CSC 131: COMPUTER SOFTWARE ENGINEERING

In Workflow

1. CSC Committee Chair (shaverdian@csus.edu;%20jouyang@csus.edu)
2. CSC Chair (faroughi@csus.edu)
3. ECS College Committee Chair (figgess@csus.edu)
4. ECS Dean (kevan@csus.edu)
5. Academic Services (torsetj@csus.edu;%20cnewsome@skymail.csus.edu)
6. Senate Curriculum Subcommittee Chair (curriculum@csus.edu)
7. Dean of Undergraduate (james.german@csus.edu;%20celena.showers@csus.edu)
8. Dean of Graduate (cnewsome@skymail.csus.edu)
9. Catalog Editor (torsetj@csus.edu)
10. Registrar's Office (wlindsey@csus.edu)
11. PeopleSoft (PeopleSoft@csus.edu)

Approval Path

1. Mon, 12 Oct 2020 22:30:45 GMT
   Anna Baynes (shaverdian): Approved for CSC Committee Chair
2. Mon, 12 Oct 2020 23:21:58 GMT
   Nikrouz Faroughi (faroughi): Rollback to CSC Committee Chair for CSC Chair
3. Tue, 13 Oct 2020 04:59:58 GMT
   Anna Baynes (shaverdian): Approved for CSC Committee Chair
4. Tue, 13 Oct 2020 15:31:00 GMT
   Nikrouz Faroughi (faroughi): Approved for CSC Chair
5. Fri, 23 Oct 2020 18:22:50 GMT
   Gareth Figgess (figgess): Approved for ECS College Committee Chair
6. Fri, 23 Oct 2020 18:36:46 GMT
   Kevan Shafizadeh (kevan): Approved for ECS Dean

Date Submitted: Mon, 05 Oct 2020 18:06:15 GMT

Viewing: CSC 131 : Computer Software Engineering

Last edit: Fri, 23 Oct 2020 18:22:31 GMT

Changes proposed by: Ahmed Salem (101016730)

Contact(s):

Name (First Last)	Email	Phone 999-999-9999
Ahmed Salem	asalem@csus.edu	916 266 1895

Catalog Title:
Computer Software Engineering

Class Schedule Title:
Computer Software Engr

Academic Group: (College)
ECS - Engineering & Computer Science

Academic Organization: (Department)
Computer Science

Will this course be offered through the College of Continuing Education (CCE)?
No

Catalog Year Effective:
Spring 2021 (2021/2022 Catalog)

Subject Area: (prefix)
CSC - Computer Science

Catalog Number: (course number)
131

Course ID: (For administrative use only.)
111986

Units:
3

In what term(s) will this course typically be offered?
Fall, Spring

Does this course require a room for its final exam?
Yes, final exam requires a room

Does this course replace an existing experimental course?
No

This course complies with the credit hour policy:
Yes

Justification for course proposal:
1. The prerequisite change is to avoid students worried about failing their current course from occupying enrollment. Our current course waitlists are filled.
2. The Computer Science department reviewed our courses based on current teaching practice and professional organization recommendations. This update is required for Computer Science program external accreditation.

Course Description: (Not to exceed 80 words and language should conform to catalog copy.)
Principles of Software Engineering covering the software development life cycle, including software requirements engineering (elicitation, modeling, analysis and specification), software design, software implementation and testing. Main topics include various software development process models, method and techniques for specifying requirements, architectural and detailed design specification, prototyping, top-down and bottom-up software implementation and testing. Topics also include project management, project documentation and the development of communication skills through written documentation and oral presentation.

Are one or more field trips required with this course?
No

Fee Course?
No

Is this course designated as Service Learning?
No

Does this course require safety training?
No

Does this course require personal protective equipment (PPE)?
No

Does this course have prerequisites?
Yes

Prerequisite:
CSC 130; may be taken concurrently. Not currently enrolled in CSC 131.

Prerequisites Enforced at Registration?
Yes

Does this course have corequisites?
No

Graded:
Letter

Approval required for enrollment?
No Approval Required

Course Component(s) and Classification(s):
Discussion

Discussion Classification
CS#04 - Lecture /Recitation (K-factor=1 WTU per unit)
Discussion Units
3

Is this a paired course?
No

Is this course crosslisted?
No

Can this course be repeated for credit?
No

Can the course be taken for credit more than once during the same term?
No

Description of the Expected Learning Outcomes: Describe outcomes using the following format: 'Students will be able to: 1), 2), etc.'

1. Define software engineering and understand its historical perspective.
2. Explain phases of a software development lifecycle, including the activities and products of each phase.
3. Explain the difference between traditional and agile software development processes.
4. Use agile development process (e.g. SCRUM).
5. Explain software quality and the processes to deliver quality product.
6. Apply software design principles to evaluate and assess tradeoffs in various design solutions.
7. Explain the contexts of HCI.
8. Explain the cognitive models and social models that inform interaction design.
9. Explain and discuss fundamental software project management aspects and issues.
10. Explain and use with others in a development project common tools and techniques for planning a project, analyzing risks, estimating effort, and scheduling project work.
11. Explain and use standard techniques and tools for analyzing product requirements, formulating product design, coding, and testing a software product.
12. Use several common analysis, specification and design modeling notations (such as UML).
13. Use basic software development tools, including a modern Integrated Development Environment (IDE), a unit testing tool, a code coverage analysis tool, a version control system, and a debugger.
14. Participate effectively on a team to complete a software development project from conception through deployment.
15. Demonstrate the ability to communicate effectively in team environment in both written and oral form.

Attach a list of the required/recommended course readings and activities:
CSC131_Fall2020_Dept 2nd.docx

Assessment Strategies: A description of the assessment strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers) which will be used by the instructor to determine the extent to which students have achieved the learning outcomes noted above.

LO 1-15 will be assessed with Midterm Exam, Final Exam, Software Development Project, Class Discussions, Project Presentations, Project Artifacts.
LO 14 will also be assessed by the software development project completion, delivery and presentation

Is this course required in a degree program (major, minor, graduate degree, certificate?)
Yes

Has a corresponding Program Change been submitted to Workflow?
No

Identify the program(s) in which this course is required:

Programs:
BS in Computer Science
BS in Computer Engineering

Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer)?

No

Will there be any departments affected by this proposed course?

No

I/we as the author(s) of this course proposal agree to provide a new or updated accessibility checklist to the Dean's office prior to the semester when this course is taught utilizing the changes proposed here.

I/we agree

University Learning Goals

Undergraduate Learning Goals:

Competence in the disciplines
Personal and social responsibility
Intellectual and practical skills

Is this course 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

GE Course and GE Goal(s)

Is this a General Education (GE) course or is it being considered for GE?

No

Reviewer Comments:

Nikrouz Faroughi (faroughi) (Mon, 12 Oct 2020 23:21:58 GMT): Rollback: update

Key: 1034