

1. New Syllabus of Record

I. Course Description

COSC 473 Software Engineering Practice

3c-01-3cr

Prerequisite: COSC 341 or instructor permission.

Planning, design, and implementation of large software systems using software engineering techniques. Students work on project teams on real or realistic software development projects. Credit for either COSC 473 or 493, but not both, may count toward computer science major requirements for graduation; the other course credits are free electives.

II. Course Outcomes

Upon successful completion of the course, the student will be able to:

1. Apply what they have learned in the in the computer science curriculum to a medium sized real world software development project.
2. Learn concepts in the computing field that are difficult to teach in instructor led course, such as user interaction, and testing, etc.
3. Experience a simulated business and industrial environment in which a computer professional must learn to function.
4. Grow professionally, emotionally, socially and intellectually.
5. Sharpen their focus on career goals and course selection to reach those goals.
6. Develop writing skills that are necessary in the professional world of computing.

III. Detailed Course Outline

1. Week One 3 hours
2.
 - a. We have been presented with a Problem statement from the client. You need to have a clear understanding of the presented specification, read through and understand what the system is supposed to/not do and any problems understanding the requirements.
 - b. Produce a formal problem statement document.
 - c. Produce a project plan- a project planning document (template provided) is a document that estimate the effort required to produce your proposed system.
3. Weeks Two and Three 6 hours
 - a. Meeting with the client to clarify/confirm the requirements. Please email the client the first week of classes and schedule a meeting.
 - b. At the meeting, you are expected to present in REPORT form and in PP
 - i. Ultimate goal of the project
 - ii. What the system is suppose to do / not do.
 - iii. Your primary concerns with the requirements.
 - iv. Process model
 - v. Organizational structure and responsibilities.
 - vi. Based-line effort schedule
 - vii. Range of skills and experience
 - viii. Overview of data requirements
 - ix. User view of the systemMost of the items covered are coming from the Project Plan report.
 - c. Start the requirements engineering process

- i. Review of the UML models for requirements engineering
- ii. Develop a requirements specification document.
- iii. Once we all know what the system is suppose to do, then Prototyping should start there and then.

4. Weeks 4 through 13 30 hours

- a. Design
 - i. Architectural design
 - ii. Detailed design
 - iii. Develop a design document
- b. Rest of the implementation and testing of the system.
- c. Develop a User Manual.
- d. Produce a systems manual which consists of a series of all reports
 - i. Planning document
 - ii. Software Requirements Specification
 - iii. Software Design Specification
 - iv. Validation and Verification plan

5. Week 14 3 hours

- a. Complete systems testing
- b. Package system for deployment and present demo to class (Burn the whole system and manuals onto a CD).
- c. You are also required to produce an individual report on your experiences of working on the system. This has to be submitted on the final day of classes.

Total: 42 hours

6. Finals Week 2 hours

- a. Deliver complete and packaged system, including the user manual to client
- b. Do a final presentation to the client

IV. Evaluation Methods

Group Journals	10 %
Group Reports	50 %
Individual report	10 %
Presentations	15 %
Class Attendance grade	15 %

Attendance policy:

Each student is expected to attend classes EVERYDAY and to arrive on time. Since this is a seminar course and active participation is needed, the attendance policy will be strictly enforced. You may miss up to one classe with a written doctor's excuse or a printed funeral notice without losing attendance points. Failure to attend classes will adversely affect your grade. Attendance will be factored into the class participation part of the grade.

Travel, interview trips, and absences: If you must miss class for an interview or any other reason, inform your group and your instructor well in advance. It is your responsibility to be certain that your tasks are covered during your absence. Do not assume that your group will just do the work when you are not here -- this must be planned. In order to learn what has happened in class during your absence, refer to the I drive and ask classmates.

The final grade for the project work is determined by a combination of the student participation grade and the instructor group grade. Each contributes 50%. The student participation grade will be based on peer evaluation with the main weight given to the other group members' evaluation. A peer evaluation form will be distributed in class on the day of the submission of an assigned report. The peer evaluation form highlights a summary of the participation of each group member. Participation consists of attendance to meetings and ability to finish assigned task and any grievances filed against group members with poor participation.

Attendance policy: The attendance policy will conform to the University wide attendance criteria.

V. Textbooks, Readings, and other Readings

Mainly Internet resources will be used for this course including class notes from the COSC319 class. Students are encouraged to acquire a reference book in software engineering. The following are recommended, but not required:

Ian Sommerville, *Software Engineering*, 8th Edition: Addison Wesley, 2007

J. Fernando Naveda and Stephen B. Seidman, *IEEE Computer Society Real-World Software Engineering Problems: A Self-Study Guide for Today's Software Professional*, Wiley Interscience, 2006

VI. Special Resource Requirements

None.