

# Software Engineering

Fall 2009

CS484/584

# Description

## Content:

Software engineering as a discipline has evolved in conjunction with computer hardware and programming tools. Despite its infancy, SW Engineering has some fundamental processes that are recognized as essential to the production of quality software that meets customer requirements. Both the ACM (as "SE2004") and the IEEE (as "Software Engineering Body of Knowledge" or "SWEBOK") have defined a set of skills that practitioners of software development should possess. These include Requirements, Design, Construction, Testing, Quality Control, and Configuration Management. This course seeks to teach principles of software engineering through hands-on experience in a series of projects. In addition, the student will be introduced to applied concepts in software engineering through the blogs and writings of some of today's most noted practitioners.

**Texts:** Much of the material used in the course is available on the web.

**Primary Text:** Software Engineering: A Practitioner's Approach (6<sup>th</sup> Edition) by Roger S. Pressman; Discount copies available here:

[http://www2.bigwords.com/details/book/Software\\_Engineering\\_A\\_Practitioners\\_Approach/9780077227807/0077227808](http://www2.bigwords.com/details/book/Software_Engineering_A_Practitioners_Approach/9780077227807/0077227808)

**Optional Supplementary Text:** Software Engineering by Ivan Marsic; Free copy here:

[http://www.caip.rutgers.edu/~marsic/books/SE/book-SE\\_marsic.pdf](http://www.caip.rutgers.edu/~marsic/books/SE/book-SE_marsic.pdf)

## Assessments:

**Grading:** 25% exams (10% mid-term, 15% final); 30% projects; 25% homework; 20% presentations

**Presentations:** Students will provide a brief (10-minute) presentation on each project (5% each for the first 2 projects and 10% for the last one).

**Homework:** There will be 5 readings assigned during the semester. Students will provide a report on each paper, at a value of 5% each of the course grade, consisting of (a) content summary; (b) arguments in favor of the paper's thesis; (c) arguments against the paper's thesis; (d) the student's opinion -- pro or con -- with supporting rationale. There is no absolute right or wrong opinion, but the student's views must include rational supporting discussion.

## Prerequisites:

Senior standing, Graduate student, or permission from the instructor. The student should be familiar with at least one language used in web software development.

# Schedule: 1<sup>st</sup> Half

Wk	Date	Chapter/Topic	Assignment Due
1	9/1	Administrivia. Course Overview. Project Opportunities.	
	9/3		
	9/4	Colloquium with Brian Berenbach of Siemens (required)	
2	9/8		
	9/10		
3	9/15		
	9/17		
4	9/22		
	9/24		
5	9/29		
	10/1		
6	10/6		
	10/8		
7	10/13	NO CLASS --- FALL BREAK	
	10/15		
8	10/20		
	10/22		

# Schedule: 2<sup>nd</sup> Half

Wk	Date	Chapter/Topic	Assignments Due
9	10/27		
	10/29		
10	11/3		
	11/5		
11	11/10		
	11/12		
12	11/17		
	11/19		
13	11/24		
	11/26	NO CLASS --- THANKSGIVING BREAK	
14	12/1		
	12/4	SPECIAL SESSION (NO LECTURE)	
15	12/8	Project Presentations	
	12/10	All projects, assignments due by 6 pm.	
16	12/16	Final Exam	Take-Home Final: Due 12/16 by 4 pm