

FY 2008 Technology Fee Proposal

Submitting Organization:

Major Unit: College Of Education
Department: Kinesiology and Health

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1. Project Short Title

<i>5-8 Word Project Title</i>

<u>Computer Based Electrocardiographic Stress Testing</u>

2. Total Requested

Fiscal Year 2008

\$26, 224.10

3. Executive Summary

Project Description (three or four sentences)

Exercise stress testing is a critical skill learned by exercise science students. Over the past several years, advances in technology have added computerization of this testing. This important advance has allowed for more accurate data collection and interpretation of results. Most hospitals and other clinical settings now employ this technology. The addition of this system to the graduate and undergraduate exercise science program would significantly enhance academic instruction in this area.
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4. Project Description

Exercise stress testing is a common and critical skill learned by exercise science students. The results of this testing are used to design preventive exercise programs as well as to initially screen for the presence of cardiovascular disease. In clinical settings, this equipment is also used to assess the progress of various intervention strategies including regular exercise and physical activity. Over the past few years, advances in technology have allowed for the application of microcomputer technology to various aspects of exercise stress testing. These applications include microprocessor control of the exercise device (usually a treadmill), and computer evaluation of the electrocardiographic response to increasing exercise intensity. This has resulted in more objective testing and reduced incidence of error. The ability to digitally store and retrieve tests and results has also significantly advanced the ability to document and share normal and

abnormal results in instructional settings. Most instructional institutions, hospitals and other clinical settings where this testing is conducted are using these computerized devices. The proposed equipment from Cardiac Science includes a Q-Stress Standard system which consists of a dedicated PC compatible computer with Q-Stress software, ECG Preamp and TM-65 treadmill. In addition several software options are proposed including QStress Full Disclosure (allows for the capture and recording of every heart beat), QStress Post-Procedure Re-Analysis (allows for editing and reanalysis of test results), QStress Freeze Frame (adds the ability to freeze real-time ECG's for further analysis), QStress Risk Scoring (adds the ability to classify results based on normative data from several national clinical trials) and a TM 65 Emergency Stop hardware upgrade.

5. Record the review numbers assigned by IS&T and Facilities. Their assessments must be included in Sections 16 and 17.

IS&T: # IST08-054
Facilities: #14581-07

6. Relevance to Regents Guidelines

The implementation of this proposal speaks directly to items 1, 2, and 3 in the Regent's Technology Fee Guidelines:

1. The outcome of this proposal would be to provide hardware for discipline-specific technology applications for the direct benefit of students in the Kinesiology academic programs, as well as for a number of students from other academic programs that take KH courses. The software and hardware would be used in the classroom in a number of classes in the curriculum, in laboratories, and by students working independently. This equipment and software will be used in basic and advanced undergraduate courses as well as in graduate courses.

2. The updating and expansion of a mobile computer laboratory data acquisition and analysis package will provide students with continued access to computer-based educational tools and to discipline-specific software and hardware.

3. This proposal includes updated hardware that will allow for the continued and enhanced development of specialized laboratory activities emphasizing guided inquiry, rather than observation of demonstrations.

7. Relevance to Strategic Plan(s)

This proposal seeks resources for program enhancement that align directly with specific points of the Strategic Plans of the University, College of Education, and Department of Kinesiology and Health. Excerpts from these plans are quoted below, but this plan proposes to meet these goals and objectives in 2 ways: 1) incorporating appropriate technology-based instructional methods into the classroom and laboratory in order to improve instruction and understanding; and 2) to increase access to and utilization of computer-based technology by students to enhance learning.

University Strategic Plan

“... become and remain current in the application of computing and information technologies”

“All students should have ready access to computing resources and an opportunity to develop information management skills for lifelong learning”

University Information Technology Strategic Plan

5.2 A University Goal: Technology-enabled Faculty, Staff and Students

5.2.1 Ensure Faculty and Staff Development in Technology

5.2.2 Provide Appropriate Workstation Support for Faculty and Staff

5.2.3 Promote Effective Research Computing

5.2.4 Foster Technology Experimentation

5.2.5 Provide Effective Information Technology Services for Students

5.3 A University Goal: Technology-enhanced Education

5.3.1 Establish Appropriate Levels of Technology in Classrooms

5.3.2 Ensure Availability of Information Technology Resources for Students

5.3.3 Engage the Academic Community in the Use of Technology

College of Education Strategic Plan

Principles of Professional Education

Inquiry – faculty involve students in making the university a center of inquiry

Goals – Quality

Continue to strengthen subject matter knowledge in the academic disciplines

Ensure our ... graduates have expert knowledge ... of technology

Continue to enhance and strengthen programs within the college which prepare professionals working in contexts other than schools

Strengthen collaborative and interdisciplinary programs such as ... exercise science, sports medicine, biomechanics ...

Department of Kinesiology and Health Strategic Plan

Departmental Planning Priorities

“Increase accessibility to and use of technology in teaching and research”

Short Range Objectives

“Identify and obtain instructional materials, technology, equipment and space which would enhance classroom effectiveness”

“Improve faculty knowledge and use of alternative methods of teaching”

“Improve faculty knowledge and use of instructional technology and services available in the university”

Long Range Objectives

“Explore and support ways for faculty to develop interdisciplinary instructional programs”

8. Impact on Students Served

There are over 330 undergraduate and graduate students in the exercise science program in the Department of Kinesiology and Health, with a large number of additional students from other programs that take selected courses offered by our department. The incorporation of the proposed hardware and software has the potential to influence instruction in approximately 7 undergraduate courses and 9 graduate courses. This proposal has the potential to impact students in the academic disciplines of Exercise Science from our department, as well as students from allied health sciences such as Nutrition and Physical Therapy.

9. Justification of Funding Requirements for Fiscal Year 2008

Provide a specific description of the funding requirements for FY 2008 in the Microsoft Excel spreadsheet below. You must use the same terminology as in the Project Description (page 2, #4) to allow each itemized line to be traced back to the items and functionality appearing in the Project Description. Failure to do so will negatively affect consideration of your proposal. Itemize and total the following categories of 1expense. If necessary, add lines to the table below corresponding to accounting objects of expense.

Please note that any equipment items less than \$4,999 should be categorized as "supplies."

Object of Expense	Itemized Descriptions	Quantity	Per unit price	Extended Total
Supplies (Note: PCs under \$5,000 go here. Also, use standard dollar amounts and replacement thresholds from sections 11/12, or provide explanation in sections 11/12.)	Item 1 Cardiac Science TM65 Emerg. Stop Option	1	\$205.00	\$205.00
	Item 2			
	Item 3			
	Item 4			
	Item 5			
	Item 6			
	Item 7			
Equipment	Item 1 Qstress Standars System	1	\$13,919.10	\$20,969.10
	Item 2 TM 65 Treadmill	1	7050	
Software (Note: Include Vendor and Product Name.)	Item 1 Qstress Full Disclosure Option	1	\$1,000.00	\$4,350.00
	Item 2 Qstress Freeze Frame Option	1	\$800.00	
	Item 3 Qstress Post Procedure Reanalysis	1	\$1,750.00	
	Item 4 Qstress Risk Scoring Option	1	\$800.00	
Maintenance or Contractual Services	Item 1			\$0.00
	Item 2, etc			
<i>Board of Regents Guidelines state "In almost no cases should technology fee revenues be used for ... space renovation, or other items or activities that do not have a direct and immediate impact upon students instructional objectives." (See Attachment 1, #8)</i>				
Construction Services (Requires review of Planning & Facilities)	Item 1			\$0.00
	Item 2			
	Item 3, etc			
Network Connections and Infrastructure Costs (Requires review of UCCS)	Item 1			\$0.00
	Item 2			
	Item 3			
	Item 4, etc			
Physical Security (Note: Costs normally should not exceed 2.5% of Total Requested.)	Item 1			\$0.00
	Item 2			
	Item 3			
	Item 4, etc			
Other Expenses (explain)	Item 1 Shipping	1	\$700.00	\$700.00
	Item 2, etc			
<i>Board of Regents Guidelines state "Technology fee revenues may be used - with caution - for new staffing that is either temporary or ongoing." (See Attachment 1, #6)</i>				
Staff Salaries	Item 1			\$0.00
	Item 2, etc			
Fringe Benefits	Item 1			\$0.00
	Item 2, etc			
		Hours/wk	Hourly Rate	
Student Assistant Salaries	Item 1			\$0.00
	Item 2, etc			
Graduate Student Assistant Salaries	Item 1			\$0.00
	Item 2, etc			
TOTAL				\$26,224.10

10. Consequences of Partial Funding

State what the consequences would be on the effectiveness and viability of the proposal if it were only funded in FY 2008 at the following percentages of the requested total: At 75% of full funding this project is still viable. The various software options would be eliminated. The small difference, \$2001.02 would be made up from department sources. See section on matching funding.

Only 75% funded: State specifically whether or not the proposed project would remain viable. If the project would remain viable, itemize and total the following categories of expense at 75% funding in the Microsoft Excel spreadsheet below.

Object of Expense	Itemized Descriptions	Quantity	Per unit price	Extended Total
Supplies (Note: PCs under \$5,000 go here. Also, use standard dollar amounts and replacement thresholds from sections 11/12, or provide explanation in sections 11/12.)	Item 1			\$0.00
	Item 2			
	Item 3			
	Item 4			
	Item 5			
	Item 6			
	Item 7			
Equipment	Item 1 Qstress Standard System	1	\$13,919.10	\$20,969.10
	Item 2, TM 65 Treadmill	1	7050	
Software (Note: Include Vendor and Product Name.)	Item 1			\$0.00
	Item 2			
	Item 3, etc			
Maintenance or Contractual Services	Item 1			\$0.00
	Item 2, etc			
Board of Regents Guidelines state "In almost no cases should technology fee revenues be used for ... space renovation, or other items or activities that do not have a direct and immediate impact upon students instructional objectives." (See Attachment 1, #8)				
Construction Services (Requires review of Planning & Facilities)	Item 1			\$0.00
	Item 2			
	Item 3, etc			
Network Connections and Infrastructure Costs (Requires review of UCCS)	Item 1			\$0.00
	Item 2			
	Item 3			
	Item 4, etc			
Physical Security (Note: Costs normally should not exceed 2.5% of Total Requested.)	Item 1			\$0.00
	Item 2			
	Item 3			
	Item 4, etc			
Other Expenses (explain)	Item 1 Shipping	1	\$700.00	\$700.00
	Item 2, etc			
Board of Regents Guidelines state "Technology fee revenues may be used - with caution - for new staffing that is either temporary or ongoing." (See Attachment 1, #6)				
Staff Salaries	Item 1			\$0.00
	Item 2, etc			
Fringe Benefits	Item 1			\$0.00
	Item 2, etc			
		Hours/wk	Hourly Rate	
Student Assistant Salaries	Item 1			\$0.00
	Item 2, etc			
Graduate Student Assistant Salaries	Item 1			\$0.00
	Item 2, etc			
TOTAL				\$21,669.10

Only 50% funded: State specifically whether or not the proposed project would remain viable. If the project would remain viable, itemize and total the following categories of expense at 50% funding in the Microsoft Excel spreadsheet below. At 50% funding, much of the usefulness of this equipment is lost. The treadmill and all software upgrades would be eliminated. The microprocessor control of the treadmill would be lost.

Object of Expense	Itemized Descriptions		Quantity	Per unit price	Extended Total
Supplies (Note: PCs under \$5,000 go here. Also, use standard dollar amounts and replacement thresholds from sections 11/12, or provide explanation in sections 11/12.)	Item 1 Qstress Standard System		1	\$13,919.10	\$13,919.10
	Item 2				
	Item 3				
	Item 4				
	Item 5				
	Item 6				
	Item 7				
Equipment	Item 1				\$0.00
	Item 2, etc				
Software (Note: Include Vendor and Product Name.)	Item 1				\$0.00
	Item 2				
	Item 3, etc				
Maintenance or Contractual Services	Item 1				\$0.00
	Item 2, etc				
Board of Regents Guidelines state "In almost no cases should technology fee revenues be used for ... space renovation, or other items or activities that do not have a direct and immediate impact upon students instructional objectives." (See Attachment 1, #8)					
Construction Services (Requires review of Planning & Facilities)	Item 1				\$0.00
	Item 2				
	Item 3, etc				
Network Connections and Infrastructure Costs (Requires review of UCCS)	Item 1				\$0.00
	Item 2				
	Item 3				
	Item 4, etc				
Physical Security (Note: Costs normally should not exceed 2.5% of Total Requested.)	Item 1				\$0.00
	Item 2				
	Item 3				
	Item 4, etc				
Other Expenses (explain)	Item 1 Shipping		1	\$700.00	\$700.00
	Item 2, etc				
Board of Regents Guidelines state "Technology fee revenues may be used - with caution - for new staffing that is either temporary or ongoing." (See Attachment 1, #6)					
Staff Salaries	Item 1				\$0.00
	Item 2, etc				
Fringe Benefits	Item 1				\$0.00
	Item 2, etc				
		Hours/wk		Hourly Rate	
Student Assistant Salaries	Item 1				\$0.00
	Item 2, etc				
Graduate Student Assistant Salaries	Item 1				\$0.00
	Item 2, etc				
TOTAL					\$14,619.10

11. Standard Dollar Amounts

In constructing the budgetary requests in Sections 9 and 10 above, computer workstations should be budgeted at the following levels:

The following desktop systems are the standard technology for Student Technology Fee purposes. Desktop systems exceeding this capability and price must be specifically justified:

- | | |
|---|---------|
| 1. Windows/Intel processors workstation, including monitor: | \$1,222 |
| 2. Apple Macintosh models: | \$1,376 |

The following types of equipment require justification over and above desktop systems. The following prices and configurations are standard for these types of equipment. Any deviation from these standards must be further justified:

- | | |
|--------------------------------------|---------|
| 1. Windows/Intel processors laptop: | \$1,749 |
| 2. Apple Macintosh laptop: | \$1,382 |
| 3. Personal Digital Assistant (PDA): | \$ 472 |
| 4. Tablet computer: | \$1,984 |

Provide any justification narrative of programmatic requirements here.

12. Standard Replacement Thresholds

All equipment being requested due to obsolescence or inadequacy of existing equipment must be itemized on the form provided in Attachment 3: Itemization of Equipment to be Replaced. Each item for which replacement funding is being requested will be in one of the following two categories:

- a) *If the equipment to be replaced is less than Pentium® 4 processor speed, this equipment is considered obsolete due to a university-wide standard. This standard of minimum performance has been set based on requirements for operating the current operating systems and office suites. The proposal submitter must state that the university minimum performance criteria are being used.*
- b) *If the equipment to be replaced exceeds the university minimum of Pentium® 4, the proposal submitter is required to document specific quantitative performance requirements that warrant the replacement of such equipment. The equipment's inability to perform specific functions must be identified. Also, a statement is required explaining why the performance of such functions is critical to the continued functioning of the facility in which the equipment is located. See Attachment 4: Equipment Exception Replacement Form, which must be completed for all replacement equipment that exceeds the university standard threshold of Pentium® 4.*

13. Prerequisite, Non-Technology Fee Funding

Identify any non-technology fee prerequisite funding this proposal is dependent upon. Document that these prerequisite funds are available, should this proposal be funded.

14. Matching Funds

Describe any additional funds that have been committed and will be provided to this project from other sources. These funds should be those that would more effectively leverage the technology fee funding, if approved. Specify whether or not these matching funds are available for a limited time.

15. Staffing and Other Support Availability

If appropriate, describe the specific staff and other continuing fiscal resources required to maintain the proposed project. Justify the use of and the hours worked by graduate student assistants and student assistants. Also, justify any consulting/contracting work.

For staff requirements, identify the current unit and supervisor of staff required to support the related technology. Refer Regents Guideline #6 for guidance on the appropriate use of technology fee funding for new staff requests. However, the FY 2007 STF Committee feels, as did the FY 2006 STF Committee, it is very unwise to rely on technology fees and an annual review by STF subcommittees to maintain staff positions. Accordingly, expect requests for staff funding to be approved with caution and reluctance and with the understanding that these proposals are unlikely to be supported in subsequent years.

16. Space Availability and Impact on Facilities

*Include the assessment response from the CBSAC and Planning & Facilities review that was **required** to be submitted by January 12, 2007.*

For CBSAC and Planning & Facilities Use Only:

CBSAC and Planning & Facilities Assessment of Space Availability and Impact on Facilities (this information is also transmitted to techfee@gsu.edu):

This project has no impact on facilities.

17. Impact on Computing/Networking/Information Security Infrastructure

*Include the assessment response from the IS&T review that was **required** to be submitted by January 12, 2007.*

For IS&T Use Only:

IS&T Assessment of Network/Computing/Information Security Infrastructure:

<p><u>Information Security Review (Tammy Clark):</u> Impact: No Assessment:</p>
<p><u>Wireless and Network Ports Review (Mark Roberson):</u> Impact: No Assessment:</p>
<p><u>Server Connections (Charles Hollingsworth, Tammy Clark, Keith Campbell):</u> Impact: (No-CWH) , No impact – KEC Assessment:</p>
<p><u>External Connections (Charles Hollingsworth):</u> Impact: (No-CWH) Assessment:</p>
<p><u>DVR Installations (Mark Roberson, Tammy Clark, Charles Hollingsworth):</u> Impact: (No-CWH), (MR-NO) Assessment:</p>
<p><u>Lab and Classroom Configurations (Joe Amador):</u> Impact: Yes/No NO Assessment:</p>

18. Physical Security Needs

N/A

If you are requesting any physical security funding, provide the rationale for these needs here.

19. Post-Project Assessment Criteria

Several criteria will be used to evaluate this project:

1. Number of classes and/or students who use the system.
2. Total number of exercise tests conducted on the equipment per year
3. Number of faculty and/or students attending training for the system.

20. Review and Acknowledgements

Attach electronic notes or documentation showing that the following units or administrators have reviewed or acknowledged this proposal:

- *Matching funds commitment from appropriate fiscal officer*