

MnSCU grants to fund innovative SCSU projects

Electrical engineering students will be able to connect to a St. Cloud State University computer lab and complete "hands-on" assignments while sitting at their home computers — even if those home computers are in the Twin Cities or out-state Minnesota.

Freshman and sophomore students may receive enhanced training in library skills through the university's Learning Resources Services.

Community and technical college students considering transferring to St. Cloud State University may be able to easily determine precisely which classes to complete before making the switch. And some of those classes may feature instructional materials identical to those being used in like classes at SCSU.

All of these innovations are on the horizon thanks to money from MnSCU's Electronic Academy initiative.

The electrical engineering project, spearheaded by the department's J. Michael Heneghan and Yi Zheng, received nearly \$227,000 from the Electronic Academy.

The media-related project received more than \$173,000. Formally called "Academic Support and Advising Via Multimedia Technology," the project represents a cooperative effort between Learning Resources Services, the Academic Learning Center and the aviation department. Dennis Fields and Rich Josephson of the LRS wrote the grant proposal along with Gretchen Starks-Martin and

graduate assistant Pam Gebeke, both of the ALC, and Ken Raiber of aviation.

Collaboration is an essential aspect of the LRS project. Not only are various departments on campus working together, the university is working with a number of technical and community colleges to enhance transfer students' experiences and to share resources, Josephson said. The aviation department's involvement will help LRS determine how it can help individual departments develop materials that can be used on campus and at other sites.

Josephson envisions that the multimedia project will involve the World Wide Web, CD-ROM, videotape and instructional materials. Community and technical college students, as well as incoming freshmen, will be able to get increasing amounts of essential information about various SCSU departments via the Web. They may be able to learn more about the programs they plan to enter via information on CD-ROM. Videotaped presentations and other electronic instructional materials may be shared across university and community or technical college campuses to ensure that transfer students are up to speed in their coursework when they arrive at SCSU.

"It isn't just technology for technology's sake," Josephson said. It provides a new opportunity for LRS staff to work with faculty to determine student and faculty needs and find the best format to meet those needs. "The technology is not the end," he said. "It's just a vehicle for us

to get where we want to go."

In the electronic engineering project, technology is both the means to an end and the end itself.

Zheng, Heneghan and a team of students are beginning work this spring on "Real Time, Remote Electrical Engineering Laboratories for Distance Learning." The labs they develop will be for students in the MnSCU system and beyond. Until now, the lack of meaningful, hands-on labs has been a weakness in distance education in the engineering field. The labs developed through this project will serve on-campus students as well as those at other sites. The technology will allow students to remotely operate the lab equipment. "It's not a simulation," Zheng said. Students, Heneghan added, actually will push buttons via the World Wide Web that connect electronically to buttons on equipment on campus. The device at SCSU will signal back measurements so students can see the results of their lab work.

In addition to making lab work more convenient, the project will make it more accessible because one work station can be used simultaneously by many students who access it from across campus, across town or across the state — 24 hours a day, seven days a week.

Why is this hands-on lab experience so important? Students need that practical experience in order to be competitive when they enter the job market, Zheng said. "Hands-on experience is critical for the success of engineering education."

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—Yi Zheng