Title of Program/Certificate, etc: Updated M.S. in Software Engineering

Level (Masters/Ph.D.): Masters

Please Indicate: ___x___ Program ______ Certificate _______ Concentration _______ Track

Description of the change in the certificate, concentration or degree program:

The M.S. in Software Engineering program is being updated as set forth below. The core requirements have been revised with four new concentrations introduced. The updated MS degree will have 12 hours of core courses, 9 hours of concentration courses and 9 hours of elective courses.

Degree Requirements
In addition to the general requirements of the university, the M.S. in Software Engineering requires a minimum of 30 graduate credits. The coursework is divided into three categories: a breadth requirement of 12 hours of core courses, a depth requirement of 9 hours of concentration courses, and 9 hours of elective courses.

1. Core courses (12 credits) are required of all SWE graduates:
   * SWE 619 Software Construction
   * SWE 620 Software Requirements Analysis and Specification
   * SWE 621 Software Design
   * SWE 622 Distributed Software Engineering

2. Concentration courses (9 credits). Students may choose a concentration by taking all courses from one of the concentrations defined by the ISE Department.

   * Software Design
     Three of the following four courses:
     1. SWE 632 User Interface Design and Development
     2. SWE 721 Reusable Software Architectures
     3. SWE 781 Secure Software Design and Programming
     4. SWE 626 Software Project Laboratory

   * Software Assurance
     Three of the following four courses:
     1. SWE 623 Formal Methods and Models in Software Engineering
     2. SWE 637 Software Testing and Quality Assurance
     3. SWE 723 Precise Modeling
     4. SWE 781 Secure Software Design and Programming

   * Software Management
     Three of the following four courses:
     1. SWE 625 Software Project Management
     2. SWE 630 Software Engineering Economics
     3. SWE 637 Software Testing and Quality Assurance
     4. SWE 626 Software Project Laboratory
* Web Applications
  Three of the following four courses:
  1. SWE 632 User Interface Design and Development
  2. SWE 642 Software Engineering for the World Wide Web
  3. SWE 645 Component-Based Software Development
  4. SWE 637 Software Testing and Quality Assurance

With permission from the advisor, a student may choose not to take a concentration.

3. Elective courses (9 credits). Students may select the remaining courses from the list of approved courses, including other concentrations, available from the ISE Department and the ISE Web site (www.ise.gmu.edu). Students may choose other graduate electives with the consent of their faculty advisers.

In addition, students may choose between the professional option, consisting of three electives, and the research option, consisting of one elective and a six-credit thesis.

Approval from other units: **No other units are affected.**

Please list those units outside of your own who may be affected by these. Each of these units must approve this change prior to its being submitted to the Graduate Council for approval.

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Submitted by: __________________________ Email: ____________

Graduate Council approval: __________________________ Date: ____________

Graduate Council representative: __________________________ Date: ____________

Provost Office representative: __________________________ Date: ____________