

Division of Engineering Fact sheet

October 7, 1988

DEAN OF ENGINEERING: Dr. M. Lea Rudee

DIVISION OF ENGINEERING ESTABLISHED: 1982

LOCATION: Room 7301, Engineering Building Unit I

ENROLLMENT: Approximately 3,000 undergraduate and graduate students.

THE DIVISION OF ENGINEERING

The Division of Engineering was established to provide an administrative focus for the three departments of engineering at UCSD.

ENGINEERING DEPARTMENTS APPLIED MECHANICS AND ENGINEERING SCIENCES (AMES) CHAIR: Dr. Daniel Olfe

A mechanics-based, applied science department, with additional strengths in systems science and bioengineering. In order to meet student and industrial demand, AMES has started programs in chemical, mechanical, and structural engineering in addition to its long-standing applied science programs.

COMPUTER SCIENCE AND ENGINEERING (CSE) CHAIR: Dr. Walter Burkhard

The Department of Computer Science and Engineering emphasizes the principles of computer science and computer engineering in undergraduate, graduate and research programs. The various areas of research include: operating systems, programming languages, database management systems, parallel computation, distributed computation, performance modeling, computational linguistics, artificial intelligence, computational complexity, analysis of algorithms, and data structures.

ELECTRICAL AND COMPUTER ENGINEERING (ECE) CHAIR: Dr. Manuel Rotenberg

Research in electrical and computer engineering covers the latest advances in communications theory and systems, applied optics, and electronic materials and devices. Various areas of research include: electronic systems, communications and theory systems, applied optics, electronic materials and devices, solar system physics, plasma physics and radio propagation, and computer engineering.

DEGREES OFFERED

UNDERGRADUATE: Applied Mechanics, Bioengineering, Chemical Engineering, Computer Engineering, Computer Science, Electrical Engineering, Engineering Physics, Engineering Science, Mechanical Engineering, Structural Engineering, Systems and Control Engineering.

GRADUATE: Applied Mechanics, Applied Ocean Sciences, Bioengineering, Chemical Engineering, Computer Science, Electrical Engineering, Engineering Physics, Systems Science.

STUDENT AND FACULTY GROWTH:

Engineering and computer science enrollments have grown from 139 in 1970-71 to about 3,000 in 1988-89. Currently, about 1,000 upper division students are admitted to engineering majors, while about 1,500 are enrolled in pre-engineering programs. This total represents some 23% of the entire undergraduate student body at UCSD. Graduate enrollment in the Division of Engineering is over 400, with a majority pursuing the Ph.D. degree.

Faculty in engineering will almost double over the next few years.

FACILITIES

CENTER FOR MAGNETIC RECORDING RESEARCH: Funded by private corporations, CMRR opened its new research facility in January 1986. CMRR has channeled its research efforts into four main areas: refining magnetic materials to increase their storage capabilities, improving the mechanical aspects of computer disk recorders to step up their reliability, better understanding the physics of fundamental questions pertaining to magnetic materials for faster data uptake, and learning more about the application of magnetic materials to disks and tapes in order to produce them more rapidly and precisely. Director: John Mallinson.

THE CHARLES LEE POWELL STRUCTURAL SYSTEMS LABORATORY: Completed in March 1986, it is the leading earthquake testing facility in the western hemisphere. The laboratory, funded by the Charles Lee Powell Foundation and the National Science Foundation, also tests structural materials, components and connections. Director: Dr. Gil Hegemier.

CENTER FOR ENERGY AND COMBUSTION RESEARCH: Began operation in 1972 as the UCSD Energy Center and became an official organized research unit in 1974. Renamed in 1986 to emphasize the close link between energy and combustion research. Emphasis is on solving fundamental problems derived from the interrelated physical, biological, economic, political and social consequences of man's need for energy. Director: Dr. S.S. Penner.

CENTER OF EXCELLENCE FOR ADVANCED MATERIALS: The Department of Defense University Research Initiative Program has awarded the center more than \$6 million over five years to do advanced materials testing. The center focuses on analysis and design of new materials such as ceramics and ceramics composites, metallic and non-metallic compounds, cellular materials and high-strength alloys and super-alloys. Director: Dr. Sia Nemat-Nasser.

INDUSTRIAL LIAISON PROGRAM: The Division of Engineering benefits from strong support by both local and national industries through the Industrial Liaison Program. This program is designed to promote communication and interaction between the industrial community and the faculty and students in engineering at UCSD. The continuing commitment of these firms has fostered the growth and excellence of UCSD's Division of Engineering. Contact: Marilyn Wilson.

(October 7, 1988)