

Course Revision and Number Change - Computer Science Curriculum

Part II. Description of Curriculum Change

1. New Syllabus of Record

I. Course Description

COSC 473 Software Engineering Practice

3c-01-3cr

Prerequisite: COSC 310 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 will be counted as free electives.

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Most 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. Design and Implementation

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. Develop a systems manual which consists of a series of all reports

- ii. Software Requirements Specification
- iii. Software Design Specification
- iv. Validation and Verification plan

5. Testing and Deployment

3 hours

- a. Complete systems testing
- b. Package system for deployment and present demo to class (Burn the whole

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VII. Special Resource Requirements

None.

VIII. Bibliography

Braude, Eric and Michael E. Bernstein, *Software Engineering: Modern Approaches*, 2nd Edition, Wiley, 2010.

Prentice Hall, 2009.

Iones Caners, *Software Engineering Best Practices: Lessons from Successful Projects in the Top Companies*. McGraw-Hill.

2009.

Pfleeger, Shari Lawrence and Joanne M. Atlee, *Software Engineering: Theory and Practice*, 4th Edition, Prentice Hall, 2009.

Pressman, Roger S., *Software Engineering: A Practitioner's Approach*, 7th Edition, McGraw-Hill, 2010.

Schach, Stephen, *Object-Oriented and Classical Software Engineering*, 8th Edition, McGraw-Hill, 2010.

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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.

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.

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- 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	15 %

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 class 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.

VI. Special Resource Requirements

None.