UNIVERSITY OF WISCONSIN
UW Richland
A Campus of the University of Wisconsin Colleges

An Engineering Major at UW-Richland

Overview

Engineers have a great impact on our lives. The engineering field has more than 25 different areas of specialization and many subdivisions. Whatever engineering branch you choose, you'll learn to apply the theories and principles of science and mathematics to practical technical problems. The engineer works as a member of a team and is often the leader. Such teams include both scientists and technicians. Scientists investigate the fundamental laws of nature and define principles in solving problems in creating something useful. An engineering education is in a sense a liberal education. It requires a solid foundation in humanities and social studies as well as a thorough knowledge of chemistry, physics, mathematics, and engineering principles. It demands understanding and awareness of environmental problems. If you're planning to major in engineering, you'll spend your freshman and sophomore years of college studying the basic sciences in chemistry and physics, humanities, social sciences, mathematics and composition. UW-Richland covers the pre-engineering curriculum you'll need. Your junior and senior years at your transfer institution will be devoted in large part to specialized engineering coursework. UW-Richland and the University of Wisconsin-Platteville offer students a Joint Pre-Engineering Program, an agreement that offers students who begin an engineering major at UW-Richland the same opportunity to continue their studies at UW-Platteville as students who begin there.

Career Opportunities

Some of the engineering specialties from which you can choose include aerospace engineering which involves designing, developing, and producing commercial and military aircraft, missiles, or spacecraft. Another choice is agricultural engineering in which you design agricultural machinery and equipment, or develop methods to improve the production, processing, or destruction of food or other agricultural products. The chemical engineer designs equipment and develops processes for manufacturing chemicals, plans and tests methods of manufacturing and products and supervises production. Chemical engineers may also work in the areas of electronics or aircraft manufacturing. Civil engineers design and supervise the construction of roads, airports, tunnels, bridges, water supply and sewage systems, and buildings. Electrical and computer engineers are concerned with the analysis, design, development, operation, and research of electrical and electronic systems and their component parts. Industrial engineers determine the most effective way for an organization to use the basic factors of production: people, machines and materials. Mechanical engineers plan and design tools, engines, machines and other mechanical equipment. It is the broadest engineering discipline extending across many interdependent specialties.

Websites you may want to visit:

American Society of Civil Engineers	http://www.asce.org
American Society of Safety Engineers	http://www.asse.org
American Water Works Association	http://www.awwa.org
Wisconsin Department of Natural Resources	http://www.dnr.wi.us
American Society of Agricultural Engineers	http://www.asae.org
American Society for Engineering Education	http://www.asee.org
Institute of Electrical and Electronics Engineers	http://www.ieee.org
American Society of Mechanical Engineers	http://www.asme.org
Society of Manufacturing Engineers	http://www.sme.org

Curriculum Guidelines

University of Wisconsin-Richland offers you the freshman/sophomore curriculum needed to begin an engineering major. The four-semester program outlined below is to be used as a guide. Additional information and transfer planning sheets for specific majors and universities are available in the Student Services Office. UW-Richland offers the freshman/sophomore curriculum appropriate to an engineering major and includes required general education courses. Consult your academic advisor for individualized program planning assistance.

First Year

Semester I

English Composition*	3 cr.
Calculus 221*	5 cr.
General Chemistry 145	5 cr.
Engineering Fundamentals 105	3 cr.

Semester II

English*	3 cr.
Math 222- Calculus	5 cr.
General Chemistry 155	5 cr.
Social Science	3 cr.
Elective	1 cr.

Second Year

Semester III

Physics 201	5 cr.
Social Science	3 cr.
Mechanics 201 (Statics)	3cr.
Humanities/Fine Arts	3 cr.
Engineering Economics 282	3 cr.

Semester IV

Physics 202	5 cr.
Math 223 – Calculus	5 cr.
Mechanics 202 (Dynamics)	3 cr.
Humanities	3 cr.
Elective	1-2 cr.

Placement in English and mathematics will be determined on the basis of placement test results; see *.

Other courses you may want to consider, if your program permits, include Math 271 Ordinary Differential Equations and Economics 282 Engineering Economics. This curriculum may vary according to the transfer campus.

Explore career possibilities by visiting The Resource Center, located in the Student Services area of Melvill Hall. There you'll find career information, a self-assessment video and career assessment testing. and a computer program you can use to determine your work-related interests, your skills and values to identify compatible occupations. This program provides information about educational requirements, potential salary and employment outlooks for more than 550 occupations in Wisconsin and nationwide.

For more information or assistance, contact:

Office of Student Services
University of Wisconsin – Richland
1200 Highway 14 West
Richland Center, WI 53581-1399

E-mail: rlninfo@uwc.edu
Web site: richland.uwc.edu
Phone: (608) 647-6186, Ext. 264

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