CS 321: Software Requirements/Design Modeling
(Spring 2018)

Contact Information

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GTA: See Piazza for contact and office hours information.

Piazza is the central site for our announcements, documents repository, and discussion board. BlackBoard is used for assignment submissions and to post grades.

Description

An introduction to concepts, methods, and tools for the creation of large-scale software systems. Methods, tools, notations, and validation techniques to analyze, specify, prototype, and maintain software requirements. Introduction to object-oriented requirements modeling, including use case modeling, static modeling, and dynamic modeling using the Unified Modeling Language (UML) notation. Concepts and methods for the design of large-scale software systems. Fundamental design concepts and design notations are introduced. A study of object-oriented analysis and design modeling using the UML notation. Students participate in a group project on software requirements, specification, and object-oriented software design.

Course Outcomes

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 software lifecycle models including both prescriptive and agile models and knowledge of tradeoffs among these models.
- An ability to create and use UML models to develop and document software requirements, analysis and design artifacts.
- An understanding of fundamental project management and leadership issues for software teams.
- An ability to apply software engineering methods to accomplish the requirements and design phases of a large software project.

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). You will get feedback on some writing

assignments and you will be able to resubmit revisions based on the feedback. For this course, part of the writing will include an individual essay on your experiences working with your team.

Prerequisite

Grade of C or better in CS 310 AND ENGH 302

Textbook

Software Engineering, Ian Sommerville, 10th Edition, Addison-Wesley / Pearson Education Limited.

Grading Policy

Class Participation	5%
Pop Quizzes	5%
Presentation and Discussion	10%
Team Project	40%
Short papers/Project report	20%
Final Exam	20%

Class Participation	Completing the peer reviews for the presentations and providing constructive comments to the presenters, participating in in-class and online discussions, completing polls/ short quizzes if assigned.
	To earn full credit for this component, you MUST participate in the in-class discussions in addition to completing other activities.

Presentation and Discussion	For this activity, you will work in pairs. You can pick your partner. This will be a 20 minute presentation.
	You will discuss with your partner and select a short paper, article, white paper etc. and present it in class. You should provide details of the material to be presented ahead of time. Everyone in class should read the material to be presented.
	Both you and your partner will present the material that you have chosen. It can be a powerpoint presentation or a talk followed by a discussion session. You and your partner will facilitate the discussion.
	The presentation sessions will begin the week of February 12.

Pop Quizzes	In-class. Can be assigned anytime. If you miss a pop quiz, you cannot retake it at another time.
Team Project	CS 321 will have a software engineering project that requires students to participate in working teams where students organize, manage, and practice a software engineering project. 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 team mates.

Contesting of grades on any/all submissions must be requested within one week of the item's return. No grade changes will be considered subsequent to that deadline, or after the final exam meeting.

Honor Code

All students are expected to abide by the GMU Honor Code and the CS Department Honor Code. 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.

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.