich, **313-845-6478**

Dance: Diane Mancinelli, **313-845-6314**

Music (vocal): Kevin Dewey, **313-845-6474**

Music (instrumental): Rick Goward, **313-845-9699**

Telecom/WHFR: Susan McGraw, **313-845-9842**

STUDENT ACTIVITIES AND CLUBS

Many student clubs and activities are offered on the HFCC campus for student involvement. There are academic, cultural, faith-based, honor society, political/social activism, and recreational clubs. The Student Activities Office (SAO) assists students with club formation, event planning, fund-raising ideas, and the promotion of events. SAO holds regular meetings to inform clubs of opportunities and College policies and procedures. Students are encouraged to form new clubs or take part in existing clubs. Several requirements must be met before a student group is recognized as a registered HFCC student club. The Student Activities Office provides assistance to students who are interested in forming a club.

These are the current HFCC Student Clubs:
- Accounting Club
- African American Association
- All Around Art Association
- Anime-tion Club
- Arab Student Union
- Astronomy Club
- Campus Crusade for Christ
- Community Service Club
- Crazy Antics Club
- Criminal Justice Club
- Diversity Club
- Dodge Ball Club
- Film Club
- Future Teachers Association
- Geology Club
- HFCC Cheer & Dance Team
- HFCC Team Ceramics Club
- Ice Carving Club
- International Relations Organization
- (IMAN) Islamic Monitor Action Network
- Legal Assistant Association Network
- Math Club
- Mirror News Student Newspaper
- Multicultural Club
- Muslim Student Association
- One Step Ahead
- Palestine's Voice Organization
- Phi Theta Kappa (Alpha Xi Mu)
- Philosophy Club
- Science Association
- Society of Manufacturing Engineers
- Students for a Democratic Society
- Student Environmental Association
- Student Nurses Association
- Students of the Business World
- Students United for Peace and Justice
- Web Design and Development Club
- Women-Tech Club
- Yemen Student Association

See the current list and find out more information about each club at **www.hfcc.edu/clubs**.

The Student Clubs are organized by the Student Activities Office. The contacts are:

Cassandra Fluker, Student Activities Officer/*The Mirror News* Faculty Liaison **crfluker@hfcc.edu**

Michele Featherston, Student Activities Secretary **mfeather@hfcc.edu 313-845-9865** Fax: **313-317-6551**

Student Activities Office

The mission of the Student Activities Office (SAO) is to complement formal classroom instruction at Henry Ford Community College and to enhance the overall educational experience of students. The office is based on the philosophy that co-curricular involvement offers students the opportunity to develop leadership skills, communication skills, techniques of organization, an understanding of self, as well as an understanding of others.

Utilizing the services and programs that are available at Henry Ford Community College, students become more knowledgeable about their environment and will begin to fully develop their potential.

For more information, please contact the Student Activities Office at **313-845-9865** or visit **www.hfcc.edu/sa**.

In addition to support for student clubs, the Student Activities Office conducts the following activities and events.

Student Bulletin

The Student Bulletin is a SAO publication that is designed to inform the HFCC campus community about current events, student clubs, and volunteer opportunities. For more information, contact the Student Bulletin Editor, Michele Featherston, at **313-845-9865**.

Voters Registration

SAO provides on-campus Voters Registration and conducts periodic Voters Registration Drives. Forms are available at the Student Activities Office, Welcome Centers, Office of Financial Aid, and the Registrar's Office. SAO provides the service of mailing completed Voters Registration applications to city election clerks.

Dr. Martin Luther King Jr. Day of Service

The Student Activities Office coordinates volunteer activities to commemorate the birthday of Dr. Martin Luther King Jr.

Students, faculty, and staff members are encouraged to participate. Various activities such as renovation, educational, and social projects are available. This is a day of community service, reflection, and education.

Special Events and Activities

The Student Activities Office works with students, faculty, and staff to plan and implement special events and activities at the College. These events and activities provide socialization, educational information, and promote involvement at HFCC.

Volunteer Opportunities

The Student Activities Office provides information on volunteer activities, on-campus as well as in the community. Many worthwhile opportunities are available.

Student Newspaper

The Mirror News is a student-run newspaper that is published bi-weekly during the fall and winter semesters. The paper provides an opportunity for students who are interested in writing, editing, photography, desktop publishing, advertising, and business management. *The Mirror News* publishes information on all aspects of the College community, from classes to cultural events, as well as creative works and editorials. The student Editor-in-Chief recruits the newspaper's staff each semester. Currently enrolled students are encouraged to join. *The Mirror News* can be reached at **313-845-9639** or **editor@hfcc.edu**.

WHFR-FM 89.3

WHFR-FM 89.3 is more than just HFCC's award-winning broadcast radio station. It's the hub of telecommunications, where students gain real-world experience at an independent, noncommercial station.

These are not textbook lessons. Instead, students learn about radio equipment and production standards while putting together radio shows.

Beyond campus, the station serves residents of Dearborn and surrounding communities with an eclectic mix of music rarely heard on Detroit-area radio stations. The WHFR playlist offers an unusual blend of Alternative/Modern Rock, Big Band, Blues, Hip Hop, Jazz, Space Rock, Urban and World music. The station plays more than 60 hours of classical music, including programs received weekly through a satellite feed from Public Radio International (PRI).

Students learn the importance of community-focused programming at WHFR. The station hosts a weekly public affairs show and many music shows that highlight new releases, independent labels, and local artists. Staff members also participate in initiatives with live broadcasts at events such as the annual charity-bowling event, Concert of Colors World Music Festival, and Dearborn's Homecoming Festival. Visit **whfr.fm** for more information.

SPECIAL OPPORTUNITIES FOR HIGH SCHOOL STUDENTS

Dual Enrollment

The Dual Enrollment Program allows high school students to enroll in HFCC courses, then apply the credit earned towards their high school diploma, college degree, or both. Dual Enrollment classes are paid for by the student's school district or charter school. Eligible classes include any college course(s) that the school district will allow the student to take.

Hundreds of students take advantage of Dual Enrollment at HFCC every year. Dual Enrollment students have great academic success.

To take classes through Dual Enrollment, students follow an easy process. Please see pages 4-5 for complete information.

Advancement Plus

The Advancement Plus Program allows high scool students to enroll in HFCC courses, then apply the credit earned towards their high school dipoma, college degree, or both. Advancement Plus tuition and fees are paid for by the student's parent or guardian.

Advancement Plus has allowed students to obtain enough credits to equal the first year or more of college. In some cases, students may graduate from high school and enter college as sophomores instead of freshmen.

To take classes through Advancement Plus, students follow an easy process. Please see pages 4-5 for complete information.

Henry Ford II Honors Program

The Henry Ford II Honors Program offers qualified students a challenging academic program where students and faculty form a learning community. Students take core courses in English composition, science and the humanities, and develop advanced skills in independent research and critical thinking.

Henry Ford II Honors students also attend the Transfer Workshop, a comprehensive program that reviews what public and private institutions look for in transfer applicants and outlines how students can increase their chances of admission to the transfer institution of their choice. Students are also matched with a faculty mentor who will provide personal guidance in applying to transfer institutions and locating available transfer scholarships.

Program graduates have achieved immense success, earning admission and full scholarships to the University of Michigan, Michigan State University, Wayne State University, Eastern Michigan University, University of Detroit Mercy, New York University, The State University of New York and many other prestigious universities across the country.

High school students interested in the Henry Ford II Honors Program should have a 3.5 cumulative grade-point-average in high school or an ACT score of 24 or higher.

For more information or to obtain an application form, contact Nabeel Abraham, Ph.D., Henry Ford II Honors Program Director, Learning Technology Center, Room 150, at **313-845-6460** or by e-mail at **nabraham@hfcc.edu**. Visit **www.hfcc.edu/honors** for more information.

Henry Ford Community College

COURSES AND CREDIT HOURS ACCEPTED BY

HENRY FORD COMMUNITY COLLEGE

Through the College Entrance Examination Board Advanced Placement Program

AP SUBJECT	SCORE RE-QUIRED	CREDITS	EQUIVALENT HFCC COURSES
ART	3 or above	3 semester hours	ART 121, 122, 123, 124, 125, 126, 127, 128, 129 or 130
COMPUTER	3	3 semester hours	CIS 100
	4 or 5	6 semester hours	CIS 125
ENGLISH LANG/COMP or LIT COMP	3 or above	3 semester hours	ENG 131
FRENCH	3	4 semester hours	FRE 131
	4 or 5	8 semester hours	FRE 131 and FRE 132
GERMAN	3	4 semester hours	GER 131
	4 or 5	8 semester hours	GER 131 and GER 132
SPANISH	3	4 semester hours	SPN 131
	4 or 5	8 semester hours	SPN 131 and SPN 132
AMERICAN HISTORY	3 or above	3 semester hours	HIST 151 or HIST 152
MATH (AB)	3 or above	5 semester hours	MATH 180
MATH (BC)	3 or above	10 semester hours	MATH 180 and MATH 183
MUSIC			
Appreciation	3 or above	2 semester hours	MUS 131
Literature		3 semester hours	MUS 132
MUSIC			
Theory	3 or above	4 semester hours	MUS 135
Sight Singing	3 or above	2 semester hours	MUS 141
POLITICAL SCIENCE			
U.S. Government & Politics	3 or above	3 semester hours	POLS 131
PSYCHOLOGY			
Introduction to Psychology	3 or above	3 semester hours	PSY 131

Advanced Placement/CLEP

HFCC accepts credit from Advanced Placement or CLEP examinations. Transfer students from other colleges who have taken Advanced Placement (AP) or College-Level Examination Program (CLEP) tests may be awarded credit at Henry Ford Community College.

Eligibility for AP/CLEP credit will be determined upon receipt of a transfer student's transcript. Henry Ford Community College will evaluate the course work, post credit equivalents as transfer credit on the student's HFCC transcript, and mail the student the results of the evaluation.

The scores required for AP credit are listed on this page. CLEP credit is listed on page 283.

Career Pathways

Today's high school students can choose from more than 12,000 careers, according to the U.S. Bureau of Labor Statistics. That much choice can become confusing. Fortunately for HFCC students, the College makes the transition from high school to college easy.

The Career Pathways System can help you make the adjustment to college and to find a career. Career Pathways is six broad groupings of careers that share similar characteristics and whose employment requirements call for common interests, strengths, and competencies.

- **Arts and Communications:** Careers related to the humanities as well as the performing, visual, literary, and media arts.
- **Business, Management, Marketing, and Technology:** Careers related to accounting, business administration, finance, information processing, marketing, and all other aspects of business.
- **Engineering/Manufacturing and Industrial Technology:** Careers related to technologies necessary to design, develop, install, or maintain physical systems.
- **Health Sciences:** Careers related to the promotion of health and the treatment of injuries, conditions, and diseases.
- **Human Services:** Careers in child care, civil service, education, hospitality, and the social services.
- **Natural Resources and Agriscience:** Careers related to natural resources, agriculture, and the environment.

Using the Career Pathways System, HFCC students assess their interests and aptitudes, and then choose an appropriate Career Pathway that incorporates these qualities. Through the specific courses in their degree program, students then gain a greater context of how their chosen career area fits into one of the six broad industry sectors, which eases the transition from college to the world of work.

For more information, visit **www.hfcc.edu/careerpathways**.

High School Articulation Agreements

We encourage students to participate in high school courses that may provide free college credit at HFCC. The credit is awarded through articulation agreements. We have agreements with many high schools and continue to expand the number of agreements.

If you are interested in information on the agreements, please contact our Career and Technical Education Office of Secondary Partnerships at **313-317-4028**.

Scholarships

To help finance their HFCC degree, incoming students can apply for private scholarships made possible by generous alumni, friends of the College, local businesses, faculty, staff, and the Board of Trustees. Such awards are available for a variety of programs and support students from diverse backgrounds and interests. A complete list is available at **www.hfcc.edu/scholarships**.

Additionally, a listing of scholarships offered to students of HFCC by external organizations can be found by following the link on the website.

SPECIAL OPPORTUNITIES FOR TRANSFER STUDENTS FROM OTHER COLLEGES

Henry Ford Community College welcomes transfer students from other colleges. Thousands of students transfer to HFCC because

- HFCC is much more affordable than four-year colleges.
- high-quality HFCC certificate and associate's degree programs help students find employment.

- they desire to achieve an academic credential, such as a certificate or associate's degree, much faster than a bachelor's degree at a four-year college.
- they need to take courses to satisfy degree requirements at a four-year college.
- they had poor academic performance at a four-year college.

Whatever the reason for transferring, Henry Ford Community College provides what all students need to succeed.

Advanced Placement/CLEP

HFCC accepts credit from Advanced Placement or CLEP examinations. Transfer students from other colleges who have taken Advanced Placement (AP) or College-Level Examination Program (CLEP) tests may be awarded credit at Henry Ford Community College.

Eligibility for AP/CLEP credit will be determined upon receipt of a transfer student's transcript. Henry Ford Community College will evaluate the course work, post credit equivalents as transfer credit on the student's HFCC transcript, and mail the student the results of the evaluation.

The scores required for AP credit are listed on page 282. CLEP credit is listed on this page.

Henry Ford II Honors Program

The Henry Ford II Honors Program offers qualified transfer students a challenging academic program where students and faculty form a learning community. Students take core courses in English composition, science and the humanities, and develop advanced skills in independent research and critical thinking.

Henry Ford II Honors students also attend the Transfer Workshop, a comprehensive program that reviews what public and private institutions look for in transfer applicants and outlines how students can increase their chances of admission to the transfer institution of their choice. Students are also matched with a faculty mentor, who will provide personal guidance in applying to transfer institutions and locating available transfer scholarships.

Program graduates have achieved immense success, earning admission and full scholarships to the University of Michigan, Michigan State University, Wayne State University, Eastern Michigan University, University of Detroit Mercy, New York University, The State University of New York and many other prestigious universities across the country.

To become eligible for admission to the Henry Ford II Honors Program, current HFCC students must have completed 12 or more hours in 100-level or higher courses as a full-time student or 15 hours in 100-level or higher courses as a part-time student prior to application, and must be taking at least six credit hours per semester. Applications are accepted at any time, but students transferring from high school or other colleges must apply first to Henry Ford Community College before applying to the Henry Ford II Honors Program.

For more information or to obtain an application form, contact Nabeel Abraham, Ph.D., Honors Program Director, Learning Technology Center, Room 150, at **313-845-6460** or by e-mail at **nabraham@hfcc.edu**.

Scholarships

To help finance their HFCC degree, transfer students can apply for private scholarships made possible by generous alumni, friends of the College, local businesses, faculty, staff, and the Board of Trustees. Such awards are available for a variety of programs and support students from diverse backgrounds and interests. A complete list is available at **www.hfcc.edu/scholarships**.

HENRY FORD COMMUNITY COLLEGE
Admissions, Registration, and Records
COLLEGE LEVEL EXAMINATION PROGRAM (CLEP)

CLEP EXAMINATION	MINIMUM SCORE	HFCC COURSE EQUIVALENT	CREDIT HOURS
Composition & Literature			
English Composition	47	ENG 131	3
Foreign Language			
College French (Level 1)	41	FRE 131	4
College German (Level 1)	41	GER 131	4
College Spanish (Level 1)	41	SPN 131	4
Mathematics			
Pre-Calculus	50	MATH 175	5
Calculus	50	MATH 180	5
Social Sciences & History			
American Government	50	POLS 131	3
American History I	50	HIST 151	3
American History II	50	HIST 152	3
Introductory Psychology	50	PSY 131	3
Human Growth & Development	50	PSY 253	3
Introductory Sociology	50	SOC 131	3
Principles of Accounting	50	BAC 131	4
Western Civilization	50	HIST 111	3
Western Civilization II	50	HIST 112	3

SPECIAL OPPORTUNITIES FOR NONTRADITIONAL STUDENTS

Students returning to college after an absence may be thinking about how they will balance education plans with personal and professional commitments. HFCC helps to make this transition as smooth as possible by offering classes during the day, evening, weekends and online to give students maximum flexibility.

The College also offers a wide variety of valuable student support services that address the specific needs of returning students.

Assisted Learning Services

Assisted Learning Services assists physically challenged, learning disabled, or academically disadvantaged students at Henry Ford Community College to overcome barriers to education through supportive services. In addition, the Assisted Learning Services Department also provides tutoring services to the general student population.

Child Development Center

Family commitments can often interfere with a school schedule. At HFCC, students can enroll their children (ages 2 years 9 months through 12 years) in our state-licensed Child Development Center, which offers day and evening care.

Henry Ford Community College

Counseling Services

A successful college career requires a comprehensive support network that addresses short-term educational goals, career plans and the inevitable personal issues that arise. At the University Transfer, Advising and Career Counseling Center, experienced counselors are ready to help students understand the transfer process, plan schedules, set career development goals, and cope with the potential anxiety of balancing college, work and home life.

Student Outreach & Support

Like the University Transfer, Advising, and Career Counseling Center, the Student Outreach & Support program offers both women and men extensive resources, including personal, academic and career counseling; financial assistance programs for students who meet specific requirements; and seminars to help students in personal and academic areas.

For a full listing of support services available to all HFCC students, please see the Student Support Services section on page 276.

ONLINE LEARNING

HFCC offers high-quality online classes in many of its academic programs. These courses provide convenience and flexibility to busy students, often allowing them to complete a degree more quickly than expected.

While the majority of online courses offered at HFCC use the UCompass Educator Course Management System, there are a few online courses that do not. Some of these courses include online courses offered in Astronomy and Math.

Here are some frequently asked questions about online classes at HFCC:

What is UCompass Educator?

UCompass Educator is HFCC's online course managemnet system. Only students enrolled in online courses or courses that use UCompass Educator as a supplement to traditional classroom instruction have access to UCompass. Your UCompass account is available on the first day classes begin on campus. The Web address to access your UCompass course is **http://henryford.ucompass.com**.

How do I know if I'm ready for an online course?

You must have a basic working knowledge of your computer, the Internet and word processing applications. Take the survey at **http://henryford.ucompass.com**. Click "Is Online Learning for You?" to assess your skills.

What equipment do I need to take an online course?

Minimal requirements include:
- PC computer system with a minimum 65 megabytes RAM and a color monitor
- Microsoft Windows 98 or higher, XP or Windows NT
- Macintosh equivalents would be OS 9.1 or higher
- CD-ROM or CD/DVD
- 56k or higher modem, DSL or cable modem
- Internet Service Provider (ISP) and personal e-mail account
- Web Browser; Internet Explorer 5.0+, Netscape Navigator 4.7+, Mozilla Firefox
- A word processing application

There may be other requirements specific to individual courses.

Visit **http://henryford.ucompass.com** and click "Computer Requirements" to identify the components of your computer and determine its readiness. Links for the latest upgrades are available on this site.

How do I find out about which online classes are being offered?

Online course offerings continue to expand each semester. See the Class Schedule or the HFCC Web site at **www.hfcc.edu** for current course offerings.

The Class Schedule indicates that my course is 95% (or another percentage) online. What does that mean?

The percent indicates how much of the class is online. For example, a class that is 95% online might require students to come to campus for a midterm and a final exam. A class that is 50%-75% online may require students to come to campus every other week. Please contact the instructor for additional specific information.

OK, I'm registered for an online course. What should I do now?

You will have access to your online course on the first day classes begin on-campus for the semester you have registered for.

If you have registered for an online class during late registration, it will take 24 hours to process your information into the UCompass System before access to your online course materials are provided.

If you have waited beyond the 24 hours after late registration to gain access to your course, please contact Instructional Technology for assistance at **313-845-9663**, **ext. 4,5, or 6**.

How do I get to my online course?

Your UCompass online course is located at **http://henryford.ucompass.com**. You can also go to the HFCC Web site, **www.hfcc.edu**, click the "Current Students" link, and then the UCompass link on the left-page menu. Sometimes instructors use sites other than UCompass for their online materials. If your course does not use the UCompass Educator System, your instructor will tell you how to access your course.

What is my UCompass Educator ID?

Your UCompass ID is the same as your WebAdvisor ID.

What is my UCompass Educator password?

Your UCompass password is the four-digit month and date of your birth, i.e. June 5 = 0605.

How do I change my UCompass Educator Password?

The Novell network and UCompass use exactly the same account and password. When you change the Novell network password, the UCompass password changes as well.

For more information on changing your Novell Network and UCompass password, visit **https://dvc.hfcc.net/helpdesk/000729.htm**.

Where do I go for help with UCompass Educator?

❶ For help with your UCompass login or password contact the HFCC Helpdesk: **helpdesk@hfcc.edu** or **313-845-6345**.

❷ For help with UCompass operations, contact the HFCC Office of Instructional Technology. Phone: **313-845-9663, extension 4, 5 or 6**. E-mail: **support@henryford.ucompass.com**

❸ For help with the content of your UCompass course, contact your instructor.

INFORMATION AND POLICIES

ACADEMIC INTEGRITY

Policy on Academic Integrity (Cheating)

Henry Ford Community College 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:

1. 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).

2. Unauthorized use of notes, books, or other prohibited materials during an examination.

3. Open cheating on an examination (such as copying from another student's paper).

4. 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.

5. Providing unauthorized assistance with any work for which academic credit is received.

6. Revision of graded work in an attempt to receive additional credit fraudulently.

7. Plagiarism (using another person's work without acknowledgment).

8. Use of cell and video phones to cheat.

9. 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.

ACADEMIC POLICIES

Academic Forgiveness Policy

The purpose of academic forgiveness at Henry Ford Community College is to allow a student who has not performed well academically to have a maximum of twelve hours of E grades removed from his or her grade-point average.

To apply for academic forgiveness, a currently enrolled student must file an application in the Office of Admissions, Registration and Records. Guidelines for the policy are as follows:

1. Five or more years must elapse between the academic forgiveness and the last failing grade for which forgiveness is requested.

2. The student must have earned at Henry Ford Community College at least six credit hours in courses numbered 100 or above and have a cumulative grade-point average of at least 2.00 since the failing grades were received.

3. Forgiven grades, to a maximum of twelve credit hours, will no longer be calculated into the student's grade-point average.

4. Forgiven grades remain on the transcript and a special notation is added explaining academic forgiveness.

5. Academic forgiveness can be granted only once to any student.

6. Academic forgiveness, when granted, applies to Henry Ford Community College courses. There is no guarantee, expressed or implied, that the academic forgiveness will be recognized by any other college or university.

Advanced Standing – Career Education

Entry into a program of study with advanced standing permits the selection of advanced courses only and does not grant college credit for those basic courses that may be waived. In all cases, the number of credit hours required to earn an associate degree remains as stated in the catalog.

Requests for advanced standing should be directed to the Office of Registration and Records or the department or division chairperson at least six weeks prior to the time of enrollment if an advanced class is desired.

Those persons eligible to request advanced standing are:
- A high school graduate who has completed specialized high school preparation in the specific area in which advanced standing is being requested. A minimum overall average of 3.0 is required in the specialized area.
- An individual with extensive business or industrial experience in a particular technology whose experience has been attested to by the individual's employer.

The department or division chairperson may require the applicant to submit examples of work and take a proficiency examination in the field of specialization.

Upon the granting of advanced standing, the department or division chairperson will provide a statement of eligibility for entrance to the next sequential class.

Henry Ford Community College

Auditing a Course

A student who desires 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 Registration and Records during the first two weeks of classes. Change of status from audit to credit or from credit to audit is not permitted after the first week of class.

A student will receive a mark of audit only if the audit status is specified on the final class roster sheet from the Office of 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. Students are limited to 18 hours unless special permission is granted by the director of Registration and Records or one of the Vice President/Deans. Students are expected to carry at least a 3.0 average with a minimum of 12 hours already completed at Henry Ford Community College 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, so that credits will not be lost in the transfer. Transfer equivalent sheets are available in the University Transfer, Advising and Career Counseling Center for most programs in Michigan colleges.

Dean's List

Students earning twelve credits or more in a semester and maintaining at least a 3.50 grade-point average will be included on the semester's Dean's list.

After completion of 12 credits at HFCC, students attending part-time are eligible for the Dean's List if they complete at least 6 credits and maintain a 3.5 GPA. (Note: All course work must be at the non-developmental level).

Incomplete Work

A student may receive an "Incomplete" grade if some part of the course work remains unfinished, provided the student's standing in the course has been satisfactory. A student performing unsatisfactorily in a course may have a final mark of "E" recorded if some part of the course work remains unfinished. A student who receives an "Incomplete" 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 DR.

Marking System

Students are able to access their grades using one of the following options:

On the Internet: Go to **www.hfcc.edu**, click on "Current Students," and then click on "Grades."

The following grades, shown here with their values in honor points per semester hour of credit, are used:

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

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

C = 2 points   Proficiency in most of the course requirements.

D = 1 point   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 points   Course requirements not met.

I = 0 points   Incomplete.

DR = 0 points   Dropped without prejudice.

S = 0 points   Satisfactory completion of course requirements. The College considers an or better.

U = 0 points   Unsatisfactory completion of course requirements.

R = 0 points   Repeated course

AU = 0 points   Audit.

NG = 0 points   No grade reported.

Official Evaluation of Credits

All transfer students, as part of their admission to the College, have their previous college course work evaluated. College credit evaluated as transferable to Henry Ford Community College will be posted to the student's official academic record. Each transfer student is notified regarding the disposition of his or her transfer credit.

Courses that have been completed with a C (2.00) grade or better at institutions accredited by one of the six regional accrediting associations in the United States will be accepted on a credit-hour basis. Courses submitted for transfer must be of college-level work. Credit for developmental courses will not be given. Grades and honor-point averages are not transferable.

Credits from non-accredited institutions may be granted by the Director of Registration and Records upon the recommendation of the appropriate division or department.

Probation and Dismissal Policy

A student whose cumulative grade-point average is below the following levels is placed on academic probation:

1.50   for   5-11 credits attempted
1.75   for   12-19 credits attempted
1.85   for   20-28 credits attempted
2.00   for   29-and more credits attempted - also subject to dismissal

Students are notified of their probationary status by letter directing them to meet with a counselor, who assists them in developing an appropriate educational plan before being permitted to register for the next semester.

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. If currently attending classes, students on probation who are placed on academic dismissal 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 Registration and Records. 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.

Repeated Courses

A course taken at HFCC for which a grade has been recorded may be repeated if currently offered. The higher or last grade earned becomes the officially recorded grade reflected in the student's cumulative grade point average. On the transcript the symbol "R" will be denoted next to the original grade earned to indicate that the course has been repeated. Contact the Office of Registration and Records if the "R" symbol does not appear next to the lower grade earned.

Transcripts of Credit

An official transcript of credits attempted may be requested by the student in writing in the Office of Registration and Records. Official transcripts are sent directly to a receiving institution and are not issued to the student. A student copy of the transcript may be issued to a student but will not carry the official College seal.

ADMISSION POLICY AND PROCEDURE

Henry Ford Community College welcomes applicants with high school diplomas from accredited high schools, General Education Development (GED) certificates, and college credits and/or degrees. Applicants may enroll in one course, a series of courses, or a program leading to a certificate or degree. Whatever the motivation, it is important that the applicant have a successful experience. The following information should be helpful in completing the appropriate application procedure.

Regular admission is permissible as follows:

High School Graduates

U.S. Citizens, Legal Permanent Residents, and individuals who are present in (or who will be admitted to) the United States in a status which allows them to enroll at the College, can be granted regular admission if the applicant has either graduated from a regionally accredited or state-approved U.S. high school or holds a General Education Development (GED) certificate, or has graduated from a non-U.S. high school and demonstrates sufficient proficiency in the English language through passing the ESL COMPASS Test that the College is satisfied that he or she can function successfully at the College and benefit from the academic program.

Non-High School Graduates

Non-High School Graduates can be granted regular admission provided the applicant has received a score on a basic skills test that the College determines is sufficiently high to place him or her in college-level English composition, and provided his or her high-school cohort class has graduated.

Home-School Applicants

An individual who has been home schooled can be granted regular admission if he or she meets both of the following conditions:

❶ A parent or guardian certifies that the student has completed his or her high school education; and

❷ A qualified, independent third-party evaluator, either representing the school district in which the student resides or another entity approved by the College, verifies that the student's home school education has met acceptable academic standards.

Other General Requirements

In order to be granted admission, all students must meet the prerequisites and co-requisites required for course enrollment.

Additionally, with regard to any applicant, the College must be satisfied that the student is sufficiently mature and responsible that he or she can function successfully at the College and benefit from the academic program. This generally means that the student is at or beyond 12th grade age.

The President and his or her designees are authorized to inspect and verify all admission applications, transcripts, records, documents, and other credentials that may be submitted by student applicants in order to ascertain their accuracy, completeness, and authenticity. The College can reject or dismiss any individual whose application contains any misrepresentation, omission or incorrect statement of fact, or who the College believes poses a risk to the health or safety of the applicant, other students, faculty or staff.

APPLICATION PROCEDURES

❶ All degree- or certificate-seeking students attending Henry Ford Community College for the first time must obtain and complete an application for admission and pay the application fee, which is non-refundable. Applications are available in area high schools, by calling the College's Welcome Center at **1-800-585-HFCC** or visiting **www.hfcc.edu/apply**.

❷ Applicants who are high school graduates from an accredited high school, or recipients of the General Education Development (GED) certificate must submit their educational records. Those records will be used to assist in the advising process. An individual whose high school class has graduated may apply for admission without a high school diploma or GED if the College determines that his or her score on a basic skills test is high enough to exempt him or her from developmental work in reading and writing. Applicants with sufficiently high scores will be allowed to enroll in any classes offered by the College, provided they satisfy the course prerequisites.

❸ Current high school seniors need to submit transcripts, which will be used to assist in the advising process.

❹ Students who have attended other colleges or universities should have official copies of their transcripts sent to the Office of Registration and Records, Henry Ford Community College, 5101 Evergreen Rd., Dearborn, MI 48128. The official transcripts will be evaluated for transferable college credit.

❺ Applicants who have graduated from a non-U.S. high school must have their documents translated and evaluated by an outside agency, such as WES or ECE and demonstrate to the College's satisfaction that the applicant has earned at least the equivalent of a U.S. high school diploma. Such applicants must also present documents or transcripts which demonstrate to the College's satisfaction average or above-average grades. Students from countries where English is not the primary language will need to demonstrate proficiency in the English language to the extent that the College is satisfied that they can function successfully at the College and benefit from the academic program. Translated documents and transcripts should be sent to the Office for International Students, Henry Ford Community College, 5101 Evergreen Rd., Dearborn, MI 48128-1495.

Information & Policies

Henry Ford Community College

SPECIAL AND PROVISIONAL ADMISSION

Non-Degree-Seeking Students

Students may be admitted to the College by Special Admission for Non-Degree-Seeking Students in order to take a course for enrichment or personal development but not to pursue a degree or certificate. Students eligible for Special Admission include those who are high school graduates, hold GED certificates, or have attended another college. Students admitted under this category must satisfy all prerequisites for courses they take, and they are not eligible for financial aid. If, after completing fifteen (15) semester hours of credit, the non-degree student wishes to seek a degree from Henry Ford Community College, he or she may be required to submit educational documents for review and evaluation to verify academic status. Courses taken under a non-degree status may or may not be acceptable for meeting program or degree requirements.

Guest Students

A guest student is one who currently attends another college or university and wishes to take one or more courses at Henry Ford Community College. The guest student must submit an authorized guest application from his or her home institution.

Dual Enrollment Students

Henry Ford Community College is a participant in the Dual Enrollment Program, in which students attend both high school and college courses. Students must submit a special Dual Enrollment Application for each semester in which they plan to enroll in both Henry Ford Community College courses and courses in high school. The application, which is available at the high school, must be signed by his or her high school counselor or principal. The signature of a parent is not required from an applicant who can demonstrate emancipated legal status. Dual Enrollment students desiring placement in Mathematics, Chemistry or English courses are required to take appropriate placement tests. There is no application fee. Tuition and fees are paid by the school district in which the Dual Enrollment student resides.

Advancement Plus Students

Henry Ford Community College offers the Advancement Plus Program for academically qualified high school students. 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 Advanced Placement Program is intended for enrollment in college-level courses numbered 100 and above.

The Advancement Plus Program is available to all students who are identified by their high school counselors or principals as having above-average academic status. 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 needs to complete an Advancement Plus application, available at the high school, and obtain the required signatures.

Tuition and fees for an Advanced Plus student are paid by the student's parent/guardian.

Home-schooled students need the approval of the HFCC Counseling Director. Interested students may contact the Director at **313-845-9612**.

Advancement Plus students desiring placement in Mathematics, Chemistry or English are required to take the appropriate placement tests.

International Students

The College is authorized by the Department of Homeland Security to issue the Certificate of Eligibility for Non-Immigrant (F-1) Students, also known as the I-20 Form. The College's admission of international students will be governed by all applicable state and federal regulations. International students must complete their financial arrangements before coming to the United States.

Department of Homeland Security regulations limit employment of students holding an F-1 visa. The College will issue an I-20 Form only to students who can demonstrate the financial ability to meet college and living expenses. International students who obtain the F-1 visa and have sufficient finances may be granted regular admission to the College.

The following information must be provided:

❶ A completed Henry Ford Community College application.

❷ A completed Henry Ford Community College Supplementary Student Information Form.

❸ An official translation and evaluation from an outside agency, such as WES or ECE, of transcripts from all previous colleges or universities attended.

❹ A notarized copy and translation (if not in English) of secondary school records, examinations, and certificates. (Above average scores are necessary.)

❺ A score of 550 on the TOEFL (Test of English as a Foreign Language), 80 on the MELAB (Michigan English Language Assessment Battery), or a satisfactory score on the Henry Ford Community College ESL (English as a Second Language) Placement Test. (Applicants educated in Canada, England, Scotland, Wales, Ireland, Australia, or New Zealand need not submit the above test scores). However, upon arrival at Henry Ford Community College, all degree-seeking students are required to take the appropriate assessment tests.

❻ Proof of financial responsibility by submitting one of the following documents:

    a. Notarized Affidavit of Support (I-134) and bank statementThe above information should be directed to the International Office.

    b. Government sponsorThe above information should be directed to the International Office.

Non-U.S. High School Graduates

Applicants who have graduated from non-U.S. high schools are required to demonstrate sufficient proficiency in the English language that the College is satisfied that they can function successfully at the College and benefit from the academic program. Such proficiency can be demonstrated by taking and achieving a score deemed sufficient by the College on the English as a Second Language (ESL) Placement Test. After submitting translated documents showing acceptable grades and the equivalent of a U.S. high school diploma, the applicant may receive an authorization to take the ESL Placement Test by calling the Assessment Office at **313-845-6399**. Graduates of non-U. S. high schools where English is the primary language such as Canada, England, Scotland, Wales, Ireland, Australia, and New Zealand, may be required to take the ASSET or COMPASS Basic Skills Placement Test in lieu of the ESL Test.

Dearborn Senior Citizen Students

Dearborn Public School District residents who meet course prerequisites and who are age 60 and older are eligible to take credit courses at the College tuition-free provided they pay uniform fees and specified course fees. Interested individuals should visit the Office of Registrations and Records or call **313-845-9894** to express their interest in the program.

CREDIT FOR PRIOR COLLEGE-LEVEL LEARNING POLICY

This policy has been designed to address the needs of our non-traditional students who may have acquired prior college-level learning and/or skills outside the traditional classroom without having earned college credit.

A student can receive college credit for prior learning that is equivalent to college-level learning (at the 100-level and above) in specific HFCC courses under the following conditions:

- Total credit for prior college-level learning plus total transfer credit shall not exceed 40 credit hours.
- Only a department/division may identify which, if any, of their courses will be allowed to have credit for prior college-level learning granted.
- No department/division will be required to grant credit for any course.
- If program admission, accreditation or licensure issues preclude credit for prior college-level learning, credit will not be awarded for that program.
- As with transfer of credits from other colleges, credit for prior college-level learning will be granted with no grade and no impact on GPA.
- A department/division can exempt pre-requisite(s) when deemed appropriate.

Candidate Requirements
- The student must be degree and/or certificate seeking
- A degree-seeking student must take course placement tests as part of the College admissions process.

Acceptable Prior Learning Credit

Prior learning may be evaluated through departmental exams or a portfolio evaluation.

- Departmental Exams — Exams must demonstrate that the student has met the applicable, measurable course objectives as identified on the approved course master.
- Portfolio Evaluation — The student will prepare a portfolio that documents his or her mastery of the subject matter as identified on the course master. Supporting documentation may include verification of accomplishment (prizes or awards); testimonies of competence (letters, job performance reviews); learning products (essays, work samples, art products, performances, etc.); certifications (business, industry, or professional organizations); recognition of profession or rank, licensure or other direct evidence (publications, test scores, membership requirements, syllabi/learning objectives, job descriptions).

Any appropriate documentation, skill, certifications and/or knowledge acquired by the student and submitted for consideration will be evaluated by the appropriate department faculty. Each decision made by the faculty to grant credit for prior college-level learning must be approved by the associate dean, who will forward the approval to the Office of Registration and Records for posting.

Evaluation of Prior College Level Learning
- Any department/division that grants credit for prior college-level learning will identify eligible courses in writing and develop a written procedure for evaluating student learning for the course. The procedure must be approved by the division, appropriate educational council, and the College Council to ensure it adequately addresses the course objectives as identified on the course master.
- The College will provide a mechanism for assisting students in developing a portfolio that meets the requirements of the department for a particular course.
- Courses for which credit for prior college-level learning will be granted will be identified in the College Catalog.
- Course masters will be updated to indicate that credit for prior college level learning can be granted for that course and how the learning will be evaluated.

DROPPED CLASSES REPEAT POLICY

Students are allowed to transfer in courses completed at other colleges for which they originally received a grade of DR from Henry Ford Community College. When transferring courses from another institution, the original HFCC grade remains on the student's transcript.

DROPPING/ADDING CLASSES

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% date without academic penalty. The student's transcript will not record any such changes made before the 10% date. A student may officially drop a class without academic penalty until 60% of the class is completed. A DR 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

Henry Ford Community College is an equal opportunity institution.

Students who have complaints of an equal opportunity nature (discrimination or harassment on the basis of age, race, ethnicity, gender, sexual orientation, creed, ancestry, disability, height, weight, national origin, religion, or marital status) shall consult the Vice President of Student Affairs, who will provide a copy of the Discrimination and Harassment Complaint Procedure and review with the student an appropriate procedure to follow.

Henry Ford Community College

FEES

Course Fees
Course fees are charged for supplemental material used in some classes and for rent and maintenance of specialized laboratory equipment. The fees charged are published in the Schedule of Classes each semester. Course fees are paid at the time of enrollment.

Application Fee
An application fee is charged to all individuals who apply for admission to Henry Ford Community College. The fee is currently $30 and is subject to change without notice.

Registration Fee
A mandatory registration fee is charged to all individuals who register at Henry Ford Community College. This fee is intended to offset partially the cost of registration. Students who register for classes and neglect to pay this fee are invoiced. Students who pay the fee are not given a refund of this fee even if they receive a full refund of other fees.

Student Identification
For the purpose of College identification, students should retain their paid class schedule issued at the time of enrollment. Students are issued photo ID cards and should carry them on campus.

Class Offerings
The College makes every attempt to offer an adequate number of class sections each semester. However, students may find some classes filled to maximum enrollment. Classes with inadequate registration may be cancelled. The College reserves the right to make changes to the semester schedule or a program without notice.

Graduation Expenses
Students wishing to earn an Associate Degree from Henry Ford Community College are responsible for a graduation application fee. Please refer to the current Schedule of Classes for the applicable fee. Participation in the graduation ceremony requires the purchase of a cap and gown from the College Store.

Tuition Expenses
Students should expect to incur expenses for tuition, service fee, registration fee, laboratory fees, and books. Tuition expenses may be found in the current Class Schedule.

NOTE: ALL TUITION FEES AND EXPENSES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

GENERAL REGULATIONS

ADMISSIONS WITH ADVANCED STANDING

A student intending to enter from another college or university must submit an application and official transcript of all college work completed along with the application fee.

After the official transcripts have been received, the Office of Registration and Records will evaluate them for advanced standing and notify the student of the courses and credits accepted. Courses accepted for transfer must have been completed with at least a C (2.00) grade.

Until complete transcripts have been received indicating that the transfer student is in good standing, he or she may be admitted on a provisional basis.

ALCOHOLIC BEVERAGES AND ILLEGAL DRUGS

As a public institution, Henry Ford Community College operates under the guidelines of Federal Public Act 101-226, entitled Drug Free Schools and Campuses, passed in 1990. This law states that students must be informed of the College's rules and sanctions relative to drugs and must be informed of health risks related to the use of drugs and of counseling assistance available at the College.

College Rules
Use, possession, or distribution of alcoholic beverages and drugs is forbidden on campus. Persons appearing on campus while under the influence of alcoholic beverages, narcotics, and other dangerous drugs, except as expressly permitted by law, will be subject to disciplinary and/or legal action.

Possession, consumption, sale, or purchase of any controlled substance which is illegal under state or federal law is prohibited on the campus of Henry Ford Community College.

College Sanctions
Disciplinary action may consist of payment of fines, verbal reprimand, restitution of damages, restriction of privileges, disciplinary probation, suspension, dismissal, and/or notation on the student's record of dismissal or suspension.

Additional information is available in the University Transfer, Advising, and Career Counseling Center located in the Learning Resources Center. Anyone with questions should call **313-845-9611** or **845-9612**.

ATHLETIC AID DISCLOSURE

The Athletics Department has information on the number of students; categorized by race and gender; the number of students by race and gender that receive athletically related aid; the completion/graduation rate and drop out rate; and completion/graduation and transfer rates for students receiving athletically-related aid. The department also has information on the amounts of revenues derived from and expenses made on behalf of intercollegiate athletics activities. Information is available giving participation figures, coaching and staff information, revenue, and financial support for College teams.

ATTENDANCE

No system of "cuts" operates at Henry Ford Community College. 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 the quality of the student's work has been affected by absence or tardiness.

Students, as a matter of courtesy, should explain the reason for an absence to their instructors. 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 it is the responsibility of the student to make up work missed.

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.

CAMPUS ATTIRE

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

COMPUTER SYSTEMS USE POLICY

Henry Ford Community College's computers, peripherals, software, networks, supplies, e-mail systems, and Internet connections ("HFCC's Systems") are intended to carry out the legitimate operational functions of HFCC 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.

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

It is the policy of HFCC to prohibit the use of HFCC'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 HFCC'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 HFCC 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;
- 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 HFCC to ensure that HFCC Systems are put to the best and most efficient use. HFCC 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 HFCC'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 HFCC's Systems;
- Students, faculty, and staff should not use HFCC's Systems to store messages and files because it would place an undue burden on limited system resources.

Users of HFCC'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, HFCC'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. HFCC 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 HFCC's Systems should not expect privacy. Nevertheless, it is incumbent upon all users of HFCC'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 HFCC or third parties, and may also be subject to prosecution.

This policy incorporates, by reference, other HFCC policies and/or procedures related to computers and intellectual property, including the written guidelines and materials that were provided at the time the privilege of access to HFCC's Systems was granted to each user.

EVENING, WEEKEND, AND ONLINE CLASSES

Evening, weekend, and online classes paralleling those offered during the day are available in most fields of study. Specialized courses designed to meet the needs of the community are also offered.

GENERAL POLICY ON INSTITUTIONAL RESPONSE TO AIDS

Henry Ford Community College is committed to providing quality educational opportunities in an environment that is safe and conducive to learning for students and employees. Thus, all confirmed cases of Acquired Immune Deficiency Syndrome (AIDS), AIDS-Related Complex (ARC), or a positive Human Immuno-deficiency Virus (HIV) infection will be addressed on an individual basis for both students and employees, while maintaining the dignity and rights of the individual and the College community.

HEALTH INSURANCE PORTABILITY AND ACCOUNTABILITY ACT OF 1996 (HIPAA)

Dearborn Schools/Henry Ford Community College (the district) sponsors a group health plan (alone plan). Members of the District's workforce may have access to the individually identifiable health information of Plan participants (1) on behalf of the Plan itself; or (2) on behalf of the District, for administrative functions of the Plan.

The Health Insurance Portability and Accountability Act of 1996 (HIPAA) and implementing regulations restrict the District's ability to use and disclose protected health information (PHI).

Protected Health Information

Protected health information means information that is created or received by the Plan and relates to the past, present, or future physical or mental health or condition of a participant; the provision of health care to a participant; or the past, present, or future payment

for the provision of health care to a participant; and that identifies the participant or for which there is a reasonable basis to believe the information can be used to identify the participant. Protected health information includes information of persons living or deceased.

It is the District's policy to comply fully with HIPAA's requirements. To that end, all members of the District's workforce who have access to PHI must comply with this Privacy Policy. For purposes of this Policy, the District's workforce includes individuals who would be considered part of the workforce under HIPAA, such as employees, volunteers, trainees, and other persons whose work performance is under the direct control of the District, whether or not they are paid by the District. The term "employee" includes all of these types of workers.

No third-party rights (including but not limited to rights of Plan participants, beneficiaries, covered dependents, or business associates) are intended to be created by this Policy. The District reserves the right to amend or change this Policy at any time (even retroactively) without notice. To the extent this Policy establishes requirements and obligations above and beyond those required by HIPAA, the Policy shall be aspirational and shall not be binding upon the District. This Policy does not address requirements under other federal laws or under state laws.

The complete policy is available at the HFCC Human Resources Office.

PARKING REGULATIONS

Students are responsible for observing all campus parking rules and regulations. Failure to adhere to these regulations may result in their cars being ticketed and towed away or other disciplinary action.

PRIVACY PRACTICES FOR ANY MEDIA

Access to Student Educational Records

Pursuant to the Family Educational Rights and Privacy Act of 1974 (FERPA), as amended, any person who is or has been in attendance at Henry Ford Community College 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 Office of Registration and Records. Requests for information regarding records maintained by a department should be made to the departmental director.

Specifically, the student has the right to

❶ Inspect all of his or her education records maintained by Henry Ford Community College;

❷ Prevent the disclosure of personally identifiable information to third parties unless exempted by the Act;

❸ Request an amendment to any educational record;

❹ Request a hearing to present evidence that a record should be amended;

❺ File a complaint with the FERPA Office, Department of Education, 400 Maryland Avenue S.W., Washington, D.C. 20202, regarding Henry Ford Community College failing to comply;

❻ Obtain from the Office of Registration, and Records a copy of the Henry Ford Community College policy regarding FERPA.

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 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.

Access to Employee or 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 confidentially.
- 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 form 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.

Henry Ford Community College (HFCC) Privacy Practices

HFCC 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 USC Sec. 983
- Bullard-Plawecki Employer Right To Know Act 397 of 1978

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

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

Access to Employee Records
Personnel Files (Operations, Policy 3000)

Henry Ford Communty College complies with the Bullard Plawecki Employee Right To Know Act 397 of 1978. **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 the 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 or 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 jobs.

Personnel wishing to review their own records shall

❶ Request access in writing

❷ Review the record in the presence of the administrator designated to maintain said records or designee

❸ Make no alteration or addition to the record nor remove any material there from

Personal Information

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

HFCC will not give or sell any personal information to any outside agency for any use outside of 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.

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

Beginning May 2002, the College began keeping the most recently supplied e-mail address as part of student and employee files. It is used as a postal address and is maintained to accommodate student requests to keep them informed of pertinent information via e-mail.

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
- Benefit 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-Debt collectors attempting to collect funding owed the College only.

HFCC, 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.

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

All students and employees are issued a unique (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, HFCC 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.

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

Perkins Act

In order to improve the instruction offered at HFCC 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, HFCC will use student social security numbers to compile summary reports. In no event will your 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 HFCC and the State of Michigan to assess the effectiveness of vocational and technical education programs aimed at training, placement, and retention of students in employment. Although these laws require that performance reports be based on wage record information, neither law requires students to give their social security numbers to the College.

HFCC plans to use student social security numbers in order to gain access to individual wage records 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 orentity 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 have been performed, or when the information is no longer needed, whichever date comes first.

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SOLOMON AMENDMENT

The Solomon Amendment is part of the federal law that requires public education institutions to release student names and addresses to the United States military upon request. HFCC responds to these requests under punishment of loss of student federal financial aid.

HFCC ONLINE STUDENT AND EMPLOYEE SYSTEMS

myHFCC WebAdvisor AND ONLINE FORMS

When using myHFCC WebAdvisor or filling out online forms at HFCC, students will be asked to provide personal information such as name, address, telephone number, and HANK ID number, etc. Each WebAdvisor function and online form has mandatory fields that represent the minimum information needed to complete a transaction. If you are uncomfortable providing any of this information over the Internet, the College understands. Alternative methods of service such as Touch Tone Registration and on-campus help are available.

HFCC's Secure Internet Site

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

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

Data encryption is available for security-enabled internet browsers (e.g. Netscape Navigator 2.0 or greater or Microsoft Internet Explorer 2.1 or greater). The information you send is encrypted, making it extremely difficult to read even if it is wrongfully intercepted.

Cookies

At one time HFCC chose to use cookies to track usage of our website, in order to improve our services. Due to the misuse of cookies by some internet sites, HFCC has chosen to discontinue this practice. If you find any page on HFCC's website offering you a cookie, please let us know at **abuse@hfcc.net**.

STUDENT RIGHT TO KNOW & CAMPUS SECURITY ACT

The College publishes annually a brochure titled "Guide to Campus Safety Services." This brochure, available at Campus Safety Offices, includes information about safety procedures on campus, data on instances of crime on campus, the student conduct code, and directions for reporting emergencies. Information is also available in a separate publication regarding the graduation rates of the College's students. That publication is available in the Vice President of Student Affairs Office.

VETERAN 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. Veterans desiring assistance should contact the Office of Registration and Records at **313-845-6403**.

GRADUATION

APPLYING FOR GRADUATION

Graduation applications are accepted until the last day of the term a student anticipates completing degree or certificate requirements. Students that miss this deadline will be
considered for graduation in the next term in which they apply for graduation regardless of the need to take classes. However, it is in the student's best interest to monitor
progress towards graduation by following this timeline:

- As a new student or when changing their educational goal, meet with a counselor/academic advisor to set their educational goal and select the corresponding academic program (degree and/or certificate) at HFCC.
- Use the Program Evaluation feature in myHFCC WebAdvisor to monitor progress towards completion of the academic program.
- Apply for graduation when registering for the last term in which the academic program will be complete.

Graduation Applications are available in the Office of Registration and Records or online at: **http://www.hfcc.edu/current_students/graduation_requirement.asp**

There is a graduation application fee.

COMMENCEMENT

Commencement is the ceremony attended by graduates to receive recognition of their accomplishments. HFCC holds one commencement ceremony each year in May. Students who have applied for graduation by February 1, will be mailed an invitation to participate in the May ceremony. All other graduates will be invited to attend the next May commencement.

PROGRAM EVALUATION/DEGREE AUDIT

After completing the Graduation Application each student will receive a Program Evaluation (Degree Audit) review from the Office of Registration and Records via U.S. Mail. This Program Evaluation is the same as the one found in the student's myHFCC WebAdvisor account. Students are encouraged to use this WebAdvisor feature throughout their time at the College.

Students who do not meet graduation requirements in the term they apply will be reviewed for graduation in the next two subsequent terms. After this students must reapply for graduation and pay the graduation application fee again. If a student receives a graduation denial letter, an appeal may be made to the Office of Admissions, Registration and Records.

Graduation With Honors

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.

Students with a cumulative grade-point average of 3.50-3.69 graduate CUM LAUDE.

THE HFCC GUARANTEES

The Henry Ford Community College Guarantees for transfer credit of academic and career courses, job competency and tuition freeze are listed below.

TRANSFER CREDIT GUARANTEE

Henry Ford Community College will refund the tuition of any HFCC graduate for any course passed at HFCC with at least a C grade* if that earned course credit does not transfer to a college or university within two years of having taken the course. Such classes must be listed as transferable on the transfer institution's official curriculum guide sheets on file in the office of the HFCC University Transfer, Advising, and Career Counseling Center.

*A grade of C minus may not qualify. Also, developmental courses do not generally transfer.

PLACEMENT OF OCCUPATIONAL GRADUATES GUARANTEE

Any graduate of an associate degree program in occupational studies judged by his or her employer as lacking in technical job skills normally expected of a job-entry-level employee will be provided further skill training of up to 16 semester credit hours by HFCC without charge.**

**See Special Conditions listed below.

Occupational Studies-Special Conditions

The Degree
The graduate must have earned an associate degree beginning June 1986 or thereafter in a college-recognized specialty area (i.e., Computer Information Systems, Hospitality Studies, Administrative and Information Management), as evidenced by the area of concentration designated on the student's transcript.

The Employment
The employment must be full-time and the job must be certified by the Job Placement office as directly related to the graduate's program of study.

The initial date of employment of the graduate must be within one year of the commencement date. The Guarantee does not apply to graduates initially hired 30 days prior to the commencement date.

The employer must certify in writing that the employee is lacking the job-entry-level skills identified in writing at the time of initial employment, and must specify the area(s) of skills deficiency within 90 days of the graduate's initial employment.

Affective behaviors such as attitude, judgment, and interpersonal relations will be considered "technical job skills" for purposes of the guarantee provided that formal instruction in appropriate affective behaviors is included within the specialty area.

Retraining
Skill retraining will be limited to 16 credit hours and to enrollment in courses regularly offered by HFCC.

The skill retraining must be completed in one academic year.

The employer, the graduate, and College counselor, with the advice of appropriate teaching faculty, will develop an educational plan which specifies the courses constituting the 16 credit hours of further retraining.

The graduate must meet all prerequisites, co-requisites, and other admission requirements for "retraining courses."

The failure, withdrawal, or audit of a "retraining" course or courses is creditable to the 16 credit hour limit.

The graduate or the employer will bear the cost of books, supplies, uniforms, transportation, insurance, and other related costs. The College will waive tuition and fees.

TUITION FREEZE GUARANTEE

Henry Ford Community College guarantees that tuition rates will be frozen for students who graduate from HFCC within four years. Any tuition increase levied by the College during those four years will be refunded to the student upon graduation.

To qualify for the tuition freeze program, a student must complete all course work at HFCC, graduate within four successive years of enrollment, and apply for a tuition rebate after graduation. Students who receive financial aid, except for loans, are not eligible for the program.

General Guidelines

❶ A student must earn his or her degree within four successive years of initial enrollment at HFCC.

❷ Any refund is based solely on the amount of tuition increase imposed after the initial semester of a student's four successive years at HFCC.

❸ A tuition refund cannot be claimed for any semester during which a student received financial aid, except for loans, or direct sponsorship for tuition.

❹ All course work for a degree must be completed at HFCC. Transfer students do not qualify.

❺ The refund applies only to the first 60 to 62 credit hours needed to complete a degree program.

❻ Only one refund per student is allowed.

❼ Application for a refund must be made within one year of the student's graduation date.

Further information regarding the Tuition Freeze Guarantee may be obtained in the Office of Registration and Records.

LATE REGISTRATION IN DEVELOPMENTAL CLASSES

The College is concerned about student success and has found that late registration in developmental sections results in a high drop and failure rate. Therefore, for any section with a course number that begins with zero, for example, ENG 078, the registration and add period will end the day before the section starts.

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:

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

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

Henry Ford Community College

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. Acceptable items of documentation are any of the following:

- Valid driver's license
- Automobile registration
- Insurance certification
- Voter's registration
- Lease agreement
- Tax receipt
- Income tax statement
- Michigan identification card

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
- Permanent dismissal

SMOKE-FREE CAMPUS

All HFCC buildings are completely smoke-free.

STUDENT COMPLAINT POLICY

During their course of study at Henry Ford Community College, students may encounter problems requiring review by academic and administrative personnel. It is the policy of Henry Ford Community College 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.

Copies of the Student Complaint Policy and Procedures are available in any of the vice presidents' offices.

STUDENT CONDUCT POLICY AND DUE PROCESS PROCEDURE

Preamble

Henry Ford Community College is a comprehensive community college dedicated to maintaining a teaching-learning environment that fosters critical thinking, creativity, personal integrity, and self-esteem. We value the diversity of our educational community and of the communities we serve. The purpose of this document is to define a collegiate standard of behavior and to explain the actions to be taken if a student disregards this standard.

Rights and Responsibilities

Students have the rights and accept the responsibilities of participating in an educational environment when they enroll at HFCC. Each student is expected to respect the rights of others and to help create an environment where diversity of people and ideas is 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 be responsible for following College policies.

Students at HFCC 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 the voicing of unpopular views. 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 are entitled to appropriate due process should they be accused of behavior that is in violation of laws or College policy.

I. General

❶ 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.

❷ This policy deals with non-academic behavior, such as criminal behavior and disorderly conduct. Academic behavior, such as cheating, is dealt with in the Student Handbook and the Faculty Handbook.

❸ The Student Conduct 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 of Student Affairs, and the President of the College.

❹ The College's Board of Trustees retains the ultimate right to make and enforce rules relating to student conduct and discipline.

II. Student Code of Conduct

❶ Students at HFCC are expected to show respect for order, law, the personal rights of others, and the educational mission of the College, as well as to maintain standards of personal integrity.

❷ Behavior or situations that violate these standards include but are not limited to

- 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 the directions of College personnel, including Campus Safety, or with the orders of any College board, such as the Student Council Advisory Board and the Student Newspaper Board;

- 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;
- Possession, use, manufacture, sale of, or being under the influence of alcohol or any controlled substance, without a physician's prescription, or possessing drug paraphernalia while on campus.

The complete text of this policy is available in the Office of the Vice President of Student Affairs, 430A Administrative Services and Conference Center.

TUITION REFUND POLICY

Refunds on tuition and fees (except the registration fee) may be obtained on any or all classes dropped according to the following schedule:

100%	Before Classes Begin
100%	1st Week of Classes
50%	2nd Week of Classes

After the second week, a refund is permitted by exception only and application is made through the Office of the Director of Registration and Records by the student. Courses of other than fifteen weeks have varying refund schedules. Further information may be obtained in the Office of the Director of Registration and Records.

No tuition refunds are given after the end of the second week of classes and no exceptions are made for students who enter late. Courses of other than fifteen-week duration have differing refund schedules. Details may be obtained in the Office of Registration and Records.

SPRING/SUMMER REFUND POLICY

Registration fees are the same during the spring/summer session as during the regular college year.

A week of spring/summer session classes is the equivalent in class time of two weeks of a regular semester. Therefore, spring/summer session refunds of tuition, lab fees, and the service fees will be prorated as follows:

100% through the first week of spring/summer classes. The registration fee is nonrefundable.

No tuition refunds are given after the end of the refund period, and no exceptions will be made for students who enter late. Courses of other than 7.5-week or twelve-week duration have differing refund schedules. Details may be obtained in the Office of Registration and Records.

Information & Policies

Henry Ford Community College

PEOPLE AND PLACES

COLLEGE OFFICE LOCATIONS, PHONE AND WEB SITES

PRESIDENT AND EXECUTIVE OFFICERS

Gail C. Mee
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John Lewandowski, B.A.
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ACADEMIC AFFAIRS FOR ARTS AND SCIENCES

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Center for Lifelong Learning
Dearborn Heights Center
22586 Ann Arbor Trail
Dearborn Heights, MI 48127
Ann Prenger, Director   amprenger@hfcc.edu
317-1500   www.hfcc.edu/cl2

English and World Languages
Room 208, second floor, Liberal Arts Building
Katherine Grahl, Associate Dean
845-6327   kathg@hfcc.edu

English Language Institute
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317-1556   www.hfcc.edu/eli

Fine Arts & Fitness
Room 128, Fine Arts Center
James Nelson, Associate Dean
845-6316   jnelson@hfcc.edu

Henry Ford II Honors Program
Room 150, Learning Technology Center
Nabeel Abraham, Instructor   nabraham@hfcc.edu
845-6460   www.hfcc.edu/honors

Instructional Technology
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Vivian Beaty, Instructor
845-9633   vbeaty@hfcc.edu

Learning Laboratory
Room 205, second floor, Learning Resource Center
845-9643

Library
Room 110, Library
845-9606
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Radio Station Advisor
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People & Places

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ACADEMIC AFFAIRS FOR CAREERS AND TECHNICAL PROGRAMS

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Institutional Reporting/Perkins
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M-TEC
Michigan Technical Education Center (M-TEC)
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317-6600   www.hfcc.edu/mtec

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Technology
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Skilled Trades and Apprenticeship Education
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Business and Auxiliary Services
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Buildings & Grounds
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Campus Safety
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Child Development Center
Room 114, Child Development Center
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College Store
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Data & Voice Communication
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Financial Services
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Food Service
Student and Culinary Arts Center
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Media Services
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Publicity
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Purchasing
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Henry Ford Community College

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Chris Buczynski, Coordinator
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Research, Planning and Effectiveness
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Assisted Learning Services
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Enrollment Development
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Placement Office
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Additional Useful Numbers
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People & Places

Henry Ford Community College

APPENDIX

APPENDIX A

TRANSFER GUIDE & ARTICULATION AGREEMENT INFORMATION

The Henry Ford Community College Counseling Office maintains nearly 700 transfer guides for students who want to transfer to a four-year institution in Michigan. A student can follow a particular guide and it will list courses that will transfer for a certain major to a specific institution.

Formal articulation agreements have been established which permit HFCC graduates of many career and academic programs to continue their education in certain bachelor degree programs at particular four-year colleges and universities. These agreements assure graduates the opportunity of working towards a bachelor's degree without loss of credits earned at Henry Ford Community College, providing a student selects the preferred courses listed on the articulation guides. An articulated transfer guide/agreement is for areas where HFCC does not have a concentration/program or where not all the credits from a concentration/program can be used towards completing a bachelor degree. A student can secure a copy of an articulated transfer guide/agreement for a specific school from the University Transfer, Advising, and Career Counseling Center, Room LRC-117.

APPENDIX B

HFCC – A HISTORY OF EXCELLENCE, INNOVATION AND SUCCESS

Since 1938, Henry Ford Community College has provided an enriching educational experience for a diverse student community. HFCC serves more than 20,000 students each year of all ages and backgrounds, offering university transfer programs and associate's degree and certificate career programs that are designed for your success all at an affordable cost.

HFCC was established as Fordson Junior College and classes were held at Fordson High School in Dearborn. HFCC is operated by the Dearborn Public School District and is governed by an elected, seven-member Board of Trustees.

Today, HFCC has three campuses. The main campus sits on 75 acres donated by the Ford Motor Company, on Evergreen Road just south of Ford Road in Dearborn. All of HFCC's associate degree and certificate programs are offered on the main campus. The Dearborn Heights Center is home to HFCC's Center for Lifelong Learning. The Center for Lifelong Learning offers continuing education courses for professional and personal development. The new Michigan Technical Education CenterSM at HFCC, located on Schaefer Road in east Dearborn, is a corporate and industrial training center that specializes in customized training in high-tech, high-demand, high-wage fields. It is the only center of its kind in Wayne and Monroe counties.

A visionary program, utilizing the latest in technology and training, the M-TEC at HFCC is a 30,000 square foot specialized facility constructed entirely with a $5,000,000 state grant for training, retraining, and updating job skills of Ford Motor Company workers, the workers of other Michigan companies, and the general public. Much of the training focuses on the critical job-skill needs of the manufacturing, steel, and information technology sectors of the Detroit-area economy. The M-TEC operates during the day, evenings, and weekends to be easily accessible to workers and the public.

HFCC has completed a 10-year master plan of renovation and new construction on the main campus. Now, HFCC has one of the most modern, up-to-date college campuses in the country with state-of-the-art classrooms and laboratories equipped with the latest technology and equipment, including a wireless network in most buildings.

HFCC is committed to giving you the best educational experience. Come and be part of our community of excellence!

APPENDIX C

HFCC FOUNDATION

The Henry Ford Community College (HFCC) 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, made-up of area business, labor and community leaders who share a passion for quality education for all.

The Foundation welcomes HFCC alumni and donors who are interested in funding a scholarship; providing resources for capital and educational equipment and facilities; and funding new academic programs and faculty/staff development opportunities. To recognize donors for their support, the Foundation has established The 1938 Society, which is a group of clubs whose members are HFCC donors who share an interest in advancing the college and its students. These clubs include:

- The Henry Ford Legacy Circle (Estate and Planned Gifts)
- The President's Circle and The Scholars Club (Annual Gifts of at least $1,000)
- The Freshman Class (Annual Gifts from $250-$999)
- The Patron Society (Annual Gifts of at least $500 for the HFCC Fine Arts Program)
- The Hawks Booster Club (Annual Gifts of $300 or more for the Athletic Program)
- The Bricklayer Association (Annual Gifts of $100-$249)

Contributions to the Foundation are tax deductible to the extent provided by law, including a generous credit provided by the State of Michigan for donors to community colleges. The credit is limited to 50 percent of the contribution up to $100 ($200 when filing jointly.)

If you are interested in learning more about charitable opportunities with the Foundation, please call the Office of Development at **313-317-1700** or visit **www.hfcc.edu/foundation**. For information on scholarships, please visit the College's scholarship web site at **www.hfcc.edu/scholarships**.

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Main Campus

FORD ROAD

STUDENT PARKING

N W E S

SME

◀ SME DRIVE

◀ NORTH ENTRANCE

STUDENT PARKING E
STUDENT PARKING D
STUDENT PARKING C
STAFF PARKING
STUDENT PARKING B
STUDENT PARKING A
STAFF PARKING

T
CS
LRC
LIB
B
VISITOR PARKING
A
L
F
H
S
C
PE
AS

EVERGREEN ROAD – SOUTHBOUND
EVERGREEN ROAD – NORTHBOUND

◀ SOUTH ENTRANCE

STUDENT PARKING F
STUDENT PARKING G
STUDENT PARKING H
STUDENT PARKING I
STAFF PARKING
STUDENT PARKING J
CAC
STAFF PARKING

September 2010

T   **Technology Building**
CS   **College Store**
B   **Building and Grounds**
LRC **Learning Resources Center**
LIB **Eshleman Library**
A   **Learning Technology Center**
C   **Student and Culinary Arts Center**
AS   **Andrew A. Mazzara Administrative Services and Conference Center**
L   **Reuther Liberal Arts Building**
S   **Science Building**
H   **Health Careers Education Center**
F   **MacKenzie Fine Arts Building**
PE   **Athletic Memorial Building Center**
EC   **East Campus**

Warren Avenue

Student Parking

Staff Parking

Staff Parking

Student Parking

Student Parking

Ann Arbor Trail

Lamphere Street

Ann Arbor Trail

N W E S

Dearborn Heights Center

22586 Ann Arbor Trail, Dearborn Heights
313-317-1500
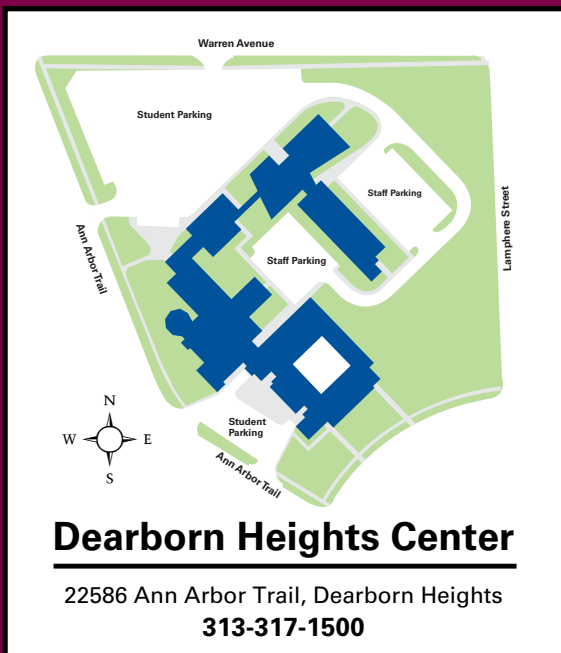
Henry Ford Community College M-TEC^{SM}
3601 Schaefer Road Dearborn, MI 48126
313-317-6600

Henry Ford Community College East Campus
3401 Schaefer Road, Dearborn MI 48126
313-845-6305

Henry Ford Community College Dearborn Heights Campus
22586 Ann Arbor Trail Dearborn Heights, MI 48126
313-317-1500

To Michigan Avenue ↑

N W E S

M-TEC Michigan Technical Education Center at Henry Ford Community College

PARKING

DELIVERY

M

PARKING

ROTUNDA DRIVE

SCHAEFER ROAD

Henry Ford Community College **East Campus**

EC

PARKING

PARKING

ROTUNDA DRIVE
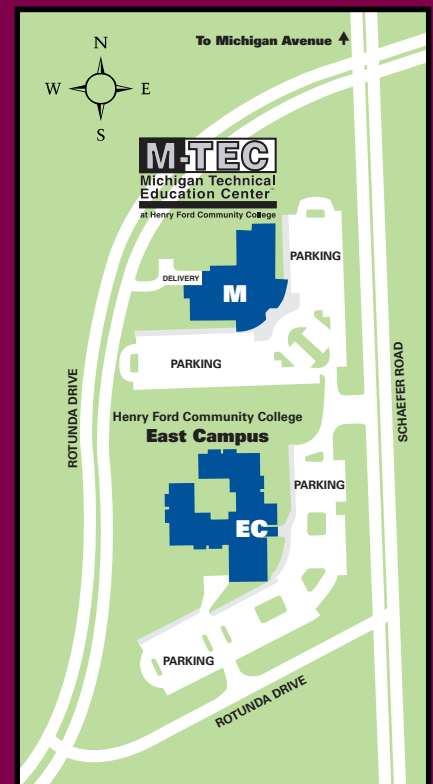
East Campus

3401 Schaefer Road, Dearborn
313-845-6305 or **313-845-9635**

Michigan Technical Education Center (M-TEC)
3601 Schaefer Road, Dearborn
313-317-6600

w

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Apply for *Admission*

ON THE INTERNET
   www.hfcc.edu/apply

SEND BY MAIL
   Henry Ford Community College
   Admissions, Registration &
   Records Office
   5101 Evergreen Road
   Dearborn, MI 48128-1495

1-800-585-HFCC (4322)
   To have an application
   mailed to you

IN PERSON
   Take your application to the
   Assessment Office, first floor,
   Learning Resources Center

Henry Ford
Community College
www.hfcc.edu

Henry Ford Community College is an equal opportunity institution.