

# Special Topics Course Syllabus

## Course Information

**Course Prefix and Number:** ME2853

**Credit Hours:** 3 credit hours

**Instructor:** Jonathan Gaines

## Course Description

This course introduces students to the key aspects of professional formation for mechanical engineers. Professional formation includes development of 1. Technical skills, 2. Problem-solving competencies, 3. Awareness of opportunities, 4. Self-efficacy and confidence, and 5. Teamwork and communication. Through reflective practice and hands-on activities, students will both increase skills relevant to professional formation and apply these skills, considering their growth as a member of the mechanical engineering community. In the application of these skills, students will consider the integration of information from multiple perspectives to learn realistically how engineers address complex problems.

## Course Learning Outcomes

Upon successful completion of this course, students should have the foundational ability to:

**SLO1:** Integrate multiple perspectives in defining complex problems

**SLO2:** Reflect on their identity development as professionals

**SLO3:** Describe how their actions as professionals impact society

**SLO4:** Apply communication skills and evaluate the critical importance of communication for MEs through its relationship to professional formation, identity development, and immersive learning.

**SLO5:** Students will gain practical experience with machine tools to build prototyping skills and correct intuition about materials, tolerances, and manufacturability relevant to the translation of concepts into engineered artifacts.

## Required Course Materials

No textbooks or materials are required. Resources for research are determined in consultation with the instructor.

## Grading Policy

Assignment	Date	Weight (Points out of 1000 total)
Pre-work assignments	Weekly	150
Homework assignments	Weekly	450
Studio assignments	Weekly	240
Final presentation	Week 16	60
Final portfolio (group)	Week 16	100

## Extra Credit Opportunities

Extra credit opportunities may or may not be provided at the discretion of the instructor. Any extra credit opportunities that are provided will be made available to all students in the class.

## Attendance Policy

Attendance will not be taken for this course, but classwork and labwork will require attendance to receive credit. Unexcused absences will result in zeros for these assignments.

## Academic and Research Honesty/Integrity Statement

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 the [Student Code of Conduct](#) and the [Academic Honor Code](#)

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.

Allegations of scientific or scholarly misconduct are handled in accordance with the procedures outlined by the [Policy for Responding to Allegations of Scientific or Other Scholarly Misconduct](#).

## Core IMPACTS

Not applicable

## Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, [contact the Office of Disability Services](#) 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.

## Student-Faculty 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 Student-Faculty Expectations](#) articulates some basic expectations that you can have of me and that I have of you. Additional information for research-related work is given in [The Expectations of Advisors and Advisees](#). 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.