

CS 6310 – Software Architecture and Design

Syllabus – Fall 2026

Sections O01, OSZ: Online Attendance, Lectures via Asynchronous Video

Course Description: Principles and concepts involved in the design and analysis of large software systems.

Course Objectives/Learning Outcomes:

1. Express the analysis and design of an application using UML
2. Specify and evaluate software architectures
3. Select and use appropriate architectural styles
4. Understand and apply object-oriented design techniques
5. Select and use appropriate software design patterns
6. Understand and perform a design review
7. [time permitting] Specify functional semantics of an application using OCL

Course Materials:

All course materials will be provided through the course site on Canvas, Ed Discussions, Georgia Tech Github, and online access to the Georgia Tech Library.

Course Prerequisites:

- A grade of D or higher in CS 6300, Software Development Process
- You are expected to have a solid proficiency in writing computer programs
- You are expected to have some basic experience developing and implementing programs in Java using sequence, selection and iteration-based control structures; also, implementing methods to read from and write to external files. If you don't have significant experience in Java, then you're expected to learn Java well-enough to be successful based on your experiences with other computing languages and systems.
- You should have a basic understanding of some similarly well-defined design process and/or language

Grading Policies & Weighting:

The course has projects, various types of quizzes, two major exams, and participation-based aspects:

- 35% Projects (Initial Analysis & Design, Integrating Functional & Non-Functional Aspects, Design & Implementation)
- 25% Exams (#1 mandatory; #2 optional – if taken, then exam score is average of #1 & #2)
[includes potential bonus points earned by providing peer reviews of other team's designs]
- 10% Assignment Quizzes (7 quizzes: #1/Honor Code + best 5 of 6 scores from Quizzes #2 – #7)
- 5% Practice Quizzes (29 quizzes: one quiz per lesson, best 24 of 29 scores from all quizzes)
- 5% Peer Feedback Surveys
- 15% Team Participation (based on Peer Feedback Surveys as evaluated by the instructor)
- 5% Ed Discussion Participation

1. Final grades will use the scale: [100:90] = A, (90:80] = B, (80:70] = C, (70:60] = D, (60:0] = F.
2. Final scores will NOT be "automatically rounded" to the next higher grade level.
3. We do not extra points or assignments, so plan to do your best on the assignments as currently listed in the schedule.
4. All assignment and project policies, due dates, and submission information will be listed on Canvas.
5. 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)

6. 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
7. **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
8. **It is your responsibility as the student to check (and double-check) your submission to ensure that all files have been uploaded and received by Canvas.** Please feel free to take a screenshot showing the date of submission and the list of files uploaded for your records just in case. Also, almost all of the assignments allow for multiple uploads before the Due Date, so you can also upload all of the required deliverables/files again if you have any doubts about the validity of the original upload attempt. (*See the Late Submission Policies about re-uploading files after the Due Date*).
9. All submitted (non-source file) documents must conform to the CS6310 Writing Guidelines
10. We normally publish assignments no earlier than the start date as listed in Canvas.
11. **Late submissions will be penalized in the following manner:**
 - a. Submissions up to 24 hours late will result in the score being limited to a maximum of 90% of the total possible score
 - b. Submissions up to 48 hours late will result in the score being limited to a maximum of 80% of the total possible score
 - c. Submissions beyond 48 hours will not be accepted
12. 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
13. For team-based assignments, it is essential that you **let your teammates know as early as possible about any availability and/or participation problems.**
14. These policies apply to all assignments, exams, projects, quizzes, or similar material with a due date. We will do our very best to avoid changing any assignment configurations or policies mid-semester that might have an otherwise negative impact on students without first notifying everyone via Canvas, Ed Discussion, and/or Office Hours ahead of time.
15. **If you observe any assignment or quiz configurations that you feel might be in error, or that don't seem to be consistent with other previously stated policies, you must pause and reach out to us immediately** to let us know your concerns before making any official submissions. This is very similar to the "See Something, Say Something" philosophy.
 - a. If you alert us to a configuration error in a timely manner and with a reasonable time before the Due Date, then we will determine how to adjust the configurations while minimizing adverse impacts to you and other similarly affected students.
 - b. By the same token, if you submit your assignment without raising any issues about your submission in a timely manner, then you will severely limit the changes we can make to support you. Identifying an issue like this very close to the Due Date, and/or after you've completed your final submission, will NOT earn any more attempts, tries or submissions.
16. 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.

Regrade Request Policies:

17. 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 and addressed to the specific instructor in the body of your message.
18. **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.**

19. 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
20. 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.
21. **Use Ed Discussions, rather than email, for all class-related communications**
 - a. When sending questions (including regrade requests) via Ed Discussion, please include the Instructors group which will include all of the TAs - this helps us balance the workload and respond as quickly as possible
 - b. Ask generic 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
 - c. Ask questions privately (visible only to the Instructors) whenever your question includes material that might provide an answer to a specific assignment
 - d. Ed Discussion 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
22. 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 Policies:

23. Class participation will be determined by several factors:
 - a. Contributions on Ed Discussion, especially providing solid and well thought-out responses to fellow student's questions
 - b. **Do not post potential answers to assignments on Ed Discussion!** If you are in doubt whether posting a particular piece of information might violate this rule, then begin by making it a private post to the TAs and instructors only.
 - c. Actively participating and providing substantial contributions to your team during the group phases. **Your ratings and comments on the CATME surveys are absolutely critical to earning a solid score on your project participation!!**
 - d. Other "above-and-beyond" initiatives that you take to improve the learning atmosphere for the course as judged by the Instructor(s) and TAs
24. Recordings of lecture, lecture materials and other artifacts are copyrighted by your instructors. **No non-educational reproduction of any materials, including lecture records and recordings, is permitted.**

Academic Honesty & Integrity Policies and Statements:

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

25. 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
26. 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
27. **Any use of AI / ML tools like ChatGPT, Copilot or otherwise to generate assignment solutions (or parts thereof) is strictly prohibited, even if the student edits or learns from it.**
28. 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.)
29. 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
30. 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

31. 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
32. Do not collaborate beyond what is allowed by the Georgia Tech Academic Honor Code
33. Students should complete the GT OMS Orientation before the first day of class
34. Readings should be completed before the lesson for which they are listed.

Finally, **you should check Canvas & Ed Discussion frequently** (recommend every two days at a minimum) & watch & take notes from the weekly office hours to remain aware of updates to assignments, policies and other course announcements and updates. You do not have to attend the Office Hours if there is a scheduling or timing conflict, but you do need to watch them & take notes from them. **Keeping track of the Office Hours – either live or via the recordings – is mandatory for this class.** Failure to review the information present in any of these sources will not be considered as a basis for a regrade.

Acceptable Student Conduct Policies and Expectations:

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. The [Georgia Tech Student-Faculty Expectations Site](#) articulates some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

Services Offered through the Office of Disability Services:

Reasonable accommodations will be made for students with verifiable disabilities. If you are a student with learning needs that require special accommodation, please contact the [Georgia Tech Office of Disability Services](#) as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Also, please also e-mail your instructor as soon as possible to set up a time to discuss your learning needs.

Statement for not mentioned policies and issues: Any policies and issues not mentioned in this syllabus will follow policies and procedures according to the Georgia Institute of Technology: <http://policylibrary.gatech.edu>