

# Hypersonic Vehicle Design Project

## ASEN 5519-004(5), Spring 2023

Last updated: April 24, 2023

Instructor: Dr. Nicholas Campbell, [nica3422@colorado.edu](mailto:nica3422@colorado.edu)

Office hours: By appointment, in person or over Zoom

Schedule: 10:00 - 11:15 AM, Tuesday and Thursday

In-person location: AERO 232[[Campus Map](#)]

Remote location:

Website:

### Course Description

This special topic course is focused on building the understanding, tools and experience needed to design the hypersonic vehicles of the future. Student design teams work on highly integrated projects to generate and optimize the tools and design concepts needed to achieve a vehicle ca-

## Grading

The table below provides the grading breakdown where quad-charts 1-5, the PDR, and CDR are defined on the course schedule.

Quad-charts @ 2% each	10% total
Preliminary Design Review (PDR)	35% total
- presentation to review panel	20 %
- midterm report	15 %
Critical Design Review (CDR)	55% total
- presentation to review panel	30 %
- final report	25 %
<hr/> Total	<hr/> 100%

Design reviews will be in the form of a presentation by each design team. Reports will be due 1 week following the design review or as otherwise noted in the schedule. This scheduling is to allow important questions raised in the design review to be addressed in the report as either solutions of proposed steps to find a solution. Presentations and reports will be scored per design team then peer reviews and instructor discretion will be used to provide individual team member grades that adhere to the total as a team average.

Quad-charts will be graded on a scale of 0,1,2 where 0 means the quad-chart was not prepared for the corresponding class period, 1 means the quad-chart was technically prepared but is either a direct copy of thatdir79(miabm(Quaw@(miabmTd [(diw@(8-13erio)-Berio)-esn'3erio)- [(w)2(willo)-r1(h)1(

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 classroom behavior policy, the Student Code of Conduct and the Office of Institutional Equity and Compliance.

## Requirements for COVID-19

As a matter of public health and safety, all members of the CU Boulder community and all visitors to campus must follow university, department and building requirements and all public health orders in place to reduce the risk of spreading infectious disease. CU Boulder currently requires COVID-19 vaccination and boosters for all faculty, staff and students. Students, faculty and staff must upload proof of vaccination and boosters or file for an exemption based on medical, ethical or moral grounds through the MyCUHealth portal.

The CU Boulder campus is currently mask-optional. However, if public health conditions change and masks are again required in classrooms, students who fail to adhere to masking requirements will be asked to leave class, and students who do not leave class when asked or who refuse to comply with these requirements will be referred to Student Conduct and Conflict Resolution. For more information, see the policy on classroom behavior and the Student Code of Conduct. If you require accommodation because a disability prevents you from fulfilling these safety measures, please follow the steps in the "Accommodation for Disabilities" statement on this syllabus.

If you feel ill and think you might have COVID-19, if you have tested positive for COVID-19, or if you are unvaccinated or partially vaccinated and have been in close contact with someone who has COVID-19, you should stay home and follow the further guidance of the Public Health Office ([contacttracing@colorado.edu](mailto:contacttracing@colorado.edu)). If you are fully vaccinated and have been in close contact with someone who has COVID-19, you do not need to stay home; rather, you should self-monitor for symptoms and follow the further guidance of the Public Health Office ([contacttracing@colorado.edu](mailto:contacttracing@colorado.edu)). Faculty: insert your procedure here for students to alert you about absence due to illness or quarantine. Because of FERPA student privacy laws, do not require students to state the nature of their illness when alerting you. Do not require "doctor's notes" for classes missed due to illness; campus health services no longer provide "doctor's notes" or appointment verifications.

## Accommodation for Disabilities

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](mailto:dsinfo@colorado.edu) for further assistance. If you have a temporary medical condition, 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, 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](mailto: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. Additional information regarding the Honor Code academic integrity policy can be found on the Honor Code website.

## 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](mailto: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. In this class, please let me know of the conflicts as soon as possible and I will work to accommodate your specific situation.

See the campus policy regarding religious observances for full details.