

## **Engineering-1**

### **School of Engineering**

*Dean:* Steven Schreiner; *Assistant Dean:* Martha H. Stella

The School of Engineering is composed of five departments: biomedical engineering, civil engineering, electrical and computer engineering, mechanical engineering, and technological studies. The School offers an interdisciplinary program in engineering science. Graduates of the engineering programs are prepared for employment at the professional level or to pursue graduate studies. The program in technological studies prepares students to be teachers of technology education.

### **Engineering Degree Programs**

The School of Engineering offers the following engineering academic programs leading to a bachelor's degree:

- Bachelor of Science in Biomedical Engineering
- Bachelor of Science in Civil Engineering
- Bachelor of Science in Computer Engineering
- Bachelor of Science in Electrical Engineering
- Bachelor of Science in Engineering Science (Specializations in Engineering Management and Policy and Society)
- Bachelor of Science in Mechanical Engineering
- Seven Year Medical/Bachelor of Science in Biomedical Engineering
- Seven Year Medical/Bachelor of Science in Engineering Science (Preferences in Electrical Engineering and Mechanical Engineering)

The School of Engineering offers the following engineering minors:

- Computer Engineering
- Electrical Engineering
- Engineering Science
- Mechanical Engineering

The Biomedical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Engineering Science and Mechanical Engineering programs are accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

The engineering programs prepare students for careers in research and development, design, and engineering practice. The engineering programs equip graduates for entry-level positions as engineers in industry and place them on track for professional registration. The course of study in engineering will provide the opportunity to pursue an engineering specialty in one of the following engineering disciplines: biomedical, civil, computer, electrical, or mechanical engineering, or engineering management. The programs also prepare students for admission to graduate school to continue their education toward the MS or PhD degrees in a recognized engineering or other technical specialty, and other related advanced degrees.

## **Engineering-2**

The engineering curricula provide each student with a thorough understanding of why and how things work. They develop the ability to predict the effect on a proposed or existing design of different choices in the use of materials, form, and procedures. The curricula are built on a core of general studies taken from many disciplines and taught by experts in those specific fields of study. They are also firmly based on a study of fundamental concepts in mathematics and physical sciences and taught at a high level of intellectual challenge. The curricula provide exposure to the theory of engineering and design that underlies all engineering specialties, while offering the student the opportunity to explore a particular engineering specialty in depth.

The TCNJ engineering programs provide students with considerable exposure to laboratory experiences and are supported by excellent laboratory resources. Laboratory activities help develop skills in original design and develop a student's confidence in his or her ability to critique and improve a design. The engineering programs at TCNJ are limited to undergraduate studies. Laboratories, therefore, are designed specifically for teaching, are relevant to the course material, and are kept accessible for students.

### **Mission Statement**

The mission of the School of Engineering is to develop highly competent professionals, preparing them for entry-level positions in engineering or teaching, or for further study in graduate or professional school. Allied with the College's mission, the School of Engineering is proud of its public service mandate to educate leaders of New Jersey and the nation, fostering intellectual growth of our students so that they may become productive citizens in the service of humanity. The School is dedicated to providing a dynamic learning environment that emphasizes open-ended design, problem-solving skills, teaming, communication, and leadership skills.

To accomplish its mission, the School of Engineering:

- offers a broad array of exceptional academic programs including: biomedical engineering, civil engineering, computer engineering, electrical engineering, mechanical engineering, engineering science (engineering management), and STEM education;
- engages students in creating innovative design solutions that include realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, sustainability, and global considerations, and disseminating these designs at national and regional venues;
- provides undergraduate research experiences, allowing students to work closely with members of the faculty; and
- employs highly dedicated faculty members who are effective teacher-scholars committed to maintaining a learner-centered undergraduate environment with emphasis on student mentoring.