

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

Suggested course of study for an engineering major:

University of Wisconsin-Richland can offer you the freshman/sophomore curriculum needed to begin a 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 1

English composition*	3 credits
Math 221 Calculus*	5 credits
General Chemistry 145	5 credits
Engineering Fundamentals 105	3 credits

Semester II

English*	3 credits
Math 222 Calculus	5 credits
General Chemistry	5 credits
Social Science	3 credits
Elective	1-2 credits

Second Year

Semester III

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

Semester IV

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

Courses in a foreign language are recommended. Placement in English and mathematics will be determined on the basis of placement tests; see *. Successful completion of the schedule outlined above, with the addition of an interdisciplinary course, will satisfy the requirements for an Associate of Arts & Science degree.

Other courses you may want to consider, if your program permits, include Math 271 Ordinary Differential Equations and MEC 203 Strength of Materials. 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, self-assessment videos and career assessment testing. Interactive computer programs are available to help you identify your work-related interests, skills and values. Knowing these characteristics can help you discover compatible occupations. The programs also provide information about educational requirements, potential salary, and employment outlooks for occupations in Wisconsin and nationwide.

For more information on majors in the UW System, go to: uwhelp.wisconsin.edu/majormania.

For more information or assistance, contact:

Office of Student Services
University of Wisconsin - Richland
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Richland Center, WI 53581-1399

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Phone: (608) 647-6186, Option #3