

Student Technology Fee

Grant Proposal

2010.008

2009-10

Tracy Brown

Approved Denied

Comment: _____

Diana Hamilton

Approved Denied

Comment: _____

Gary Gatch

Approved Denied

Comment: _____

Mike McDonald/James Leonards

Approved Denied

Comment: _____

Dale Martin

Approved Denied

Comment: _____

College of Nursing #1

Student Technology Fee
Grant Proposal Request Form FF
Fiscal Year 2009-10
Northwestern State University of Louisiana

2010.008

ALL BLANKS MUST BE FILLED COMPLETELY

Prepared by: Mr. Kendall DeLacerda, MSRS, Assistant Professor
Mrs. Kari Cook, MSRS, Assistant Professor


For: _____

Department/Unit: Radiologic Science College: Nursing Campus: Alexandria/Shreveport
Which NSTEP Goals/Objectives does this project meet? Current Educational Trends

Requested equipment will be located/installed/housed?
Alexandria Campus Building: Rapides Regional Medical Center Medical Arts Room 211
Shreveport Campus Building: Warrington Building

Are department property policies and procedures in place for requested equipment? Yes

Which individual will be responsible for property control of the requested equipment?

Signature:  Date: 10/29/09

Grant Proposal Requested Amount: \$ 5,190.00 Budget Attached (circle one): YES

Grant delivered to Student Technology located in Watson Library, Room 113. Date _____

The grant proposal must include all specifications, description, model number, quotation, cost, state contract number, and vendor for each item. If the proposal does not include all requested information, it will be returned to requestor.

1. Describe target audience.
The audience for this proposal will be Bachelor Science in Radiologic Science (BSRS) students in the clinical phase of the curriculum on both the Shreveport and Alexandria campuses; there are seven clinical semesters in the curriculum in which BSRS students are required to utilize the simulated radiology laboratories. Students enrolled in the Radiologic Technology to Bachelor of Science in Radiologic Science (RT-BSRS) program on both campuses will also utilize this proposed equipment throughout their enrollment. There are approximately 60 students in clinical in the fall semester each year, and approximately 90 students in clinical in the spring semester each year. There is also approximately 25 students enrolled in the RT to BSRS program each semester. This equates to approximately 175 students utilizing the proposed equipment each year.

2. Describe project/initiative for which you are requesting funds.
All courses in the Radiologic Science curriculum are taught utilizing some form of electronic

learning. The progressive integration of instructional technology is consistent with the University's commitment to technology and the enhancement of a student-focused learning environment. The purpose of this of this project is to upgrade the digital imaging capabilities within the radiology clinical laboratories and to enhance student learning experiences by utilizing contemporary digital imaging equipment. The digital imaging equipment is now the benchmark within the contemporary clinical environment and it is essential for students to gain digital imaging experiences if they are to become employable as graduates in the current marketplace. The current radiology simulation laboratories have digital imaging equipment but there are no "phantoms" which can be x-rayed by students. These "phantoms" are manikins which have internal anatomical structures that simulate a human skeleton, muscles, and cartilage that can be manipulated to demonstrate a wide array of bone, joint and muscular problems similar to those experienced by human beings.

Funding from this project will allow the Radiologic Science program to purchase quality control (QC) phantoms/tools for digital imaging; in particular, the "Duke," an anthropomorphic digital QC phantom. This new equipment will be utilized for demonstrating theories and principles of digital imaging radiology science and will provide students with opportunities to gain invaluable experiences in a simulated environment prior to meeting those requirements in the clinical environment with real patients. Moreover, this technology will support student learning in a safe environment, free of the fear of making critical clinical errors. These experiences, made available to students by these upgraded simulation laboratories, constitute a major component of required radiologic science courses and will enable students to develop clinical competencies which are critical to becoming a safe and effective practitioner in the digital technology environment of Radiology Departments across the nation.

3. State measurable objectives that will be used to determine the impact/effectiveness of the project.

- A. Students will perform pre-established laboratory experiments creating digital images using the anthropomorphic phantom "The Duke".
- B. Students will view/ inspect digital images of these phantoms to visually reinforce the physical principles presented in course lectures. (RADS 3300/ RADS 3830)
- C. Students will create and submit reports addressing radiation physical properties demonstrated by the performed experiments using the phantoms and digital equipment.
- D. Students will participate/present findings of experiments performed using these phantoms in open forum discussions during lab time and in didactic courses to reinforce/demonstrate their learned knowledge.

4. Indicate how each project objective will be evaluated.

- A. More than 75% of students will receive a passing grade of 77 or higher on all submitted digital imaging reports.
- B. Students will be evaluated / graded on class participation /discussions on digital imaging experiment outcomes with 75% or more receiving a passing grade of 77 or higher.
- C. More than 75% of students will receive a passing grade on testing that will address the radiology physical principles demonstrated by the performed digital imaging experiments and presented in formal didactic lecture courses.

5. If funded, which NSTEP <http://www.nsula.edu/nstep/NSTEP.pdf> objective(s) will the funding of this project advance?

If funded, the purchase and use of these phantoms will advance the NSTEP objective #1, by providing access to equipment which is designed to increase the student's knowledge of

radiologic science imaging principles, #3 by providing the most modern equipment for which to perform radiologic science laboratory experiments, and #6 by allowing faculty to hold workshops for students to conduct digital radiologic science experiments.

How will funding of the project advance the University and College/unit technology plan?

The University's mission, as well as the College of Nursing's mission addresses the use of technology to increase students' learning, retention and expertise. With the high-level technological advances in the imaging profession (Digital Imaging), acquiring these anthropomorphic QC phantoms will address these advancements, and will allow the program to continue to meet the missions of the University as well as the College of Nursing. The College of Nursing strives to promote lifelong learning and continuity throughout all satellite campuses. Adding these digital imaging tools to both campuses will help to fulfill this mission. **Most importantly, upgrading the simulation laboratories will aid in meeting the Joint Review Committee on Education of Radiologic Technologists' (JRCERT) accreditation requirement that all enrolled students receive identical content and experiences throughout their enrollment in the program.**

6. Provide a justification for funding of this project. Estimate the number of student that will be served per academic year and in what ways. Please indicate also any unique needs of the target group.

- A. An average of 175 students per year will benefit from these anthropomorphic phantoms. There are seven clinical semesters in the Bachelor of Science in Radiologic Science program and a minimum of 150 students who will be involved in the simulated radiology laboratory experiences each semester. It is projected that the number of students enrolled in the BSRS program, along with those enrolled in our completion program RT to BSRS completion program will continue to grow. The newly approved Master of Science in Radiologic Science (MSRS) program began this semester (Fall 2009). With this added level of education, the number of students potentially being served by the use of this grant funded equipment is expected to continue to increase in the future.
- B. Due to the complexity and infrequency of certain radiologic examinations which would be used to demonstrate certain principles of RADS physics, the use of imaging phantoms helps to ensure all students receive the same learning opportunities. Performing actual experiments using QC phantoms and being able to gain realistic experiences in a controlled learning environment will enable competency development required in the practice of Radiologic Science
- C. Imaging of anthropomorphic QC phantoms in the laboratory environment is critical to the learning and preparation of a medical imaging professional, even more so, with the advancements of digital radiology. Students can image these anthropomorphic QC phantoms an innumerable amount of times without causing damage to the phantom. The ability to practice in the digital energized lab with appropriate QC imaging phantoms helps to reduce the amount of radiation exposure delivered to patients by students who have gained an understanding from performing said physics QC experiments. As a result, the student will gain the needed knowledge to produce high-quality images by adjusting technical factors based on the patient's body type and pathology.
- D. Due to the nature of ionizing radiation professionals, hours of hands-on (psychomotor) practice is required to perfect patient technique development. QC anthropomorphic phantoms are the best way to practice and understand the physical characteristics of radiation without endangering living beings.
- E. Safe, competent patient care is the primary program concern in regard to radiological procedures. The use of QC anthropomorphic phantoms will allow students the

opportunity to repeatedly perform experiments without the possibility of causing any harm to live patients.

- F. The University's mission, as well as the College of Nursing's mission addresses the use of technology to increase students' learning, retention and expertise. The high-level technological advances in the imaging profession (Digital Imaging), acquiring QC phantoms which address these advancements, will allow the program to continue to meet the missions of the University as well as the College of Nursing. The College of Nursing strives to promote lifelong learning and continuity throughout all satellite campuses. Adding these digital imaging tools to both campuses will help to fulfill this mission.

7. List those individuals who will be responsible for the implementation of the project/initiative and indicate their demonstrated abilities to accomplish the objectives of the project.

Mr. Kendall DeLacerda, MSRS, RT(R): RADS Physics Alexandria Campus

Dr. Laura Aaron, RT(R),(M),(QM): Program Director , RADS Physics Shreveport Campus

Both faculty members have effectively team taught for eight consecutive years the courses RADS 3300 Principles and Equipment of Radiologic Science and RADS 3830 Imaging Principles of Radiologic Science. Both have attended the nationally recognized Digital Radiology workshop offered at the University of North Carolina located in Chappell Hill, North Carolina. These workshops addressed the latest changes/trends in the application of digital technology in Radiologic Sciences.

8. Describe any personnel (technical or otherwise) required to support the project/initiative.

Due the requirements of Louisiana Laws regarding radiation exposure, Faculty/Instructors of all of the Radiologic Science clinical courses will be utilized in the instruction and supervision of students when performing imaging skills of these anthropomorphic QC phantoms **No additional personnel will be needed to meet the objectives of this project.**

9. Provide a schedule for implementation and evaluation.

- A. Decision of fund proposal: November 2009
- B. Monies made available during first quarter of 2010
- C. QC anthropomorphic phantoms to be ordered the week the monies become available
- D. Shipping time for anthropomorphic QC phantoms is based upon "made on demand" premise, anticipating 8 to 12 weeks.
- E. Anthropomorphic QC phantoms implementation in the digital labs to begin upon arrival, anticipating date of March 1, 2010.

10. Estimate the expected life of hardware and software. Explain any anticipated equipment/software upgrades during the next five years.

The life span of these QC anthropomorphic QC phantoms is usually unlimited with proper handling and care. They are virtually indestructible if stored in the case (which is optional and available for additional cost) and require no upgrades or additional maintenance.

11. Explain in detail a plan and policy that will be in place to ensure property

security/controls for any equipment received through a Student Technology Fee. If you are requesting equipment that will be either/or checkout to students or moved within the department, you must provide a checkout/loan policy.

The equipment will be permanently placed in the respective simulation laboratories and will not be checked out to students or anyone else. Upon receipt, they will be placed on the College of Nursing Inventory and will be inventoried by Mr. Gil Gilson annually.

Attach two (2) letters of support for the project from the following individuals: the requesting department's Dean, the appropriate Vice President (for non-academic units), or the SGA President from the requesting campus (for student requests).

Letters of support are attached from the following individuals:

1. Dr. Norann Y. Planchock, Dean, College of Nursing
2. Ms. Megan Smith, President, Shreveport Student Government Association

Student Technology Fee Grant Proposal Checklist:

<u> X </u>	Is all information requested provided (items 1 – 11)?
<u> X </u>	Is a detailed budget attached? (Attached on following page)
<u> X </u>	Is all specifications, description, model number, quotation, cost, state contract number, and vendor provided for each item?
<u> X </u>	Are your two (2) letters of support attached?
<u> NA </u>	If equipment is to be checked-out/loaned, is your policy attached?

PROJECT BUDGET

ITEM	QUANTITY	PROJECTED COST	
PERSONNEL:	None	\$0.00	
SUPPLIES:	None	0.00	
EQUIPMENT:			
Digital Phantom, Duke @\$2,200 each	2	7290	4,400.00
Carrying Case @ \$395 each	2	7282	790.00
TOTAL			\$5,190.00



P.O. Box 186 Elkhart, IN 46515-0186 Ph: 574-264-4310 USA Toll Free: 800-654-1054
Fax: 574-264-9551 <http://www.supertechx-ray.com> sales@supertechx-ray.com

10/7/2009 QUOTE Valid until 1-1-2010

Kerry Cook
Northwestern State University
PH: (318) 769-7859
e-mail: CookK@nsula.edu

Dear Kerry,

Thank you for the opportunity to quote the Duke Phantom.

07-646 Digital Phantom, Duke	List Price: \$2,500	Educator Price: \$2,200
07-646C Optional Case for 07-646	425	395

Insured UPS Ground Shipping is included with the purchase of the phantom and case together, shipping to the same destination at the same time.

Supertech is willing to accept a purchase order and grant net 30 day terms for payment.

This price is valid until 1-1-2010.

Please let me know if you have questions.

Best Regards,

Judy McNitt-Mell
Judy McNitt-Mell
President / CEO



Northwestern State University

A Member of the University of Louisiana System



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Office of the Dean
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Fax (318) 677-3127
planchockn@nsula.edu

October 28, 2009

Student Technology Grant Committee
Northwestern State University
Natchitoches, LA 71497


Committee Members:

I am pleased to submit this letter in support of the grant application from the members of the Bachelor of Science in Radiologic Science program. This grant, which is proposed for the purchase an anthropomorphic digital phantom (the "Duke"), will bring the radiologic simulation laboratories to the cutting edge of digital technology that is being utilized throughout the nation where the students will be expected to practice upon graduation. Therefore, developing these competencies as students has become critical to their success on the licensure exam and to their future successful practice.

This grant is consistent with and supports the College of Nursing technology goals to continuously integrate the use of technology into the student learning experiences throughout the curricula. This equipment will increase tremendously the technology-supported clinical learning experiences for our students and will prepare them for practice in the contemporary radiology environment in which digital imaging has become the benchmark.

I urge you to act favorably on this application. Should you need additional information, please do not hesitate to contact me.

Sincerely,


Norann Y. Planchock, PhD, APRN, FNP-BC
Dean and Professor
College of Nursing

Shreveport Student Government Association

October 26, 2009

Student Technology Fee Grant Committee
Northwestern State University
Natchitoches, LA 71497

Committee Members,

On behalf of the Shreveport Student Government Association (SSGA), I am pleased to write this letter of support for the funding of the Duck Quality Control phantoms for digital imaging. These phantoms will be used by the Radiologic Sciences students on the Shreveport and Alexandria learning laboratories. The Radiologic Science students will benefit from this new technology by assisting them with an instrument to improve student learning and critical thinking skills.

The practice of Radiologic Technology is continuously being enhanced by the infusion of cutting-edge technology. It is essential that we assist our students to be knowledgeable utilizing the most recent technology available. The grant will enhance the integration of advanced technology for the Bachelor of Science in Radiologic Sciences (BSRS) students.

Thank you for the opportunity to address this subject and for your efforts on behalf of all the students at the University. If I can be of any assistance to the committee, please do not hesitate to call upon me.

Respectfully,

A handwritten signature in black ink that reads "Megan Smith". The signature is written in a cursive, flowing style.

Megan Smith
President
Shreveport Student Government Association