Department of Computer Science
California State University, Dominguez Hills
Spring 2023

Course No. : CSC 581
Course Title *: Software Engineering*
Prerequisite : *CSC 311 (Data Structures), CSC 321 (Programming Languages) and their prerequisites, with grade C or better.*
Units : 3 units
Meetings : 7:00- 9:45 pm, Th.

Instructor/Office/Phone/Fax/E-mail/Office Hours:

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Objectives:

Software engineering has multiple areas of studies: Product Management, Software requirement gathering, modeling of software systems, processes of software development, management of software projects, architecture & design, user interface design and evaluation, Quality Assurance.

The general objective of the course is to gain practical and realistic experience in the design, implementation, QA and maintenance of software.

The specific objectives of the course are:

(a) Identify a problem/product and choose a lifecycle path.
(b) Team identification and Role Identification.
(c) Product research, Market Research
(c) Identifying customer needs. Software requirement (SRS) specification document defining scope of problem/product.
(d) Software Design with choosing a development methodology. SVN and GIT
(e) UI Design
(f) Prototype creation.
(g) Software QA, Bug fixing and bug logging, Software QA Plan.
(h) Final product deployment.

Requirements:

For the lecture, the whole class will be divided into multiple teams. Each team will choose a topic and defend the topic to build a prototype. Each team will consist of multiple members with roles. Roles will include Team Leader, Design Architect, Programmer, QA Engineer.

Each team will identify a problem/project to solve. Submit the problem for review. On approval of review defend their proposal by doing product research and Market research. After defending the proposal all teams will create a software requirement specification document that will capture requirement needs and scope of the product.

SRS will be converted to a project design document and prototyped. The prototype will have to be QAed for functionality using Unit Testing. For QA a Test plan will need to be created describing all functionality aspects.

Each team will be graded per the deliverables and their being submitted on-time. Since the software project is to be developed and maintained, the teams must apply software engineering concepts, methods, and techniques learned from the course.

The following are the details of your grade for the course:

CSC481 only: ONE (1) term-long team project is required, which will consist of FIVE (5) parts for students to practice the professional skills that are discussed in the course. Each team will have 4 students. At the end of the semester, each team must present its final product. There will be a presentation for each of the part.

CSC581 only: ONE (1) research project is required, which must be reported to the instructor and presented in the class. Each graduate student must consult with the instructor to determine your research topic and get your topic approved. There will be a presentation for each of the part.

Deliverables	Management Team
Class Participation	10%
Presentation 1(Prototype Identification / SRS/Q&A)	10%
Presentation 2(Design) /Q&A	10%
Presentation 3(QA Model)/Q&A	10%
Final Presentation (Final Prototype)	15%
Midarm	20%
Final	20%
Total	100%

The course involves several reading assignments and references other materials. You will be responsible for reading them.

Grading:

Final Average	***Grade***
94 and above	*A*
90-93.9	*A-*
87-89.9	*B+*
84-86.9	*B*
80-83.9	*B-*
77-79.9	*C+*
74-76.9	*C*
70-73.9	*C-*
67-69.9	*D+*
64-66.9	*D*
60-63.9	*D-*
Below 59.9	*F*

Course Outline:

Day	TOPICS
Week 1-2	*Introduction* *Product Development and Identification/ Discussion*
Week 2-3	*Market Research and Product Research* *Identification of Customer Needs* *Software Requirement Specification*
Week 4-5	*Software Design and Documentation*
Week 6-7	*UI Design / Software Development Models*
Week 8	*SVN / GIT/ / Software Requirement Specification* ***Presentation #1&2 (Design. SRS Presentation)***
Week 9	*Software QA* *Bug Tracking*
Week 10	*Software Pipelines*
Week 11	Code Review **UI, Software QA Presentation #3**
Week 12	*Product Demos - How to Present*
Week 13-14	*Design Patterns*
Week 15/16	*Finals Week* ***Final Presentation Total Project Presentation #4***

GENERAL POLICIES:

ACADEMIC HONOR CODE

Programming assignments must be done individually. Failure to do so will result in a violation of the CSUDH Academic Honor Code. The following cases will be considered as violations: identical code, and extremely similar code. Violations will be reported to the Office of Vice President of Academic Affairs.

STUDENT ACADEMIC APPEALS PROCESS

Authority and responsibility for assigning grades to student's rests with the faculty. However, in those instances, where students believe that miscommunication, error, or unfairness of any kind may have adversely affected the instructor's assessment of their academic performance, the student has a right to appeal by the procedure listed in the Undergraduate Catalog and by doing so within thirty days of receiving the grade or experiencing any other problematic

academic event that prompted the complaint.

ADA STATEMENT

Students with disabilities, who believe they may need an academic adjustment in this class, are encouraged to contact me as soon as possible to better ensure receipt of timely adjustments.

DEFINITION OF CHEATING AND PLAGIARISM

CSUDH is dedicated to a high standard of academic integrity among its faculty and students. In becoming part of the California State University academic community, students are responsible for honesty and independent effort. Disciplinary action will be taken against any student who alone or with others engages in any act of academic fraud or deceit. (Read University Regulations in University Catalog)