

UCSC plans for 21st century

Chancellor details engineering school

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SANTA CRUZ — By building an engineering school, UC Santa Cruz is positioning itself for the 21st century and for its future growth, Chancellor M.R.C. Greenwood said Tuesday.

In an interview that coincided with details of how the university will create engineering programs, Greenwood also said the expansion does not mean the campus is shifting course from its traditional liberal arts emphasis.

Greenwood said engineering could provide much of the future growth on the campus, projected to grow from the current 10,000 to 15,000 students over the next decade or so.

Eventually, Greenwood said, she hopes UCSC's engineering school would include about 65 fac-



Patrick Mantey

Named dean
industry advance, said the chancellor. "I don't think there's any chance we won't experience considerable demand there."

"We anticipate this is the wave of the future," Greenwood said.

News of the expanding engineering program was well received in the local tech community. Sandi Pensinger is head of the Santa Cruz Technology Alliance and says her group now lists 560 businesses in its directory, up from 250 in 1994.

"SCTA is very much behind a school on the campus for engineering," Pensinger said. "The demand for engineers right now is far outweighing the supply. ... It would mean a lot for companies from the entrepreneurial size to SCO, Cisco and Seagate. It would also mean a lot more innovation in the area."

Seed money for the expansion that will lead to a full



Greenwood
Chancellor

ulty members, putting it in the ballpark with "smaller, distinguished engineering schools" such as Rice and Princeton.

Greenwood stressed, too, that partnerships between UCSC and Silicon Valley and Santa Cruz County technology firms will be crucial to the success of an engineering school.

As technology advances, the university is charged with providing talented graduates to help the

UCSC engineering

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school of engineering is coming in the form of \$2 million from the office of UC President Richard Atkinson.

"I believe Santa Cruz is positioning itself to serve California well in this vital area of teaching, research and service," Atkinson said.

The UC Regents still must approve the funding, as well as another budget proposal that would give UCSC money to renovate its Applied Sciences building to house the expanded programs. This building now is home to the Computer Engineering, Computer Science and Mathematics departments.

The first freshmen in a new electrical engineering program (probably the most crucial for the high-tech industry) would arrive next fall.

The campus will use the money to hire 16 faculty members during the next three or four years, said spokesman Robert Irion. The new hires will help form new departments in electrical engineering and applied and engineering mathematics. Ten of the initial hires will form the electrical engineering staff; six will go to applied and engineering mathematics.

The campus already has programs in computer engineering and computer science. These will join the two new programs, and eventually others, to form the first professional school in UCSC's history.

Greenwood said she envisions a school that would also include undergraduate and graduate degrees in biotechnology engineering, environmental engineering, manufacturing engineering, applied mechanics, engineering management and mechanical engineering.

Adding 16 faculty to the current engineering staff of 25 would mean that another 25 or so faculty would have to be hired long range. Greenwood said the ultimate size of the school may depend on enrollment pressures.

The university named Patrick Mantey as the associate dean for engineering to oversee the startup of the new school. Mantey is chairman of the Computer Engineering department.

UCSC's core

"What makes for great universities is diversity, so I think it's a positive for our university that we'll have an engineering school. I hope it doesn't have a negative impact on the more traditional liberal arts programs offered by UCSC," said Santa Cruz Mayor Mike Rotkin, a longtime faculty member in Community Studies at the university.

But Greenwood attempted Tuesday to put any such fears to rest. She pointed to the work of a 1991 faculty committee that recommended an engineering school be built at the campus. The proposal died during several years of budget cutting.

Greenwood said that when she arrived last summer from UC Davis, she was "very sympathetic" to this proposal. In addition, she said, Atkinson has made it a

priority to establish "the economic relevance of the UC, not just the educational relevance." To do this, the UC president has stressed UC-industry partnerships.

Greenwood spent two years working in the Clinton administration on science and technology issues. She said this job heightened her awareness of the need for partnerships between private industry and universities, where funds for research have been getting scarce.

Greenwood also said that despite its reputation as a so-called "hippie campus," UCSC is really at core an "arts and science" institution.

"What we're doing is providing the kind of education on campus that will allow our students to become real leaders in the 21st century," she said. "For our campus ... (this) is entirely consistent with the mission."

Greenwood also said that expanding the engineering programs at UCSC fits nicely with the university's long-range plans for Fort Ord, where UCSC has been the lead campus in planning for the Monterey Bay Education, Science and Technology Center. Plans for this UC-administered project call for an industrial research and technology center to be built over the next several decades on 485 acres in Monterey County.

Greenwood said she foresees additional collaborations between the engineering departments and this research and development facility.

Silicon Valley neighbor

Building a successful program is expensive and will take a long time, said Don Kirk, dean of the College of Engineering at San Jose State University.

Engineering departments require paying for qualified faculty, building research labs, and lab classes tend to be smaller, said Kirk. At San Jose State, it costs about \$5,000 annually to educate an engineering student compared to about \$3,500 for students in the humanities, he said.

San Jose State's program offers undergraduate and graduate programs in engineering, with 65 full-time faculty and 35 part-time instructors mainly from Silicon Valley industry. "Silicon Valley has done a great deal for us," Kirk said.

San Jose State, however, is barred by the state from offering doctoral programs, which UC campuses can offer. Nevertheless, Kirk said a UCSC school would "definitely be competing" with SJSU, especially in attracting support from Silicon Valley.

But, said Kirk, "it probably will help us. Some of the people in Silicon Valley tend to take us for granted. They'll see we produce high-quality engineers."

Greenwood noted there will be significant differences between the two engineering programs. Not only will UCSC offer doctorates, but the university will not duplicate some of San Jose State's programs, such as civil and aeronautical engineering.