

# COMP/EECE 4081: Software Engineering

Fall 2012

Tuesday, Thursday 5:30–6:55 p.m.  
FedEx Institute of Technology 226

<http://www.cs.memphis.edu/~sdf/comp4081/>

## Instructor

Dr. Scott D. Fleming <[Scott.Fleming@memphis.edu](mailto:Scott.Fleming@memphis.edu)>

Office Hours: Tuesday, Thursday 2:00–2:30 p.m., 4:10–5:10 p.m., or by appointment

Office: Dunn Hall 303

## Teaching Assistant

Ramya Dharam <[rdharam@memphis.edu](mailto:rdharam@memphis.edu)>

Consulting Hours: TBA

Location: TBA

## Course Description

### ***COMP 4081 - Software Engineering (3)***

*(Same as EECE 4081). Scope of software engineering; software life cycle models; software process; team organization; requirements analysis and design methodologies; metrics, inspections, testing strategies and maintenance; software risks; professional and ethical responsibilities. Computer Science majors should plan to take COMP 4882 during the following spring semester. PREREQUISITE: COMP 3160. (F)*

## Why This Course?

This course provides students with a foundation in software engineering by covering popular process models and the steps associated with these models. Students work in teams to develop a medium-sized software system using recommended practices. Upon completion of this course, students will be prepared to develop software systems in an industrial setting or to continue graduate study in software engineering.

## Textbooks

### Required:

*Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and Iterative Development* (3<sup>rd</sup> ed.)  
by Larman, Prentice Hall, 2004.

### Optional:

*Head First Servlets and JSP* (2<sup>nd</sup> ed.)  
by Basham, Sierra, and Bates, O'Reilly, 2008.

*Software Engineering: Theory and Practice* (4<sup>th</sup> ed.)  
by Pfleeger and Atlee, Prentice Hall, 2009.

## Evaluation

Grading weights:

- 15% homework
- 32% project
- 38% exams (16% for midterm, 22% for final),
- 10% participation
- 5% above-and-beyond work

To convert from overall percentages to letter grades, see the chart at right. I reserve the right to *lower* the percentage threshold for letter grades as I see fit (i.e., I may make the grading scale better for you, but never worse).

A+	≥ 97%
A	91–96%
A–	89–90%
B+	87–88%
B	81–86%
B–	79–80%
C+	77–78%
C	71–76%
C–	69–70%
D+	67–68%
D	62–66%
D–	60–61%
F	≤ 59%

Grading scale.

## Homework

Students must complete 5 homework assignments: 4 individual and 1 (project) team. All homeworks will be weighted equally. Homeworks are typically due before the start of class—see the No Late Submissions policy below.

## Project

Students will work on the project in teams with 4 (±1) members. I reserve the right to assign the teams and reshuffle them at will.

You will receive one project grade at the end of the semester. There are 100 possible project points:

- 50 points for individual productivity
- 50 points for (whole project) artifact quality

The project work will be spread across 4 iterations (ITER1–ITER4), each taking roughly 2 weeks to complete. In each iteration, each team member will *negotiate* with me his/her expected *ITER deliverables*.

**ITER deliverables.** ITER deliverables will generally be working implementations of functionality or test code. ITER deliverables for a particular iteration must (as a reasonable estimate) require 12 hours of work (spread over 2 weeks) by an average student to complete.

**Negotiation.** Negotiation happens in class on the day that the ITER is assigned. Depending on the particulars of the ITER, you may or may not have a say in your ITER deliverables. If you miss class on a negotiation day, I will assign your ITER deliverables.

**Renegotiation day.** It may be difficult to estimate exactly how much work the ITER deliverables will require, so there will be an opportunity to renegotiate halfway through the iteration. Note: you should do significant work on your ITER deliverables in the first week of an iteration, so you don't miss your chance to renegotiate if the ITER deliverables involve more work than expected.

### **Productivity Grading**

**Regular productivity.** It is expected that each team member will complete his/her regular work assignments in a timely manner. For each ITER, you either will receive all regular-productivity points or none (no partial credit). To receive the points you must complete your deliverables by the ITER deadline. Furthermore, your work must be of reasonable quality—that is, it must be clear that you put a good effort into the work. If any part of your deliverables is incomplete or of poor quality, you will receive 0 regular-productivity points for the iteration.

**Unproductive team member deduction.** If you fail to earn the regular productivity points for 2 or more iterations, you will receive an additional artifact-quality deduction: 15 points per iteration in which you did not receive the regular productivity points. This deduction is meant to account for the lack of contribution made by an unproductive team member to the project artifacts.

**Reassigning unfinished regular work.** If a team member fails to finish his/her regular work for an iteration, that unfinished work will go back in the pool of work to be done in the next iteration. Unfinished regular work may make a good candidate for above-and-beyond work. A team member may abandon his/her regular work during an iteration (by contacting me; of course he/she will lose his/her regular productivity points), making the work available as possible above-and-beyond work for other team members.

**Teamwork.** Team members may work together however they see fit; however, each team member is responsible for his/her own deliverables, and he/she is the only one who can receive productivity credit for those deliverables. So collaborate, but be careful about spending too much of your time on someone else's deliverables if you're not getting any help on your deliverables in return. Note that even though you're working in teams, plagiarism is still strictly forbidden (see below).

### **Artifact Quality Grading**

Your team's artifact-quality points will be assessed at the end of the semester. Throughout the semester, after each ITER is submitted, I will provide quality feedback on the artifacts created/modified for that iteration. You should use that feedback to improve the quality of your artifacts. Such incremental improvements will help considerably in the final quality assessment.

Quality assessment can be subtle and subjective; so if you have any questions, don't hesitate to ask me.

## **Exams**

The exams will be administered in class and will be closed everything (i.e., closed book, closed note, closed neighbor, etc.).

In general, makeup exams will NOT be administered. If you have an extenuating circumstance, you should notify me as soon as possible. Makeups for exams will only be given under extreme circumstances and if I approve the absence before the exam is given. All excused absences must be documented (e.g., with a doctor's note).

## **Participation**

Students are expected to attend class and participate in classroom discussions. You will begin the semester with 13 attendance points. If I notice that you are missing from class at any time, I will deduct 1 point for that day. At the end of the semester if you have 10+ points, then you will receive full credit for attendance (i.e., you can miss 3 days without penalty); otherwise, you will receive a percentage of your points out of 10 for participation.

Be forewarned:

- I will give a quiz during the first 5 minutes of each class. If you do not arrive in time to take the quiz, you will lose a participation point for that day.
- Also, I like to do lots of in-class activities, so the odds of me noticing your absence on a given day are pretty good.

## **Above-and-Beyond Work**

To achieve the highest grade in the course (A+), you will need to go above and beyond the call of duty—therefore, 5% of your final grade is devoted to “above-and-beyond work.” To receive above-and-beyond points, you must negotiate above-and-beyond work with me, typically for 1 point per work item. You may propose above-and-beyond work at any time. You can earn as many above-and-beyond points as you can negotiate with me, but note that you will need at least 10 above-and-beyond points to earn the full 5%. The work you do for above-and-beyond points must be of good quality to earn the points. I may require you to fix above-and-beyond work that does not meet this standard.

## **No Late Submissions**

You are expected to complete work on schedule, as deadlines are a part of the real world. Work will not be accepted late unless there are extenuating circumstances and prior arrangements are made with me.

## No Plagiarism/Cheating

*Plagiarism or cheating* behavior in any form is unethical and detrimental to proper education and *will not be tolerated*. All work submitted by a student (projects, programming assignments, lab assignments, quizzes, tests, etc.) is expected to be a student's own work. The plagiarism is incurred when any part of anybody else's work is passed as your own (no proper credit is listed to the sources in your own work) so the reader is led to believe it is therefore your own effort. Students are allowed and encouraged to discuss with each other and look up resources in the literature (including the internet) on their assignments, but *appropriate references must be included for the materials consulted*, and appropriate citations made when the material is taken verbatim.

If plagiarism or cheating occurs, the student will receive a failing grade on the assignment and (at the instructor's discretion) a failing grade in the course. The course instructor may also decide to forward the incident to the University Judicial Affairs Office for further disciplinary action. For further information on U of M code of student conduct and academic discipline procedures, please refer to: <http://www.people.memphis.edu/~jaffairs/>.