Executive summary for the funding of Apple Computers

The purpose of this request is to find the computers for a new course,CIS109, Apple Support. This new course is designed to fill the Apple gap in the CIS curriculum and train CIS students/graduates in how to provide technical support to Apple products in the workplace, as well as any students seeking an in-depth knowledge of the Mac OS.

Current View of the situation:

The Computer Information Systems (CIS) Department currently has eight computer labs that it uses to teach courses for its three Associate degree programs and two certificate programs. These labs are currently all running either Microsoft Windows or Linux operating systems. The CIS department does not have a designated Apple computer lab.

Future view of the situation.

Using a mobile storage device, the Apple Mac Book pros will be able to move to any class room, assuring that any instructor will be able to integrate the Apple Curriculum into their course curriculum. For example, CIS158, A+ Software discusses the Apple operating system in one chapter. The instructor will be able to schedule the Apple computers in for that lecture and lab. Likewise, each course would greatly benefit of the enhanced computer availability.

In addition, the T194 CIS computer lab will have several base computer devices that operate the MAC operating system available. Students will be able to complete their homework and lab exercises in that centralized lab. Also, CIS295, Network Design and Implementation, will also gain modular computers, running the MAC operating system for integration into the curriculum, offering students with a newer methodology and updated view of the current industrial and network environment that include apple products.

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:	**Project Type: [X] New [ ] Upgrade/Expansion**	
Project Director: **Department/Division:**	**How many students will *directly* benefit from the project?**	**Total TIF Funds Requested:** $60,888

Problem Statement

Define the problem/idea. *(What do you want to do? Why?)*

On August 20, 2012, the Wall Street Journal reported that Apple, Inc. became the largest U.S. company ever, as measured by stock-market value. They have gone from a company who made computers largely used by specialists in the graphic design and marketing professions to the maker of a wide assortment of devices (personal computers, laptops, tablets, smart phones) that have garnered cult-like demand and popularity. On March 29, 2012, CNN reported that half of all U.S. households contain at least one Apple product. On September 24, 2012, the Wall Street Journal reported that Apple iPhone 5 broke its previous record for phone sales selling five million iPhone 5's in the three days after its release.

The Computer Information Systems (CIS) Department currently has eight computer labs that it uses to teach courses for its three Associate degree programs and two certificate programs. These labs are currently all running either Microsoft Windows or Linux operating systems. The CIS department does not have an Apple computer lab.

Given the popularity of Apple products, and specifically the Apple MacBook Pro, the CIS department is seeking funding to purchase 24 MacBook Pro computers, along with a mobile storage/charging cart.

This equipment is essential for the CIS Department to offer its newly created course "CIS 109 Apple Support" which was created to fill the Apple gap in the CIS curriculum and train CIS students/graduates in how to provide technical support to Apple products in workplace, as well as any students seeking an in-depth knowledge of the Mac OS.

With these computers being mobile, this Mac lab will also be able to be integrated into the curriculum of numerous other CIS classes providing enormous benefits across the curriculum. These courses include:

- CIS 100 Introduction to Information Technology
- CIS 105 Desktop Operating Systems
- CIS 158 A+ Operating Systems
- CIS 221 / CIS 223 Instructional Technology for Elementary/Secondary Teachers
- CIS 280 Information Assurance
- CIS295 Network Design and Implementation
- CIS 299 Mobile Application Development

With the popularity of Apple products and computers, it is essential the CIS Department include Apple technology into its curriculum.

Evidence for Project Validity *(What is the current situation?)*	
What resources do you have/use now?	The Computer Information Systems (CIS) Department currently has eight computer labs all running either Microsoft Windows or Linux operating systems.
Why can't you use your existing resources to do this project?	The CIS department does not have an Apple computer lab.
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.**	Clearly, Apple products are very popular in the marketplace. The CIS Department currently has three courses that teach Desktop/HelpDesk/PC Support: "CIS 105 Desktop Operating Systems", "CIS 157 A+ Hardware", and "CIS 158 A+ Software". Because the courses are electives in two degree programs (CIS and Network Administration), we consistently run two sections of CIS 105 per semester, one section of CIS 157 per semester, and one section of CIS 158 per semester. We plan to integrate the newly created "CIS 109 Apple Support" course into our degrees/curriculum in the same fashion and therefore expect successful enrollment and offerings of the course. The equipment being requested in this proposal is essential to this CIS 109 course. The Apple MacBook mobile laptop cart would also be used in "CIS 299 Mobile Application Development". CIS 299 was offered for the first time in the Spring/Summer 2012 semester and filled up to capacity with 20 students in two (2) days. The Apple MacBook mobile laptop cart will also be used in CIS 100, CIS 221/223, and CIS 280. We consistently run 42 sections of CIS 100 per semester, eight sections of CIS 221/223 per semester, and one section of CIS 280 per year.

Relevance to Technology Investment Committee Guidelines *(Address only those that apply.)*	
INNOVATION:	
Is the proposal innovative to the field of Instructional Technology?	
Is the proposal innovative to HFCC?	Yes. No other course at HFCC teaches the Apple Mac OS from a technical support perspective. CIS 109 Apple Support will do this.
Is the proposal innovative to the specific discipline?	Yes. The CIS (IT) world has been dominated by IBM-compatible devices and the Windows operating system. The CIS Department is recognizing the growing popularity of Apple products and the Mac OS and integrating it into its curriculum. Few, if any, other academic institutions offer such a course.
NEED:	
Is the proposal essential for the instructional design?	Yes. The Apple MacBook computers are essential for the course and its instructional design.
Does it create new programs or courses with the potential for increased student enrollment?	Yes. "CIS 109 Apple" is a new course that was developed in the 2012-2013 academic year for which this equipment is specifically needed. "CIS 299 Mobile Application Development" is also a new course which ran successful in the Spring/Summer 2012 semester and would benefit from the Apple MacBook laptop cart.
Is it necessary to remain competitive with post-secondary institutions?	Yes. The CIS Department developed the two new courses "CIS 109 Apple Support" and "CIS 299 Mobile Application Development" to stay competitive with other post-secondary institutions and offer courses in cutting edge technologies.
Does it provide skills that are transferable to the workplace?	Yes. Technical support graduates of the CIS Department will increasingly encounter situations where they will be asked to support Mac OS, iOS, and other Apple products.
Does it prepare students for transfer to upper-level curriculum?	

Relevance to Technology Investment Committee Guidelines (continued) *(Address only those that apply.)*	
Does it keep the course or program current in the related technology?	Yes. The Apple MacBook mobile laptop cart will provide leading-edge technology for the CIS Department to use across its curriculum in many courses.
NATURE OF PROPOSAL: **Is the proposal a component of curricular revision?**	Yes. "CIS 109 Apple Support" and "CIS 299 Mobile Application Development" are both new course developments that also being added into the CIS and Network Administration Associate of Applied Science degrees.
Is it the next logical step in the evolution of the course/curriculum?	Yes.
Will it help attract students to HFCC?	Yes. The "CIS 109 Apple Support" and "CIS 299 Mobile Application Development" courses that this technology will support are very innovative and highly marketable courses. On September 13, 2012, Tricia Llewellyn, Director of Workforce Development, contacted the CIS Department to inform us that Quicken Loans was looking to hire a large numbers of IT workers with mobile application development skills for the iOS environment. She also indicated the Michigan Economic Development Corporation and eight other community colleges, including HFCC, would be working together to create standardized curriculum and trained iOS workers to meet the industry needs.
Will it support HFCC community outreach/public relations activities?	Yes. See previous above.
Will it support student retention activities at HFCC?	Yes. See previous above. The CIS Department plans to advertise the "CIS 109 Apple Support" and "CIS 299 Mobile Application Development" courses across the college due to widespread anticipated interest.
Will it become an integral part of the course, program or curriculum?	Yes. "CIS 109 Apple Support" and "CIS 299 Mobile Application Development" are being added to both the CIS and Network Administration Associate of Applied Science degrees.

Resources		
Where will the project hardware be installed?	The hardware will reside in a mobile cart, stored in a locked room. The mobile cart can be moved into any room and utilize the HFCC wireless network.	
Who will do the job? • **List the personnel** • **List their duties**	The CIS Department will purchase the computers directly from the Apple computer company (verified by DVC). CIS faculty will outfit the cart and configure computers. One designated CIS instructor will manage the schedule of the laptop carts use in different classes by different faculty.	
Who will use the hardware?	Students will use the computers in a classroom/lab environment with the CIS faculty always present. The laptops will be placed back in the mobile cart and returned to storage when the class is over.	
Who will conduct any necessary project-hardware training?	CIS faculty are prepared to use the technology and will develop the curriculum to be delivered to students.	
Who will handle any spring and summer semester duties related to hardware installation?	Not applicable.	
Do you have commitment from your administration for personnel support? *(Be specific, include documentation.)*	The Technology Division's Associate Dean, Dr. Livermore, fully supports this technology request and its integration into the CIS Department curriculum.	
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 that includes documentation showing integration of mobile laptop cart into CIS curriculum and testimonial from CIS instructors.
How will you determine the success or shortcomings of the project?	Integration of laptop cart and Apple MacBook Pro computers into CIS curriculum and student satisfaction surveys.
Budget **(You must also include an itemized budget statement.)**	
What do you need to complete this project? *(Be specific about equipment, software, and training.)*	One mobile storage cart with the capacity of 24 computers. Specification for each computer: 2.6GHz quad-core Intel Core i7 Turbo Boost up to 3.6GHz 8GB 1600MHz memory 750GB 5400-rpm hard drive1 Intel HD Graphics 4000 NVIDIA GeForce GT 650M with 1GB of GDDR5 memory Built-in battery Specification for CIS Lab computers: Intel Core i7 2.7GHz Dual-Core Processor Internal 4GB DDR3 1333MHz RAM (8GB Max) Built-In 7200RPM HDD with 750GB Storage AMD Radeon HD 6630M GPU & 256MB GDDR5 WLAN 802.11 n WiFi & Bluetooth 4.0 LAN 10/100/1000 BASE-T Gigabit Ethernet Thunderbolt Port (10Gbps Transfer Rates) FireWire 800 Port & USB 2.0 Ports x 4 Integrated SDXC Memory Card Slot
What is the TOTAL COST? *(You must attach an itemized cost analysis with this proposal.)*	$48,000 - 24 MacBook Pro 15 inch monitors. + $900 - 1 Mobile storage charging cart, holds 24 computers (uptime4u.com website) + 11,988 – 12 MAC minis for the T194 Lab Total: $60,888 for the TIF proposal.

How recent is your quote?	September 26, 2012
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?**	The CIS Department budget is being used to update three computer labs with new computers: T-194, T-197, and T-199.

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.

This purchase of the Apple mobile laptop cart and integration of it into the CIS curriculum aligns with the following Henry Ford Community College Strategic Goals:

Strategic Goal 2a) Develop new and revise existing programs and curricula to meet the expectations of students, transfer institutions, and the workforce. The equipment requested in this proposal will be used in two new courses in the CIS curriculum, "CIS 109 Apple Support" and "CIS 299 Mobile Application Development" and will also be used to enhance existing courses: CIS 100, CIS 105, CIS 158, CIS 221/223, and CIS 280.

Strategic Goal 4a) Expand the use of technology to provide access to information, support communication, and enhance learning.

Strategic Goal 5) Develop new and strengthen existing collaborative relationships that benefit the College and its constituents. Having Apple and Mac technology will allow the CIS Department to align its mobile application development curriculum with Michigan Economic Development Corporation and eight community colleges technology standards.

Strategic Goal 7) Provide academic programs and specialized training opportunities to contribute to the economic

development of the region. The equipment requested in this proposal will allow the CIS Department to create curriculum that will prepare students for cutting-edge working with Apple products and developing mobile applications.

This imitative is a part of the CIS Departments ongoing operational goal of developing and offering the latest, most advanced curriculum to the meet the needs of industry.

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?	CIS 100, CIS 105, CIS 109, CIS 158, CIS 221/223, CIS 280 and CIS 299 are all Lecture/Lab classes. The equipment being requested in this proposal will be an integral part of the lab component of these courses, most specifically in the "CIS 109 Apple Support" and "CIS 299 Mobile Application Development" courses. The MacBook laptop cart will have enough computers in it so that each student will have their own computer to work with in class. A course master/syllabus for CIS 109 and CIS 299 is included at the end of this proposal/document.
How will this improve student learning? *(List specific goals.)*	Upon successful completion of "CIS 109 Apple Support", students will be able to: • Install and configure the Mac operating system. • Identify startup process phases. • Install, manage, and troobleshoot applications and processes. • * Communicate and manage personal information using services such as Mail, Address Book, iCal, and iChat. • * Manage the Mac OS file system and files, e.g. file system, directory • structure, Spotlight, Disk Utility, file archives, backup, disk images, command-line interface, etc. • * Secure the Mac OS environment, e.g. user accounts, administrator accounts, Keychain, ASLR, encryption, firewall, privacy controls, etc. • Configure network connections for the Mac OS and iOS. • Connect and manage peripherals. • * Troobleshoot bootup and system issues. • Provide basic support for mobile Apple products and the iOS. Upon successful completion of "CIS 299 Mobile Application Development", students will be able to: • Explain the steps involved in developing, testing, and commercializing mobile applications. • Explain the various developer and end-users constraints of mobile applications as compared to other portable media. • Describe the advantages and disadvantages of each available mobile application platform, device, and development environment. • Identify copyright, intellectual property, and publishing regulations for mobile applications. • * Evaluate, design, and implement proper mobile User Interfaces (UI's). • * Create projects that involve the major components of each mobile device including: geolocation, local storage, graphics rendering, camera access, SMS, security/authentication, sound, and sensors. • * Create, test, and debug projects using various software development kits (SDKs) and simulation tools. • Develop projects using a variety of modern languages, e.g. Java, JavaScript, C, .NET, PHP, HTML/XML, etc.

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	Faculty with work directly with students in the lab environment using the equipment requested in this proposal.
Supports cooperation among students	Peer interaction is facilitated and encouraged during the lab exercises utilizing the equipment.
Supports active learning	The students will actively use the equipment in a hands-on fashion, with interaction and direction from the faculty.
Supports prompt feedback	Using this equipment will allow for immediate feedback, whether good or bad.
Supports time on task	The equipment will be used to support extensive hands-on lab activities.
Supports high expectations	Having this technology available is essential to the high expectations of the faculty and courses it will be used in.
Supports diverse talents and ways of learning	This equipment supports conceptual, hands-on/kinesthetic, and critical thinking learning.

SIGNATURES:

Thomas A. Burns 1-14-13
**Project Director Date

*Associate Dean/Department Head Date

*Vice President 1/17/13
Date

**Director of Building & Grounds Date

**Director of Data & Voice 1/17/2013
Date

* For notification purposes only
* * For project feasibility

Henry Ford Community College

Technology Investment Fund
Project Funding Request

Executive Summary

DATE OF APPLICATION	PROJECT TYPE
January 15, 2013	■ New Upgrade/Expansion
NAME OF PROJECT DIRECTOR OR PRESENTER	**DEPARTMENT/DIVISION**
	Technology Division, CIS Department
COST OF PROPOSED PROJECT	**NUMBER OF STUDENTS SERVED ANNUALLY**
$60,888	Total: 540 students annually (CIS 105 – 4 sections annually = 80 CIS 109 – 2 sections annually = 40 CIS 158 – 3 sections annually = 60 CIS 221/223 – 16 sections annually = 320 CIS 299 – 1 section annually = 20) (CIS 100 excluded; conservative estimates)

SUMMARY

The CIS Department has the ongoing operational goal of offering leading-edge courses that prepare students for the workplace. Recently, two new curriculum needs have been identified to meet this goal. First, the Michigan Economic Development Corporation (MEDC) has contacted Henry Ford Community College and asked for participation in developing and offering curriculum to teach mobile application development. Secondly, the CIS Department is recognizing the growing popularity of Apple products and the Mac OS and the need for technical support professional to support them.

On August 20, 2012, the Wall Street Journal reported that Apple, Inc. became the largest U.S. company ever, as measured by stock-market value. They have gone from a company who made computers largely used by specialists in the graphic design and marketing professions to the maker of a wide assortment of devices (personal computers, laptops, tablets, smart phones) that have garnered cult-like demand and popularity. On March 29, 2012, CNN reported that half of all U.S. households contain at least one Apple product. On September 24, 2012, the Wall Street Journal reported that Apple iPhone 5 broke its previous record for phone sales selling five million iPhone 5's in the three days after its release. An August 30, 2011 article in the Detroit Free Press was titled: "Scarcity of smartphone app developers stifles a growing industry in Michigan" described the dire need for more, trained mobile app developers on the Apple platform.

To meet these two curriculum needs, the CIS Department has created two new courses: "CIS 109 Apple Support" and "CIS 299 Mobile Application Development". The MacBook Pro mobile laptop cart being requested in this proposal is essential to successful offering of these courses.

Additionally, this laptop cart will be used across the curriculum in the CIS Department to enhance lab activities in the following courses: CIS 100 Introduction to Information Technology, CIS 105 Desktop Operating Systems CIS 158 A+ Operating Systems, CIS 221 / CIS 223 Instructional Technology for Elementary/Secondary, Teachers, and CIS 280 Information Assurance.

HENRY FORD COMMUNITY COLLEGE

Course Master

(Form revised November 2007)

Approved by: (Indicate dates.)
Division:
Academic/Career Education Council:
College Council:

I. Division: Technology, Computer Information Systems Department

II. Course Number and Title: CIS 109 - Apple Support

III. Credit Hours: 3

IV. Total Contact Hours: 47

V. Pre-requisites: CIS 100

VI. Co-requisites: None

VII. Course Grading Scale: A-E

VIII. Catalog Description:
A beginning course focusing on using and supporting Apple products, with primary emphasis on the Macintosh Operating System (OS), including installing, configuring, using, maintaining, troubleshooting, and securing the system. The class will familiarize the student with installing and configuring the Mac OS, working with applications, file management, security, network connections, peripherals, and cross-platform compatibility. Mobile Apple products and iOS will also be explored. This class is suitable for end-users seeking an in-depth knowledge of the Mac OS or helpdesk specialists/computer technicians who will be supporting Apple products and the Mac OS within an organization.

IX. Goal Statement (Optional):

X. Measurable Objectives (* Meets critical thinking objectives)
A. Major Core Course Objectives:
Upon successful completion of this course, students should be able to:
- Install and configure the Mac operating system.
- Identify startup process phases.
- Install, manage, and troobleshoot applications and processes.
- Communicate and manage personal information using services such as Mail, Address Book, iCal, and iChat.
- * Manage the Mac OS file system and files, e.g. file system, directory structure, Spotlight, Disk Utility, file archives, backup, disk images, command-line interface, etc.
- Secure the Mac OS environment, e.g. user accounts, administrator accounts, Keychain, ASLR, encryption, firewall, privacy controls, etc.
- Configure network connections for the Mac OS and iOS.

- Connect and manage peripherals.
- Troobleshoot bootup and system issues.
- Provide basic support for mobile Apple products and the iOS.

B. Detailed Course Objectives (Optional):

XI. Assessment of Academic Achievement:
Exams, Quizzes, Homework, and Laboratory Assignments.

XII. General Course Requirements and Recommendations (Optional):

XIII. Texts (Optional):
How to Do Everything Mac OS X Mountain Lion, Edition: 4.
Dwight Spivey. ISBN-13: 978-0071804400. McGraw-Hill Publishing.

XIV. Core Course Topics:
A. Installation and Configuration
B. Startup Process
C. Applications and Processes
D. Communication and Personal Information Management
E. File System and File Management
F. Security
G. Networking and File Sharing
H. Peripherals and Printing
I. Cross-Platform Compatibility
J. Troubleshooting
K. Mobile Apple Products and iOS

XV. Can credit for this course be granted through credit for prior college-level learning?

☐ Yes ☒ No

If "yes," describe the procedure for how credit for prior college-level learning will be evaluated.

XVI. Does this course satisfy MACRAO requirements?

☐ Yes ☒ No

CIS 299
Special Topics in IT: Mobile Application Development
Tuesday / Thursday 6:00PM-7:30PM, T-199
Spring / Summer Syllabus

Instructor:	Brian N. Stewart	Texts:	Hello, Android (3rd edition)
Email:	bnstewart@hfcc.edu		**ISBN 978-1-93435-656-2**
Campus Hours:	Posted in T-194 Open Lab		AND
Office Hours:	By appointment		Professional iPhone and iPad dev
			ISBN 978-0-470-87819-4
Credit Hours:	3 credit hours		AND
			Programming Windows Phone 7
			(http://www.charlespetzold.com/phone)
			AND
			Blackberry Dev Student Account /
			Active MSDN Account (provided)

Course / Catalog Description

An intermediate programming course focusing on the development of applications for mobile devices. Students in this course will utilize a variety software development kits to develop applications for the major mobile platforms, e.g. Android, iPhone iOS, Windows Phone, and Blackberry. Students will work in teams to develop commercially viable mobile applications for each mobile device used in the course.

Prerequisite: CIS-125 or instructor permission.

Upon successful completion of CIS 299, the student should be able to:

- Explain the steps involved in developing, testing, and commercializing mobile applications.
- Explain the various developer and end-users constraints of mobile applications as compared to other portable media.
- Describe the advantages and disadvantages of each available mobile application platform, device, and development environment.
- Identify copyright, intellectual property, and publishing regulations for mobile applications.
- Evaluate, design, and implement proper mobile User Interfaces (UI's).
- Create projects that involve the major components of each mobile device including: geolocation, local storage, graphics rendering, camera access, SMS, security/authentication, sound, and sensors.
- Create, test, and debug projects using various software development kits (SDKs) and simulation tools.
- Develop projects using a variety of modern languages, e.g. Java, JavaScript, C, .NET, PHP, HTML/XML, etc.