ISIT/FACILITIES/OTHER EQUIPMENT REQUEST 2018:

Program or Service Unit: Radiologic Technology

Submitter: Jacy Hill

Extension: 4249

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Funding Source or needs funding. Please explain

Needs funding. Lottery funds or other resources have been discussed.

PLEASE NOTE: If you have multiple requests, please submit multiple forms.

Please share as many details as possible such as room location(s), type of equipment and/or software requested. If you have a cost estimate, that would be helpful, we will contact you for more details.

Please share as many details as possible such as room location(s), type of facilities request, remodel or construction request, safety concern, or furniture request.

You will have an opportunity to present your request to the ISIT/FACILITIES OR CTE committee.

I am requesting the following:

Shaderware Virtual Radiography Software. This software is a virtual simulation program that allows students to completely simulate all diagnostic radiographic exams they will encounter in the clinical setting. As shown in the attached study, simulation significantly improved student performance in vocabulary testing, distance errors, and time-on-task during performance of radiographic exams. These are key components to radiation protection and patient safety within the clinical setting. Presently students use pre-designed models/phantoms to practice radiographic exams. However, the phantoms are anatomically rigid and do not mimic real situations students will encounter within the clinical setting. With the Shaderware program students must virtually operate all x-ray equipment within the simulated x-ray room, interact with patient-care protocols, problem-solve patient limitations and trauma and select appropriate radiation doses. Currently, lab and extended student practice-time requires direct supervision from a faculty member within the skills lab, however, the virtual program engages multiple students in a one-on-one practicum without supervision from the instructor. Students would access the Shaderware program within the Allied Health Computer Lab in MS 165. Finally, Shaderware is a program that would be used across the curriculum in introductory courses, all 3 positioning courses, radiation protection course, physics and principles of radiography courses. The program allows student practice in "real situations" without risk to patients. Purchase of the Shaderware software improves equity of access to students, supports campus mission to engage students and promotes use of technology within the curriculum.

Research during the 2017-2018 academic year revealed the following:

- BC computers are capable of running the software. Campus IT and Shaderware concluded that no accessory purchases would be required to run the software on campus computers.
- Purchase of Shaderware is a 1-time initial purchase and would not require additional fees in the future.

Attachments:

Initial Quote for Shaderware, Expires 1/24/19

Benefits of Virtual Radiography

Shaderware study, Comparison of Student Radiographers' Performance in a Real X-ray Room After Training with a Screen Based Computer Simulator (2012).