



SACRAMENTO
STATE

Program Proposal Form B



Academic Group (College): College of Engineering and Computer Science	Date of Submission to College Dean: February 26, 2007
Academic Organization (Department): Computer Science Department	Requested Effective: Fall <u>X</u> , Spring <u> </u> , 2007 <u> </u> .
Department Chair: Du Zhang	Contact if not Department Chair:

Title of the Program: M.S. in Software Engineering

Type of Program Proposal:

Modification in Existing Program:

- Substantive Change
- Non-Substantive Change
- Deletion of Existing Program

New Programs

- Initiation (Projection) of New Program on to Master Plan
- New Degree Programs
 - Regular Process
 - Fast Track Process
 - Pilot Process
- New Minor, Concentration, Option, Specialization, Emphasis
- New Certificate Program

PLEASE NOTE: Form B is to be used only as a Cover Form. Additional information is requested for each of the above as noted in the corresponding procedure in the Policies and Procedures for Initiation, Modification, Review and Approval of Courses and Academic Programs found at <http://www.csus.edu/acaf/univmanual/index.htm>

Briefly describe the program proposal (new or change) and provide a justification.

- Add CSC 134, Database Management and File Organization, to the program admission requirements.** This requirement will ensure better preparation for graduate course work and better evaluation of applicants' overall academic background. Because almost all graduate program applicants have database course background, the addition of this requirement will not adversely impact the number or expectations of applicants.
- Remove CSC 204 from "B. Software Engineering Electives (6 units)."** This change is intended to enhance the degree education by requiring every student in the program to take two software engineering electives from those listed in the revised list. It does not exclude the option of taking CSC 204 as an elective because students can take it as one of the restricted electives.

Approvals:

Department Chair: Date: 2/27/2007

College Dean: Date: 3/23/07

University Committee: _____ Date: _____

Associate Vice President and Dean
for Academic Affairs: _____ Date: _____

**ANALYSIS OF PROGRAM CHANGE PROPOSAL
FOR THE M.S. IN SOFTWARE ENGINEERING
February 26, 2007**

1. **Form B:** Attached.
2. **Programmatic or Fiscal Impact on Other Academic Units' Programs.**

There will be no programmatic or fiscal impact on other academic units' programs.

3. **Fiscal Analysis of Proposed Changes.**

- a. **How will the proposed changes be accommodated within department/college existing fiscal resources?**

No additional resources are needed.

- b. **If the proposed changes will require additional resources, describe the level and nature of additional funding the college will seek.**

N/A.

- c. **What additional space, equipment, operating expenses, library, computer, or media resources, clerical/technical support, or other resources will be needed? Estimate the cost and indicate how these resource needs will be accommodated.**

N/A.

4. New/Old Program Requirements

NEW ADMISSION REQUIREMENTS	OLD ADMISSION REQUIREMENTS
<p data-bbox="228 321 748 384">Admission as a classified graduate student requires:</p> <ul data-bbox="228 394 829 1308" style="list-style-type: none"><li data-bbox="228 394 586 426">• A baccalaureate degree;<li data-bbox="228 436 781 499">• A minimum 3.0 GPA in the last 60 units attempted;<li data-bbox="228 510 505 541">• GRE general test;<li data-bbox="228 552 813 720">• Mathematical preparation including two semesters of calculus and one semester of calculus-based probability and statistics corresponding to Sacramento State courses MATH 030, MATH 031, STAT 050;<li data-bbox="228 730 829 1098">• Computer Science lower division preparation including programming proficiency, discrete structures, machine organization, and UNIX and PC-based program development environment proficiency corresponding to Sacramento State courses CSC 015, CSC 020, CSC 028, CSC 035, and CSC 060 and as evidenced by a pass on the graduate student placement test or a baccalaureate degree in Computer Science; and<li data-bbox="228 1108 813 1308">• Computer Science advanced preparation as evidenced by a 3.25 GPA in the following Sacramento State upper division computer science courses or their equivalent elsewhere: CSC 130, CSC 131, CSC 132, CSC 134, CSC 137, CSC 138, CSC 139. <p data-bbox="228 1318 829 1407">Applicants with deficiencies in the admission requirements area are advised to remove any such deficiencies before applying.</p>	<p data-bbox="846 321 1365 384">Admission as a classified graduate student requires:</p> <ul data-bbox="846 394 1446 1308" style="list-style-type: none"><li data-bbox="846 394 1203 426">• A baccalaureate degree;<li data-bbox="846 436 1398 499">• A minimum 3.0 GPA in the last 60 units attempted;<li data-bbox="846 510 1122 541">• GRE general test;<li data-bbox="846 552 1430 720">• Mathematical preparation including two semesters of calculus and one semester of calculus-based probability and statistics corresponding to Sacramento State courses MATH 030, MATH 031, STAT 050;<li data-bbox="846 730 1446 1098">• Computer Science lower division preparation including programming proficiency, discrete structures, machine organization, and UNIX and PC-based program development environment proficiency corresponding to Sacramento State courses CSC 015, CSC 020, CSC 028, CSC 035, and CSC 060 and as evidenced by a pass on the graduate student placement test or a baccalaureate degree in Computer Science; and<li data-bbox="846 1108 1430 1308">• Computer Science advanced preparation as evidenced by a 3.25 GPA in the following Sacramento State upper division computer science courses or their equivalent elsewhere: CSC 130, CSC 131, CSC 132, +++++, CSC 137, CSC 138, CSC 139. <p data-bbox="846 1318 1382 1407">Applicants with deficiencies in the admission requirements area are advised to remove any such deficiencies before applying.</p>

NEW PROGRAM	OLD PROGRAM
<p>A. Required Software Engineering Core Courses (16 units)</p>	<p>A. Required Software Engineering Core Courses (16 units)</p>
<p>(1) CSC 209 Research Methodology (fully classified graduate status in Computer Science or Software Engineering, passing score on the WPE, completion of at least 12 units of 200-level courses in Computer Science)</p>	<p>(1) CSC 209 Research Methodology (fully classified graduate status in Computer Science or Software Engineering, passing score on the WPE, completion of at least 12 units of 200-level courses in Computer Science)</p>
<p>(3) CSC 230 Software System Engineering (fully classified graduate status in Computer Science or Software Engineering; or fully classified graduate status in Computer Engineering and CSC 131)</p>	<p>(3) CSC 230 Software System Engineering (fully classified graduate status in Computer Science or Software Engineering; or fully classified graduate status in Computer Engineering and CSC 131)</p>
<p>(3) CSC 232 Software Requirements Analysis and Design (fully classified graduate status in Computer Science or Software Engineering)</p>	<p>(3) CSC 232 Software Requirements Analysis and Design (fully classified graduate status in Computer Science or Software Engineering)</p>
<p>(3) CSC 233 Advanced Software Engineering Project Management (fully classified graduate status in Computer Science or Software Engineering)</p>	<p>(3) CSC 233 Advanced Software Engineering Project Management (fully classified graduate status in Computer Science or Software Engineering)</p>
<p>(3) CSC 235 Software Architecture (fully classified graduate status in Computer Science or Software Engineering)</p>	<p>(3) CSC 235 Software Architecture (fully classified graduate status in Computer Science or Software Engineering)</p>
<p>(3) CSC 238 Human-Computer Interface Design (fully classified graduate status in Computer Science or Software Engineering)</p>	<p>(3) CSC 238 Human-Computer Interface Design (fully classified graduate status in Computer Science or Software Engineering)</p>
<p>B. Software Engineering Electives (6 units) Select two from the following:</p>	<p>B. Software Engineering Electives (6 units) Select two from the following:</p>
<p>++++ ++++ ++++ ++++</p>	<p>(3) CSC 204 Data Models for Database Management Systems (fully classified graduate status in Computer Science or Software Engineering)</p>
<p>(3) CSC 231 Software Engineering Metrics (fully classified graduate</p>	<p>(3) CSC 231 Software Engineering Metrics (fully classified graduate status</p>

<p>(3) CSC 234 status in Computer Science or Software Engineering) Software Verification and Validation (fully classified graduate status in Computer Science or Software Engineering; or fully classified graduate status in Computer Engineering and CSC 131)</p> <p>(3) CSC 236 Formal Methods in Software Engineering (fully classified graduate status in Computer Science or Software Engineering)</p> <p>C. Restricted Electives (3-6 units) Prior to taking an elective course, students must obtain approval from their advisor, and either the graduate coordinator or the department chair. Students should choose their electives according to the following guidelines:</p> <ol style="list-style-type: none"> 1. Any 200-level CSC courses not already used to satisfy Requirements A and B, with the exception of CSC 295 and CSC 299. An additional three units in this category must be taken if a core course is waived. 2. Related 200-level courses from outside the Computer Science Department may only be taken with prior department approval and may not have been used in another program. <p>D. Culminating Requirement (2-5 units) Select one of the following: CSC 500 Master's Thesis (CSC 209; advanced to candidacy) OR CSC 502 Master's Project (CSC 209; advanced to candidacy)</p> <p>Note: Students are required to make an oral presentation of their master's project or conduct an oral defense of their master's thesis. The recommended department-level deadline in each semester for submitting an MS project or thesis signed by the committee chair and its members to the graduate coordinator's office is 10 weekdays prior to the University deadline.</p>	<p>(3) CSC 234 in Computer Science or Software Engineering) Software Verification and Validation (fully classified graduate status in Computer Science or Software Engineering; or fully classified graduate status in Computer Engineering and CSC 131)</p> <p>(3) CSC 236 Formal Methods in Software Engineering (fully classified graduate status in Computer Science or Software Engineering)</p> <p>C. Restricted Electives (3-6 units) Prior to taking an elective course, students must obtain approval from their advisor, and either the graduate coordinator or the department chair. Students should choose their electives according to the following guidelines:</p> <ol style="list-style-type: none"> 1. Any 200-level CSC courses not already used to satisfy Requirements A and B, with the exception of CSC 295 and CSC 299. An additional three units in this category must be taken if a core course is waived. 2. Related 200-level courses from outside the Computer Science Department may only be taken with prior department approval and may not have been used in another program. <p>D. Culminating Requirement (2-5 units) Select one of the following: CSC 500 Master's Thesis (CSC 209; advanced to candidacy) OR CSC 502 Master's Project (CSC 209; advanced to candidacy)</p> <p>Note: Students are required to make an oral presentation of their master's project or conduct an oral defense of their master's thesis. The recommended department-level deadline in each semester for submitting an MS project or thesis signed by the committee chair and its members to the graduate coordinator's office is 10 weekdays prior to the University deadline.</p>
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