

# COSC420-01: Software Engineering (Fall 2014)

## *Summary*

Examination of a range of topics integral to the design, implementation, and testing of a medium-scale software system, with practical experience of implementing such a project as a member of a programming team. You will participate in all phases of the software development process and produce technical documents and presentations at each step. The course also includes material on professionalism and ethical responsibilities in software development and human-computer interaction.

## *Instructor*

Brian Toone ([brtoone@samford.edu](mailto:brtoone@samford.edu))

Office: Russell 320 (726-2960)

Hours: By appointment

## *Lecture*

Russell Hall 311

MWF 8:00-9:05AM

## *Text and Course Materials*

Supplemental Text: *Programming the World Wide Web*, by Robert W. Sebesta.  
(optional, not pictured) Addison-Wesley, 7<sup>th</sup> or 8<sup>th</sup> edition

Online: The class Moodle website will be used for posting course announcements, providing supplemental materials, turning in assignments, and taking online tests (outside of class time).

## *Prerequisites*

COSC 315 (Databases) with grade of C or better or permission of the instructor.

## *Grading and Attendance*

Breakdown - 15% - Mid-term exam #1  
15% - Mid-term exam #2  
20% - Final exam (online)  
50% - Project and assignments (intermediate assignments, summary paper, final presentation)

Grading Scale - A (100-92), A- (91-90), B+ (89-88), B (87-82), B- (81-80),  
C+ (79-78), C (77-72), C- (71-70), D+ (69-68), D (67-62), D- (61-60), F (59-0)

**Attendance Policy – If you know you will be unable to attend a class, please contact me ahead of time. No make-up exams or quizzes will be given except in the case of legitimate academic events (with prior approval) or emergency situations (with appropriate documentation).**

## *Project*

- A large portion of your grade in this class will come from your group project.
- We will have two teams working independently on an identical project. Think of it as a competition!
- Your project grade will be based on how well your team performs as a group, your understanding of the overall project produced by the group, the documents you produce, and peer evaluations.
- Determining the requirements and desired functionality of a piece of software is a major part of the software engineering process. Therefore, the specific requirements for your project will be determined using the processes and techniques that we will discuss during the first week of class.
- Throughout the semester you will have to give **written** and **oral** updates on the status of your project.

## *Practical Course Objectives*

I have listed below what I would like you to take away from this course:

- Familiarity with (and expertise in subset of) **software engineering knowledge** and skills and professional issues to form basis for on-the-job learning in grad school (or work) as a software engineer.
- Improve ability to work as an individual and as part of a team to **produce software**
- **Reconcile conflicts** within project objectives by finding acceptable compromises within limitations of cost, time, knowledge, existing systems, and organizations.
- **Practical experience** working on large project
- **Web application** development and programming experience (PHP, MySQL, CVS)
- Preparation for **senior project**
- **Design** appropriate solutions in one or more application domains using software engineering approaches that integrate ethical, social, legal, and economic concerns. Professional issues
- **Better communication** with employer, clients, etc... through writing instruction and practice
- Familiarity with **current state-of-the-art** software engineering practices

## *Disabilities*

If you are registered with Disability Resources (DR) and have your accommodation letter, please make an appointment with me as soon as possible to confidentially discuss accommodations that may be necessary. If you have a disability but have not contacted Disability Resources, please call 726-2980/4078 or visit DR located within Career Development, Room 205 of the University Center.

Students who may need course accommodations are welcome to make an appointment to see me during office hours. Students with disabilities must be registered with Disability Resources, 726-2980/4078, and I must have received an accommodation letter before you begin receiving academic adjustments.

## *Academic Integrity*

As stated in the Samford University catalog, “students, upon enrollment, enter into voluntary association with Samford University. They must be willing to observe high standards of intellectual integrity; they must respect knowledge and practice academic honesty.” Unless specified otherwise, students are expected to do their own independent work, and to refrain from cheating, copying or plagiarizing the work of others. When drawing from various resources for assignments, students must provide citations, footnotes and bibliographic information.

You are expected to work as a team in this class on assignments and only one submission per team is required. HOWEVER, both midterms and the final exam should be completed independently without consulting any person (whether or not they are currently taking the class). In other words, collaboration of any kind **IS NOT ALLOWED WITH ANYONE AT ANYTIME** while an online exam is available. Violators of this policy may be subject to failing the midterm, final, and/or class depending on the violation.

### *Class calendar*

A more detailed class calendar will evolve throughout the semester. In the meantime, I have given a list of the topics that we will cover this semester:

- What is software engineering? What is web engineering? Part 1 – Overview (Ch 1-3)
- What is this software/website supposed to do? Part 2 – Requirements and Modeling (Ch 4-7)
- How do I build this software/website? Part 3 – Design (Ch 8-11)
- How do I make it work? Part 4 – Development (Ch 12-14)
- How do I make it work right? Part 5 – Testing (Ch 15)
- How can I make this project a success? Part 6 – Management (Ch 16)

Your **midterm exams** will be available online near the following dates: **Friday, Oct 17** and **Friday, Nov 7**.

Your **final exam** will be available online during the week of final exams.

### *Moodle*

We will be using Moodle this semester.

