

## Syllabus

Cleveland State University  
Electrical and Computer Engineering  
**Distributed:** Tuesday, August 25, 2009

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**Class:** Tue/Thu, 4:00 p.m. — 5:50 p.m., SH 324.

**Course Web Page:** The following URL will contain class announcements, handouts, assignments, and other useful resources. In general, this will be the primary way in which I will communicate information to you (other than class lectures, of course)

<http://selab.csuohio.edu/~nsridhar/teaching/fall09/eec521/>

**Instructor:** Dr. Nigamanth Sridhar

**Office:** 435 Stilwell Hall

**Office Hours:** Tue, Thu, 2:00 p.m. – 3:50 p.m., and by appointment.

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**Short Description:** Software process, methods, and tools; phases of software development process including requirements analysis, design, coding, and testing; methods and techniques for software engineering, and software project management, metrics, and quality assurance.

**Objectives:** Upon successful completion of this course, the student should:

1. Be familiar with the different stages of the software development life-cycle
2. Be familiar with the different kinds of documentation generated throughout the development life-cycle
3. Understand the fundamental components of quality software
4. Be able to work successfully in a group with colleagues
5. Be introduced to various new technologies that are being used to produce software in the industry

**Textbook:** Ian Sommerville, **Software Engineering**, 8<sup>th</sup> ed. Addison-Wesley. The material in the textbook will be supplemented by lecture notes and a set of research papers that will be assigned in class.

**Grading:** The following grade components will be assessed in this course:

**Pop Quizzes:** 5%

**Mid-term Exams:** 30%

**Final Exam:** 25%

**Homework Assignments:** 40%

**Attendance:** Since this is a lecture-based course, although there is no official attendance policy, students are strongly encouraged to attend every class. Only a portion of the course material will be covered in the textbook. The majority of the exam material will be covered only during the lecture periods. Based on previous experience, since each lecture builds upon the lectures that preceded it, missing even a single class can make it difficult for you to keep up with the course material. Please attend every class — it makes it easier to earn your participation points, and more important, makes it more enjoyable for me to grade your exams.

As a courtesy to me, if you choose to attend class, please show up on time. If you must miss a class, it is your responsibility to get any missed lecture notes, handouts, and project assignments from your fellow students.

If I will miss a class period, I will make every effort possible to notify you at least one class period in advance. If I am more than fifteen minutes late to class, you should assume that I am dealing with an emergency, and will not be able to make it to class. In such a rare case, class is automatically canceled, and you are free to leave.

**Course Timeline:** This is a timeline for the topics we will cover in this course. The class website will indicate any changes we make to this schedule.

<b>Date</b>	<b>Topic</b>	<b>Reading</b>
8/25/09	Introduction and course policies	
8/27/09	Software Product	Somerville, Ch. 1
9/1/09	Software Process, Prescriptive Process Models	Somerville, Ch. 4
9/3/09	Agile Process Models	Somerville, Ch. 4
9/8/09	Software Cost Estimation	Somerville, Ch. 26
9/10/09	Requirements Engineering	Somerville, Ch. 6, 7
9/15/09	Analysis Modeling	Somerville, Ch. 7, 8
9/17/09	Analysis Modeling	Somerville, Ch. 7, 8
9/22/09	Classes and Objects; UML	Somerville, Ch. 8
9/24/09	Formal Specification	Somerville, Ch. 10
9/29/09	<i>ICSR travel; No class</i>	
10/1/09	<b>Midterm Exam 1</b>	
10/6/09	Introduction to Software Design	Somerville, Ch. 11
10/8/09	Software Architectural Design	Somerville, Ch. 11
10/13/09	Object-Oriented Design	Somerville, Ch. 14
10/15/09	Contract-Based Design	Somerville, Ch. 10
10/20/09	Design Patterns	
10/22/09	Design Patterns	
10/27/09	Design Patterns	
10/29/09	Refactoring	
11/3/09	<b>Midterm Exam 2</b>	
11/5/09	Aspect-Oriented Programming	Somerville, Ch. 32
11/10/09	Aspect-Oriented Programming	Somerville, Ch. 32
11/12/09	Verification and Validation	Somerville, Ch. 22
11/17/09	Black-Box Testing, Junit	Somerville, Ch. 23
11/19/09	White-Box Testing	Somerville, Ch. 23
11/24/09	Object-Oriented Testing	
11/26/09	<i>Thanksgiving Day; No class</i>	
12/1/09	Software Model Checking	
12/3/09	Model Checking with SPIN	
12/8/09	<b>Final Exam</b>	

**Pop Quizzes:** At random times throughout the semester, I will give quick quizzes about current concepts and materials. The quizzes will be in a variety of formats. Most will be given during class, some at the start of class and some at the end of class. If you are not present for a pop quiz, you automatically receive a zero grade for the quiz. No make-up will be given for pop quizzes.

**Late Assignments, Missed Exams, Quizzes, and Presentations:** Any assignments must be submitted in class at the beginning of the period on their due date. Late projects will not receive any credit. Similarly, failure to attend class on the day of an exam, quiz, or scheduled presentation will result in an automatic zero grade for the work. If you arrive late on the day of an exam, quiz, or scheduled presentation, you will be allowed to participate, but will not be given additional time to compensate for being tardy. Make-up work will be granted only with a valid, written, medical, or university excuse. It is your responsibility to give me the written excuse and to arrange for the make-up work within one week of your absence.

**Academic Integrity:** This course is all about training to be a software professional, so I will expect you to be professional during the course as well. No form of cheating will be condoned. If I find you cheating, I will be forced to refer you to University Academic Misconduct Committee. Further, in the event that the committee finds you guilty, you will receive an "F" grade for the course regardless of your scores. It is not, however, wrong to refer to other sources when preparing your written submissions; just make sure that you cite the source properly.