

ALBERT A. HOPEMAN, JR. SCHOOL OF SCIENCE, ENGINEERING AND MATHEMATICS

DEPARTMENT FACULTY

Mike Bright, Ph.D.

Professor of Computer Engineering

James Brooks, Ph.D.

Chair, Associate Professor of Electrical Engineering

Alan Christman, Ph.D.

Professor of Electrical Engineering

Peter D. Hill, Ph.D.

Assistant Professor of Electrical Engineering

Luke K. Rumbaugh, Ph.D.

*Associate Professor of Electrical and Computer Engineering***DEPARTMENT DESCRIPTION**

Electrical and computer engineering is the analysis, design and application of devices and systems for conversion, processing and transmission of electrical energy and information. Electrical and computer engineering covers such topics as electric circuits, electronics, electrical machines, signal analysis and digital systems; as well as advanced topics in communication, computer and control systems. Electrical and computer engineers practice in a variety of fields including research, design and development, management, sales, field service, testing, manufacturing and education. Through hands on projects and coursework, students learn to define and solve electrical engineering problems using first-rate facilities and equipment.

MAJOR

Electrical Engineering

Students complete 98-99 hours of course requirements in addition to the College's core curriculum.

Requirements are met over a four-year curriculum that begins with the fundamentals of science and engineering and culminates in a senior capstone design project. Major courses cover both depth and breadth in the field.

Students may choose a concentration in electrical engineering (advanced lab work and hands-on experience in the use of electronic and electrical devices including transformers, motors and generators) or computer engineering (an in-depth study of advanced programming, operating systems, microprocessors and computer architecture).

MINOR

Robotics

The field of robotics is developing rapidly and Grove City is excited to be devoting important resources to the development of this discipline. Students complete 19-20 hours of course requirements, featuring hands-on learning experiences, practical design and programming courses and a capstone project for seniors.

Students will have an opportunity to learn about the ethical side of robotics from a Christian perspective.

ACCREDITATIONThe electrical engineering program at Grove City College is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.**SPECIAL DEPARTMENTAL AREAS OF INTEREST**

Engineering is both theoretical and practical. In addition to learning theory in class, the curriculum emphasizes practical application through projects. In addition to the senior capstone project, a variety of courses include semester projects as individuals or in teams. Students can design their own independent projects (working with a faculty member) and receive course credit. Recent independent studies served local industry, other departments on campus, national competitions and students' personal interests.

UNDERGRADUATE RESEARCH OPPORTUNITIES

Research opportunities are available for faculty-led research and independent student research. For example, Dr. Rumbaugh sponsors several independent research studies, senior capstone projects and summer assignments to develop a Time-of-Flight camera for underwater vision. These partner with a lab at Clarkson University developing a system for the US Navy. Dr. Brooks is interested in the ways that human beings trust engineered systems. This resulted in several independent research projects and summer assignments. Dr. Christman conducts regular research in antenna design.

INTERNSHIPS

In engineering, internships are equivalent to summer employment. All students participate in internships at least one summer, and most have several. Engineering companies recruit heavily for summer interns.

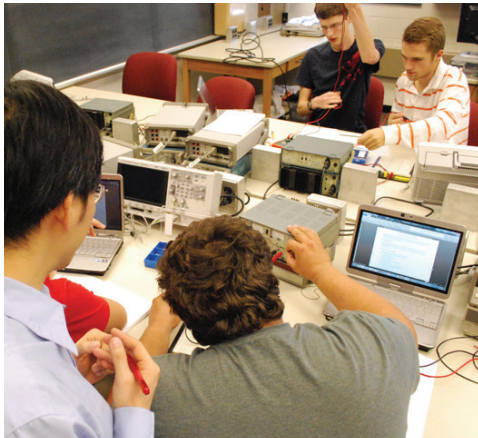
In recent years, students have interned at dozens of different companies such as "Honda, Bechtel Plant Machinery Inc., FirstEnergy, Komatsu, GE, Cisco, ROVISYS, Reach Beyond, CJL Engineering, and Sandia National Laboratories and many more.

CAREER AND GRADUATION OPPORTUNITIES

Employment opportunities are abundant for graduates. Many students receive offers from companies where they conducted summer internships. Most alumni pursue master's degrees, but mainly part-time in a company-paid program. For those who pursue full-time graduate school, Penn State, Carnegie Mellon University, Georgia Tech, University of Virginia, University of Massachusetts, Virginia Tech, M.I.T. and many others top their list of choices.

“The faculty wants to see students succeed. The classroom is a comfortable place where no one is too afraid to ask questions, have discussions or crack a joke. Whether it's an engineering, science, math or humanities course, the faculty has always made itself accessible, genuinely seeking to mentor students for future success.

– Megan McCoy '15

**CONTACT**

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