Program Description
In response to the growing demand from manufacturers in Missouri and across the nation, Missouri University of Science and Technology has developed a master of engineering in manufacturing engineering that is accessible through the Internet. This program is the only master’s degree program of its kind in Missouri and is among the first in the nation.

The master of engineering degree program is interdisciplinary with emphasis on hands-on learning. The course requirements include 12 credit hours from the manufacturing core curriculum, 6 credit hours of 400-level courses in manufacturing, 3 credit hours of approved mathematics/computer science or suggested manufacturing courses and 6 credit hours of graduate courses in manufacturing. The core curriculum includes materials and manufacturing processes, process, assembly and product engineering, manufacturing competitiveness and manufacturing systems design.

Credit Hours to Complete: A total of 30 credit hours, with a 3-hour practice-oriented project, is required. No residency is required.

Course Length: 16 weeks (fall/spring); 8 weeks (summer)

Delivery Format: Courses are delivered over the Internet, via live streaming video; collaborative learning software includes WebEx and Blackboard; classes are archived online for review and easy access.

Course Management Software: Blackboard.

Admission Requirements
Bachelor’s degree with GPA ≥ 3.0 for the last 60 hours to be admitted as a regular graduate student; GRE: V+Q ≥ 302 (1100 based on previous scale), A≥ 3.5; International requirement: TOEFL score of 88 IBT or satisfactorily complete an approved English Language Program.

Program Contact Information
Jill Sertell
292A Toomey Hall
Rolla, MO 65409-3050
Phone: 573-341-4615
Fax: 573-341-4115
Email: mfge@mst.edu
Web: http://mfge.mst.edu

Dr. Frank Liou
292B Toomey Hall
400 W. 13th St.
Rolla, MO 65409-3050
Phone: 573-341-4603
Email: liou@mst.edu
Web: http://mfge.mst.edu

Application Deadlines:
Fall semester - August
Spring semester - December
Summer session - May

For more information, go online
distance.mst.edu
CAD/CAM & Rapid Product Realization

Missouri S&T offers a graduate certificate in CAD/CAM & Rapid Product Realization for working professionals who want to stay ahead of rapidly changing technology.

Curriculum:

The student will need to take a four course sequence, one each from the four core areas in the manufacturing engineering program as outlined below:

Course I.
MECH ENG 363 Computer Applications in Mechanical Engineering Design

Course II. Select one from the following courses:
MECH ENG 308 Rapid Product Design and Optimization
ENG MGT 354/MECH ENG 357 Integrated Product and Process Design

Course III.
MECH ENG 459 Advanced Topics in Design and Manufacturing

Course IV. Select one from the following courses:
MECH ENG 360 Probabilistic Engineering Design
MECH ENG 356 Design for Manufacture

Manufacturing Systems

This graduate certificate program allows practicing engineers to develop the necessary skills for the design and operation of network centric systems. The graduate courses selected for the program address the intersection between network engineering and systems engineering and architecting.

Curriculum:

Students will need to take a four course sequence, one each from the four core areas in the Manufacturing Engineering program as outlined below:

Course I. Materials and Manufacturing Processes
MECH ENG 320 Advanced Mechanics of Materials
MECH ENG 336 Fracture Mechanics
MECH ENG 382 Introduction to Composite Materials & Structures
MECH ENG 459 Advance Topics in Design and Manufacturing

Course II. Process, Assembly and Product Engineering
ENG MGT 354/MECH ENG 357 Integrated Product and Process Design
MECH ENG 308 Rapid Product Design and Optimization
MECH ENG 363 Computer Applications in Mechanical Engineering Design

Course III. Manufacturing Competitiveness
ENG MGT 309 Introduction to the Six Sigma Way
ENG MGT 364 Value Analysis
ENG MGT 372 Production Planning and Scheduling
ENG MGT 472 Lean Manufacturing
ENG MGT 385 Statistical Process Control
MECH ENG 360 Probabilistic Engineering Design
ERP 346 Enterprise Resource Planning Systems Design and Implementation

Course IV. Manufacturing Systems Design
ENG MGT 334 Computer Integrated Manufacturing Systems
MECH ENG 355 Automation in Manufacturing
MECH ENG 356 Design for Manufacture
MECH ENG 378 Mechatronics

*Curriculum is subject to change. Please contact the department for up-to-date information on courses. Other courses approved by the Associate Chair for Graduate Study may be substituted for any of the above listed courses on a case-by-case basis. The graduate coordinators must approve the substitution prior to enrolling in the course.

Admission Requirements

Certificate programs are open to all persons holding a B.S., M.S., or Ph.D. degree (with at least one degree in engineering or hard science) and who have a minimum of 12 months of professional employment experience or are currently accepted into a graduate degree program at Missouri S&T.

Students who do not have all of the prerequisite courses necessary to take the courses in the certificate program will be allowed to take “bridge” courses at either the graduate or undergraduate level to prepare for the formal certificate courses.