

CS 3312/LMC 3431 -- Fall 2018

Junior Design: Project Implementation and Technical Communication Approaches

Section	Day and Time	Location	Instructors
JIA	MWF 10:10 - 11:00 am	College of Computing 101	Bob Waters and Kelly Fitzpatrick
JIB	MWF 11:15 am- 12:05 pm	Van Leer C240	Bob Waters and Kelly Fitzpatrick
JIE	MWF 11:15 am- 12:05 pm	Van Leer E283	Fisayo Omojokun and Amanda Girard
JIC	MWF 12:20- 1:10 pm	Van Leer E283	Fisayo Omojokun and Amanda Girard
JID	MWF 1:55 - 2:45 pm	College of Computing 101	Fisayo Omojokun and Amanda Girard

Instructor Contact Information and Office Hours **UPDATE FOR YOUR SECTIONS**

Instructors	Email	Office Location/Hours

Course Overview

This course is part 2 of a two-semester Junior Design capstone course that includes a computer science and technical communication component. In part one of the course, you selected a project, interacted with the client, developed the project requirements, and prototyped the application. Additionally, you practiced and honed your abilities to analyze the technical needs of your project

by researching the feasibility of several approaches and proposed the one with which you felt was most optimal.

This semester, as you work toward building and delivering your project's main deliverables, you will continue revising and refining the project's goals, uses, and results through technical documentation. The course is organized by five three-week sprints. Three of these sprints are coding intensive, during which teams are expected to accomplish demonstrable progress in coding and implementing their product/system. The semester's major technical document is a Detailed Design explaining the architectural and information components of the team's product/system. Students will also be asked to participate in a team Retrospective twice during the semester. These Retrospectives are valuable processes through which a team works through an understanding of their work processes and identifies areas for improvement in subsequent sprints. Project Management is an important component of the course. Teams will be asked to carefully plan, document, and manage their workflow and collaboration in order to provide a quality project on time at the end of the semester. Throughout the semester, you will be tracking and managing your work through weekly meeting minutes and Zenhub. A final expo presentation/demo and reflection will round out the deliverables for the course.

A complete breakdown of the deliverables and their weighting is provided in the "Grade Components & Evaluation" section below.

Course Prerequisites: *LMC 3432, LMC 1102, and CS 3311*

Required Texts

- Alfred, Gerald J., Charles T. Brusaw and Walter E. Olio. *Handbook of Technical Writing*. 11th ed. Boston & New York: Bedford/St. Martin's, 2015.
- Shore, James *The Art of Agile*, <http://www.jamesshore.com/Agile-Book/>
- Additional readings may be assigned. If assigned, these will be available on Canvas or the Living Schedule.

Required Materials

- A free Gmail account. The account will be used to access Google Drive.
- Canvas access. Canvas is used to organize course resources and to display grades.
- T-Square access. T-square is used for team project sites, where teams store project information and submit most assignments.
- GitHub (www.github.com) is a team version control site which includes wiki and issue tracker. We will be using this in conjunction with ZenHub for project management and to facilitate client handover of the project. You may use other systems with approval of the instructors.
- ZenHub (<https://www.zenhub.com/>)
- CATME (<https://www.catme.org/login/index>) is a site for team collaboration and peer evaluation.

- Personal laptop/tablets. Bring your *charged* laptop/tablet to each class in order to access and conduct online work.

Learning Outcomes

This course follows the guidelines established by the Computer Science Curriculum Committee for CS 3312 and by the Writing and Communication Program for LMC 3403.

Computer Science Outcomes

Accomplishment	Experience	Competency
As part of a multi-student team, produce and document a non-trivial software system which solves a complex problem requiring analysis of "design tradeoffs", "non-functional requirements" and "real-world customer needs".	Upon completing the course, reflect upon the impact of your team's design decisions and the challenges of being part of an interpersonal team.	<ul style="list-style-type: none"> • Demonstrate the ability to analyze customer requirements and produce a detailed design that complies with accepted design principles and patterns. • Given a detailed design, document that design using appropriate notations such as UML. • Prepare and orally present details of your project and justify the decisions and facts in your presentation during question and answer periods. • Demonstrate the ability to plan and execute a semester-long project, tracking progress and making adjustments as necessary to stay on schedule. • Demonstrate the ability to produce an appropriate product for customer use.

Technical Communication Outcomes

Rhetoric	Rhetoric focuses on available means of persuasion, considering the synergy of factors such as context, audience, purpose, role, argument, organization, design, visuals, and conventions of language.	<ul style="list-style-type: none"> • Fashion artifacts that address the exigencies of diverse contexts, exhibiting effective persuasive strategies, tact, and sensitivity to theoretical, ethical and legal concerns. • Collect, craft, and present technical information in ways that convey a clear purpose to a specific audience.
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Process	Processes for communication—for example, creating, planning, drafting, designing, rehearsing, revising, presenting, publishing—are recursive, not linear. Learning productive processes is as important as creating products.	<ul style="list-style-type: none"> • Construct, select, craft, revise, and repurpose information to reflect individual, cultural, and/or organizational values. • Collaborate on artifacts that meet the needs of the specific audiences.
Modes & Media	Activities and assignments should use a variety of modes and media—written, oral, visual, electronic, and nonverbal—singly and in combination. The context and culture of multimodality and multimedia are critical.	<ul style="list-style-type: none"> • Create WOVEN (Written, Oral, Visual, Electronic, and Nonverbal) artifacts— such as memos, emails, proposals, reports, instructions, manuals, websites, and short and long presentations— that display strategic uses of generic and stylistic conventions.
Design	Documents and other artifacts should arrange visual elements according to consistent, efficient, and effective principles.	<ul style="list-style-type: none"> • Use theories and principles of document design to create and present accessible, comprehensible, and usable artifacts. • Integrate graphics to achieve maximum clarity in print documents, presentation slides, websites, and other artifacts.

Resources

Please familiarize yourself with these resources and use them while completing coursework throughout the semester.

- Communication Center (<http://www.communicationcenter.gatech.edu>) in Clough 477 provides students assistance with developing, drafting, and revising all their communication multimodal artifacts. Additionally, the staff includes professional tutors especially trained to assist non-native speakers.
- Purdue On-line Writing Lab (<https://owl.english.purdue.edu/owl/>) is a convenient and comprehensive writing resource that covers all facets of writing.
- Lynda (<http://lynda.gatech.edu>) is a valuable resource for learning how to use software with which you are not familiar. Training for use of software for this class is the student's responsibility.
- IEEE citation style guide provides citation standards to be used in written deliverables: <http://libguides.murdoch.edu.au/IEEE>
- Multimedia Studio (<http://librarycommons.gatech.edu/multimedia.php>) in the Georgia Tech library provides access to software for creating multimodal projects and hardware including a plotter, printers, scanner, and audio/recording equipment.

Grade Components & Evaluation

Your grade is computed based upon the deliverables listed below and then adjusted based on your team's peer evaluation. You will receive the same grade in both CS 3312 and LMC 3431. Please refer to the Living Schedule below for due dates and location for submission of deliverables.

Components	Weight (%)
Detailed Design	15
A draft or any in-class or take-home assignments are required deliverables for this assignment. If they are not completed, this will result in a 10 pt deduction for each deliverable.	
Sprint Retrospective & Memo (2 x 5)	10
Video Demo (3 x 5)	15
Final Expo Presentation & Demo	15
Reflective Memo	5
Project Management	15
Project tracking and execution	
Meeting agendas/minutes	
Two peer evaluations, team charter, updated team T-Square page, and client charter are required Project Management deliverables. The absence/incompleteness of any of these documents results in a deduction for each deliverable.	
Delivery Docs (GitHub README)	5
Code Review	5
Final product/process evaluation (client/advisor or instructor)	15
Total	100

CATME Peer Evaluation

Learning the strategies and processes associated with working collaboratively with your peers is an important component of this course. Teams will use the online team management tool, CATME, to conduct peer evaluations.

Peer evaluations ensure that students are participating in the course and collaborating with their team constructively. Your final course grade will be adjusted based upon the peer evaluation feedback. If your grade is going to be negatively impacted by peer evaluations, you will be given the opportunity to appear before the instructors and explain your situation. We will consider several factors, including records of commits in GitHub and document editing history in Google Docs. Please ensure that you do your team work in such a way that your contribution can be verified.

Final product/process evaluation (client/advisor or instructor)

Since the project that you work on may be client-driven, client feedback factors significantly into your final grade for this course. Clients will be asked to evaluate teams not only on the quality of the final product but also on the quality of the communication processes the team engaged in with the client. The categories your client will be asked to evaluate the team on include: communication, timeliness, quality of deliverables, assessment of final product/prototype. You will be given directions about the types of communication you should engage in with your client, so that they can adequately assess your work this semester. If teams are having problems with their client communication, please let your instructors know sooner rather than later, so that we can advise you on how to proceed.

Teams working on a project of their own design are required to find an advisor to act in a client role. The instructors will evaluate the final product deliverable based upon feedback from the person acting in a client role. Though neither instructor for your section may act in this role (unless they served as your advisor for part 1 of the course), you may request anyone on faculty or staff to act in this role, including the instructors for the other sections.

Assignment Drafts/In-class/Take Home Assignments

Assignment drafts/in-class/take home assignments that you complete foster students' development of process and deepen students' understanding of rhetorical principles of audience, design, evidence, and persuasion. Measuring students' success in the class is built around the process of creating, drafting, and revising projects. Drafts and in-class/take home assignments are integrated into and support the development of a final deliverable. We expect students to read all instructors' feedback on drafts/assignments and to see us during office hours or by appointment with questions or concerns.

Individual contributions to team deliverables

It is the instructors' expectation that individuals will participate in the production of each course deliverable. While we understand that this is a semester-long project and individuals in a team will contribute in different ways (e.g., providing code review, writing lines of code, or document editing)

to the project for a number of reasons (e.g. competency with a particular coding language or platform), we do expect each individual to make a genuine and earnest effort on each deliverable. Instructors will be guided in their decisions about grades based on individual contributions. Therefore, individuals should think carefully about how they can demonstrate their participation in each assignment to their instructors (for example, commits to GitHub or contribution to a Google Doc or keeping a personal assignment log).

Living Course Schedule

The course schedule can be accessed **UPDATE TO POINT TO SCHEDULE YOU ARE USING**. The Living Schedule provides teams with weekly information about class activities, assignments and posting locations. As the title implies, the schedule may be modified over the course of the semester to meet the needs of the class; please consult it regularly for the most up-to-date information.

Course Policies

Attendance

Just as employees are expected to report to work on time, attendance at each class session is required of all students. Participation in in-class discussions and activities is integral to learning and applying computer science and technical communication concepts in your project.

- If you have an institutionally-approved absence (for example, an excuse approved by the Dean's office) it is not counted against your attendance record. You are required to provide your instructors with documentation (such as a Dean's letter) of an institutionally-approved absence.
- Students are given two (2) non-institutionally approved absences, for which you are not required to provide any explanation or supporting documents, although a courtesy email to your instructors is appreciated.
- We will allow two (2) excused absences for job interviews. While job interviews are not institute-approved excused absences, we recognize the need of students to pursue job opportunities. These two absences are to help those students who just cannot schedule an interview for any other time. Rather, we strongly encourage students to make every effort to schedule all job interviews on one of the many days we have team meetings/work days scheduled. You are required to provide evidence of the interview (e.g. itinerary, interview letter etc.).
- Each additional absence after the allotted two (2) non-institutionally approved absences (*and the two allowed absences for job interviews*) deducts one letter grade from a student's final grade (10% of the final grade). *Missing four (4) classes in the semester (not including the two allowed absences for job interviews) will result in automatic failure of the class.*

If you are absent, it is your responsibility to check the course agenda and/or to find out from a teammate what you may have missed while absent and to have completed any work due the day you return. If you know you will be absent, please email your instructors as a courtesy. Please speak with your instructors and confirm what needs to be done.

Note that not all in-class assignments will be listed on the living schedule; if you are absent on these days, you will not be allowed to make up the assignment.

Attendance will be taken at the *beginning* of each class; should you arrive late, it is your responsibility to check in with the instructors so that an absence is not recorded. Arriving at class more than 20 minutes late is counted as an absence. If you know that you will be late to class, please let the instructors know.

Non-Discrimination

This class supports the Georgia Institute of Technology's commitment to creating a campus free of discrimination on the basis of race, color, religion, sex, national origin, age, disability, sexual orientation, gender identity, or veteran status. We further affirm the importance of cultivating an intellectual climate that allows us to better understand the similarities and differences of those who constitute the Georgia Tech community, as well as the necessity of working against inequalities that may also manifest here as they do in the broader society.

Alternative viewpoints are welcome in this class; however, statements that are deemed racist, sexist, homophobic, classist, or otherwise discriminatory toward others in the class or outside the class will not be tolerated.

Academic Misconduct

One serious kind of academic misconduct is plagiarism, which occurs when a writer, speaker, or designer deliberately uses someone else's language, ideas, images, or other original material or code without fully acknowledging its source by quotation marks as appropriate, in footnotes or endnotes, in works cited, and in other ways as appropriate (modified from WPA Statement on "Defining and Avoiding Plagiarism"). If you engage in plagiarism or any other form of academic misconduct, you will fail the assignment in which you have engaged in academic misconduct and be referred to the Office of Student Integrity, as required by Georgia Tech policy. We strongly urge you to be familiar with these Georgia Tech sites:

- Honor Challenge — <http://www.honor.gatech.edu/>
- Office of Student Integrity — <http://www.osi.gatech.edu/index.php/>
- Process for academic misconduct — <http://www.osi.gatech.edu/plugins/content/index.php?id=15>

Final Instructional Class Days - December 3-4, 2018

- No tests or quizzes are to be administered on Final Instructional Class Days.
- Graded homework or assignments, course projects, demonstrations, and presentations may be due during Final Instructional Class Days, provided they are listed on the syllabus at the start of the semester.
- All quizzes and tests should be graded and reported to students on or before the last final instructional day.

Reading Periods - December 5, 2018 (all day); December 6, 2017 (8am - 2:40pm); December 11, 2018 (8am - 2:40pm)

- No classes meet during Reading Periods.
- No assignments, projects, presentations, or other graded activities can be due or take place during Reading Periods.
- Instructors may schedule optional study review sessions for students during Reading Periods (but no credit or extra credit may be attached to these optional sessions).