



MASTER OF SCIENCE IN SOFTWARE ENGINEERING

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Master of Science in Software Engineering

The Master of Science in Software Engineering program at the University of Detroit Mercy is a 30 credit hour program. It is designed to:

- Produce graduates that are ready to work in industry, government, health, and education. The graduates will have both practical and theoretical educational experience in Software Engineering.
- Provide software engineering educational experience that is rich in state-of-the-art laboratories, industry-related projects, and practical design skills, which highlight teamwork, computer-based problem solving, communication skills, and ethical values needed for software engineers.
- Prepare students to pursue a Doctorate degree in software engineering through a motivating, extensive, and state-of-the-art educational experience.

Admission Requirements

In order to be admitted to the program, the applicant:

- Must hold a bachelor's degree (or equivalent) with official transcripts showing a minimum GPA 3.0. (GPA of 2.7 or higher may be accepted with the addition of a few pre-requisite courses.)
- Submit a letter of recommendation
- Submit a statement of purpose essay
- Must have knowledge of, a modern programming language (such as C++ or Java), Data Structures and Algorithms, Machine Organization, Discrete Mathematics, and Single Variable Calculus.
- Students will make up for programming deficiencies in undergraduate preparation by taking one or more of the following prerequisite courses or their equivalent.

- Applicants with academic/work experience equivalent to any of the courses mentioned above may have that course waived after passing a department test with a grade of at least "B."

Degree Requirements

The program requires 30 credits of planned study.

Software Engineering

Software Engineering provides specialized knowledge and experience in applying systematic, disciplined, quantifiable approach to software development, operation, and maintenance. Software Engineering is an engineering discipline, which is concerned with all aspects of software production including analysis, design, development, testing and support of software systems.

Course Requirements:

1. Students should take the following seven courses:
CSSE 5150 Software Engineering
CSSE 5500 Software Quality Engineering
CSSE 5520 Architectures for Software Systems
CSSE 5550 Software Requirements Engineering
CSSE 5570 Software Systems Project Management
CSSE 5700 Applied Cryptology & Network Security
CSSE 5930 Graduate Design Project, or
CSSE 5950 Software Engineering Thesis
2. The Graduate Design Project (CSSE-5930, 3 cr.) or Software Engineering Thesis (CSSE-5950, 6 cr.) must be taken during the last semester(s) of study. These courses require students to carry out a project in a field of Software Engineering or submit a thesis in selective areas of Software Engineering. If a thesis is pursued, only one course of the list of classes in (3) below is needed.
3. Two courses from the following list of application area classes:
CSSE 5310 Data Mining
CSSE 5440 Web Technology
CSSE 5480 Artificial Intelligence
CSSE 5510 Parallel Systems
CSSE 5670 Distributed Processing
CSSE 5650 Bioinformatics Algorithms

4. One course from the following list of classes:

CSSE 5250 Software Design
CSSE 5270 User Interface Engineering
CSSE 5430 Software Systems Verification
CSSE 5540 Software Configuration
CSSE 5600 Software Maintenance
CSSE 5610 Software Testing
CSSE 5620 Software Safety
CSSE 5680 Systems Engineering
CSSE 5710 Software Engineering Metrics
CSSE 5720 Formal Methods in Software Engineering
CSSE 5850 Advanced Topics in Software Engineering

For further information, please write, call or e-mail:

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International Students please contact:

Office of Admissions:

admissions@udmercy.edu

(800) 635-5020

or visit:

www.udmercy.edu/apply/international_students/