Overview and Goals:
In the sophomore ASEN 2003 and ASEN 2004 courses, students developed an understanding of the motion of particles and rigid bodies in 2D as well as the basics of orbital mechanics and satellite design. In ASEN 3200 we break free of the planar motion bounds to explore full 3D motion of space platforms. By the end of the semester students will be able to model and analyze the orbital and attitude motion of satellites; to develop a near-Earth satellite mission concept; and to design a single axis spacecraft attitude control system.

The first half of the course focuses on dynamics and control of spacecraft orientation or attitude. Nearly all spacecraft must be accurately pointed to accomplish their mission, yet the natural behavior in orbit is typically uncontrolled tumbling. We will develop a fundamental understanding of these natural 3D rigid body kinematics and dynamics, using this to discuss common methods of passive and active attitude control. Attitude sensor and actuator technology will be investigated, as well as common ways of representing and determining attitude. On the topic of rigid body kinematics, the goal is for students to become comfortable with a small sub-set of attitude representations such as the DTfas the DTfas the DTfas the DTfas the DTfas the DTfa of the cbfmat

C	Demonstrates sufficient understanding of the material to proceed to the next level
C-	Insufficient understanding of the material to proceed to the next level
D	Poor technical work
F	Unsatisfactory performance

If you believe that an error has been made in grading any of your submissions, you may submit a regrade request in Gradescope.

Please note: the Canvas gradebook is a guide to ensure that your assignments have been graded and that the grade entered is consistent with the score that has been reported to you. The Canvas gradebook does not contain all information related to the final course grade calculation; the final course grade calculation will follow the procedure outlined in this syllabus.

Grading Policy

Assignments are graded to an absolute standard designed to indicate your level of competency in the course material. Minor adjustments may be made in the assignment of final grades, but there is a limited amount of "curving" in the course. The final grade indicates your readiness to continue to the next level in the curriculum.

The course grade is primarily dependent on individual demonstrated measures of competency. We rely on exam scores to identify whether a student has achieved the basic level of competency of the material. Accordingly, other assignment grades are only incorporated into a student's final grade when their individual grade is a C or better. In other words, if your exam average is below a C, the other assignment grades are not included in the final grade, as shown in the table below.

Other course assignments are designed to enrich the learning experience and to enhance individual performance, not to substitute for shortcomings in individual competency. This policy makes it important to use the homework and lab group assignments to enhance your own learning. If the work in the assignment is split up among group members, be sure that the learning is not also split up, but rather is shared among the whole group.

Final Grade Table

Type	Description	Percentage
Exams	Midterm Exams (2)	40%
	Final Exams (2)	60%
	Exam Total	**100%**
Other	Labs & Projects	70%
	Homework	30%
	Other Total	**100%**
Final Grade	If exam grade >= C	Final grade = 0.5*Exam Total + 0.5*Other Total
	If exam grade < C	Final grade = Exam Total