8803: Intro to Research Syllabus
Fall, 2024

Delivery: 100% Web-Based, Asynchronous

Dates course will run: August 19 - Dec 10

Instructor Information

Instructor/Creator: Nicholas Lytle, nlytle3@gatech.edu

Head TA: Thomas Trask, thomas.trask@gatech.edu

Office Hours: Weekly, online (live and recorded), day/time announced on Ed Discussion.

General Course Information

Description
This course serves as a general introduction to research methods and CS research more specifically. Students will understand how to conduct, analyze, and communicate research in a variety of CS domains. Students will develop their own independent research in the form of a group written literature review and an independent research proposal.

Pre- &/or Co-Requisites

There are no pre-requisites for this course. This course will be much more writing and reading intensive than other courses at OMSCS.

Course Goals and Learning Outcomes
To demonstrate mastery of the goals above, students will be able to do the following:

- Identify elements of the research lifecycle.
- Identify common research methodologies in computer science in a variety of subfields.
- Develop a comprehensive research proposal, outlining an original research question, a method of answering that question with appropriate data analysis methods, and able to communicate the broader societal impacts and intellectual merit of pursuing such research.
- Identify social structures of research, including funding agencies, PhD programs, etc.
- Demonstrate how to search for, read, and interpret academic research articles.
- Demonstrate how to synthesize research articles into an original literature review.

Course Materials

All course materials will be within the Canvas Learning Managment System.

Course Text
There is no textbook for this course.

Additional Materials/Resources

Course Website and Other Classroom Management Tools
This course will be using Canvas for assignment submissions,EdStem for Discussion Posts, and PeerFeedback for peer feedback.

Course Requirements, Assignments & Grading
The requirements for this course are broken down into three main categories: the group research project, the individual research proposal, and effort on the quizzes and peer grading/participation. The workload for this course will focus heavily on academic and technical writing.

Assignment Distribution and Grading Scale
Assignment Weight Distribution and Due Dates

All times are EST

Assignment	Description	Weight (Percentage, points, etc.)	Due Date
12 Modules Quizzes	End of Module Quizzes related to overall topics in Research Methods	10%	Each Wednesday 11:59PM from August 21 to Nov 4 (see schedule)
Weekly Updates	Project Status Reports for the Group Research Project	25%	Each Monday 11:59PM from September 9 to November 25 (see schedule)
Literature Review Reports	Reports on Reviewed Papers in Preparation for the Research Proposal	12%	Each Friday 11:59PM from Aug 30 to Oct 4 (see schedule)
Final Proposal Document	Overall Individual Research Proposal Document (structured as an ACM article)	20%	Friday Nov 22 11:59PM
Group Paper	Final Report on Group Research project (structured as an ACM article)	15%	Friday Nov 29 11:59PM
Research Question Document	Intermediate Research Question Document	2%	Friday Oct 11 11:59PM

	detailing proposed RQs for Proposal		
Citi Training	Research Training given by University	1%	Friday Oct 18 11:59PM
Methodology Section and Measures	Intermediate Discussion of Methodology for Proposed Research	3%	Friday Oct 25 11:59PM
Data Analysis Procedure and Schedule	Intermediate Discussion of Data Analysis for Proposed Research	2%	Friday Nov 1 11:59PM
Peer Review: Final Proposal	Structured Peer Review to give feedback on final individual Research Propossal	3%	Wednesday Nov 27 11:59PM
Peer Review: Group Paper	Structured Peer Review to give feedback on final Group Paper	3%	Wednesday Dec 4 11:59PM
Peer Review: RQ Document	Intermediate feedback on students Research Question document	1%	Wednesday Oct 16 11:59PM
Peer Review: Methodology Section	Intermediate feedback on students plan to carry out study	1%	Wednesday Oct 23 11:59PM
Peer Review: Data Analysis and Schedule	Intermediate feedback on students Data Analysis and Schedule of Implementation	1%	Wednesday Oct 30 11:59PM
Participation in Forums	Assessment of Student Activity participating in group discussions in forums	1%	To be assessed by final participation amount on Friday Dec 6

Grading Scale
Your final grade will be assigned as a letter grade according to the following scale:
A   90-100%
B   80-89%
C   70-79%
D   60-69%
F   0-59%

Description of Graded Components

Extra Credit Opportunities
Extra Credit opportunities will include participating in research studies, taking surveys, or completing additional tasks related to your research proposal.

Submitting Assignments
All assignments (homework, knowledge checks, exams etc.) must be completed and submitted within the Canvas. Sending assignments (homework, knowledge checks, exams etc.), whether early, on time, or late to the professors is not permitted and will not be accepted. If there are technical issues, please notify the help desk, as well as the professor immediately.

Assignment Due Dates
All assignments will be due at the times listed above. These times are subject to change so please check back often and use the times within Canvas as the official date. Please convert from Eastern Time to your local time zone using a [Time Zone Converter](#).

Late and Make-up Work Policy
Students are expected to complete the work on time by the due dates. In case of an emergency, please reach out to TA team through a private Ed Stem post, so we can come up with a plan to make up for the work or alternative solutions, depending on the type of the emergency and the impact it has.

Grading and Feedback
Feedback on Quizzes will be given automatically. We will target giving feedback on written assignments within 1 week of submission. Feedback on progress updates for Research Proposal and Group Research Project are designed to prepare students for their final cumulative submissions on both projects.

AI Policy
As much of the graded material is student's own efforts on technical reading or writing of academic manuscripts, the use of LLM like ChatGPT to write these materials is not allowed – the use of tools to detect LLMs should be expected as part of the grading.

Technology Requirements and Skills

Computer Hardware and Software
- High-speed Internet connection
- Laptop or desktop computer with a **minimum** of a 2 GHz processor and 2 GB of RAM
- Windows for PC computers OR Mac iOS for Apple computers.
- Complete Microsoft Office Suite or comparable and ability to use Adobe PDF software (install, download, open and convert)
- Latest versions of Mozilla Firefox, Chrome and/or Safari browsers
- Slack installed

Technology Skills
Students will need to be familiar with how to write in word processers and be able to learn how to write in structured markdown document editors (LaTeX). Resources will be provided on how to write in LateX.

Onboarding Quiz and Proctoring Information
All Georgia Tech online degree and certificate students are required to complete the Onboarding Quiz with Honorlock in the first week of the course. Honorlock is utilized for student identity verification and to ensure academic integrity. Honorlock provides student identity verification via facial and ID photos. You may also be asked to scan the room around you. The Onboarding Quiz is needed to help make sure that your identity is verified and that your system is set up to work with Honorlock online proctoring tool. You are required to complete this quiz early in the semester to avoid problems when taking proctored exams.

Technology Help Guidelines
30-Minute Rule: When you encounter struggles with technology, give yourself 30 minutes to 'figure it out.' If you cannot, then post a message to the discussion board; your peers may have suggestions to assist you. You are also directed to contact the Helpdesk 24/7.

When posting or sending email requesting help with technology issues, whether to the Helpdesk, message board, or me use the following guidelines:

- Include a descriptive title for the subject field that includes 1) the name of course 2) the issue. Do NOT just simply type "Help" into the subject field or leave it blank.
- List the steps or describe the circumstance that preceded the technical issue or error. Include the exact wording of the error message.
- When possible, always include a screenshot(s) demonstrating the technical issue or error message.
- Also include what you have already tried to remedy the issue (rebooting, trying a different browser, etc.).

Course Policies, Expectations & Guidelines

Communication Policy
- Email course questions and personal concerns, including grading questions, to me privately using… Do NOT submit posts of a personal nature to the discussion board unless it is a private post on ED Discussion.
- Email will be checked at least twice per day Monday through Friday; Saturday and Sunday, email is checked once per day. During the week, I will respond to all emails within 24 hours; on weekends and holidays, allow up to 48 hours. If there are special circumstances that will delay my response, I will make an announcement to the class.
- Student Forum/Q&A discussion boards will be checked twice per day Monday through Friday; Saturday and Sunday, these discussion boards will be checked once per day.
- Virtual office hours will be held using Zoom/Microsoft Teams. I will hold Virtual Office Hours at a to be determined time, as well as special office hours for dedicated topics, such as a large, upcoming assignment. Special topic hours will be announced in advance. I am also happy to schedule one-on-one office hours in person, via Zoom depending on scheduling.

- For questions related to technology, the Digital Learning Support team at https://b.gatech.edu/digitallearningsupport for assistance. You can also reach the Canvas Hotline by phone at 1(877) 259-8498 or by email at support@instructure.com.

Online Student Conduct and (N)etiquette
Although it is not expected to be a problem in a graduate-level class, students are asked to behave in the discussions and other class interactions professionally and civilly. If you are in doubt, do not post it! Instructors reserve the right to remove any postings deemed inappropriate, unprofessional, or otherwise distracting from the course.

University Use of Electronic Email
A university-assigned student e-mail account is the official university means of communication with all students at Georgia Institute of Technology. Students are responsible for all information sent to them via their university-assigned e-mail account. If a student chooses to forward information to their university e-mail account, he or she is responsible for all information, including attachments, sent to any other e-mail account. To stay current with university information, students are expected to check their official university e-mail account and other electronic communications on a frequent and consistent basis. Recognizing that some communications may be time-critical, the university recommends that electronic communications be checked minimally twice a week.

Plagiarism & Academic Integrity
Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. All students enrolled at Georgia Tech, and all its campuses, are to perform their academic work according to standards set by faculty members, departments, schools, and colleges of the university; and cheating and plagiarism constitute fraudulent misrepresentation for which no credit can be given and for which appropriate sanctions are warranted and will be applied. For information on Georgia Tech's Academic Honor Code, please visit http://www.catalog.gatech.edu/policies/honor-code/.

Any student suspected of cheating or plagiarizing on a quiz, exam, or assignment will be reported to the Office of Student Integrity, which will investigate the incident and identify the appropriate penalty for violations.

Collaboration & Group Work
Collaboration is explicitly required in the group research project.

Accommodations for Students with Disabilities
If you are a student with learning needs that require special accommodation, contact the Office of Disability Services at (404)894-2563 or http://disabilityservices.gatech.edu/, as soon as possible, to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible to set up a time to discuss your learning needs.

Copyright
Among the materials that may be protected by copyright law are the lectures, notes, and other material presented in class or as part of the course. Always assume the materials presented by an instructor are protected by copyright unless the instructor has stated otherwise.

Student-Faculty Expectations Agreement
At Georgia Tech we believe that it is important to strive for an atmosphere of mutual respect, acknowledgment, and responsibility between faculty members and the student body. See https://catalog.gatech.edu/rules/21/ for an articulation of 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.

Subject to Change Statement
The syllabus and course schedule may be subject to change. Changes will be communicated via the canvas notification tool and through email. It is the responsibility of students to check email messages and course announcements to stay current in their online courses.

Course Schedule

Week/Dates	Group Project	Quizzes and Participation	Research Proposal
1 August 19	Project Team Pitching	Watch Module 1 and Take Quiz	Introduce Yourself And Survey
2 August 26	Project Team Assignments	Watch Module 2 and Take Quiz	Literature Review Report 1
3 September 2	First Week of Work	Watch Module 3 and Take Quiz	Literature Review Report 2
4 September 9	Weekly Update 1	Watch Module 4 and Take Quiz	Literature Review Report 3
5 September 16	Weekly Update 2	Watch Module 5 and Take Quiz	Literature Review Report 4
6 September 23	Weekly Update 3	Watch Module 6 and Take Quiz	Literature Review Report 5
7 September 30	Weekly Update 4	Watch Module 7 and Take Quiz	Literature Review Report 6
8 October 7	Weekly Update 5	Watch Module 8 and Take Quiz	Research Question Document
9 October 14	Weekly Update 6	Watch Module 9 and Take Quiz, Peer Review on RQ Doc	CITI Training
10 October 21	Weekly Update 7	Watch Module 10 and Take Quiz	Methodology Section
11 October 28	Weekly Update 8	Watch Module 11 and Take Quiz, Peer Review on Methodology Section	Data Analysis and Schedule
12 November 4	Weekly Update 9	Watch Module 12 and Take Quiz, Peer Review on Data Analysis and Schedule	
13	Weekly Update 10		

November 11			
14 November 18	Weekly Update 11		Final Proposal Document
15 November 25	Weekly Update 12	Peer Review on Final Proposal Document	
16 December 1	Final Report		
17 December 8		Peer Review of Final Report	