Instructional Development Committee Proposal

Adding Instructor-created Video Tutorials to the Mathematics Department Website for MATH1830 & MATH1910/1920 to Improve Student Retention and Achievement

submitted by:
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Approval by Supervisor:______________________________
Adding Instructor-created Video Tutorials to the Mathematics Department Website for MATH1830 & MATH1910/1920 to Improve Student Retention and Achievement

Project Description:
During Fall, 2005, I completed a project which consisted of developing professional quality video vignettes for the Basic Calculus and Modeling, MATH1830, web course. [http://etsms.pstcc.edu/math1830-flash/index.html](http://etsms.pstcc.edu/math1830-flash/index.html) Each vignette consists of brief instruction on a selected calculus topic and is approximately three to five minutes in length. I purposefully kept them brief, and therefore I would work only one or two examples. Because of the success of these video vignettes, they were made available Spring 2006 on the PSTCC Mathematics Department website as well as within D2L for the MATH1830 Lecture course that I was teaching. Student feedback included comments such as “Your videos were great--- straight to the point.... I went through the videos and video handouts several times to make sure that I had everything straight before taking the exam.” I have had students enrolled in MATH1830 under other instructors thank me for the videos.

I have received several comments from students requesting videos that include more examples. Because of the success of the first project, I would like to honor this request from the students. This project proposal is for release time for the development, creation, and deployment of professional quality videos that supplement the original vignettes but that focus on more examples than the original project. These videos will be approximately 12 to 15 minutes in length and be designed so that students in both MATH1830 and MATH1910/1920 could benefit from viewing them. The videos would be made available on the PSTCC Mathematics department website for use by all students. Instructors also would have the option of adding them to their web or web-enhanced courses. Each video would consist of a very brief statement or instruction on a selected calculus topic followed by several examples. The videos would facilitate learning in the classroom or online by offering the students an alternate mode of learning the course concepts. The textbook used for the MATH1830 course does have videos to accompany the text, but I have viewed these videos and find them to be of such poor quality that I would not want my students to view them. In addition, we do not want to depend on a publisher’s textbook specific videos.

Ideally, these videos will increase student satisfaction and, in turn, retention in all of these courses. Research results show an improvement in student retention and achievement in courses that utilize instructor video as part of the course. For example, there is an article in the British Journal of Educational Technology, Volume 38, Issue 5, pages 885-895 regarding a study that “implies that problem-based video instruction in college courses has the potential to enhance student satisfaction, comprehension and delayed retention.”

The project would require time for developing lesson plans for the videos and then time for training and teaching the lessons for recording. The videos would be developed and created with the assistance of Educational Technology Services. It is estimated that these tasks will require more than eight hours per week.
**Project Evaluation:** This project will be evaluated on two aspects: student retention and student achievement. Data will be collected on student retention and student achievement in courses without these extended videos prior to Spring 2010. This data will include the percent of grades that indicate success, the percent of failures, and the percent of withdrawals. In Spring 2010 and Summer 2010 the videos will be added to both the Mathematics Department homepage as well as to the homepage for both web and web-enhanced courses. Similar data will be collected for these courses with the extended videos to use for comparison. Another assessment will be students’ perceptions of the videos to be gathered through a survey. Using both options will provide both quantitative and qualitative feedback.

**Timeframe:** The project has two parts: video creation and video delivery/project evaluation. Video creation will take place over Fall 2009, while the video delivery will be during Spring 2010/Summer 2010 with evaluation occurring at the end of summer semester.

**Budget:**

<table>
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<th>ITEM NO.</th>
<th>QUANTITY</th>
<th>DESCRIPTION OF ITEMS OR SERVICES REQUESTED</th>
<th>UNIT COST</th>
<th>ESTIMATED COST</th>
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<td>Sony DVM-60PR 2 Pack 60 Minutes Premium Mini DV Video Cassette B&amp;H # SODVM60PRQ2</td>
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One Faculty Reassigned Time for training, video development, and recording
Four hour course x $560 per hour + one office hour x $150 = $2390

**TOTAL BUDGET:** $22.50 + $2390 = $2412.50