BME 9000 Syllabus

Graduate Dissertation

Fall 2026

[Class Day(s), Time, Location (include lab/recitation locations)]

Instructor Information

Instructor	Email	Office Hours
Dr. Kelly J. Cross	Kelly.cross@bme.gatech.edu	TBD
Teaching Assistant(s)	Email	
[TBD]	[Email address]	

General Course Information

Description

Independent research conducted under the guidance of a faculty member.

Pre- &/or Co-Requisites

Currently enrolled graduate students. Recommended: Previous research experience

Course Goals and Learning Outcomes

Upon completion of this course, students will be able to:

SLO 1: Apply engineering research and theory to advance the art, science, and practice of the discipline.

SLO 2. Synthesize relevant theories, methodologies, and frameworks to inform research design.

SLO 3. Apply research quality criteria for chosen research methodologies.

SLO 4. Critically analyze and critique existing research studies relevant to topic of interest.

Core IMPACTS

Core IMPACTS is the University System of Georgia's General Education curriculum. If you are teaching a course that counts towards Core IMPACTS, you should include a syllabus statement about the Core area and associated career competencies. This resource developed by the Center for Excellence in Teaching and Learning and Online Education at Georgia State University includes template syllabus statements for each of the Core IMPACTS areas that you may adapt for your course.

Course Structure and Design

The class is structured to integrate the student into the CIEE research group culture. Attendance of weekly individual and group meetings are strongly encouraged in addition to maintaining satisfactory degree progress,

> **A Note on Reading**: What should you look for when you are reading an article? There are certain elements of an article or paper that we want you to focus on. Why is this paper important? How can/does it contribute to engineering education? What are the limitations of this piece? Most importantly, what future research is suggested by this work? Try not to focus solely on the limitations – all studies are flawed – as doing so can distract you from uncovering more important insights. Identify contexts where the study is relevant or not relevant.

Course Requirements & Grading

Course Participation

Since this is a graduate level course, we expect significant participation from students. You will be expected to read all required materials and come prepared to discuss them in class and raise questions. Class participation is mandatory and occurs in both online and in-person discussions.

Grading Scale

The grades recorded will be "S" for "Satisfactory" or "U" for "Unsatisfactory." These grades will not be included in the calculation of the grade-point average and cannot be changed to a grade that will count in the average.

Course Materials

Required Course Materials

The required reading for the course will be provide a direct link in student's Box folder or post readings on the course Canvas site.

Additional Materials/Resources

TBD: As needed per the research topic

Course Policies, Expectations, & Guidelines

I consider this classroom to be a place where you will be treated with respect, and I welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability – and other visible and nonvisible differences. **All members of this course are expected to contribute to a respectful**, welcoming and inclusive environment for every other member of the research group.

Safe Zone Statement: I am a member of a Safe Zone Ally community network, and I am available to listen and support you in a safe and confidential manner. As a Safe Zone Ally, I can help you connect with resources on campus to address problems you may face that interfere with your academic and social success on campus as it relates to issues surrounding sexual orientation and gender identity. My goal is to help you be successful and to maintain a safe and equitable campus.

Preferred Name/Pronoun Statement: I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records.

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. Review Georgia Tech's Honor Code and the student Code of Conduct.

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

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services (404-894-2563) 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 in order to set up a time to discuss your learning needs.

Attendance and/or Participation

As an individual course, attendance and participation are required and contributes to the final grade. Georgia Tech policy permits students to miss class without penalty for participation in approved institute activities and in specific religious observances (click here for details). With prior notice of absence, alternative options to participate can be provided.

Here are Institute expectations and restrictions related to attendance, including information about excused absences.

Collaboration and Use of Generative AI

In this course, you are encouraged to work (discuss topics and get feedback) with research group members. Similarly, working with or using Generative AI in course work is permitted within the course guideline. Using appropriate tools effectively is part of engineering, whether it is a slide rule, a computer, or ChatGPT. Using your tools effectively means three things (1) using them thoughtfully, (2) using them ethically, and (3) retaining responsibility for their outputs. This extends to learning and learning to use AI effectively is important to engineers. Using AI to replace learning or replace your thinking is *bad* for engineers because it violates 1, 2, and 3. For this course that translates into the following guidelines to make **RAD** use of AI tools:

- **Responsible** – You are responsible for the work you submit. From our experience, the quality of work we expect is higher than current AI can do. That means if you turn work over to AI, you will do poorly. The thinking required in this course requires cumulative knowledge, synthesis of concepts, and clear articulation of interrelated content, which current AI is less effective than your brain.
- **Allowed** – AI can also be helpful for this class. AI can digest more than you can, and AI provides a 'statistically normative' perspective on language. We allow and encourage AI to HELP you do good work in developing and gathering evidence to support your ideas and claims. However, you are ultimately accountable for the accuracy of what you report and write.
- **Disclosed** – You must disclose the use of AI on any assignment using our AI disclosure form (see canvas and assignments). This form, which asks how and why you used AI, is for data collection and transparency. There is no penalty for using AI per se, but there will be a penalty for not disclosing AI. This approach is akin to journals requiring you to share the data and analysis code that supports a research paper.

Inclement Weather and Digital Learning Days

If a weather-related event affects campus operations, instructors have the discretion to cancel class or pivot to digital instruction based on departmental and/or program considerations. Check Canvas for any announcements regarding switching to digital learning formats

Note: The policy regarding the requirements, procedures, and responsibilities related to Digital Learning Days for Modified Campus Operations.

Student-Faculty Expectations Agreement

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 Student-Faculty Expectations articulate 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. The Student-Faculty Expectations Agreement is considered part of this syllabus. We reserve the right to include a question on the contents of this agreement in any course assessment.

Student Use of Mobile Devices in the Classroom

The use of mobile devices for non-academic activities is prohibited during class time to avoid distraction and promote active listening and engagement with class discussion. Research on learning shows that unexpected noises and movement automatically divert and capture people's attention, which means that one student's use of a mobile devices (laptops, cell phones, tablets, etc.) can distract another student, thus disrupting their ability to learn.

However, mobile phone and laptops may be used for academic activities and supporting student engagement in the class discussion. Research indicates that students taking notes on laptops tend to process less as they take notes, and the depth of their learning suffers. Overall these devices should be used in a way that does not prevent the learning of other students in the class.

Additional Course Policies

Food and drinks should be avoided in class unless they are able to be consumed in a manner that is not distracting to other students engaging in the class discussion.

Audio or video recording: Surreptitious or covert videotaping of class or unauthorized audio recording of class is prohibited by law and by Board of Regents policy. **This class may be videotaped or audio recorded only with the written permission of the instructor.** In order to accommodate students with disabilities, some students may have been given permission to record class lectures and discussions. Therefore, students will be notified and should understand that their comments during class may be recorded.

Campus Resources for Students

Graduate Student Academic and Professional Success Resources: For graduate courses, a sample statement that might be included in your syllabus for this section is "A list of resources for graduate students is given on the Office of Graduate and Postdoctoral Education website. Specific information for current graduate students includes

- Academic Resources such as the Communications Center, Language Institute, Library, Catalog, Registrar, resources for conducting research, Advocacy and Conflict Resolution resources, and how to manage unexpected situations that may impact your academic performance;
- Student Resources such as Campus Services, Child Care/Family programs, Health & Wellness, Career Services, and the Student Resource Guide; and
- Professional Development such as the programming from the Career Center and other professional development resources and events"]

Student Well-Being: [Some faculty include resources that support students' mental and emotional well-being. Including these additional resources on your syllabus communicates to students that you care about them and that you are committed to facilitating their academic progress. For all courses, a sample statement that might be included in your syllabus is

"At Georgia Tech, we are concerned about your overall physical, social, and mental well-being. A comprehensive list of wellness related resources has been compiled and maintained by the Office of the Vice President for Student Engagement and Well-being (student-resource-guide (gatech.edu)

More resources on supporting student well-being on the syllabus and beyond are available through the Learning Well Initiative.