

AE 1355, 2355, 3355, 4355 Syllabus

Design Competition I and II and III and IV, 3 Undergraduate Credits

Fall 2026

Instructor Information

Instructors:

Mr. Carl Johnson, (Email: cj124@mail.gatech.edu)

General Course Information

Description

This course challenges student teams to participate in a national level design competition. These include competitions from the American Institute of Aeronautics and Astronautics (AIAA), Society of Automotive Engineers (SAE) or Robonation for autonomy competitions. The students will have the opportunity to select a competition team to join, and then be expected participate in the specific work needed for that competition. Each student team will be led by a group of experienced student volunteers to help coordinate work with assistance from the faculty advisor. Individual students will be expected to contribute based on their level of knowledge and experience, with no minimum level of experience required to participate.

Course Learning Outcomes

Upon completion of this course, the student should be able to:

- Understand detailed aerospace system requirements and competition scoring functions
- Effectively communicate technical information in both oral and written formats
- Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

Required Course Materials

Course Text

None

Grading Policy:

Grading is based on participation, which is assessed using weekly quizzes that include student reflections on what is learned and what they accomplished each week through the semester.

Assignment	Date	Weight (Percentage, points, etc.)
Weekly Quizzes	14 total assignments due roughly every week	100%

This class does not have a final exam.

Grading Scale

At 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

Weekly quizzes: Consists of approximately weekly quizzes which are due throughout the semester. Completed assignments will be submitted via Canvas.

Course Policies

Attendance and/or Participation

Attendance during work sessions is required. Active participation is essential for understanding major concepts and contributing to the learning of others.

Absences related to personal illness or emergency, or career development (e.g. presenting a paper at a conference or scheduled job interview) are considered excused. Please contact the instructor as soon as you know of a schedule conflict if this applies to you. Please see the Institute Absence Policy - <https://catalog.gatech.edu/rules/4/> for more information.

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 plagiarism 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.

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.

Pre- &/or Co-Requisites

None

Collaboration, Group Work, and Use of Generative AI

Discussions with other students about how to solve problems is required.

Generative AI can be used as a spelling/grammatical check and for general research. All AI results must be checked to ensure that no hallucinated data or sources is included in the design. Use of AI must be disclosed along with the honor code statement on all assignments.

Extensions, Late Assignments, & Re-Scheduled/Missed Exams

All assignments are due at the designated time using online submission on Canvas. Any assignment turned in after collection is late. Late assignments may be turned in during the advertised grace period (usually 48 hours) for half credit. Any assignments turned in after this is not counted.

Excused absences (see above) may be a justification to receive an extension on an assignment. Please contact the instructor as soon as you know of a schedule conflict if this applies to you. Under special circumstances and at least two weeks of advance coordination with the professor, labs may be rescheduled for an individual. Labs missed due to illness or other emergencies can be made up, but must be supported by appropriate documentation

coordinated through the Dean of Students. The professor reserves the right to grant special dispensations when deemed appropriate.

Inclement Weather and Digital Learning Days

In the event of inclement weather the lecture/lab may shift to an online format. An announcement will be made on Canvas if this occurs.

Campus Resources for Students

Undergraduate Student Academic Success Resources:

- Academic Support: Academic Success and Advising (a unit in the Office of Undergraduate Education & Student Success) provides free support for your courses. Students can attend scheduled supplemental review (PLUS) sessions, stop by Drop-In Tutoring, or schedule a one-on-one appointment through Knack. To explore what options work best for you, please visit us online at success.gatech.edu/tutoring, email us at tutoring@gatech.edu, or come see us at Clough Undergraduate Learning Commons, Suite 283.

Student Well-Being:

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 \(gatech.edu\)](#))