

Grants fuel technology at SCSU

\$226,848 goes to electrical engineering lab; \$173,122 helps academic support

By Amy Becker
TIMES STAFF WRITER

Ask about recent advances at St. Cloud State University, and administrators proudly describe roughly \$400,000 worth of grants being used to expand learning and teaching opportunities.

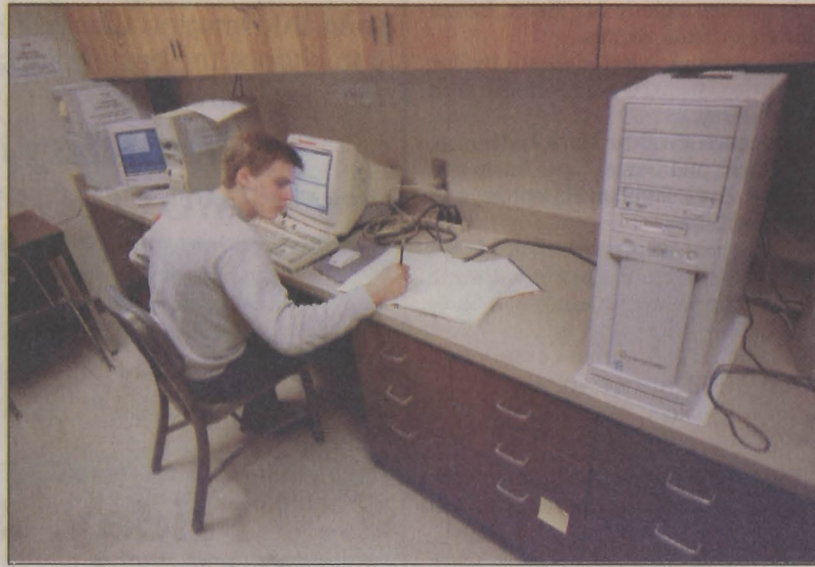
Ask to see where the money is going, and they're likely to give you a Web address or a CD-ROM.

The university has received funds for two aggressive initiatives aimed at using technology to boost services to students — those locally and those attending distant universities. With the World Wide Web, the gap between the computer of a student on another campus and an oscilloscope in the Engineering and Computing Center is easily bridged.

Such technological advances are being emphasized by the Minnesota State Colleges and Universities system. MnSCU's Electronic Academy Council recently awarded two grants to St. Cloud State. A plan to develop remote electrical engineering labs received \$226,848. A second grant, aimed at multimedia academic support and advising, received \$173,122.

The new programs will be a boost for the university and the system, said a MnSCU representative.

"I think St. Cloud State University is



TIMES PHOTO BY PAUL MIDDLESTAEDT

St. Cloud State University senior Jeff Pollard worked on developing software that will enable students to access engineering exercises on the World Wide Web. SCSU recently received two grants for the development of computer related technology in distance learning and academic support.

progressing very well," said Gerrit Groen, program manager for distance learning with MnSCU.

Advancements in telecommunications and electronic technology will vastly increase faculty teaching ability and student learning ability, he said.

Although there always will be a need for the physical sites and the social aspects of college, for a growing number of students, other needs are more

important, Groen said.

Distance and a time crunch are pushing the technology explosion on campuses, he said.

"Time is a very important feature of our lives. We want to be able to control our time," Groen said. Many students choose to spend their time at work or with their families. Studying via computer — even in the middle of the night — gives them what they

need conveniently.

Here's how the grants break down:

Electrical engineering

Professor J. Michael Heneghan describes the quandary of applying a new technique in his department. "In electrical engineering ... the basic problem is laboratory — how do you do labs in distance learning?"

He thinks he and fellow professor Yi Zheng have developed a solution: They're creating software and hardware that will allow students to conduct real experiments by manipulating lab equipment over the World Wide Web.



Yi Zheng
WORKING WITH GRANT

The two have a lot of ground to cover before the first phase of their project ends in August 1998. The \$226,000 will help fund four students to work full time on the project this summer.

They will design four labs with several experiments in the department, Heneghan said. The software will allow students to have replicas of the equipment appear on their computer screens. When they adjust a knob by moving the mouse, the real equipment receives the message and makes the same adjustment.

Far from a simulation, this will allow students to learn how the equipment really works, even allowing for the possi-

bility that machines aren't properly connected to one another, he said.

"If it works as well as we think it will, then we'll talk about expanding," Heneghan said.

About half of St. Cloud State's electrical engineering students are transfer students. Developing distance learning would allow students at technical colleges or two-year colleges to take these classes before they transfer, he said.

It could help local students as well, Zheng said.

"One motivation is to increase the opportunity to allow student access to lab equipment," he said.

Senior Rob Stewart sees the benefits. "As electrical engineers, we put in many hours here (in the lab). Being able to do this from home would help more students learn faster."

Moen, with the MnSCU system, called the project fascinating. It addresses a long-held concern about using laboratories, he said. "They're really breaking new ground in this area."

Academic support

The academic support grant involves several areas of campus: Learning Resources Services, the aviation department and the campus Academic Learning Center.

The \$173,122 will help all three areas produce and coordinate multimedia materials, explain how to use the library and add a new lab to the Academic Learning Center. It ranges from assisting transfer students in deciding what

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courses to take, to teaching students how to take tests and offering specific instruction for future aviators.

"This project does little pieces of a lot of things," said Rich Josephson, professor and research director for the Center for Information Media on campus.

"We're looking for all sorts of opportunities to keep ourselves on the cutting edge," Josephson said.

The Academic Learning Center, which offers college-level programs to assist people with critical reasoning and reading skills, test-taking skills, and career selection, is getting more high-tech and more user-friendly.

An example is new software aimed at boosting various reading and test-taking skills, said co-director Ceil Fillenworth.

"The students seem more comfortable sometimes interacting with a computer," Fillenworth said.

And the technology makes the directors and tutors more available, said Gretchen Starks-Martin, co-director. E-mail, for example, creates a virtual office environment.

Fillenworth said she was surprised at the way using computers affects students. Many will labor over a computer longer than a textbook.

"It is more interactive than I thought," she said. "Students help each other more."

Both grants reflect the MnSCU system's increased emphasis on technology. No one is sure exactly how changing technology will affect the future of education, Groen said. But he offered one possibility:

"Telecommuting to work may be the harbinger of what's to come in education," he said.