Henry Ford Community College
Technology Investment Fund
Project Funding Request

This application form with original signatures must be received by the Vice President/Controller's office by 4:00 p.m. on either **the first Friday after Labor Day** (Fall semester) **or the third Friday in January** (Winter semester) in order to be eligible for funding. Applications will only be accepted on this form. Applications must include an Executive Summary which will be shared with the Campus Community. ***(Attach additional sheets for any section needed.)***

Date of Application: 9/5/12	**Project Type: [X] New [ ] Upgrade/Expansion**	
Project Director: Cindy Bida / Jay Keeler **Department/Division: Science**	**How many students will *directly* benefit from the project? Up to 4,000**	**Total TIF Funds Requested: $ 6,658**

Problem Statement

Define the problem/idea. *(What do you want to do? Why?)*	We are requesting funds to purchase student response systems ("Clickers") to be used by Science Division faculty. Clickers are a relatively new technology used to promote active learning, and research shows that students are more engaged and learning outcomes are generally higher than with standard lecture pedagogy. Clickers actively engage students, allow for a way to measure understanding in real time, and provide immediate feedback to both students and faculty. Typically, instructors pose multiple-choice or fill-in-the-blank questions via projectors, and each student then chooses a response using the handheld transmitter (or clicker). The instructor's control unit then collects answers and displays responses (and the correct response). The instructor can then adjust the lecture "on the fly" to initiate discussion or provide further clarification. They are also an implicit way of promoting and taking regular attendance. We propose buying three instructor "kits" which include 50 student remotes (to be distributed at the start and collected at the end of class sessions), an instructor control unit, and a carrying case to hold these units. These kits can then be signed out for use by Science faculty for training and pilot use in their classrooms. If pilot use and faculty training reach a critical mass, then we may be able to mandate clicker purchase by students for use in several courses or disciplines as other academic institutions have done.

Evidence for Project Validity
(What is the current situation?)

What resources do you have/use now?	No student response units (aka "clickers") are currently available to faculty.
Why can't you use your existing resources to do this project?	Technology current unavailable.

What evidence do you have that this project will be successful? *(Cite specific information.)* • **Current research** • **Examples from other schools or teachers** • **Letters of support from experts in the field** • **Your own past experience.**	Jay Keeler is currently running a pilot study in two double-lectures with 50 clickers on loan from MacMillan. In just the short time they've been used, student attendance is near 100%, participation has increased, and – most importantly – immediate feedback allows for additional emphasis or clarification while "the iron is still hot." Several types of questions, beyond just recall, can be asked to address conceptual understanding, applications, and critical thinking. Crafting clicker-based questions does require some careful forethought and planning, and the ability to modify lecture plans on the fly. Thus, there is a need to have these units available for training and pilot usage so faculty can take advantage of this active learning approach. Additionally, clicker usage has been piloted and adopted at The University of Michigan, Michigan State University, Western Michigan University, and several other academic institutions across the country.

Relevance to Technology Investment Committee Guidelines *(Address only those that apply.)*	
INNOVATION: **Is the proposal innovative to the field of Instructional Technology?**	Yes
Is the proposal innovative to HFCC?	Yes, HFCC currently does not employ clickers as part of active classroom instruction.
Is the proposal innovative to the specific discipline?	Yes, the Science Division has not yet used clickers as part of classroom instruction.
NEED: **Is the proposal essential for the instructional design?**	The purchase of required hardware and software are an absolute requirement to train and support staff interested in testing and adopting this active learning technology.
Does it create new programs or courses with the potential for increased student enrollment?	No, enrollment will not be directly affected. However a technology that engages students and increases attendance and learning outcomes will affect retention.
Is it necessary to remain competitive with post-secondary institutions?	Several institutions have adopted clickers, including UM-Ann Arbor, UM-Dearborn, Michigan State University and Western Michigan University.
Does it provide skills that are transferable to the workplace?	No.
Does it prepare students for transfer to upper-level curriculum?	Yes, indirectly by increasing interest, participation and improving learning outcomes.

Relevance to Technology Investment Committee Guidelines (continued) *(Address only those that apply.)*	
Does it keep the course or program current in the related technology?	Not applicable.
NATURE OF PROPOSAL: **Is the proposal a component of curricular revision?**	Not at this time.
Is it the next logical step in the evolution of the course/curriculum?	Yes, eventually, once a critical mass is reached, textbook packages could be bundled with clickers for use in a number of Science Division courses or disciplines.
Will it help attract students to HFCC?	Not directly, but students at institutions that have adopted clickers report that students enjoy using them because they can participate anonymously in a "game" environment.
Will it support HFCC community outreach/public relations activities?	No.
Will it support student retention activities at HFCC?	Yes, since engaged and attending students tend to do better academically.
Will it become an integral part of the course, program or curriculum?	Yes, once faculty are fully trained and familiar with clicker usage, courses or disciplines can migrate to textbook bundles that include them. However, that first presumes faculty are adequately trained and confortable with their use.

Resources		
Where will the project hardware be installed?	Kits containing 50 remotes and 1 instructor controller, all contained in a wheel bag, will be available for use through the Science Division office.	
Who will do the job? • **List the personnel** • **List their duties**	Science Division instructors.	
Who will use the hardware?	Instructors who want/need to train with and test pilot clicker pedagogy.	
Who will conduct any necessary project-hardware training?	Science Division personnel.	
Who will handle any spring and summer semester duties related to hardware installation?	Science Division personnel.	
Do you have commitment from your administration for personnel support? *(Be specific, include documentation.)*	No personnel should be necessary beyond those using clicker pedagogy and content in the course of instruction.	
Is release time required to complete this project? **If yes, has it been approved at this time by your Associate Dean?**	**[ ] Yes [X] No** **[ ] Yes [ ] No**	*TIF does not fund release time. If you are requesting release time, it must be approved by the appropriate administrators prior to proposal submission.*

Evaluation *(How will you know if it worked?)*	
How will you demonstrate to the college that this was an effective use of funds? *(How will you evaluate the goals listed as Expected Outcomes?)*	Follow-up report, with performance data and student survey could be used to assess the effectiveness of clicker technology.
How will you determine the success or shortcomings of the project?	Same parameters as above.

Budget **(You must also include an itemized budget statement.)**	
What do you need to complete this project? *(Be specific about equipment, software, and training.)*	We require three clicker "kits", each with 50 student remotes and 1 instructor control unit in a wheeled carrying case.
What is the TOTAL COST? *(You must attach an itemized cost analysis with this proposal.)*	$6,658
How recent is your quote?	8/27/12
Are changes to the college infrastructure necessary to support this project?	**[ ] Yes [X] No** *If "yes" provide an explanation from the Directors of Data & Voice and Buildings & Grounds, and from the Administrator in charge of the affected room(s).*

What other monetary commitments exist? *(Department/Division/ External) Please be specific; include documentation wherever possible.*	None
If other sources of funding are not available, why? • **Doesn't have the support?** • **Not viewed as feasible?** • **Not a priority?** • **Other?**	No prior funding has been allocated to clicker training and pilot use.

Strategic Plan

Include with your application a document that indicates the ways in which your project addresses the goals and objectives of the Henry Ford Community College Strategic Plan. Also, indicate how your project addresses your Division or Department plan. Be as specific as possible.

If your proposal is Non-Instructional (Library Services, Learning Lab, Counseling, Placement Services), please skip this section and complete the information in the Non-Instructional section.

Instructional Proposals

Complete this section if this is an Instructional Proposal, directly impacting student teaching and learning.

Expected Outcomes *(Project Objectives)*	
What is your current teaching method? How will this project fit into your current plan?	Traditional lecture format is currently used. The addition of clicker use will actively engage students, allow for a way to measure understanding in real-time, and provide immediate feedback to both students and faculty.
How will this improve student learning? *(List specific goals.)*	*As a result of this project students will:* Typically, instructors pose multiple-choice or fill-in-the-blank questions via projectors, and each student then chooses a response using the handheld transmitter (or clicker). The instructor's control unit then collects answers and displays responses (and the correct response). The instructor can then adjust the lecture "on the fly" to initiate discussion or provide further clarification. They are also an implicit way of promoting and taking regular attendance. Clickers specifically address the Seven Principles of Good Practice in Undergraduate Education by actively engaging students during class, by gauging the level of understanding, and by providing prompt feedback.

Instructional Proposals (continued)

State how the project addresses the Seven Principles of Good Practice in Undergraduate Education. *(Address only the relevant criteria.)*	
Supports student-faculty contact	Clicker usage provides direct student-faculty interaction.
Supports cooperation among students	Peer interaction is facilitated and encouraged during "before and after" clicker discussion questions.
Supports active learning	Clicker use is hands-on and interactive.
Supports prompt feedback	Instructor unit allows for tabulation and display of class responses.
Supports time on task	Clickers can be time-limited or open-response, based on content and presentation.
Supports high expectations	By have the technology necessary to gauge understanding in real-time, faculty will be able to adjust their lecture and improve learning outcomes.
Supports diverse talents and ways of learning	Clicker usage allows for several types of questions: recall, conceptual understanding, application, critical thinking, and discussion.

SIGNATURES:

9/6/12

9/6/12 — 9/7/12 — 9-7-12

**Project Director — Date — *Associate Dean/Department Head — Date — *Vice President — Date

9/7/12 — 9/7/2012

**Director of Building & Grounds — Date — **Director of Data & Voice — Date

* For notification purposes only
* * For project feasibility

NO INFRASTRUCTURE CHANGES

Henry Ford Community College

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Project Funding Request

Executive Summary

DATE OF APPLICATION	PROJECT TYPE
9/5/2012	X G New G Upgrade/Expansion
NAME OF PROJECT DIRECTOR OR PRESENTER	**DEPARTMENT/DIVISION**
Cindy Bida / Jay Keeler	Science
COST OF PROPOSED PROJECT	**NUMBER OF STUDENTS SERVED ANNUALLY**
$ 6,658	Up to 4,000

SUMMARY

We are requesting funds to purchase student response systems ("Clickers") to be used by Science Division faculty. Clickers are a relatively new technology used to promote active learning, and research shows that students are more engaged and learning outcomes are generally higher than with standard lecture pedagogy.

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We propose buying three instructor "kits" which include 50 student remotes (to be distributed at the start and collected at the end of class sessions), an instructor control unit, and a carrying case to hold these units. These kits can then be signed out for use by Science faculty for training and pilot use in their classrooms.

Clicker Units

Conformity to Goals and Objectives of HFCC Strategic Plan

Per the HFCC College Organization Handbook (Oct. 2011), the mission of the College is "to prepare our students for a rapidly changing world and workplace, we are committed to providing knowledge, communication skills, and cultural opportunities".

Increasing learning outcomes is a fundamental way achieve this fundamental objective. Clickers are a new pedagogical technique we can use to promote active learning. By using this technology in the classroom, students are more engaged and learning outcomes are generally higher than with standard lecture pedagogy. Clickers also allow for a way to measure understanding in real time, encourage attendance, participation, discussion, and provide immediate feedback to both students and faculty in a way not otherwise possible.

Clicker Units

Itemized List of Proposed Expenditures

iClicker Large Bag - Rolling Duffel (3)	**$ 405**
iClicker2 Instructor Kit (3)	**$ 600**
iClicker2 Student Remotes (150)	**$ 5,398**
Shipping	**$ 255**
Total:	**$ 6,658**