Recent Announcements

CS6310-O01: Software Architecture & Design

Introduction:

Welcome to this session of CS6310: Software Architecture & Design, *both Sections O01 and QSZ*! I am Mark Moss, the Instructor of Record for this semester. Professor Spencer Rugaber (currently serving as an Adjunct Senior Research Scientist at Georgia Tech) is the original designer of this course, and he will present much of the course content through the pre-recorded course videos. I will work with our talented team of Teaching Assistants (TAs) to:

1. Facilitate discussions, and answer your questions using Ed Discussions and Office Hours (MS Teams); and,
2. Evaluate your assignment submissions using Canvas.

Our current TA Team includes Matt Carter and Roger Kerr as our co-Head TAs. Besides welcoming you and introducing the team, I also want to provide some important information about the course. This document includes all of the initial policy and scheduling information for this session of the course. If any of this information changes during the course, then we will update the document as soon as reasonably possible. You must also review Ed Discussions and the weekly Office Hour discussions on a regular basis for any policy, scheduling and/or assignment updates.

Instructor:

Dr. Mark Moss, Office: Georgia Tech, College of Computing 217

Transition from Udacity to Canvas:

All of the materials that were previously available on Udacity (e.g., videos, quizzes and other resources) have been migrated here to our Canvas site. The materials have been configured to mimic the behavior and "look and feel" of the original site as much as reasonably possible. There are no requirements to access Udacity during this course.

Getting Started

Video Viewing & Reading Schedule:

Summer Course Schedule

You should also view the Course Summary below to gain a better understanding of how the Assignments and Quizzes impact the flow of the course.

Assignment Quiz Guide:

Assignment Quiz Guide

Docker & Github Setup:

Docker & Github Setup

Learning Goals and Outcomes:

This course teaches the principles and concepts involved in the analysis and design of large software systems. After completing this course, a student should have obtained the skills and knowledge necessary to accomplish the following:

- Express the analysis and design of an application using UML
- Specify and evaluate software architectures
- Select and use appropriate architectural styles
- Understand and apply object-oriented design techniques
- Select and use appropriate software design patterns
- Understand and perform a design review
- [Time Permitting] Specify functional semantics of an application using OCL

Prerequisites:

An undergraduate software engineering course or industrial software development experience is required. Although there are no formal prerequisites in terms of specific Georgia Tech courses (e.g. OMS CS6300: Software Development Process), you are expected to have a solid proficiency in writing computer programs. This course will require you to develop and implement programs in Java using sequence, selection and iteration-based control structures; and, implement methods to read from and write to external files. Also, you will be required to express your designs using the Unified Modeling Language (UML). Though the lessons include a brief review of UML, you should have at least a basic understanding of UML syntax and principles, or some similarly well-defined design language.

Scoring/Grading:

The grades will be calculated based on a total of 1000 points:

- A: 900 - 1000 points
- B: 800 - 899 points
- C: 700 - 799 points

- D: 600 - 699 points
- F: 0 - 599 points

The bulk of the points (**875** of 1000) are distributed across the various assignments, as shown on the Canvas Assignments page.

The remaining **125** points will be awarded based on Classroom and Project Participation as a combination of various factors including:

- [15 points] Reviewing the course videos and completing the Canvas Practice Quizzes (formerly known as the Udacity Quizzes)
- [10 points] Reviewing and participating in Ed Discussions
- [**100** points] Contributing actively to your team during the Group assignments as interpreted from the CATME Team Member Assessments

We normally do not offer other extra or bonus point assignments, so you should plan to do your best on the assignments as currently listed in the schedule. Also, we don't round grades up to the next level.

Institute & Academic Honor Code:

Students are expected to abide by the Georgia Tech Honor Code and academic policies as specified in the Georgia Tech Catalog.

- Honest and ethical behavior is expected at all times - All incidents of suspected dishonesty will be reported to and handled by the Office of Student Affairs
- You are to complete all assignments yourself, unless the assignment instructions explicitly state otherwise. You should feel free to discuss the assignments with your classmates at a conceptual level, but you should not copy any specific solution (either complete or partial lines of text or code) from your classmates
- If you do copy specific lines or text and/or code from another source - classmate, text, website, etc. - then you must clearly document the beginning and end of the copied portion, and cite the details of the source (e.g. name, address/URL, date, etc.)
- If you post your assignment work on any publicly-accessible websites (including but not limited to GitHub), and your materials are subsequently copied and used by other students, then you will likely be held responsible for fostering unwarranted collaboration
- You are welcome and encouraged to form informal study groups at any time, but please do not form formal project teams for the group assignments until directed
- If you are in an informal study group, discussing basic concepts and ideas contained in the course materials and lectures is generally O.K. and encouraged; however, you are not allowed to develop specific answers and/or program code with other students or people outside of the class
- Do not collaborate beyond what is allowed by the Georgia Tech Academic Honor Code
- Students should complete the GT OMS Orientation before the first day of class
- Readings should be completed before the lesson for which they are listed

You should check Canvas frequently (recommend every two days at a minimum) to remain aware of updates to assignments, policies and other course announcements.

Submissions:

All assignment and project policies, due dates, and submission information will be listed on Canvas.

- Most assignment deadlines are set for 11:59 PM (2359 Hours) Anywhere-On-Earth (AOE), which generally corresponds to the following day at 8:00 AM Eastern Standard Time (EST)
- We recommend that you configure your time zones in Canvas appropriately, so that you can see all deadlines in your own local time zone. Being aware of the time zone differences is your responsibility - late submissions will not be excused because of time zone misunderstandings/configuration issues
- Submissions must be made via Canvas; and, if Canvas is down, then you must alert us via e-mail (before the deadline/due date), and submit your files via e-mail or some alternate method
- All submitted (non-source file) documents must conform to the CS6310 Writing Guidelines
- We normally publish assignments no earlier than the start date as listed on the schedule
- Submissions up to 24 hours late will result in your final score being limited to a maximum of 90% of the total possible score
- Submissions up to 48 hours late will result in your final score being limited to a maximum of 80% of the total possible score
- Submissions beyond 48 hours will not be accepted
- We will not support any other late submissions and/or extension requests. In a class of this size, supporting numerous individual extension requests for assignments based on personal scheduling conflicts (e.g. business trips, personal holidays, etc.) can cause tremendous administrative difficulties, and create conflicts of fairness for all students
- For team-based assignments, it is essential that you let your teammates know as early as possible about any availability and/or participation problems

If truly exceptional and/or catastrophic circumstances arise, please feel free to contact The Dean of Students with the details of health emergencies, family emergencies, personal disabilities, or other significant events. They are much better equipped to verify these situations than we are in our individual courses. Also please consult the Georgia Tech policies on Incompletes, Withdrawals, etc. as needed.

Making Regrade Requests and Asking Questions:

If you have any questions concerning a grade that you received in this course, use Ed Discussions to contact the Teaching Assistant who evaluated your submission. You should Make sure this is private and to all instructors & @ the specific instructor in the body of your message.

- You have one week after a given grade has been released to submit a regrade request contest; after which, we will consider the grade final

- Regrade requests are comprehensive: if the regrading reveals deductions or other issues that the TA had initially missed, then the regrading might result in a lower grade. Be careful about "cherry picking" issues for regrading requests, and take time to review your entire assignment before making a request

All revised grades get updated in "batch mode" after the grade contest period has been completed, and we will upload grade changes as quickly as reasonably possible.

- Use Ed Discussions, rather than email, for all class-related communications
- When sending questions (including regrade requests) via Ed Discussions, please include the Instructors group which will include all of the TAs - this helps us balance the workload and respond as quickly as possible
- Ask questions publicly (visible to the entire class) whenever possible, rather than privately to the Instructors, since that maximizes your chances to get a prompt reply
- Ask questions privately (visible only to the Instructors) whenever your question includes material that might provide an answer to a specific assignment
- Ed Discussions includes a simple and effective keyword search feature, and you should search for answers to your question before posting duplicate questions - you might find that your question has already been answered

Check updated, unresolved, and unread posts on a regular basis - you are responsible for maintaining awareness of changes and clarifications, especially to assignment requirements

Class Participation:

Class participation will be determined by a number of factors:

- Completion of the Canvas Practice Quizzes
- Contributions on Ed Discussions, especially providing solid and well-thought out responses to fellow student's questions
- Actively participating and providing substantial contributions to you team during the group phases
- Other "above-and-beyond" initiatives that you take to improve the learning atmosphere for the course as judged by the Instructor(s) and TAs

You are not required to get the correct answer on the first try for the Canvas Practice Quizzes, and only your last submission will be checked. If you do not get the correct answer after several attempts, try watching the solution video, and then come back to the quiz.

Course Summary:

Date	Details	Due

Date	Details	Due
Wed May 18, 2022	Weekly Office Hours 1 (https://gatech.instructure.com/calendar?event_id=3551103&include_contexts=course_255528)	7pm to 8pm
	Weekly Office Hours 2 (https://gatech.instructure.com/calendar?event_id=3551105&include_contexts=course_255528)	7pm to 8pm
Wed May 25, 2022	Weekly Office Hours 3 (https://gatech.instructure.com/calendar?event_id=3551107&include_contexts=course_255528)	7pm to 8pm
	Weekly Office Hours 4 (https://gatech.instructure.com/calendar?event_id=3551109&include_contexts=course_255528)	7pm to 8pm
Wed Jun 1, 2022	Weekly Office Hours 5 (https://gatech.instructure.com/calendar?event_id=3551111&include_contexts=course_255528)	7pm to 8pm
Sat Jun 4, 2022	Assignment 1: Course Project - Analysis & Design (https://gatech.instructure.com/courses/255528/assignments/1091254)	due by 8am
	Quiz #1: Honor Code, Plagiarism and Collaboration Awareness (https://gatech.instructure.com/courses/255528/assignments/1091248)	due by 8am
Wed Jun 8, 2022	Weekly Office Hours 6 (https://gatech.instructure.com/calendar?event_id=3551113&include_contexts=course_255528)	7pm to 8pm
	Weekly Office Hours 7 (https://gatech.instructure.com/calendar?event_id=3551115&include_contexts=course_255528)	7pm to 8pm
Sat Jun 11, 2022	Assignment 2: Course Project - Peer Review (https://gatech.instructure.com/courses/255528/assignments/1091256)	due by 8am

Date	Details	Due
Wed Jun 15, 2022	Weekly Office Hours 8 (https://gatech.instructure.com/calendar?event_id=3551117&include_contexts=course_255528)	7pm to 8pm
Sat Jun 18, 2022	Quiz #2: SWEBOK Software Design (https://gatech.instructure.com/courses/255528/assignments/1091250)	due by 8am
Wed Jun 22, 2022	Weekly Office Hours 10 (https://gatech.instructure.com/calendar?event_id=3551121&include_contexts=course_255528)	7pm to 8pm
	Weekly Office Hours 9 (https://gatech.instructure.com/calendar?event_id=3551119&include_contexts=course_255528)	7pm to 8pm
Sat Jun 25, 2022	Assignment 3 [Part I]: Course Project - Implementation (Source Code & Design Components) (https://gatech.instructure.com/courses/255528/assignments/1091258)	due by 8am
	Assignment 3 [Part II]: Course Project - Implementation (Test Case Evaluation) (https://gatech.instructure.com/courses/255528/assignments/1091260)	due by 8am
	Quiz #3: Unified Modeling Language (UML) (https://gatech.instructure.com/courses/255528/assignments/1091244)	due by 8am
Wed Jun 29, 2022	Weekly Office Hours 11 (https://gatech.instructure.com/calendar?event_id=3551123&include_contexts=course_255528)	7pm to 8pm
Sat Jul 2, 2022	Quiz #4: Architectural Styles & Models (https://gatech.instructure.com/courses/255528/assignments/1091242)	due by 8am
Wed Jul 6, 2022	Weekly Office Hours 12 (https://gatech.instructure.com/calendar?event_id=3551125&include_contexts=course_255528)	7pm to 8pm

Date	Details	Due
Sat Jul 9, 2022	Assignment 4: Course Project - Group Architecture & Design (https://gatech.instructure.com/courses/255528/assignments/1091262)	due by 8am
	Quiz #5: Design Patterns & Related Issues (https://gatech.instructure.com/courses/255528/assignments/1091246)	due by 8am
Wed Jul 13, 2022	Weekly Office Hours 13 (https://gatech.instructure.com/calendar?event_id=3551127&include_contexts=course_255528)	7pm to 8pm
	Weekly Office Hours 14 (https://gatech.instructure.com/calendar?event_id=3551129&include_contexts=course_255528)	7pm to 8pm
Sat Jul 16, 2022	Assignment _: [OPTIONAL] New Format Quiz Reviews (https://gatech.instructure.com/courses/255528/assignments/1091268)	due by 8am
	Quiz #6: Software Design Principles (https://gatech.instructure.com/courses/255528/assignments/1091252)	due by 8am
Wed Jul 20, 2022	Weekly Office Hours 15 (https://gatech.instructure.com/calendar?event_id=3551131&include_contexts=course_255528)	7pm to 8pm
Sun Jul 24, 2022	Assignment 5: Course Project - Group Implementation (https://gatech.instructure.com/courses/255528/assignments/1091264)	due by 8am
	Assignment 6: Course Project - Team Member Assessments (https://gatech.instructure.com/courses/255528/assignments/1091266)	due by 8am
Mon Jul 25, 2022	Completing Practice Quizzes, Reviewing Ed Discussions, Supporting Group Project (https://gatech.instructure.com/courses/255528/assignments/1091270)	due by 8am

Date	Details	Due
Wed Jul 27, 2022	Weekly Office Hours 16 (https://gatech.instructure.com/calendar?event_id=3551133&include_contexts=course_255528)	7pm to 8pm
	P1L1 Introduction Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091272)	
	P1L2 Text Browser Exercise (Analysis) Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091274)	
	P1L3 Design Concepts Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091276)	
	P2L1 Review of UML Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091280)	
	P2L10 Clock Radio Exercise Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091278)	
	P2L2 Object Oriented Analysis Exercise Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091282)	
	P2L3 UML Class Models Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091284)	
	P2L4 Design Studies Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091286)	
	P2L5 Library Exercise (UML) Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091288)	
	P2L6 Formal Specification Exercise Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091290)	

Date	Details	Due
	P2L7 OCL Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091292)	
	P2L8 Library Exercise (OCL) Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091294)	
	P2L9 Behavior Modeling Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091296)	
	P3L10 Guest Interview: LayerBlox Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091298)	
	P3L1: KWIC Exercise Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091300)	
	P3L2 Overview of Architectural Styles Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091302)	
	P3L3 Architectural Views Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091304)	
	P3L4 Text Browser Exercise (Arch) Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091306)	
	P3L5 Non-Functional Reqs & Arch Styles Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091308)	
	P3L6 Connectors Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091310)	
	P3L7 Acme Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091312)	

Date	Details	Due
	P3L8 Refinement Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091314)	
	P3L9 Middleware Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091316)	
	P4L1 Components Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091318)	
	P4L2 Coffee Maker Exercise Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091320)	
	P4L3 Object Design Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091322)	
	P4L4 Design Patterns Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091324)	
	P4L5 Design Principles Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091326)	
	P4L6 Design Reviews Practice Quiz (https://gatech.instructure.com/courses/255528/assignments/1091328)	