

MASTERS OF SCIENCE PROGRAM IN SOFTWARE ENGINEERING AT CSU, NORTHRIDGE

Abstract:

The Department of Computer Science, College of Engineering and Computer Science, California State University, Northridge has added a new degree program leading to a Master of Science degree in Software Engineering to its existing programs in Computer Science.

The U.S. Bureau of Labor Statistics (BLS) identifies “computer software engineer” as one of the fastest growing job categories in the United States as well as one of the largest growing areas in terms of numbers of people employed. According to BLS data there are currently more software engineers in the U.S. than any other engineering discipline, and it is projected that by the year 2012 there will be more than three times as many software engineers as the next largest engineering field.

The objectives of this program in Software Engineering are to develop students’ expertise in the area of software engineering; to enable students learn emerging concepts in software engineering; to meet the software engineering needs of the working professional; to meet the software engineering needs of technological organizations and industry in the San Fernando Valley community, in the State of California, and in the Nation; and to prepare students for subsequent graduate work in software engineering.

REQUIREMENTS FOR THE MASTER OF SCIENCE DEGREE IN SOFTWARE ENGINEERING

Students in the Software Engineering M.S. program complete 30 units of graduate work, including a 6-unit thesis or graduate group project.

Requirements for Admission: For admission to the Master of Science Program in Software Engineering, applicants must meet the requirements of the University as listed in the catalog, take the Graduate Record Examination (General Test), submit the results to the University and be accepted to the program by the Computer Science Department. Each applicant’s transcripts and GRE scores will be reviewed by the Computer Science Department to determine if the student shows high promise of success in the program.

To attain fully classified graduate status in the program, students must complete any required prerequisite undergraduate material or demonstrate equivalent work experience, pass the Upper-Division Writing Proficiency Exam, and have a 3.0 grad point average for all work taken as a Conditionally Classified Student. Information about the prerequisite material can be obtained from the graduate coordinator.

Special Requirements: Each Software Engineering M.S. candidate must submit a proposal for a thesis, or along with a group of other graduate students submit a proposal for a group project, to be done under the supervision of a faculty member. When the thesis or group project is approved by that faculty member, the graduate coordinator, and the Department, the proposal becomes a contract between the student(s) and the Department as to the work to be done for the thesis or graduate group project. A three member project/thesis committee is formed with that faculty member as its chair. When the work is done, the student(s) must prepare a report and defend or present the results of the thesis or graduate project before the committee. In the case of a group project, each member of the group must present and defend his or her contribution to the final result. The accompanying report must clearly identify the contributions of each member of the group. Each member of the group will be evaluated separately by the committee. The report and

presentation, or relevant portion for each member of a group, must be approved by the project/thesis committee.

All courses in the student's graduate program must be completed with a grade of C or better. No course taken more than seven years prior to the date of which all requirements for the degree are completed may be counted as part of the 30 units in the degree program. No time limit applies to courses taken to satisfy Software Engineering M.S. prerequisite requirements.

REQUIRED COURSES (12 UNITS)

A. BREADTH REQUIREMENT

The student must complete the following four courses:

- COMP 682 Requirements Analysis and Specification3
- COMP 684 Software Architecture and Design3
- COMP 686 Software Engineering Management3
- COMP 680 Advanced Topics in Software Engineering3

B. PROJECT/THESIS (6 UNITS)

The student must complete either a group project or a thesis in the area of Software Engineering.

- COMP 696 Directed Graduate Research3
- COMP 698 Thesis or Graduate Project3

ELECTIVES (12 UNITS)

The student will select four elective Computer Science courses at the 400, 500, or 600 level approved by the Project/Thesis Committee Chair, the Graduate Coordinator, and the Department Chair. At least two of these courses must be from the following list of Software Engineering electives:

- COMP 584 Secure Software Engineering (3 units)
- COMP 585 Graphical User Interfaces (3 units)
- COMP 586 Object-Oriented Software Development (3 units)
- COMP 587 Software Verification and Validation (3 units)
- COMP 589 Software Engineering Metrics (3 units)

TOTAL UNITS REQUIRED FOR DEGREE: 30

9/10/07