EE 461L - Software Engineering and Design Laboratory
Course Syllabus: Unique Sections 16465, 16470, 16475, 16480, 16485, 16490
Fall 2019

Instructor:
Dr. Mary Eberlein
   Office hours: TTh 2-3:15 pm

Course Description
This course focuses on providing hands-on experience in designing and developing large-scale software systems. Specifically, the course studies tools and techniques that enable large-scale software development. Specific topics include version control systems, the UNIX shell, software modeling tools, build automation, testing tools, tools for debugging, object-oriented design and analysis, design patterns and refactoring.

Prerequisites
EE 422C or CS 336 with a grade of at least C-; credit with a grade of at least C- for M325K.

Course Materials
All course materials will be made available through Canvas or the class website. These materials are shared solely for the purpose of meeting the course objectives, and access to the materials should be restricted to registered students in the course. Sharing or distributing lecture notes or other course-specific materials in any other way is not approved and is a violation of both the University of Texas Honor Code and in some cases, copyright law.

Recommended Texts
There are no required textbooks. If you would like to read books over the course content, the following are recommended:

- *Head First Design Patterns*, E. Freeman et al.
- *Software Engineering*, Sommerville.

Evaluation and Grading
There will be nearly weekly assignments in the laboratory sections. You should be able to complete them during your lab session time. At times, these assignments may result in something that will be submitted for grading or graded during a checkout in your lab; at other times, your grade will simply be a "participation" grade recorded by

the lab TA. For this reason, attendance in your lab section is mandatory. These lab assignment ("tutorial") grades will be 11% of your final grade.

Throughout the semester, you will work in a team on an extensive software project. There will be several milestones, presentations, and deliverables for this project; in total, this project is worth 35% of your final grade.

It is not necessarily the case that all members of a given team will receive the same project grade. Each project phase will receive a score, and individual scores may be adjusted based on the contributions of each team member.

Throughout the semester, there will be homework assignments that will require a variety of written and programming responses. In some cases, these assignments will be the result of in-class exercises. In other cases, these assignments may optionally be done in small teams (the instructor will tell you when this is the case.) When these assignments are done in teams, all team members submit a single response, and everyone on the team will receive the same grade. In total, these homework assignments will be 15% of your final grade.

There will be two exams during the semester. The first exam will be worth 10% of your course grade and the second exam will be worth 15% of your course grade. The first exam will occur approximately mid-semester. The second exam will occur during the last week of the semester, and may be given in the evening. Any material from the course is considered fair game for the exams.

Quizzes will be given in class roughly once a week. They will cover course topics and readings from the current and previous weeks. Quizzes are worth 8% of your course grade. Your two lowest quiz grades will be dropped. No makeup quizzes will be given for any reason. You may only take quizzes in the class for which you are registered. Quizzes that are given on Canvas are closed book - looking at notes or course materials during a quiz is not allowed. You are responsible for having a device that works with Canvas (e.g., a laptop, phone or tablet.) Sometimes there is enough text on the quiz that using a phone is inconvenient. If you forget your tech or can't get it to work, your quiz will be marked zero. You must attend the entire class. If you leave early, or your participation in class includes disruptive, condescending or rude behavior, your quiz will be marked zero. A code to unlock Canvas quizzes will be given in class. Sending the code, the questions, or the answers to anyone is a violation of the honor code of the University. Students who violate University rules on academic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. You may not use the laptop, tablet or phone in lecture other than during the quiz.

Blog posts will be assigned weekly. Each blog post asks about your recent work in the course. Blog posts will be worth 6% of your course grade.

The grade you are given on an exam, assignment or as your final course grade is not the starting point of a negotiation. It is your grade unless a concrete error has been made. Do not come see me to ask for a better grade because you want one or you feel you deserve it. Come only if you can document a specific error in grading or in recording your scores. Keep in mind that errors can be made either in your favor or not. It's possible that if you ask to have a piece of work regraded, your grade will go down rather than up. Regrade requests will be considered for only one week after the assignment is returned. This is defined as the date on which the graded assignment was returned to you or the date the assignment grades are released on Canvas (whichever is earliest.) The entire assignment or exam will be regraded. Please pay attention to your grades on Canvas, and respond promptly to any emails sent to you by the instructor or TAs.

Remember that the most important characteristic of any grading scheme is that it be fair. Keep this in mind if you're thinking of asking, for example, for more partial credit points on a problem. The important thing is not the exact number of points that were taken off for each kind of mistake. The important thing is that the number was the same for everyone. Partial credit decisions won't be changed once grading is done and the exams and assignments are returned.

Final Grades
Final grades will be assigned according to the following standard criteria:

Final Average	Letter Grade
90-100	A
80-89	B
70-79	C
60-69	D
0-59	F

Final class grades will be calculated and the fractional part of the average will be truncated. 89.8 is a B. The line has to be drawn somewhere, and no special allowances will be made for students whose final average falls near, but below, a cutoff. There is a possibility that the final grade cutoffs will be lower than the criteria discussed above, but this will not be determined until the end of the semester. Nonacademic explanations for poor class performance will have no bearing on the assignment of grades.

Attendance

Attendance and participation are expected. You are responsible for class material, whether or not you attend. If you miss a class (other than for illness or emergency), do not expect me the instructional staff to repeat the material that was covered in class for you. This applies to class content and to announcements about class policies, events, deadlines, etc.

Classroom Behavior

You have the right to learn in every class you attend. You also have the responsibility to ensure that other students also have that right. Come to class on time. Do not leave early. Recognize that buses and parking situations can be unpredictable and allow time for that. If you must come late or leave early, let the instructor know in advance. Do not be disruptive in class. Do not chat with your neighbor. Put your electronic devices away and silence them.

Labs

The primary purpose of the labs is for working through tutorials. You are expected to attend your lab meetings, and unless otherwise specified, to work on the weekly tutorial during your lab. Do not be disruptive during lab meetings. Do not chat or use your devices for anything other than working on the tutorial. The first 1 1/2 hours of every lab period is mandatory and you must attend the lab for which you are registered. If you are not present or if you are late, you will automatically receive a grade of 0 on the tutorial. The last half of each lab meeting is TA office hours, and any student may attend.

Communication

Use Piazza for any question of general interest, and email for any question that pertains only to you. Do not expect to get last-minute help on assignments from the instructor or TAs. Do not expect detailed answers to technical questions via email. Students are encouraged to discuss important matters in person, typically during office hours. If you must send an email, ensure that it is both brief and clear. Sign the email with your full name. While it's easy for you to dash off an email question, it takes time to answer it. The instructor and TAs will not respond to email questions to which you can find the answer somewhere else (e.g., lecture notes, the class web page, piazza.)

Late Work

Makeup exams will not be given, though if a student misses the first exam with a verifiable emergency or medical excuse, then the instructor will consider replacing the first exam grade with the second exam grade.

Tutorials and homework will not be accepted late. No makeup quizzes will be given.

Use of Electronic Devices in the Classroom
Silence your cell phone during class. Laptop use in lecture is typically discouraged, unless we are doing an exercise that requires it - if you use a laptop during lecture or lab for any purpose other than looking at the current course materials, you will not be allowed to use your laptop during lecture for the rest of the semester. For example, do not use your laptop during class to do the assigned readings or to post on social media. Occasionally in lecture, and during every lab, you will need your laptop to do exercises. Make sure you have it with you.

Academic Honesty
Plagiarism and other forms of cheating will not be tolerated. This includes using code downloaded from the internet without explicit permission from the instructor or without adhering to the code's distribution license. Please be sure to adhere to the stated collaboration policy for each assignment.

If you do a team or pair homework assignment, you are not permitted to have one person (or a proper subset of the team members) do the assignment. Each team member must contribute to the assignment solution in a meaningful way, and work on each part of the assignment. On pair assignments, pairs must follow the pair programming rules on the course website. Any other arrangement is cheating.

Examples of cheating on an exam or quiz include changing answers after they have been graded, copying answers during the quiz or exam, looking at notes or webpages on your laptop during a Canvas quiz or exam, or knowingly allowing someone to copy your answers.

Another form of academic dishonesty is misrepresenting the contributions of teammates on project peer evaluations. You are expected to honestly evaluate the work of each team member at the end of project phases. These peer evaluations may impact grades. Do not, for example, help a friend out by giving them a higher score than they deserve. Your project peer evaluations are assignments that are part of your project grade.

Every piece of work that you turn in with your name on it must be yours and yours alone (or that of you and your project team, if it's team work) unless explicitly allowed by the instructor. Specifically, unless otherwise authorized by the instructor:

- Students may not discuss their work with anyone other than the instructor and TAs.

- Students may not acquire from any source (e.g., another student or an internet site) a partial or complete solution to a problem or project that has been assigned.

You are responsible for complying with this policy in two ways:

- You must not turn in work that is not yours.
- You must not enable someone else to turn in work that is not theirs. Do not share your work with anyone else. Protect your files. After you have finished a class, do not share your work or publish answers to assignments. This means that you do not post your solution code to any public website such as public repositories on GitHub.

The penalty for academic dishonesty will be a 0 on the portion of your grade allocated to the type of assignment you cheated on, as well as a referral of the case to the Dean of Students. Further penalties, including suspension or expulsion from the university may be imposed by that office.

For example, if you cheat on the team project, you will receive a 0 on the 35% of your grade allocated for the team project. If you cheat on a lab tutorial, you will receive a 0 on the 11% of your grade allocated for tutorials. If you cheat on a homework assignment (in class or not), you will receive a 0 on the 15% of your grade allocated for assignments. If you cheat on an exam, you will receive a 0 on both exams.

This policy is not intended to discourage students from learning from each other, nor does it ignore the fact that most significant work in industry is done by teams of people working together. Because of our need to assign individual grades, we are forced to impose an otherwise artificial requirement for individual work.

If you are repeating this course you may reuse code you completed individually in a previous term. You may NOT use code from a program you worked on as part of pair programming, team work, or code that was from a program involved in an academic dishonesty case. You must start from scratch on any and all programs that:

- were part of an academic dishonesty case
- you worked on with a partner/team during a previous semester
- you are working on with a partner this semester

You are encouraged to study for tests together, to *discuss* methods for solving the assignments, to help each other in using the software, and to discuss methods for debugging code. **Essentially if you *talk* about an assignment with any one else you**

are okay, **but the moment you start *looking at someone else's source code* or *showing someone else your source code* you have crossed the line into cheating.** You should not ask anyone to give you a copy of their code or give your code to another student. Similarly, you should not discuss detailed algorithmic strategies to such an extent that you and your collaborators end up turning in essentially the same code. **Discuss** high level approaches together, but do the coding on your own.

Examples of cheating are many and include accessing another student's account, looking at someone else's solution code, copying or downloading someone else's solution code, referring to solutions from previous semesters, having another student walk you through the solution and how to code it, having another student perform significant debugging of your code, having another student write your code for you and/or allowing others to copy or access your solution code. **This means you shall not look on the internet for code to solve your problems.**

Examples of allowable collaboration include discussions and debate of general concepts and solution strategies.

The code you can reuse in this class:

1. You may use any code you develop with the instructor or TAs.
2. You may use code (with attribution) from the class slides and the class coding examples.

You shall not make use of code you find from other sources including the world wide web. Materials from the web should only be used for educational purposes. Thus, you can read about JavaScript and look at examples of JavaScript, but you must not copy any code from the web or be looking at any of this code from the web when writing anything you turn in.

If you have any doubts about what is allowed, ask the instructor.

Plagiarism detection software (MOSS) will be used on assignments to find students who have copied code from one another.

For more information on Scholastic Honesty and the UT Honor code see see the [University Policy on Scholastic Dishonesty](#)

Help when You're Struggling, or Have a Crisis or Emergency

Please, when something bad happens, or when you're feeling overwhelmed, *get help*. Don't endure it on your own. Even talking through the situation often helps. Here are some options:

- See me. Come by office hours, or book an appointment (just email me.)

- Visit the ECE advisors. They're not just there to help you register; they can really help in many situations.
  Tel: 512-471-1851
  Office: EER 2.884 **Hours:** Monday–Friday 8 a.m–5 p.m. (closed for lunch 12-1 pm)
- Talk to Student Emergency Services. They are there to help you with all kinds of life's troubles (family, housing, health, money, stress, etc.) whether it's a crisis or not.
  Tel: 512-471-5017 **E-mail:** studentemergency@austin.utexas.edu
  Office: SSB 4.104 **Hours:** Monday–Friday 8 a.m–5 p.m.

Religious Holidays: By UT Austin policy, you must notify me via email of your pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, you will be given an opportunity to complete the missed work within a reasonable time after the absence.

Students with Disabilities: Students with disabilities may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities, 471-6259, www.utexas.edu/diversity/ddce/ssd/. Provide me with your accommodation letter during the first week of classes.