

Master of Software Engineering

The Master of Software Engineering (MSWE) program is a highly focused degree program that prepares students to acquire deep knowledge of software engineering – both in terms of foundational skills and in terms of application of that foundation to practice.

At the completion of the program, students will be knowledgeable in the underlying principles of software engineering and will have acquired solid practical skills. They will be able to effectively participate in large-scale software development efforts by applying a range of techniques for design, development, validation, and verification of high-quality software.

The program consists of four thrusts: (1) programming breadth, provided by a set of courses whose purpose is to solidify and broaden the students' knowledge of the computing landscape through programming; (2) software engineering principles, introduced via a set of courses covering the fundamental technical knowledge in software engineering; (3) professional development, covered by a pair of courses discussing topics related to career and professional development; and (4) practice, included pervasively throughout the program and emphasized strongly by two courses focused on practical applications of the principled material in the program.

Applicants must have a bachelor's degree or equivalent.

Applicants are evaluated on the following:

- Demonstrated interest in pursuing a career as a software engineer (evidence of this may be in the form of contributions to open source projects, extra-curricular activities at the undergraduate level involving software development, current or past employment as a software developer, course selections as an undergraduate, or having been involved as a programmer in at least one non-trivial software application).
- Proficiency in at least two programming languages
- Knowledge of algorithms and data structures
- Proficiency in written and spoken English
- (Optional, but strongly encouraged) Additional material that enriches the application and speaks to the applicant's strengths (e.g., design portfolio, link to GitHub profile, GRE test scores, scholarly papers submitted and/or published, writing samples).

For more information, contact the MSWE Program Director at 949-824-8956 or email mswe@ics.uci.edu (%20mswe@ics.uci.edu).

Program Requirements

All MSWE students must maintain a minimum 3.0 GPA throughout the program with no individual grade lower than a B-. In order to stay in the program past the first quarter, students must complete two-thirds of the programming breadth courses for which they are enrolled with a grade of B or higher. Students who do not meet this special requirement will be considered for dismissal from the program.

A. Complete:

SWE 261P	Software Testing and Debugging
SWE 262P	Programming Styles
SWE 263P	User Experience and Interaction
SWE 264P	Distributed Software Architecture
SWE 265P	Reverse Engineering and Modeling
SWE 266P	Software Security and Dependability
SWE 271P	Career and Entrepreneurship
SWE 272P	Project Management
SWE 275P	Curricular Practical Training
SWE 276P	Capstone Project in Software Engineering
SWE 290P	Advisement

B. Select six courses from SWE 240P to SWE 259P

Final Examination

For the final examination, students are required to write a technical report and prepare an oral presentation describing their capstone project. The final examination takes place in the final quarter of the program and is conducted by the faculty teaching the Capstone Project in Software Engineering course.

Normative Time to Degree

Full-time MSWE students are expected to complete the degree requirements within one year and one quarter (15 months). A maximum one-year extension may be granted to students who, due to unforeseen circumstances, are unable to fulfill the program's requirements within 15 months. As such, the normative time to degree for full-time students is 15 months, with 27 months as maximum time to degree.

Part-time MSWE students are expected to complete the degree requirements within two years and one quarter (27 months). A maximum one-year extension may be granted to students who, due to unforeseen circumstances, are unable to fulfill the program's requirements within 27 months. As such, the normative time to degree for part-time students is 27 months, with 39 months as maximum time to degree.