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: 1/20/12	**Project Type: [ ] New**	**[X] Upgrade/Expansion**
Project Director: Katherine Howe/Suzanne Sample **Department/Division: Nursing**	**How many students will *directly* benefit from the project? 500**	**Total TIF Funds Requested: $111,300**

Problem Statement

Define the problem/idea. *(What do you want to do? Why?)*	Nursing wants to expand our usage of patient simulation technology by purchasing one high-fidelity (realism) adult patient simulation manikin and one maternal/neonatal patient simulation manikin. The learning experiences available at any particular time in a clinical agency are unpredictable and will vary for each student. In addition some agencies limit the skills that students may perform due to concerns about skill competency, patient safety and liability. By expanding patient simulation technology we can provide the opportunity for all students to participate in essential, high risk skills and complex patient care scenarios as identified by the nursing faculty. The Michigan Department of Community Health's Nursing Agenda for Michigan identifies nursing education capacity, including insufficient availability of clinical nursing education experience, as an issue constraining the number of new nurses graduated. They recommend authorizing a percentage of required clinical experience to be fulfilled through patient simulation technology and expanding simulation usage in nursing education programs. Our current adult manikins are classified as mid-fidelity and are used by first year students to learn skills and complete simple scenarios. They are unable to realistically reproduce patient conditions needed for complex patient care scenarios appropriate for second year students. Purchase of these manikins will allow HFCC to implement these recommendations.

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

What resources do you have/use now?	The new School of Nursing building on East Campus was constructed with dedicated simulation lab space consisting of 3 patient care rooms, 1 instructor control room and 1 debriefing classroom. A labor and delivery bed has been donated by Oakwood Hospital. A headwall which provides simulated oxygen and suction is installed in each patient care rooms.
Why can't you use your existing resources to do this project?	Our current adult manikins cannot be used for labor and delivery and are incapable of realistically reproducing many patient conditions necessary to conduct complex patient care scenarios. Examples include rise and fall of chest with breathing, heart monitor display, seizures, and signs of low oxygenation.
What evidence do you have that this project will be successful? *(Cite specific information.)* • **Current research**	The effectiveness of high-fidelity patient simulation is well established as a method of nursing instruction. Multiple research studies supporting the use of high fidelity patient simulation technology have been published in nursing journals including Journal of Nursing Education, Nurse Educator, CIN:Computers Informatics and

• **Examples from other schools or teachers** • **Letters of support from experts in the field** • **Your own past experience.**	Nursing and Clinical Simulation in Nursing. Major nursing professional organizations have simulation user groups. These include National League for Nursing's Simulation Innovation Resource Center, International Nursing Association for Clinical Simulation and Learning and the Michigan Simulation Collaborative. HFCC Nursing has been successfully using a high fidelity manikin for pediatric simulations.

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?	Patient simulation has been in limited usage for adult care. Purchase of these manikins will allow nursing to expand simulation technology usage to all courses.
Is the proposal innovative to the specific discipline?	
NEED:	Purchase of high fidelity adult and maternity manikins would allow all nursing students to obtain experience in providing care in essential, complex and high risk patient scenarios.
Is the proposal essential for the instructional design?	
Does it create new programs or courses with the potential for increased student enrollment?	Nursing enrollment is currently capped by the State of Michigan. One factor effecting enrollment is the availability of clinical training sites at hospitals and other agencies. Expanding simulation would provide an alternative experience allowing us to maintain our current enrollment and position us for increasing enrollment if approved by the State.
Is it necessary to remain competitive with post-secondary institutions?	Other colleges currently offering this level of simulation include Schoolcraft College, Lansing Community College, Mott Community College and Wayne State University.
Does it provide skills that are transferable to the workplace?	Nursing skills obtained in patient simulation labs are directly transferable to employment as a Registered Nurse in multiple health care settings.
Does it prepare students for transfer to upper-level curriculum?	Completion of the Associate Degree in Nursing prepares students to continue their education in an advanced degree program. Patient Simulation is used extensively these programs and familiarity with this instruction methodology will be of benefit to students. High fidelity manikins can also be used in assessment courses which would transfer to upper level programs.

Relevance to Technology Investment Committee Guidelines (continued) *(Address only those that apply.)*	
Does it keep the course or program current in the related technology?	Our current adult manikins were purchased in 2004. While they are still in good condition and can continue to be used for skills training they lack many advanced features and wireless technology available in newer models.
NATURE OF PROPOSAL: **Is the proposal a component of curricular revision?**	While this proposal can be implemented now, simulation will be an essential component of the new curriculum currently being developed for the nursing program. Simulation will be integrated into all nursing courses and students will engage in multiple simulation scenarios during the duration of the program.
Is it the next logical step in the evolution of the course/curriculum?	Nursing is currently using low to mid-fidelity manikins to engage students in basic task training and simple scenarios for adult medical, surgical and maternal nursing. The next logical step is the utilization of high fidelity manikins to offer more complex scenarios that require increasing degrees of critical thinking appropriate for second year students.
Will it help attract students to HFCC?	Expansion of the use of patient simulation will attract students to our nursing program by allowing students to gain confidence in their skills and exposure to essential patient experiences. The usage of the most recent technology and the opportunity to engage in group, active learning activities will appeal to Millennial students.
Will it support HFCC community outreach/public relations activities?	Interprofessional training is becoming an essential component of nursing education. Plans are currently being developed to have students from Dearborn Public School's Berry Center participate in patient simulation in the role of unlicensed assistive personnel (nursing aides). Additional partnerships are possible and will be explored.
Will it support student retention activities at HFCC?	Students who have used high fidelity simulation for pediatric scenarios have found it to be a meaningful and worthwhile learning activity and state that they feel more comfortable and better prepared to care for children in the clinical setting. These positive feelings reduce student's stress levels and help them to be successful in their nursing courses, thereby reducing attrition and increasing student retention.
Will it become an integral part of the course, program or curriculum?	Nursing's new curriculum will include simulation experiences in all sections of each course. Students will progress from simple to increasingly more complex scenarios during the duration of the program.

Resources		
Where will the project hardware be installed?	Manikins will be installed in the School of Nursing's Simulation Suite patient care rooms. (N-151, N-154)	
Who will do the job? • **List the personnel** • **List their duties**	Installation is provided by the vendor.	
Who will use the hardware?	Students will use the manikins under the direct supervision of nursing faculty with the support of Nursing Skills Lab Facilitators.	
Who will conduct any necessary project-hardware training?	Training is provided by the vendor. Nursing Skills Lab Facilitators are already familiar with the operation of high fidelity manikins thru experience with our pediatric manikin. Many of the features are similar to the adult manikins.	
Who will handle any spring and summer semester duties related to hardware installation?	Nursing Skills Lab Facilitators will be available to handle these duties.	
Do you have commitment from your administration for personnel support? *(Be specific, include documentation.)*	HFCC has demonstrated a commitment to patient simulation technology by providing dedicated space in our new building and support for simulation conferences attended by Nursing Skills Lab Facilitators.	
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?)*	All nursing students will have participated in essential scenarios and be able to demonstrate competency in key technical skills identified by the nursing faculty. A majority of students will express increased satisfaction with their educational experience and comfort while performing skills and providing patient care.
How will you determine the success or shortcomings of the project?	Nursing students already complete an evaluation survey at the end of each course. A question addressing patient simulation technology will be added. Student feedback about the experience with this method of instruction will be compiled and reviewed. Any shortcomings noted will be evaluated to make improvements in delivery of this method of instruction.
Budget **(You must also include an itemized budget statement.)**	
What do you need to complete this project? *(Be specific about equipment, software, and training.)*	Purchase of one high fidelity adult manikin and one maternal/neonatal manikin. Peripheral kits for each system per manufacturers specifications. Installation/instruction session provided by vendor.
What is the TOTAL COST? *(You must attach an itemized cost analysis with this proposal.)*	Adult manikin – Laerdal SimMan 3G with peripheral kit and installation $68,300 Maternal/neonatal manikin – Gaumard NOELLE model 575 with streaming audio and newborn HAL, peripheral kit and installation. $43,000 Total $111,300
How recent is your quote?	Laerdal 12/1/11 Gaumard 1/10/12
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.*	The college has already committed money to this instruction method by constructing the designated space for simulation. Perkins funds have been allocated for faculty education and development of instructional scenarios.
If other sources of funding are not available, why? • **Doesn't have the support?** • **Not viewed as feasible?** • **Not a priority?** • **Other?**	

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?	Clinical experience hours are currently completed in an agency setting. The availability of these setting and the learning experiences they offer is unpredictable and will vary for each student. In addition some agencies limit the skills that students may perform due to concerns about skill competency, patient safety and liability. By expanding patient simulation technology we can complete a portion of these clinical experience hours in a lab setting. This will provide the opportunity for all students to participate in essential, high risk skills and complex patient care scenarios as identified by the nursing faculty.
How will this improve student learning? *(List specific goals.)*	*As a result of this project students will:* 1. *Participate in essential complex patient simulation scenarios requiring a high level of critical thinking and clinical judgement.* 2. *Demonstrate competency in complex or high risk skills before performing them on a live patient.* 3. *Engage in reflection on their performance immediately after completing the simulation.* 4. *Express increased satisfaction and comfort in providing patient care in clinical settings.*

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	Students will utilize manikins under the direct supervision of faculty. Debriefing (faculty lead group discussion and refection on the simulation experience) is an essential component of all forms of simulation.
Supports cooperation among students	Students work in small groups (2-3) during scenarios and take on various roles (nurse, family members) during the simulation. Debriefing is conducted with all members of a clinical group (max. 8 students).
Supports active learning	Students engage in hands-on manipulation of the manikins to complete nursing skills and engage in critical thinking and problem solving to complete the scenario. Following the scenario they will engage in a debriefing session during which they will reflect on the experience.
Supports prompt feedback	Debriefing is an essential component of all simulation and occurs immediately after the simulation scenario has been completed. Students will receive feedback from faculty and peers as well as reflect on their own performance.
Supports time on task	Patient care experiences in a clinical agency are unpredictable in terms of amount of time spent on task. A significant amount a time may be wasted if a patient is with a doctor, or having a test done. Simulation allows a degree that maximizes time spent on task.

Supports high expectations	Simulation allows students to practice skills multiple times to obtain competency and gain skills that clinical agencies may not allow students to perform due to their inexperience and non-employee status.
Supports diverse talents and ways of learning	Simulation supports 3 domains of learning: cognitive (knowledge), affective (attitude) and psychomotor (skills). It is especially useful for students who are kinetic learners or those with limited reading skills/ESL.

SIGNATURES:

Suzanne Sample 1/13/12 Katherine A Howe 1/13/12 Charla W Jacob 13 Jan 12

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

T. Allgood 1/17/12 1/11/2012

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

* For notification purposes only
* * For project feasibility

Non-Instructional Proposals

Complete this section if this is a Non-Instructional Proposal, related to college areas that serve and support student instructional progress. ***(Non-Instructional areas include Library Services, the Learning Lab, Counseling, and Placement Services.)***

Expected Outcomes *(Project Objectives)*	
What will this project accomplish that you can't accomplish now?	
How does the project enrich or support the learning, teaching, or communication technology needs of students? *(List specific examples.)*	*As a result of this project, service to students will be improved through:*

SIGNATURES:

**Project Director	Date	*Associate Dean/Department Head	Date	*Vice President	Date
**Director of Building & Grounds	Date	**Director of Data & Voice	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 20, 2012	☐ New ☐ Upgrade/Expansion
NAME OF PROJECT DIRECTOR OR PRESENTER	**DEPARTMENT/DIVISION**
Katherine Howe/ Suzanne Sample	Nursing
COST OF PROPOSED PROJECT	**NUMBER OF STUDENTS SERVED ANNUALLY**
$111,300.00	500+

SUMMARY

Nursing wants to expand our usage of patient simulation technology by purchasing one high-fidelity (realism) adult patient simulation manikin and one maternal/neonatal patient simulation manikin. The Michigan Department of Community Health's Nursing Agenda for Michigan identifies nursing education capacity, including insufficient availability of clinical nursing education experience, as an issue constraining the number of new nurses graduated. They recommend authorizing a percentage of required clinical experience to be fulfilled through patient simulation technology and expanding simulation usage in nursing education programs. Our current adult manikins are classified as mid-fidelity and are used by first year students to learn skills and complete simple scenarios. They are unable to realistically reproduce patient conditions needed for complex patient care scenarios appropriate for second year students. Examples include rise and fall of chest with breathing, heart monitor display, seizures and sign of low oxygenation. Purchase of these manikins will allow HFCC to implement these recommendations.

The learning experiences available at any particular time in a clinical agency are unpredictable and will vary for each student. In addition some agencies limit the skills that students may perform due to concerns about skill competency, patient safety and liability. By expanding patient simulation technology we can provide the opportunity for all students to participate in essential, high risk skills and complex patient care scenarios as identified by the nursing faculty.

It is anticipated that simulation will be an essential component of the new curriculum currently being developed for the nursing program. Simulation will be integrated into all nursing courses and students will engage in multiple simulation scenarios during the duration of the program.

Expansion of the use of patient simulation will attract students to our nursing program by allowing students to gain confidence in their skills and exposure to essential patient experiences. The usage of the most recent technology and the opportunity to engage in group, active learning activities will appeal to Millennial students.

Students in our program who have used high fidelity simulation for pediatric scenarios have found it to be a meaningful and worthwhile learning activity and state that they feel more comfortable and better prepared to care for children in the clinical setting. These positive feelings reduce student's stress levels and help them to be successful in their nursing courses, thereby reducing attrition and increasing student retention.

Quotation

GAUMARD SCIENTIFIC COMPANY
14700 SW 136 STREET
MIAMI, FL 33196
Telephone: (305) 971-3790/Fax: (305) 667-6085
E-mail: sima@gaumard.com

Quote Number:
000011012-07

Quote Date:
Jan 10, 2012

Page:
1

Quoted to:

Henry Ford Community College
School of Nursing
3401 Schaefer Road
Dearborn, MI 48128
USA

Customer ID	Good Through	Payment Terms	Sales Rep
HENR001	2/9/12	Net 20 Days	John Smilie

Quantity	Item	Description	Unit Price	Extension
1	S575.L	NOELLE® Maternal & Neonatal Birthing Simulator and Newborn HAL (LIGHT SKIN TONE) which includes: - Active eyes allow selection of pupillary response to light and blink rate - Bilateral IV and IM - Measure Osat using real oximeter - Measure BP using real cuff - Breathing with multiple airways sounds - Circulation multiple heart sounds/pulse sites - Convulsions and tremors - ECGs generated in real time - Defibrillate, cardiovert, and pace using real devices - Share images such as x-rays, CT scans, lab results - Two Tablet PCs - Includes 20 inch "All in One" touchscreen computer and additional 17 inch touchscreen monitor for vital signs and perinatal monitors - Use our preprogrammed scenarios, modify them, or create new ones - Includes Newborn HAL and birthing fetus - Precision programmable fetal delivery system for repeatable teaching exercises	37,995.00	37,995.00

***Customer must supply Sales Tax Exempt Certificate with Purchase Order, if applicable.**

Subtotal	Continued
Est. Sales Tax	Continued
Freight	Continued
Total	Continued

Please note that the exact shipping charges will be determined at the time of shipment.

To gather information about the products quote we invite you to visit our website: http://www.gaumard.com

If you should have any questions, please feel free to contact your sales representative, John Smilie, at (305) 562-4114.

Quotation

GAUMARD SCIENTIFIC COMPANY
14700 SW 136 STREET
MIAMI, FL 33196
Telephone: (305) 971-3790/Fax: (305) 667-6085
E-mail: sima@gaumard.com

Quote Number:
000011012-07

Quote Date:
Jan 10, 2012

Quoted to:

Henry Ford Community College
School of Nursing
3401 Schaefer Road
Dearborn, MI 48128
USA

Customer ID	Good Through	Payment Terms	Sales Rep
HENR001	2/9/12	Net 20 Days	John Smilie

Quantity	Item	Description	Unit Price	Extension
		- Force, torque and fetal position measured by sensors and graphed in real time with uterine contraction - At least 30 obstetric scenarios that can be modified as the instructor requires		
1	S575.300	Wireless Streaming Audio for NOELLE. Ordered at the time of initial purchase ONLY	3,000.00	3,000.00
1	INS	One Day of In-Service Training & Installation	1,500.00	1,500.00
		Gaumard Scientific is the sole source for this tetherless simulator(s). Our tetherless simulators interface with audio-visual systems such as those produced by KBPort and EMS; please confirm compatibility with custom systems designed to run with only one brand of simulator.		

***Customer must supply Sales Tax Exempt Certificate with Purchase Order, if applicable.**

Please note that the exact shipping charges will be determined at the time of shipment.

To gather information about the products quote we invite you to visit our website:
http://www.gaumard.com

Subtotal	42,495.00
Est. Sales Tax	
Freight	422.27
Total	42,917.27

OK

If you should have any questions, please feel free to contact your sales representative, John Smilie, at (305) 562-4114.

v3

Laerdal Medical Corporation
167 Myers Corners Road
Wappingers Falls, NY 12590
Fax Order To: (800)227-1143
Phone Order To: 877-Laerdal
Tax ID: 13-2587752

TERRITORY MANAGER
Bob Hallapy
(614) 607-4453
bob.hallapy@laerdal.com

INSIDE SALES REPRESENTATIVE
Scott Manning
(800) 648-1851 x2279
scott.manning@laerdal.com

SALES SUPPORT SPECIALIST
Rose Gennaro
(800) 648-1851 x2231
rose.gennaro@laerdal.com

DATE: Thursday, December 01, 2011

ATTN: Suzanne Sample

Henry Ford Community
3401 Schaefer Rd.
School of Nursing
Dearborn, MI 48126

(313) 845-6306
sesample@hfcc.edu

QUOTE NUMBER: 1-Z9ABE
CUSTOMER NUMBER: 00010858
EXPIRATION DATE: 01/30/2012

SHIP TO:
Henry Ford Community
5101 Evergreen Rd
Dearborn, MI 48128-2407

QTY	PRODUCT	DESCRIPTION	LIST PRICE	UNIT PRICE	EXTENDED PRICE	
1	212-01001	SimMan 3G Complete with 12" Monitor	$66,500.00	$66,500.00	$66,500.00	
		Includes SimMan 3G Manikin, Software and License, Operator's tablet PC, Patient Monitor and Software, Patient Cables, Webcam, Drug Recognition Kit, Soft Sided Transportation Cases, 1 Year Warranty.				
1	212-VPLUSP3	SimMan 3G ValuePlus Platinum (3 Yr)	$18,495.00	$18,495.00	$18,495.00	NO
		Includes Installation, Extended Warranty through Year 3, Preventative Maintenance On-Site and Loaner.				
1	212-90150	Intro to SimMan 3G On-Site	$3,595.00	$3,595.00	$3,595.00	NO
		A Laerdal Instructor will travel to your facility and teach up to 8 participants.				
				ITEM TOTAL	$88,590.00	66,500.00
				ESTIMATED TAX	$0.00	
				SHIPPING & HANDLING	$350.00	yes
				TOTAL	$88,940.00	66,850.00

OPTIONAL ITEMS

~~68~~

QTY	PRODUCT	DESCRIPTION	LIST PRICE	
1	212-VPLUSP5	SimMan 3G ValuePlus Platinum (5 Yr)	$32,995.00	
		Includes Installation, Extended Warranty through Year 5, Preventative Maintenance On-Site and Loaner.		NO
1	212-83050	SimMan 3G Installation	$1,445.00	
		If Value Plus Program is not purchased		yes

Appropriate Sales Tax will be added to invoice - Pricing and Availability are subject to change
Shipping/Handling costs will be prepaid & added to invoice

Total 68,295.00

Terms:

- Net 30 Days for approved open accounts; CIA; Credit Cards accepted
- One(1) year warranty on manufactured products and 90 day warranty on refurbished products
- Two (2) year parts replacement warranty with technical assistance by phone on all Hill-Rom refurbished products
- Delivery of product to a specific location within your building, if requested, is at an additional charge and not included in this quote
- Quotes that include training. Training must be booked and performed 1 year from installation. The training obligation expires one year from install