CS 321: Software Engineering

Contact Information

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(But feel free to pop in
anytime my door is open!)

Course Overview

A project-based course to cover all phases of the software engineering lifecycle in as realistic as possible distributed team environment.

Learning Objectives

Upon completion of this course, students should have:

- An understanding of all phases of the software engineering lifecycle (requirements, design, implementation, testing, deployment, maintenance).

- An understanding of several lifecycle models including both prescriptive and agile methodologies and knowledge of tradeoffs among the methodologies.

- An ability to document software requirements and design artifacts.

- An ability to analytically evaluate software usability.

- An understanding of fundamental techniques used to lead a software team.

- An ability to apply software engineering techniques to create a minimum viable product.

Prerequisite

Grade of C or better in CS 310 AND ENGH 302

Course Materials

There is no required textbook for the class. I will teach from the Learning Modules on Blackboard and provide supplementary reading material there as applicable.

Depending on your project group, you may need to purchase equipment such as Raspberry Pi's, sensors, etc.

Grading Policy

Class Participation	10%
Quizzes	10%
Team Project	40%
Writing Assignments	20%
Design Review	10%
Final Review	10%

Class Participation	Participation is critical for this project/team-based class. I will spot-check attendance throughout the semester and also expect you to participate with class discussions – both in-class and on MS Teams. At the end of the semester, there will also be a team member evaluation that will be used as a modifier to the project grade. As long as you pull your fair share of the project, you'll get 100% there.
Quizzes	Each learning module will have an associated quiz to be completed online.
Team Project	CS 321 will have a software engineering project that requires students to participate in working teams where students organize, manage, and practice the software engineering lifecycle. The team project will cover software requirements, architecture, design, coding, and testing. **Your final grade for this component will include peer evaluation grades provided by your teammates. (See "Final Assignment" in Blackboard.)**
Writing Assignments	CS 321 includes Writing Intensive (WI) activities that, together with those of CS 306, meet the GMU WI Requirements in the BS CS Program (http://wac.gmu.edu). This means you will write 1750 graded words (or about 7 standard pages). For the first writing assignment, you will individually pick a topic from the learning modules and write a paper expanding on that topic to also include further literature review and citations. Really, anything related to software engineering will work here – just make sure you have at least 3 peer reviewed publications to cite. For the 2nd writing assignment, you will pick an application of your choice (grocery store self-checkout, web site, game, etc.) and provide a critique of it's usability.
Design / Final Review	As a group, you will prepare a design review for your subsystem at the midterm and a project review at the final. This review will consist of a written summary along with slides and any applicable demonstration.

> To receive full marks, each group member MUST participate in the presentation.

Email policy:

You must use your Mason email account for all email correspondence having anything to do with your work at Mason. Federal laws protecting your privacy rights require that we only communicate student information directly to students –and use of the university email system is our only way to validate your identity. You may forward your campus email elsewhere, but we can respond only to a Mason email account.

Honor Code

You are expected to abide by the [University's honor code](#) and the [CS Department's Honor Code and Academic Integrity Policies](#) during the semester. This policy is rigorously enforced. All class-related assignments are considered individual efforts unless explicitly expressed otherwise (in writing). Review the university honor code and present any questions regarding the policies to instructor. Cheating on any assignment will be prosecuted and result in a notification of the Honor Committee as outlined in the GMU Honor Code.

Special note from the instructor: Just to be clear, for my CS321 class, it is *perfectly acceptable* to use open source software or libraries or even use code that you find on sites such as Stack Exchange, etc. This is what you would be doing in the "real world" and I do not consider this cheating at all. *However*, for any 3rd party software you use, you must cite that software in your source code comments and you must appropriately test that this software will work under the desired use cases of your project.

Disability Accommodations

Students with a learning disability or other condition (documented with [GMU Office of Disability Services](#)) that may impact academic performance should speak with me ASAP to discuss accommodations.