UC SANTA BARBARA

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NEW DEGREE IN COMPUTER ENGINEERING OFFERED

New graduates can expect to earn $45,000 to $60,000 to start, with a bachelor's degree in a new major that combines engineering with computer science, according to faculty at the University of California, Santa Barbara.

The new graduates will understand computer software and hardware and be trained to work with systems ranging from small integrated circuits to worldwide communication networks, from digital watches to supercomputers, from single-line programs to operating systems.

"The demand for this expertise is really high, and will remain so for many years," said K.-T. Tim Cheng, director of the computer engineering program at UC Santa Barbara.

"The U.S. Bureau of Labor Statistics projects a national demand for an increase in computer engineering employment of 177,000 jobs by 2005," said Cheng. "A large proportion of these jobs will be in California, but currently the UC system has only modest programs in place to meet this increasing demand."

Without any formal recruiting, the new program has attracted 72 freshmen this year. Originally only 25 were expected.

Recent developments in computer technology are responsible for the increasing demand. The developments are changing many fields, including science,

communication, writing, business, medicine, space exploration, music and film. Computer engineering is the design of hardware and software systems to meet the needs of all these applications.

Currently, few individuals command the range of skills in digital electronics, system software, use of computer-aided design (CAD) tools and very large-scale integrated circuit (VLSI) design required of a computer engineer, resulting in an acute shortage in the industry, said Cheng.

Computer engineering spans a broad range of activities, from the design and modeling of devices used in the construction of computer systems to the configuration of large systems and networks of computers, including both hardware and software. The application of computer engineering ranges from the design of highly specialized, dedicated processors to general purpose systems. The physical size of computing systems runs from microprocessors to supercomputers.

The bachelor of science in computer engineering degree curriculum provides a broad education in the fundamentals of computer engineering as well as a solid foundation in the basic sciences including mathematics, electrical theory, computer hardware and computer software. Students may pursue a general program or may choose to specialize in areas such as: computer-aided design for hardware; computer systems; multimedia computing; computer networks; computer operation system and computer languages; real-time computing, and very large-scale circuit design.

About UC Santa Barbara

The University of California, Santa Barbara is a leading research institution that also provides a comprehensive liberal arts learning experience. Our academic community of faculty, students, and staff is characterized by a culture of interdisciplinary collaboration that is responsive to the needs of our multicultural and global society. All of this takes place within a living and learning environment like no other, as we draw inspiration from the beauty and resources of our extraordinary location at the edge of the Pacific Ocean.