

ASEN 2802 – Aerospace Sciences Lab 1

Section 001: Friday at 2:10PM – 4:00PM, Aero N141

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Instructional Team Office Hours See Canvas for current information about office hours.

REQUIRED EQUIPMENT – A laptop or personal computer that can submit work as a PDF. A notebook for recording data. Recommended software: MATLAB. Recommended PPE: Safety glasses/goggles.

COURSE WEBSITE –

COURSE PREREQUISITES – ASEN 1320 or CHEN 1310 or CSCI 1300/1310/1320 or ECEN 1310

COURSE COREQUISITES – ASEN 2012, ASEN 2702, and ASEN 2702

COURSE OBJECTIVES - Introduce the fundamental concepts, principles, and analytical tools of aerospace engineering, and reinforce concepts in ASEN 2701 and ASEN 2702 through a variety of experiential learning activities. This laboratory course provides a basic introduction to: Model-based design for real-world aerospace engineering systems, experimental data collection, and interpretation of experimental data using theoretical principles and analysis. The above topics are explored in the context of statics, structural mechanics, aerodynamics, and thermodynamics. A student who successfully completes this course will have a level of competency in the topics above so they can use this expertise in the design of operational aircraft and spacecraft.

POLICIES AND PROCEDURES

I. STUDENT EXPECTATIONS

- Students are expected to attend all lab sessions in addition to completing all assignments by the requested deadline.
- Groups are expected to work outside of group lab time each week. **We recommend that you schedule at least 2-3 hours per week for engaging with this course outside of weekly lab time.** Your background knowledge/experience and other variables may require you to spend additional time. Please plan accordingly by scheduling time on your calendar now. Several factors influence student academic performance and long-term learning. Active engagement in all course activities will contribute to your learning and to success in this course. The instructional team is available if you are seeking more information on how to be successful in this course. Your academic advisor is another helpful resource to assist you in meeting the requirements of this course.
- Individuals are expected to actively participate and contribute to the completion of each lab report. Individuals who fail to participate or contribute meaningfully to their group's lab assignment will receive a low or failing individual grade for this course.

II. INSTRUCTOR EXPECTATIONS

- You can expect your instructor to be courteous, punctual, well-organized, and prepared for lecture and other class activities; to answer questions clearly; to be available during lab or to notify you beforehand if they are unable to attend lab; to provide a suitable guest lecturer when they are traveling; and to grade uniformly and consistently according to the posted guidelines.

III. COMMUNICATION

- Communication of any medical or studies-related needs of absence that are known (non-emergency) should be communicated as soon as possible, and (when possible) any expected impact to assignments should be coordinated with the instructor prior to, **not after the fact**, of missing a course deadline.
- **Slack** – Any questions about course content must be sent to the instructional team via Slack. Private student questions or coordination can be handled via direct Slack message to the instructor.
- **Email** – Email will not be a primary communication method used in course correspondence for general questions about lab assignments, syllabus & class policy, etc. Emails sent to instructors or TFs on such topics will go unanswered. Students should only email the instructors with questions or concerns regarding individual scheduling conflicts or personal issues. Instead, students are encouraged to use Slack for general questions about lab assignments, syllabus, class policy, etc.
- **Canvas** – Canvas is the official webpage for this course. All general announcements, assignments, course materials, and grades will be available via Canvas. Direct Canvas messages to instructor will not be a primary communication method. Any Canvas DM sent

to the instructor may go unanswered.

- **Hours of Operation** – All correspondence to instructors and TFs will be handled during regular business hours: M-F 8:30-4:30 PM. Any messages sent to the instructional team outside these hours or during the weekend will go unanswered.

IV. LAB ASSIGNMENTS

- **Lab Deliverables** – There will be 2 lab assignments throughout the semester. At the completion of each lab assignment, groups will be required to submit a PDF which consist of a combination of a detailed lab report, responses to short answer questions, and/or presentations. Details for each lab assignment deliverables will be outlined on the lab assignment document. Additionally, groups will be required to submit their MATLAB scripts and/or functions which they used to generate the results that were presented in the lab report PDF.
- **MATLAB** – You are required to develop a MATLAB script which is used to generate the required results for each lab. While the MATLAB script can be collaboratively developed by students within their respective groups, *sharing or discussing MATLAB scripts with other lab groups is prohibited*. The use of Generative AI is strictly forbidden in the creation of any MATLAB scripts for this lab. All MATLAB scripts will be examined for similarity against other group submissions and previous semester code. Additionally, all MATLAB scripts will be scrutinized for Generative AI usage. **If a substantial level of similarity is identified among MATLAB submissions, all students in the team will be deemed in violation of the CU Honor Code, receive a letter grade of 'F' for the entire course, and be reported to the Honor Board.** It should be noted that the determination of a "significant amount of similarity" is at the sole discretion of the instructor.

V. WEEKLY GROUP DELIVERABLES

- **Deliverables** – The instructional team will visit each group during the lab period and assess the groups progress relative to the provided guidelines. **Credit will be given to groups that are on or ahead of schedule.** Note that the instructional team visits will be informal discussions, but groups are encouraged to prepare a brief document on the status of their progress relative to the expected progress.

VI. WEEKLY INDIVIDUAL TIMESHEETS

- **Timesheets** – Individuals will submit weekly timesheets to provide information on the individuals contribution to the assignment for the week. **The deadline for the weekly timesheet is Friday at 5:00 PM.** Timesheets are expected to range from one to approximately five sentences. Timesheets will be reviewed for completeness and effort. Credit will be awarded based on perceived effort and clarity. Individuals who claim credit for another's work may be in violation of the CU Honor Code, and action will be taken at the discretion of the instructor.
- **Missing Timesheets** – Late timesheets will not be accepted under any circumstance. The lowest timesheet grade will be dropped from your final grade.

VII. PEER ENGAGEMENT

- Instructional team will award credit for active participation in the lab environment in addition to positive peer evaluations. The expectation is that all group members will be present at each lab meeting and contribute meaningfully to the lab assignment. Individuals who do not meet this expectation will not be awarded full credit for peer engagement.
- **Active contribution** - Each group member is accountable for actively participating in the lab assignment. It is not the duty of individual group members to reach out to passive members and furnish them with a task list. In the event that an individual fails to meet the group's workload expectations, the group is advised to contact the instructor for assistance well before the assignment deadline. Groups are urged to include only those individuals as named authors who actively contributed to the assignment's completion. Sole credit for the assignment will be attributed to named authors.

VIII. ATTENDANCE

- **Attendance** – Regularly attending lab is expected. If you are unable to attend lab, you must contact your lab group to inform them of your absence. Failure to communicate with your team will result in a reduction or failure of your peer engagement grade.

IX. CALCULATION OF COURSE GRADE

Grades for this course will be assigned based on the following weighted breakdown:

Assessment	Weight
Lab Assignment #1 (group work)	20%
Lab Assignment #2 (group work)	20%
Weekly Deliverables (group work)	10%
Weekly Timesheets (individual work*)	30%
Peer Engagement (individual work*)	20%

*Individual grades for lab assignments may be adjusted by the instructor based on peer evaluations. Exemplary peer evaluations may result in an increased individual lab assignment grade whereas poor peer evaluations will result in a lower assigned grade. Individuals whose name does not appear on a group submission will not receive credit for the assignment. Groups are encouraged to leave off the names of individuals who did not contribute to the lab assignment.

CU BOULDER POLICIES

CLASSROOM BEHAVIOR

Both students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote or online. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. For more information, see the [classroom behavior](#) policy, the [Student Code of Conduct](#), and the [Office of Institutional Equity and Compliance](#).

REQUIREMENTS FOR INFECTIOUS DISEASES

Members of the CU Boulder community and visitors to campus must follow university, department, and building health and safety requirements and all public health orders to reduce the risk of spreading infectious diseases.

The CU Boulder campus is currently mask optional. However, if masks are again required in classrooms, students who fail to adhere to masking requirements will be asked to leave class. Students who do not leave class when asked or who refuse to comply with these requirements will be referred to Student Conduct & Conflict Resolution. Students who require accommodation because a disability prevents them from fulfilling safety measures related to infectious disease will be asked to follow the steps in the “Accommodation for Disabilities” statement on this syllabus.

For those who feel ill and think you might have COVID-19 or if you have tested positive for COVID-19, please stay home and follow the further guidance of the Public Health Office. For those who have been in close contact with someone who has COVID-19 but do not have any symptoms and have not tested positive for COVID-19, you do not need to stay home.

ACCOMMODATION FOR DISABILITIES, TEMPORARY MEDICAL CONDITIONS, AND MEDICAL ISOLATION

Disability Services determines accommodations based on documented disabilities in the academic environment. If you qualify for accommodations because of a disability, submit your accommodation letter from Disability Services to your faculty member in a timely manner so your needs can be addressed. Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance.

If you have a temporary medical condition or required medical isolation for which you require accommodation, please contact your instructor immediately. Also see Temporary Medical Conditions on the Disability Services website.

PREFERRED STUDENT NAMES AND PRONOUNS

CU Boulder recognizes that students' legal information doesn't always align with how they identify. Students may update their preferred names and pronouns via the student portal; those preferred names and pronouns are listed on instructors' class rosters. In the absence of such updates, the name that appears on the class roster is the student's legal name.

HONOR CODE

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the Honor Code may include but are not limited to: plagiarism (including use of paper writing services or technology [such as essay bots]), cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty.

All incidents of academic misconduct will be reported to Student Conduct & Conflict Resolution: honor@colorado.edu, 303-492-5550. Students found responsible for violating the Honor Code will be assigned resolution outcomes from the Student Conduct & Conflict Resolution as well as be subject to academic sanctions from the faculty member. Visit Honor Code for more information on the academic integrity policy.

SEXUAL MISCONDUCT, DISCRIMINATION, HARASSMENT AND/OR RELATED RETALIATION

CU Boulder is committed to fostering an inclusive and welcoming learning, working, and living environment. University policy prohibits sexual misconduct (harassment, exploitation, and assault), intimate partner violence (dating or domestic violence), stalking, protected-class discrimination and harassment, and related retaliation by or against members of our community on- and off-campus. These behaviors harm individuals and our community. The Office of Institutional Equity and Compliance (OIEC) addresses these concerns, and individuals who believe they have been subjected to misconduct can contact OIEC at 303-492-2127 or email cureport@colorado.edu. Information about university policies, [reporting options](#), and support resources can be found on the [OIEC website](#).

Please know that faculty and graduate instructors have a responsibility to inform OIEC when they are made aware of any issues related to these policies regardless of when or where they occurred to ensure that individuals impacted receive information about their rights, support resources, and resolution options. To learn more about reporting and support options for a variety of concerns, visit [Don't Ignore It](#).

RELIGIOUS HOLIDAYS

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance.

See the [campus policy regarding religious observances](#) for full details.

MENTAL HEALTH AND WELLNESS

The University of Colorado Boulder is committed to the well-being of all students. If you are struggling with personal stressors, mental health or substance use concerns that are impacting academic or daily life, please contact Counseling and Psychiatric Services (CAPS) located in C4C or call (303) 492-2277, 24/7.

Free and unlimited telehealth is also available through Academic Live Care. The Academic Live Care site also provides information about additional wellness services on campus that are available to students.