

[AE 3330] Syllabus

Introduction to Aerospace vehicle Performance, AE 3330, 3-0-3

Instructor Information

Instructor: Lakshmi N. Sankar

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General Course Information

Description

Orbital mechanics, orbit determination, and spacecraft maneuvers. Basics of airplane flight including climb, cruise, takeoff, and landing. Actuator disk theory and elements of rotorcraft performance.

Course Learning Outcomes

Students will be able to pose and solve performance problems by:

1. Setting up the equations of motion
2. Evaluating the appropriate forces
3. Solving for the desired performance parameters

Required Course Materials

Lecture notes will be made available. For orbital mechanics topics, the text book Fundamentals of Astrodynamics (1st Edition) by Roger R. Bate, Donald D. Mueller, and Jerry E. White is required.

Grading Policy:

Students will complete assignments and quizzes.

90% or above: 'A'

80% to 89%: 'B'

70% to 79%: 'C'

60% to 69%: 'D'

59% or below: 'F'

Description of Graded Components

Course grade is based on assignments (25%) and three quizzes (25% each).

The assignments and exams will cover the topics found at

<https://ae.gatech.edu/sites/default/files/file/2022/12/AE%203330%20Syllabus-Introduction%20to%20Aerospace%20Vehicle%20Performance.pdf>.

Course Policies

Attendance and/or Participation

Attendance is required unless excuse has been granted by the instructor for illness or Institute-approved activities.

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.

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](#) (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-Requisites and Co-Requisites

MATH 2552 Differential Equations or equivalent

AE 3030 Aerodynamics (with concurrency)

Extra Credit Opportunities

None

Collaboration, Group Work, and Use of Generative AI

All assignments are for individual grade. Collaboration with other students and/or use of generative AI tools in assignments and exams is not allowed.

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

10% of the assignment penalty for each late day. Exams may be rescheduled with prior permission.

Inclement Weather and Digital Learning Days

Lectures will be given on Zoom

Student Use of Mobile Devices in the Classroom

Not allowed.

Campus Resources for Students

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