

ASEN 5018/6028: Graduate Projects Syllabus
Ann and H.J. Smead Aerospace Engineering Sciences
Fall 2025

Lab Section: ASEN 5018–802 / 6028-802, CERES (ECLSS)

Section Advisor: Dr. James Nabity / AERO 302 / James.Nabity@Colorado.edu

Tuesday, Thursday 3:10 – 5:00 PM MT

Course Teaching Assistant: Brian Terasaki

Lab Section: ASEN 5018-803 / 6028-803, Human Spaceflight

Section Advisor: Dr. James Nabity / AERO 232 / James.Nabity@Colorado.edu

Tuesday, Thursday 3:10 – 5:00 PM MT

Course Teaching Assistant: Lynnette Wilde

Course Textbooks (Optional):

Adaptive Project Framework: Managing Complexity in the Face of Uncertainty

Author: Robert Wysocki Ph.D.

ISBN13: 0321525612

Publisher: Addison-Wesley

Fundamentals of Agile Project Management: An Overview

Author: Marcus Gonclaves

ISBN13: 9780791861585

Publisher: Ingram Lightning Source

Course Prerequisite: Permission of lab section instructor. Completion of, or current enrollment in, one of the following courses as related to the specific lab project of interest is encouraged: ASEN 5158 Space Habitat Design, ASEN 5148 Spacecraft Design, ASEN 4138 Aircraft Design.

Completion of, or current enrollment in, ASEN 5188 Space Systems Engineering is also recommended. Non-AES student enrollment is encouraged. Concurrent enrollment in ASEN 4018/28, Senior Design, is discouraged, but may be allowed with consent of the section instructor.

Course Purpose: The Graduate Projects course is a two-semester sequence designed to expose graduate students to project management and systems engineering disciplines while working on a complex aerospace engineering project as part of a project team. This engineering project work will include project management, systems engineering, and subsystem-level design, build, and testing. Hands-on projects are related to the focus areas in the aerospace engineering sciences department: Aerospace Engineering Systems, Astrodynamics and Satellite Navigation Systems, Bioastronautics, and Remote Sensing, Earth and Space Sciences. Students completing this course sequence will be better prepared for the many types of project work and team dynamics they will encounter in government and industry career positions.

Course Objectives: Students will participate in and engage in the following five objectives:

1. Project Management and Systems Engineering
2. Formal presentations, design reviews, and project documentation
3. Hands-on contribution to complex engineering project
 - a. Design, Build, Test, and Verify
4. Leadership and skill development
 - a. Technical Leadership, SE, or PM roles
 - b. Presentation/Public speaking skills
5. Career exploration in academia, industry, government, and entrepreneurial opportunities

Course Grading: The lab section advisor and course coordinator will split grading responsibilities as described below.

The lab section professor will determine 85% of the student's grade in the following areas:

- 1) Presentations - clear and concise content and delivery
- 2) Documentation - quality engineering writing, delivered in accordance with deadlines
- 3) Peer evaluations
- 4) Faculty evaluation
- 5) Section Participation

*more detailed grading rubrics for each section will be provided by the project advisor

The course coordinator will determine 15% of the student's grade in the following areas:

- 1) Attendance & Participation (5%)
- 2) Safety (5%)
- 3) Leadership & Collegiality (5%)

Lectures come from both the coordinator and guests on relevant topics including:

- Project management
- Laboratory safety
- Approach to engineering trades
- Quantification of uncertainty
- Failure Modes and Effects Analysis
- Probability Risk Assessment
- Human factors research
- and others

The lecturer strives to make each lecture applicable and valuable to both the student and the project that student works on, however this is not possible for every student all the time. Each student is expected to participate in the lecture each week and the activities in (and outside) the classroom.

Attendance Policy: Attendance is required. Any correspondence concerning attendance should be sent to the project advisor. If you are ill or otherwise unable to attend, send an email in order to be excused. You DO NOT need to include details as to your illness in your

email. Emails about absences received after the missed class will not be accepted. Absences related to official CU programs (athletics, clubs, marching band, ROTC, etc.) will be excused as long as you provide a letter from that organization, including your name and class dates that will be missed, two weeks prior to the absence. Other absences (e.g. family emergency, jury duty, car accidents, etc.) will be excused on a case by case basis as long as an email is received with sufficient information. Examples of absences that will not be excused are but not limited to: club participation, work schedule, and/or busy with another class. Students missing two or more classes in a row are recommended to seek assistance from Student Support & Case Management at <https://www.colorado.edu/sscm> for support in developing a plan. In all cases, students missing lecture and/or project meetings, shall also communicate these absences (not necessarily the reasons for the absences) with their team.

SYLLABUS STATEMENTS

Please see the link below for syllabus statements.

<https://www.colorado.edu/academicaffairs/about/policies-customs-guidelines/required-syllabus-statements>

Classroom Behavior

Students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote, or online. Failure 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, marital status, political affiliation, or political philosophy.

Additional classroom behavior information:

[Student Classroom & Course-Related Behavior | Compliance, Ethics and Policy | University of Colorado Boulder](#)

[Honor Code and Student Code of Conduct | Student Conduct & Conflict Resolution | University of Colorado Boulder](#)

[Home | Office of Institutional Equity and Compliance | University of Colorado Boulder](#)

Accommodation for Disabilities, Temporary Medical Conditions, and Medical Isolation

If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the [Disability Services website](#). Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance. If you have a temporary medical condition, see [Temporary Medical Conditions](#) on the Disability Services website.

If you have a temporary illness, injury or required medical isolation for which you require adjustment, please contact the instructor and/or TFs regarding missed work. Also see [Temporary Medical Conditions](#) on the Disability Services website.

Honor Code

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the [Honor Code](#). 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. Understanding the course's syllabus is a vital part of adhering to the Honor Code.

All incidents of academic misconduct will be reported to Student Conduct & Conflict Resolution: StudentConduct@colorado.edu. 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.

Artificial Intelligence (AI)

Generative artificial intelligence tools—software that reproduces text, images, computer code, audio, video, and other content—have become widely available. Well-known examples include ChatGPT for text and DALL•E for images. This statement governs all such tools, including those released during our semester together. Keep in mind that the goal of gen AI tools is to reproduce content that seems to have been produced by a human, not to produce accurate or reliable content; therefore, relying on a gen AI tool may result in your submission of inaccurate content. It is your responsibility—not the tool's—to assure the quality, integrity, and accuracy of work you submit in any college course. If gen AI tool use is suspected in completing assignments for this course in ways not explicitly authorized, I will follow up with you. I may contact the Office of Student Conduct & Conflict Resolution to report suspected Honor Code violations. In addition, you must be wary of unintentional plagiarism or data fabrication. Please act with integrity, for the sake of both your personal character and your academic record.

Limited Gen AI Use: You may use gen AI tools for specific functions in this course that will augment your learning, but their use is limited to the following particular tasks:

- Grammar checks but not for rewriting text of the assignment.
- Generating key words and phrases or ideas or outlines for a report is acceptable, BUT the final work must be student-generated, summarizing or synthesizing content as outlined for the assignment.

You are not permitted to use Gen AI for problem-solving on your homework or exams, and you are not permitted to use Gen AI to generate text for any written assignment.

Should you use gen AI tools on an assignment in this class, document your usage with the Chicago Manual of Style (link below) or appropriate citation guidelines as specified in the problem assignment.

<https://www.chicagomanualofstyle.org/qanda/data/faq/topics/Documentation/faq0422.html>

Religious Accommodations

Campus policy requires faculty to provide reasonable accommodations for students who, because of religious obligations, have conflicts with scheduled exams, assignments, or required attendance. Please communicate the need for a religious accommodation in a timely manner. In this class, the due dates for completion of assignments and the take

home exam will be scheduled to avoid conflict with the observance of religious holidays. Please notify the instructor should a conflict or need arise due to religious observance obligations.

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

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 [protected-class](#) discrimination and harassment, sexual misconduct (harassment, exploitation, and assault), intimate partner abuse (dating or domestic violence), stalking, and related retaliation by or against members of our community on- and off-campus. The Office of Institutional Equity and Compliance (OIEC) addresses these concerns, and individuals who 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](#) including confidential services can be found on the [OIEC website](#).

Please know that faculty and graduate instructors must inform OIEC when they are made aware of incidents related to these policies regardless of when or where something occurred. This is to ensure that individuals impacted receive outreach from OIEC about resolution options and support resources. To learn more about reporting and support for a variety of concerns, visit the [Don't Ignore It](#) page.

Preferred Student Names and Pronouns

CU Boulder recognizes that students' legal information does not always align with how they identify. If you wish to have your preferred name (rather than your legal name) and/or your preferred pronouns appear on your instructors' class rosters and in Canvas, visit the Registrar's website for instructions on how to change your personal information in university systems.