

QUALITY ENGINEERING AND MANAGEMENT

Master of Science Degree

—On Campus and Online—

Department of Technology

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What is Quality Engineering and Management (QEM)?

The objective of the Quality Engineering and Management program is to develop quality and manufacturing professionals who can plan, coordinate, design, implement, and control the quality function in manufacturing and service companies. Course offerings include the areas of quality assurance, Six Sigma, lean manufacturing, project management, and reliability. Students who have a baccalaureate degree in industrial management and applied engineering, engineering technology, or engineering, will receive an advanced education in quality and management systems.

What do QEM graduates do?

Quality engineering and management graduates:

- Increase productivity
- Optimize resources
- Decrease waste
- Improve product quality

Is QEM right for you?

If the following items apply to you, Quality Engineering and Management may be right for you.

- Do you want to learn to apply the concepts from technical disciplines such as lean manufacturing, manufacturing processes, quality control or Six Sigma?
- Are you interested in finding innovative solutions for engineering problems?
- Do you have a natural ability to communicate and collaborate with others?
- Do you have a desire to find, assess, and eliminate process waste and occupational risks in the areas of industry or service?

The SIUC Advantage

- Small classes allow you to interact with other students and faculty.
- Faculty encourage teamwork on assignments, allowing you to develop important workforce skills, learn, and grow together.
- You will receive personal attention from faculty when you need it.
- Faculty members keep current by attending seminars and conducting research.
- The campus facilities include an extensive graduate student library on process improvement techniques.
- Studies of Quality Engineering and Management graduates show that:
 - graduates are promoted to positions of responsibility
 - employers are pleased with the performance of QEM graduates
 - employers agree that the QEM program provides excellent preparation for job requirements
- The Quality Engineering and Management faculty are among the nation's leading experts in:
 - Six Sigma
 - Lean manufacturing
 - Quality/Reliability
 - Industrial safety
 - Supply chain management
- You use industry standard equipment, software, and instruments, giving you an edge in the job market. Instructors have experience in the areas they teach, allowing them to bring "real world" examples into each course.

Typical Job Titles and Salaries for Quality Engineering and Management graduates:

Salary ranges are based on the national average.

- Quality Engineer: \$69,000
- Quality Assurance Engineer: \$72,000
- Manufacturing Process Engineer: \$72,000
- Process Engineer: \$79,000
- Quality Assurance Automation Engineer: \$83,000
- Senior Quality Engineer: \$86,000

Career Path Forecast

Quality Engineering and Management graduates have an excellent employability both in the US and abroad. The field of QEM is recognized as a skills shortage area. Such skills are critical to the industrial and economic growth of industries both in the United States and in other countries.

Program Delivery

The Quality Engineering and Management Master's program is delivered both online and on the SIUC campus. Students enrolled in either delivery format complete courses in the fall and spring semesters. Classes are 16 weeks in length and online courses are delivered asynchronously.

Curriculum

Students must complete all prerequisite courses listed below if they have not already done so as an undergraduate.

QEM Core Courses (Required of ALL QEM students)

- QEM 510 – Quality Assurance (Fall only - Prerequisite: IMAE 470A, IMAE 470B, and IMAE 480)
- QEM 525 – Six Sigma Black Belt II (Spring only - Prerequisite: IMAE 470A, IMAE 470B, and IMAE 480)
- QEM 530 – Lean Manufacturing II (Fall only - Prerequisite: IMAE 465)
- QEM 540 – Reliability Analysis (Spring only - Prerequisite: IMAE 470B)

QEM Course Electives

- QEM 535 – Service Quality (Spring only)
- QEM 545 – Project Management II (Spring only - Prerequisite: IMAE 450)
- QEM 550 – Project Leadership (Fall only)
- QEM 555 – Human Safety and Risk Management (Spring only)
- QEM 565 – Management Information Systems (Fall only)
- QEM 570 – Energy Management and Conservation (Fall only)

Industrial Management and Applied Engineering Prerequisite Courses. The required Industrial Technology prerequisite courses are taught online and will count toward fulfillment of the 30 semester hour degree requirement.

- IMAE 450 – Project Management (Spring only)
- IMAE 465 – Lean Manufacturing (Spring only)
- IMAE 470A – Six Sigma Green Belt (Fall only)
- IMAE 470B – Six Sigma Green Belt II (Spring only - Prerequisite: IMAE 470A or instructor consent)
- IMAE 480 – Six Sigma Black Belt (Fall only - Prerequisite: IMAE 470A and IMAE 470B or instructor consent)

Admission and Application

Candidates for the Master of Science program in Quality Engineering and Management must be accepted by the Graduate School and the Department of Technology. Candidates should possess a bachelor's degree with a major in a technical area and a GPA of no less than 3.0/4.0. Admission is possible for candidates with a lower GPA. Students seeking admission and requiring the Industrial Management and Applied Engineering prerequisite classes would be better served by applying for Fall semester admission as classes are sequenced to begin in the Fall.

Helpful Links

Tuition and Fee Information

Office of the Registrar: <http://registrar.siu.edu/index.html>

Schedule of Classes

Office of the Registrar: <http://registrar.siu.edu/index.html>

Financial Aid Information

Financial Aid Office: <http://fao.siu.edu>

Graduate School: <http://gradschool.siu.edu>

Admission Information and Graduate Catalog

<http://gradschool.siu.edu>

For More Information About the QEM Program:

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