

Semester

SP/SS/FS 20xx

Instructor Details

Name:

Office Hours:

Office Location:

Scoring and Grading

Refer to course details grading and pick specific grading scheme. Specify incremental grading.

Submission, Participation and Communication

Notes on communication, attendance, submissions, late policies, etc.

Schedule

Schedule details or outline. Notes on handling campus closings. Any specific schedule outlines for project vs. tests.

Course Details

General Policies

Lecture recordings, audio or video, are not permitted unless the instructor explicitly allows that.

We follow the university policies regarding excused EX and EX-F drops.

Students are given and are expected to sustain positive learning environment in class. This means positive conduct in class, no late walk-ins or early walk outs without a good explanation or a prior arrangement, and if on-line access is available in class - not using it for anything not class related. Students not meeting these standards may be asked to leave the classroom.

All in and out of class work for grade should be done independently (except for group projects). Homework can be discussed with others, but the final work (code, answer, etc.) should be independent. Programs may be discussed up to design, but no code is allowed to be shared except for what is presented in class. Help can always be sought and received. However, help to assignments should be generic on the subject matter or very narrowly focused on specific problem not being the central point in the assignment.

Course Description

Prerequisite: Graduate standing. Introduces software engineering as a discipline, discusses stages of the software life cycle, compares development models such as waterfall, prototyping and incremental/iterative, covers requirements analysis, effort and cost estimation, compares structured and object-oriented analysis and design

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methods. Discusses verification/validation, quality assurance, software reliability, testing methods, maintenance, documentation, project management and team structure, metrics, and available tools.

Text and Other Materials

Textbook may vary between semesters and instructors. Commonly used textbooks include:

- Software Engineering: A Practitioner's Approach, Roger S. Pressman. McGraw-Hill.
- Software Engineering: Theory and Practice, Pfleeger and Atlee. Pearson.
- Using UML Software Engineering with Objects and Components. Rob Pooley and Perdita Stevens. Pearson.

Additional materials may be provided or required.

Course Schedule

The course is organized around a semester project while studying the above topics.

Course Objectives and Learning Outcome

These are the main objectives for this course:

1. Group working skills
 - Skills are acquired through group work on a semester project and through tentative independent research and presentations
2. Development and technology skills
 - Development models, methods, strategies and tools are studied in class and applied to the semester project
 - Proper technology has to be analyzed, learned if needed, and then applied to the semester project
3. Software engineering topics may include
 - Software engineering concepts, best practices, standards, processes
 - Development techniques, stages, models
 - Documentation, estimation
 - Planning, adapting
 - Comparative studies of different software lifecycle models (e.g., traditional waterfall, agile)
 - Analysis and design models
 - Testing techniques, unit, integration, system testing
 - Deployment issues and strategies
 - Reliability analysis
 - Software metrics
 - Project management
 - User interface design
4. Research and presentation skills

Upon completion, a student should be able to

- Analyze, estimate, and model a problem
- Propose solution
- Implement solution
- Propose and carry out testing
- Adapt to changing requirements
- Work effectively in a group
- Research and leverage technology

Course Grading

We will use the standard 10% grading scale: 90% and above gives A, 80% and above B, 70% and above C, else F.

Tests	35-50%
Semester project	35-50%
Homework, quizzes, participation , etc.	10-20%
Research, reports and presentations	10-20%

University Policies and Information

http://www.umsl.edu/~webdev/mathematics/files/pdfs/cs_umsl_syllabus_university.pdf