



Computer Engineering

Computer engineering students at Valparaiso University study at the core of emerging technologies in computer hardware and software applications, such as cell phones, computers, and robotics. They don't just learn about the theory of their discipline in the classroom; they also have many opportunities to experience the practical, hands-on laboratory work that is essential to being a world-class engineer. This experience prepares them for careers in many different high-tech fields, including digital design, embedded systems design, and digital signal processing, software development, computer architecture, and computer networking.

Valparaiso University's College of Engineering is committed to providing an outstanding undergraduate education, which goes beyond developing technical competence. The computer engineering program strives to develop engineers with the insight and ability to apply their expertise in a way that responsibly addresses social issues and promotes the wise use of world resources. Students are encouraged to develop teamwork and communication skills while engaging in hands-on laboratories taught by faculty. Students are also encouraged to participate in undergraduate research projects with the faculty.

In Gellersen Center, undergraduate computer engineering students use state-of-the-art equipment. These facilities are enhanced with the opening of the 13,470-square-foot Donald V. Fites Engineering Innovation Center, which provides meeting and work spaces for computer engineering majors to collaborate with team members in other engineering disciplines.

Valpo is the only Lutheran University with four-year, ABET-accredited degree programs in Civil, Electrical, Computer, and Mechanical Engineering. The College of Engineering earns consistently high rankings, tying for 31st in the nation among 190 undergraduate engineering programs in a 2010 survey by U.S. News & World Report.

VisBox X2 Virtual Learning System

Valpo is one of a very few undergraduate institutions to own a virtual reality system. VisBox X2 allows engineering students to visualize a project in three dimensions and aids in learning to perform computer-aided design and drafting, useful tools in professional situations.

scholarships and awards

In addition to the various awards and scholarships presented by Valparaiso University, engineering students can compete for ROTC scholarships. For information on scholarships and awards, visit valpo.edu/financialaid.



extracurricular activities, special programs

Engineers Without Borders — Valpo's chapter of this national organization is currently working with the village of Maesera in the Kilema district of northern Tanzania on a dual project to rehabilitate a local irrigation canal and provide sources of clean drinking water.

Humanitarian Engineering Minor — Students pursuing this minor apply engineering concepts to help disadvantaged communities both in the United States and in other countries.

Institute of Electrical and Electronics Engineers (IEEE) — The student branch of IEEE, the electrical and computer engineering professional society, gives students the opportunity to participate in social, educational, and service activities. They also compete with students from other universities in events like an annual professional ethics competition.

Valparaiso Independent Robotics Team (VIRT)
VIRT participants work year-round to design robots that compete in the national Jerry Sanders Creative Design Competition. Valpo teams placed first in design and third overall in the 2010 competition. They placed second, fifth, and eighth in 2011.

Society of Women Engineers (SWE)
Valpo's nationally recognized chapter of this organization promotes the advancement of women in the field of engineering. SWE members, both women and men, participate in service events, field trips, and other fun-filled activities.

Tau Beta Pi — Participation in exceptional service projects by Valpo's chapter of this national engineering honor society is rewarded with undergraduate scholarships. The chapter was recently awarded a three-year scholarship for outstanding service performed from 2007-2010.

recent alumni

Valparaiso University College of Engineering alumni are highly sought after by employers and graduate schools, earning consistent placement rates above 96% every year — and 100% in eight out of the last 16 years.

Matthew Schuchhardt '09
Graduate school, Computer Engineering, Northwestern University, Evanston, Ill.

Priyanshu Mutreja '08
University of California, Berkeley, Haas School of Business: Master of Financial Engineering '09. Investment Analyst at Clarivest Asset Management

Josh Wood '08
Graduate school, University of Illinois. NDSEG Fellowship Winner

Michael Kresca '07
Associate Engineer, Caterpillar Inc.

exceptional faculty

All members of the departmental faculty hold PhDs. Most have extensive professional engineering experience, and all are dedicated to undergraduate education. Expertise in the department spans the areas of computer simulation, microcontrollers, computer networks, robotics, nanoelectronic device design,

and more. The department emphasizes a learning environment in which students benefit from small class sizes. Half of the members of the Electrical and Computer Engineering department have received university-wide awards to recognize their excellence as teachers and mentors.

learn more — in person

Personal visits to the College of Engineering include a tour of our laboratory facilities and an opportunity to visit with an engineering professor. Call Valpo's Office of Undergraduate Admission at 219.464.5011 to schedule a visit. Find out more information on visits at valpo.edu/visit, and learn about Valpo students' personal stories and experiences at valpo.edu/whatsyourpart.

beyond-the-classroom opportunities

Internships and Co-Ops — More than 75 employer-partners in 20 states participate in Valpo's faculty-directed cooperative education program. Additional sites provide internship opportunities.

Research Opportunities — Students in the Computer Engineering program have the opportunity to work on undergraduate research projects with departmental faculty during the school year or the summer.

Scientific Visualization Laboratory (SVL) — Valpo is one of only a handful of undergraduate engineering programs to use scientific visualization as part of their curriculum. Students have the opportunity to use the SVL, which is a room-sized virtual

reality system, to help them understand the complex visual aspects of topics such as electromagnetic field theory. By being surrounded by three-dimensional images of the topics they are studying, students develop an improved understanding of computer engineering.

Hesse Learning Resource and Assessment Center — The Hesse Center provides one-on-one tutoring for students in subjects including engineering, calculus and physics.

VIEP — Valparaiso University International Engineering Programs (VIEP) are five-year programs that combine an engineering degree with foreign language coursework and study-

abroad experiences, offering an education that prepares students for success domestically or worldwide. VIEP-Spanish, VIEP-German, VIEP-French, and VIEP in China are available.

nanoK12 — Since 2008, electrical and computer Engineering students have worked to develop nanoK12, which provides training material suitable for a nanotechnology program geared toward elementary and secondary school students. The College of Engineering students have taught hundreds of local community school children, providing a bridge to the next generation of engineers and benefitting from the experience by developing their own skills.