Syllabus

CS 401 Software Engineering
Instructor: Jim Thompson

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Overview

In this course we will explore the complete software development process: requirement specification, design, coding, testing and maintenance. Various software engineering methods for the development of large-scale quality software are presented. Software engineering and software project management methods and standards are reviewed from the perspective of the software engineer, including participation in, and management of, software engineering teams.

Software development project teams will be formed, consisting of 4-7 members each depending on class size and project complexity. All team members are expected to contribute technically, and some will additionally have management roles. I will choose and assign projects, partially to save churn given the somewhat abbreviated Summer semester schedule.

This course assumes that students already have a general background and also a reasonable proficiency in programming, particularly in Java and it's ancestral compiled languages C and C++.

Course Organization and Schedule

The following schedule gives the order that assignments will be made, and is subject to frequent changes. Due dates will be discussed in class and this document updated accordingly on D2L. **Check this syllabus on D2L at least weekly for updates.** If any of the dates are difficult for you, then please let me know well in advance so that we can make other arrangements prior to the scheduled exam or due date. If you intend to miss a class, you need to notify me ahead of time.

Quizzes will be administered in class, and are not always announced ahead of time. Makeup quizzes will not be given without prior arrangements.

Attendance will be taken, and will contribute to your grade.

The first 2 hours of each class will be devoted to lecture topics. The last portion is for your team project meetings and coordination of project work, and I will be on hand to facilitate. Successful projects will require additional coordination among team members outside of class. Suggested methods include email, on-line source repositories, chat, shared desktop conferencing, etc.

Each project team will make a minimum of three presentations. Project progress will be reported weekly and those reports will count towards the project grade. Completed projects will be released as open source to the community at large, and as such, will continue as living works, hopefully with continued support of the project team.

I expect the programs/homework to be turned in on time, so that I can cover it the day it is due and better prepare you for exams and quizzes. As a result, I have a rather strict late policy: Up to 20% off per business day late for the homework and project deliverables. Written assignments are to be submitted on D2L, OpenDocument format preferred (e.g. .odt files as produced by LibreOffice or Open Office) or plain text files. Microsoft Office .doc format accepted, also.

The schedule is tentative and subject to change. Students are expected to have completed the reading assignments before class, whenever possible.

Schedule, Updated 5/20/2014

Class, Dates	Topic	Reading	Assignments	Due Dates
1. 5/22	Introduction and overview. SW Eng standards, certifications	For 5/29: Sommerville Ch. 5, 22-24; and pages 28-29, section 26.1. processes and agile development	Submit resumes for class use for formation of project teams.	5/27
2. 5/29	Engineering Managers assigned. Requirements	Sommerville Chs. 4,22, SWEBOK Engineering Management	Form project teams. Eng mgrs to select PM and recommend team members. PMs to recruit project teams. Submit team roster, high level project plan (5-10 milestones), and requirements document.	6/5

3. 6/5	UML, cont. Engineering management, project management, PMI	Sommerville Ch. 25 SWEBOK Configuration Management	Project work: Use Case document and UML Use Case diagrams – Minimum of 10 use cases, due in D2L dropbox **6/12.** All group member names need to be on the documents. Post your individual weekly reports in the appropriate dropbox on D2L. Your project manager should submit a high-level schedule by 6/19, so that would should begin now. Additionally, you should begin work on additional diagrams – Class, and 2 of the following: Activity, Sequence, or Communication, and for the game project, State. (**Due 6/19**)	6/12
4. 6/12	SW Configuration Mgmt	SWEBOK Models and Methods	Project work: Additional UML Diagrams due.	6/19
5. 6/19	SW Eng Models and Methods	SWEBOK Quality	Project work: UML Activity diagrams and class diagrams;	6/26
6. 6/26	SW Quality, continuous improvement, and ODC			7/3
7. 7/3	SW Engineering Economics	Sommerville Ch. 8; SWEBOK - Maintenance		7/10
8. 7/10	SW Maintenance	Sommerville Ch. 8 SWEBOK Maintenance		7/17
9. 7/17	SW Testing			7/24

10. 7/24	Project Presentations			
11. 7/31	Review for Final Exam; remaining project presentations			
12. 8/7	Final Exam per University schedule			

Homework, Exams, and Grading

There will be only one exam, a comprehensive final. I expect to have 3-4 quizzes. Quizzes will be given in class, and will not always be announced. If you intend to miss a class, notify me ahead of time. Stay in sync with your project team. Programming projects will earn a team project grade as well as individual grades based on participation and the team's assessment of individual team member contributions.

Class participation and attendance	100 points
Programming project	750 points. Weekly progress, assigned deliverables, project completion, team assessments.
Quizzes	150-200 points
Final Exam	300 points

The grading is as follows:

Percentage	**Grade**
90-100%	A
80-89%	B
70-79%	C
60-69%	D
< 60%	F

Course Textbooks

Software Engineering, 9th Edition, Ian Sommerville.
IEEE – Guide to the Software Engineering Body of Knowledge V.3

Other recommended reading:
Various Project Management / PMI materials
Software Reliability Engineering, John Musa
I will also reference other on-line material and make use of the D2L system.

Contact Information

J-Thompson11@neiu.edu (you must include CS-401 in the subject line as I filter email accordingly.

Office Phone: 773-442-4225
Office Hours – Tuesdays 4:30 – 5:30, LWH 3006 or by appointment.

Policies

Absence Policy

Students are expected to attend all regularly scheduled classes and examinations. If a student has more than three unexcused absences, the professor may lower the student's grade or require additional work.

Academic Integrity Policy

According to the Northeastern Illinois University Conduct Code, Acts of Misconduct include, among others, the following: Cheating. Use or attempted use of any unauthorized assistance in taking an exam, quiz, or other assignment. Furthermore, the code states that if the student's observed conduct or apparent behavior is such as to lead to suspicion of academic misconduct, the faculty member in whose course the alleged infraction occurred may adjust the grade downward (include F-failure), the for test, paper, or course in question. In accordance with this policy, you will receive a grade of F in this course if you are caught cheating on any test, program, or other assignment.

ADA Policy

In accordance with the Americans with Disabilities Act, NEIU does not discriminate against students on the basis of disability. In addition, the University provides reasonable accommodations for students with disabilities. Students seeking reasonable accommodations in the classroom should contact the Accessibility Center (D-104, 773-442-4595). Persons seeking handicapped parking permits should contact the Director of Health Services (E-051, 773-442-5800). Persons with concerns about discrimination on the basis of disability, and persons with any questions about the Americans with Disabilities Act should contact the Affirmative Action Office (C-218, 773-442-5416).