

San José State University
Aerospace Engineering Department
AE 140, Rigid Body Dynamics, Spring 2022

Course and Contact Information

Instructor: Prof. J.M. Hunter

Office Hours Link: <https://sjsu.zoom.us/j/96580183367>

Class links: <https://sjsu.zoom.us/j/810386053850?pwd=eExxc210am55UFNLak9DbzBYa>

Course Requirements and Assignments

Homework	5%
Quizzes	20%
Oral Quiz	10%
Daily Problem Team Participation	10%
Daily Problems	10%
Paper Review	5%
Project	25%
Oral Final Exam	15%

“Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally three hours per unit per week) for instruction, preparation/studying, or course related activities, including but not limited to internships, labs, and clinical practical. Other course structures will have equivalent workload expectations as described in the syllabus.”

Final Examination or Evaluation

“Faculty members are required to have a culminating activity for their courses, which can include a final examination, a final research paper or project, a final creative work or performance, a final portfolio of work, or other appropriate assignment.”

Grading Information

Determination of Grades

Grading Scale: 100 – 97% A plus; 96.9 – 92.9 – 90% A minus; 89.9 – 87% B plus; 86.9 – 83% B; 82.9 – 80% B minus; 79.9 – 77% C plus; 76.9 – 73% C; 72.9 – 70% C minus; 69.9 – 67% D plus; 66.9 – 63% D; 62.9 – 60% D minus; < 59.9% F.

Homework & project assignments are due at the beginning of the class period.

University Policies

Dropping and Adding Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester’s Catalog Policies section at <http://info.sjsu.edu/static/catalog/policies.html>. Add/drop deadlines can be found on the current academic calendar web page located at http://www.sjsu.edu/academic_programs/calendars/academic_calendar. The Late Drop Policy is available at http://www.sjsu.edu/aars/policies/late_drop_policy/. Students should be aware of the current deadlines and penalties for dropping classes. Information about the latest changes and news is available at the Advising Hub <http://www.sjsu.edu/advising/>

Academic Integrity Your commitment as a student to learning is evidenced by your enrollment at San Jose State University. The University’s Academic Integrity policy, located at <http://www.sjsu.edu/senate/S07-2.htm> requires you to be honest in all your academic work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The Student Conduct and Ethical Development website is available at http://www.sa.sjsu.edu/judicial_affairs/index.html

Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism Tw TD . wedex.aupen

grade for the course and sanctions by the University.

AE140/Rigid Body Dynamics, Spring 2022, Course Schedule

Schedule is subject to change with fair notice

Course Schedule

Week	<i>Lecture Outline</i>
1	Vector dynamics review
2	Rigid body translational kinematics
3	General motion with respect to the rotating Earth
4	Euler angles
5	Rigid body rotational kinematics
6	Angular momentum of a rigid body
7	Moments / products of inertia, principal axes
8	Euler's moment equation
9	Solution of general gyro equations
10	General rigid body gyroscopic motion
11	Gyroscopic instruments
12	Six degree-of-freedom rigid body equations of motion
13	Satellite despinning
14	Lagrange's equations
15	Final Exam Review
Final Exam	Zoom 15 minute appointments