CERTIFICATE IN SOFTWARE ENGINEERING

In Workflow

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Approval Path

1. Thu, 19 Sep 2019 17:06:54 GMT
   Ted Krovetz (tdk): Approved for CSC Committee Chair
2. Fri, 20 Sep 2019 23:26:02 GMT
   Nikrouz Faroughi (faroughi): Approved for CSC Chair
3. Fri, 27 Sep 2019 16:42:22 GMT
   Troy Topping (troy.topping): Approved for ECS College Committee Chair
4. Fri, 27 Sep 2019 19:19:07 GMT
   Kevan Shafizadeh (kevan): Approved for ECS Dean

History

1. May 4, 2018 by clmig-jwehrheim

Date Submitted:Thu, 19 Sep 2019 17:02:55 GMT

Viewing:Certificate in Software Engineering

Last approved:Fri, 04 May 2018 13:01:04 GMT

Last edit:Thu, 19 Sep 2019 17:02:54 GMT

Changes proposed by: Haiquan Chen (219700833)

Academic Group: (College)

Engineering & Computer Science

Academic Organization: (Department)

Computer Science

Catalog Year Effective:

2020-2021 Catalog

Individual(s) primarily responsible for drafting the proposed degree major program:

Name (First Last)	Email	Phone 999-999-9999
Haiquan Chen	haiquan.chen@csus.edu	916-278-6087

Type of Program Proposal:

Certificate

Program Change Type:

Non-Substantive

Title of the Program:

Certificate in Software Engineering

Designation: (degree terminology)

Certificate - Undergraduate

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

CSC177 course title is updated to "Data Analytics and Mining" to be consistent with the recently submitted Form A for CSC177 course change.

Objectives of the degree program:

Master, integrate, and apply advanced knowledge and skills to solve complex computer science problems in the software engineering area.

University Learning Goals

Undergraduate Learning Goals:

Competence in the disciplines
Intellectual and practical skills

Will this program be required as part of a teaching credential program, a single subject, or multiple subject waiver program (e.g., Liberal Studies, Biology) or other school personnel preparation program (e.g., School of Nursing)?

No

Do these changes impact the Smart Planner roadmap?

No

Catalog Description:

Units required for Certificate: 12

Program Description

The Software Engineering certificate is designed to focus on the principles of designing, building, testing and maintaining reliable, efficient, and secure software systems. The certificate is designed to emphasize the knowledge, competencies, and skills needed to produce competent graduates to begin a professional career in the field of software engineering, or pursue graduate programs.

Admission Requirements: Course prerequisites and other criteria for admission of students to the degree major program, and for their continuation in it.

Academic Certificates

In addition to completing the requirements for the Bachelor of Sciences in Computer Science degree program, students enrolled in the major may also complete one of the (optional) 9-12 unit Academic Certificate programs. Each certificate includes 9 required units which can overlap with elective coursework taken to satisfy the major requirements, with some of the certificates requiring 3 additional units (1 additional course) beyond the degree requirements. Students interested in earning a certificate in addition to their degrees should meet with an academic advisor.

Requirements for Certificates

Certain combinations of courses gives students a deeper understanding of specialized areas in Computer Science. Completion of any of the following course lists entitles the student to receive a certificate indicating that they concentrated their elective study in the particular area. The Computer Science Department will try and offer on a regular basis all courses required for each certificate, but course cancellations and scheduling conflicts do sometimes occur causing students difficulty in completing their desired course study. In such situations, students may need to forgo completion of their certificate. Printed certificates must be requested directly from the Computer Science Department office after a student graduates.

As defined by policyhttp://www.csus.edu/umanual/acadaff/fsm00010.htm, a change in units constitutes a substantive change to the program. If your changes constitute a substantive change, please refer back to the "Program Change Type" field above to ensure that "Substantive" is selected.

Program Requirements: (If new courses are being created as part of a new program, it will be useful to propose courses first.)

Program Requirements

Code	Title	Units
CSC 170	Software Requirements and Specification	3
CSC 171	Software Engineering Project Management	3
CSC 179	Software Testing and Quality Assurance	3
Select one of the following:		3
CSC 154	Computer System Attacks and Countermeasures	
CSC 174	Advanced Database Management Systems	
CSC 176	Database Architecture and Optimization	

CSC 177	Data Analytics and Mining	
Total Units		12

Fiscal Impact to Change an Existing Program

Indicate programmatic or fiscal impact which this change will have on other academic units' programs, and describe the consultation that has occurred with affected units:

No impact on department/college in terms of fiscal resources.

Provide a fiscal analysis of the proposed changes:

No impact on department/college in terms of fiscal resources.

How will the above changes be accommodated within the department/College existing fiscal resources?

No impact on department/college in terms of fiscal resources.

Will the proposed changes require additional resources?

No

What additional space, equipment, operating expenses, library, computer, or media resources, clerical/technical support, or other resources will be needed?

No impact on department/college in terms of fiscal resources.

Estimate the cost and indicate how these resource needs will be accommodated:

No impact on department/college in terms of fiscal resources.

Key: 143