Department of Engineering
College of Arts and Sciences

Faculty

Don Van (2001). Associate Professor and Department Chair of Engineering. B.S. and M.S., University of Illinois in Chicago; M.S. and Ph.D., New Jersey Institute of Technology, P.E., CEM.

James Kirk (2001). Assistant Professor of Computer Science. B.M., Union University; M.M. and M.A., and Ph.D., Indiana University.

Jeannette Russ (2002). Assistant Professor of Engineering. B.S., Mississippi State University; M.B.A., Colorado State University; Ph.D., Vanderbilt University.

Seungwon (Chris) Song (2002). Instructor of Engineering. B.S., Yonsei University; M.S., KAIST; Ph.D., Northwestern University. Additional study, University of Toronto.

The Engineering Department seeks to prepare graduates for the practice of engineering at the professional level and lead to Union's first degree in engineering, which should be conferred in 2005. Union offers the Bachelor of Science in Engineering, B.S.E., with

III. Electrical Engineering—19 hours
A. EGR 350, 370
B. EGR 405, 420, 435

Mission Statement

The Engineering Program will not only prepare students with a sound technical base that will make state licensure achievable but also educate them with a distinctive liberal arts orientation and with a view towards integration of faith and learning. An education in engineering at Union University aims to produce a socially and morally responsible citizen who is uniquely prepared to carry out public and global service opportunities as an individual committed to his / her faith and community.

Course Offerings in Engineering (EGR)

( ) Hours Credit; F–Fall; W–Winter; S–Spring; Su–Summer

All engineering courses include a design project as part of course requirements.

101. Introduction to Engineering Design and Analysis (3)
Prerequisite: Admission to the engineering program.
Provides an overview of the engineering profession, including technical and legal responsibilities, the design and analysis method, and application of the engineering process to problem solving.

105. Engineering Graphics (3) S
Prerequisite: Admission to the engineering program.
Teaches graphical communication methods through two widely used software packages; covers 2-dimensional projections and views, 3-dimensional surface and solid modeling, and general concepts such as object dimensions and tolerances.

210. Materials Engineering (3) S
Prerequisite: CHE 111, PHY 231.
Examines the structure of material at the atomic level, including how physical, thermal, and mechanical properties affect the behavior of materials. Includes weekly lab.

250. Thermo-fluid Dynamics I (4) S
Prerequisite: CHE 111, PHY 232; Corequisite: Moject3.1(232; Cor)sed sc9(eoo:sgTw ep,TJ / F6v 1

275. Engineering Statics (3) F

ine cycle, steam generators, combustion, and turbines; presents information on the environmental impact of energy generation.

405. Electronic Circuit Analysis and Design (4) S

498. Engineering Seminar (1) F
Prerequisite: senior standing.
Provides a comprehensive review of all engineering fundamentals, including mathematics, physics, chemistry, and economics, to prepare engineering seniors for the national Fundamentals of Engineering (FE) examination; also provides a review of engineering ethics and Christian conduct in the workplace.

180-280-380-480. Study Abroad (1-4) As Needed
All courses and their application must be defined and approved prior to travel.

195-6-7. Special Studies (1-4) On Demand