



WESTERN ILLINOIS UNIVERSITY

Engineering

Western Illinois University–Quad Cities, College of Business & Technology

Program of Study

The Engineering degree program prepares graduates to thrive in the technology-driven global workplace. The program focuses on the practice of engineering with a broad curriculum that emphasizes basic engineering fundamentals. The program allows students to select electives from a number of areas to increase depth and expertise, including Mechanical, Civil, Quality/Manufacturing, Engineering Management, Electrical/Computer Engineering, and Materials Engineering.

Western Illinois University–Quad Cities provides junior and senior Engineering courses at the Quad Cities campus, and the program articulates with Pre-Engineering transfer programs at the WIU-Macomb campus and community colleges in Illinois, Iowa, and Missouri. WIU-QC offers a dual enrollment program through which students simultaneously enroll at a partner community college and the Engineering program. (Students enroll in the WIU Pre-Engineering program during their first 60 semester hours [SH] prior to full admission to the Engineering program.)

State-of-the-Art Engineering Program

Western is the first public institution in the Quad Cities to offer Engineering. The program is unique because of its incorporation of design and teamwork throughout the curriculum, with ample opportunities for practical, hands-on engineering educational experiences. The program links to businesses, industry, and the Midwest Intellectual Property Management Institute (IP Institute) through required internships and senior capstone design projects.

Western and IP Institute Partnership

The WIU-QC Engineering program is proud to announce its partnership with the IP Institute. This partnership allows Western to offer student internships and hands-on experiences working with government entities and international corporations. The IP Institute also provides students with opportunities to gain skills and knowledge from experts in the field of engineering. Intellectual property (i.e., patents) will also be made available for students to transform into products and technologies to build wealth, provide research and development opportunities, and aid in the development and innovation in the Quad Cities and greater Midwest area.

Scholarships and Honors in Engineering

Scholarship information and eligibility for the Centennial Honors College is available from the College of Business and Technology office, (309) 298-2442; Western's Scholarship Office, (309) 298-2001; and on the Web at wiu.edu/Scholarship and wiu.edu/Honors.

Student Activities

Western is proud to host a chapter of the Society of Manufacturing Engineering (SME), the world's leading resource for manufacturing knowledge. Students involved in this organization are exposed to a large network of professional manufacturing engineers and have opportunities to attend events such as conferences and seminars. In previous conference competitions, Western students won several first place awards in categories such as continuing education, tabletop display, and technical presentation.

Special Opportunities

The Engineering program is dedicated to leadership and quality standards for students as we seek accreditation through the Accreditation Board for Engineering and Technology (ABET). This accreditation ensures that quality standards are met according to the demands of the engineering profession for which we are preparing our students.

HIGHER VALUES IN HIGHER EDUCATION

All students must pass the Fundamentals of Engineering Examination prior to graduation. This is a comprehensive, professional exam that measures basic engineering knowledge. It is also a step toward registration as a professional engineer (PE). Students seeking admission to the Engineering program must have earned 45 SH of credit with an overall grade point average of 2.5, and a grade of "C" or better in any Math, Science, or Engineering courses listed below, or the equivalent transfer courses.

Curriculum: Bachelor of Science – Engineering: 121 sh

Core Courses 49 SH

ENGR 207 – Introduction to CAD (3 SH)	ENGR 331 – Engineering Project Management (3 SH)
CS 225 – Programming for Engineering and Science (3 SH)	ENGR 340 – Manufacturing Engineering (3 SH)
PHYS 312 – Statics and Dynamics (4 SH)	ENGR 351 – Engineering Material Science (3 SH)
ENGR 251 – Strength of Materials (3 SH)	ENGR 360 – Structural Design (3 SH)
ENGR 270 – Introduction to Electronics (3 SH)	ENGR 370 – Microelectronics I, Circuit Analysis and Design (3 SH)
ENGR 300 – Engineering Thermodynamics (3 SH)	ENGR 470 – Mechatronics I (3 SH)
ENGR 310 – Engineering Fluid Dynamics (3 SH)	ENGR 490 – Engineering Senior Design (4 SH)
ENGR 320 – Mechanical Design (3 SH)	ENGR 493 – Engineering Internship (2 SH)

*Changes to take effect in January 2010; all students must take these courses.

Electives 9 SH

Note: Any electives can be taken as long as the prerequisites are satisfied. Electives below are shown in logical groupings for those wishing to take coherent sequences of courses leading to greater depth and specialization. The availability of course offerings will be determined on class interest.

Option A – Mechanical

ENGR 410 – Intermediate Thermo-Fluid Dynamics (3 SH)	ENGR 481 – Finite Element Analysis (3 SH)
ENGR 411 – Heat Transfer (3 SH)	ENGR 482 – Computer Aided Design (3 SH)
ENGR 463G – Lightweight Structural Design (3 SH)	

Option B – Civil Engineering

ENGR 453 – Soil Mechanics (3 SH)	ENGR 461 – Steel Design (3 SH)
ENGR 460G – Structural Dynamics (3 SH)	ENGR 462 – Concrete Design (3 SH)

Option C – Quality/Manufacturing

ENGR 345 – Quality Engineering (3 SH)	MET 400-level courses
OM 455 – Total Quality Management (3 SH)	

Option D – Engineering Management

ENGR 330 – Engineering Economics (3 SH)	OM 352 – Operations Management (3 SH)
ENGR 345 – Quality Engineering (3 SH)	Other Operations Management (OM) or Management (MGT) 400-level courses

Option E – Electrical/Computer Engineering

CS 350 – Data Structures I (3 SH) (Note: other 300-400 level CSIS courses with approval)	ENGR 472G – Mechatronics II (3 SH)
ENGR 471G – Microelectronics II (3 SH)	ENGR 473G – Industrial Controls (3 SH)

Option F – Materials Engineering

ENGR 450 – Metallurgy (3 SH)	ENGR 421G – Advanced Composites Design (3 SH)
ENGR 451 – Introduction to Composites Materials (3 SH)	

For More Information

For admissions process and general program information, contact Western Illinois University–Quad Cities, 3561 60th Street, Moline, IL 61265, (309) 762-9481. For specific program questions, contact Dr. William Pratt at (309) 757-4780, or visit our website at wiu.edu/qc/engineering.

wiu.edu/qc/engineering

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