

CECS 491
Software Engineering Project
Course Description and Syllabus
Spring 2016

Professor: Dr. Birgit Penzenstadler

Class meetings: Mon/Wed 1pm-1:50pm in VEC-519 and 2:00-3:30 in ECS-403

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Office Hours: Mon/Wed 4:00-5:00pm and per individual appointment

Course Description

First course in a two-course capstone design sequence that fulfills integrative learning. Design of a commercial grade software application including requirements analysis, functional, architectural and detailed design, emphasizing written communication, teamwork and the Object-Oriented Methodology.

Letter grade only (A-F), (Lecture 2 hours, laboratory 3 hours)

DESCRIPTION

This course aims to let students shape their skills in developing techniques of software-intensive systems through successful requirements engineering, design, testing, maintenance and evolution, and project and quality management. Projects may include design and development of data-intensive web applications, embedded systems applications, games, knowledge management systems, and other types of systems.

Students will use their software engineering to complete a group project.

Lecture 2 hours and lab 3 hours. Semester long team project plus final exam. Letter grade only (A-F).

I. PREREQUISITE TOPICS

Prerequisites: CECS 323 and 343 all with a grade of "C" or better Prerequisite/Co-requisite: ENGR 350. Sufficient programming skills for the team development project.

II. COURSE TOPICS

In this course, students will be teamed up to solve real world software problems in collaboration with industrial partners and researchers or come up with own ideas that contribute to filling a gap in the software market needs. They will develop a software project from requirements engineering all the way through to delivery of the product and presentation of their solution to real-world stakeholders.

III. COURSE OBJECTIVES

- Overall: Advanced applied knowledge in software engineering in developing and managing a project.
- A knowledge of and an ability to apply:
 - Quality assurance techniques
 - Requirements management techniques
 - Software project planning
 - Quality engineering techniques
 - Documentation techniques

V. METHODS FOR ASSESSING STUDENT LEARNING

Students will develop a semester-long software engineering project, composed of collaborative teamwork with deliverables of a requirements specification, design specification, the implementation of a software system, a test specification, documentation, and presentations.

VI. FURTHER READING

- Software Engineering: A Practitioner's Approach. 7th Ed. Roger Pressman.
- Software Engineering by Ian Sommerville. Publisher: Pearson.

This is a final year project course. It is assumed that you know all about process models, UML, use cases, requirements engineering, low level design, architectural design, software patterns and component based engineering as well as web development, database design, and other related activities, depending on the type of system assigned to the team. You will be teamed up (teams of 3-4 students) and develop of software project, in some cases in collaboration with a real-world stakeholder.

Syllabus for Fall 2015

Materials on BeachBoard

Class notes and further resources will be available on Beachboard.

Course Requirements:

Event	Points	Scale
Requirements Specification	100	90 -100 A
Design Specification	100	80 - 89 B
Test Specification	100	70 - 79 C
Prototype I	100	60 - 69 D
Prototype II	100	<60 F
Documentation	100	
Implementation	100	
Presentation	100	

No late work accepted. Deadlines will be *strictly adhered to*. However, the nature of software development is cyclic, and all documents may be resubmitted for regarding until the end of the semester. The project will require a number of deliverables, not the least of which are requirements, design and specification documents. Also, the project requirements may demand that the software be written in languages and environments you may not be familiar with. While some minimal instruction may be provided in these topics, you may be required to perform substantial outside learning.

Academic Honesty:

Cheating and ***plagiarism*** will not be tolerated in this course. Any individual caught cheating on quizzes, homework, lab projects, or the final exam will be punished to the full extent allowed under University regulations. Plagiarism on papers or assignments is not acceptable and work that is plagiarized will not receive credit. Plagiarism is considered cheating. *Note*: any time another person's work is used without giving them proper credit, it is considered plagiarism and cheating. It is also considered plagiarism if you try to reuse work from other courses for the deliverables in this course.

At a minimum, any student caught cheating will receive no credit for the work concerned, and will receive a reduction of one letter grade from their final course grade. The official CSULB Policy on Cheating and Plagiarism can be found here: http://web.csulb.edu/divisions/aa/catalog/current/academic_information/cheating_plagiarism.html

Reasonable Accommodation:

Individuals with disabilities who need assistance or modification to the University's programs and/or activities should inform the person(s) responsible for these programs and/or activities immediately upon knowing that such modification is necessary. Individuals registered with the California Department of Rehabilitation may be eligible for assistance through that agency. Students may be eligible for assistance through the Office of Disabled Student Services, located in Brotman Hall 270, telephone (562) 985-5401. For evaluation and service, contact that office directly. If the modification or accommodation provided is inappropriate or insufficient, you may seek the assistance of the Office of Equity and Diversity, located in University Student Union 301, telephone (562) 985-8256. If a reasonable accommodation has been requested but was not provided, the individual may access the complaint resolution process.

Electronics in Lecture:

You may use computer or tablets during lecture. Please do not use phones. If you are giggling at your computer, I will stop lecturing and ask you to come to the front of class and show us all what is so funny.

Failure is an Option:

Every semester some students in this class get C and D grades. Sometimes they even get an F. If you skip class, slack on the assignments or project, or cheat, this will happen to you. I have no problem giving C, D or F to graduate students.

COE Tutoring Center Announcement

Take advantage of free peer tutoring to keep up your grades in the most challenging classes. Tutoring is available for undergraduate engineering students in departmental courses for Electrical Engineering, Mechanical & Aerospace Engineering, Civil Engineering, Computer Engineering/Science, and Chemical Engineering.

Tutoring is on a first-come-first-serve, walk-in basis. Tutors are available Monday-Thursday in the Fall and Spring terms. All tutoring sessions take place in the Engineering Student Success Center (ESSC) in EN2, Room 300 between the hours of 9:00 a.m. – 6:00 p.m.

Visit the website for detailed tutoring schedules:

http://web.csulb.edu/colleges/coe/views/essc/academic_success/engineering_tutor.shtml#asp_ETP