

## **The Academic Program**

The College of Engineering exclusively offers undergraduate degree programs that stress interactions between teachers and learners who are committed to academic excellence. Led by a readily accessible faculty with varied academic and professional practice backgrounds, the College offers a curriculum that integrates scientific and engineering principles, practical laboratory and computer work, engineering design experiences culminating in a major design project, and liberal learning in the tradition of Christian church-related colleges and universities. It seeks to attract bright, aspiring young people who relish the challenge of preparing for leadership roles in the engineering profession.

Bachelor of Science (B.S.) degrees may be earned in civil, computer, electrical, and mechanical engineering. The goals of each of these programs are to build a strong foundation in mathematics, and in the natural and the engineering sciences, and to provide an introduction to engineering design during the early portion of the program. This is followed by courses with increased emphasis on engineering applications, design, teamwork, and interdisciplinary activity. Instruction in engineering design is integrated throughout the curriculum so that students advance toward higher levels of competence culminating in a senior design project, which emphasizes formulation of problem statements and criteria, consideration of alternatives, and communication of results.

The first semester of the College's program is common for all students and is designed to begin the process of providing students with a foundation in mathematics, the physical sciences, engineering sciences, and the liberal arts. The Exploring Engineering course connects mathematics and physics to engineering issues. Students also receive help in selecting or confirming an engineering major in this course.

The last seven semesters provide breadth and depth of study in the chosen major. Various academic and co-curricular options are available, such as an international experience, cooperative education, the Christ College Honors Program, dual degrees, and second majors and minors. Valparaiso graduates are prepared for direct entry into the practice of engineering or for graduate school.

## **Computers and Laboratories**

The faculty-supervised laboratory program provides for first hand observation of physical phenomena, experience in data collection and analysis, verification of designs, written and oral communication, and teamwork. The use of computers in both the classroom and laboratory is fully integrated into the curriculum starting in the first semester. All engineering students are required to have a personal computer in their residence and are expected to use computer productivity tools and professional engineering software.

## **Life Outside the Classroom**

As an integral part of the University, the College encourages its students to be involved in all phases of University life. Social, moral, and ethical issues are given a place of high importance consistent with the University's objective of offering students knowledge plus values. This objective can be achieved by full participation in the academic, social, cultural, and spiritual life of a Christian campus.

### **For More Information**

Information on the College of Engineering is presented in the Valparaiso University Viewbook, and the current Valparaiso University General Catalog.