SYLLABUS

Instructor: Prof. Matt Rhode   Aerospace Engineering and Sciences
                    AERO 155a   rhodem@colorado.edu

Office Hours: 2:00-3:00 p.m. Tuesday AERO 155a & zoom:

TA: Zach Klaus   zacahary.klaus@colorado.edu

Meeting Times: Lectures: Monday & Wednesday 3:00 – 4:15 p.m.
                       All classes meet in room AERO N100 *REMOTE:*

Course Description:
The purpose of this course is to provide you an introduction to engineering through two projects done in teams, culminating in a final systems-test of a liquid-solid hybrid rocket motor. You will learn in a hands-on way valuable engineering skills including communication skills, how to function in teams, and a variety of computer tools as appropriate to your projects, such as programming microcontrollers, dynamic modeling software, and computer-aided design (CAD). Specific learning objectives for the course include:

1) Open-ended Hands-on Design Experience: apply iterative design process to improve design; define functional requirements and specifications; generate alternative design concepts; work within constraints; and appreciate and practice *engineering habits of mind* (see below).
2) Teamwork Skills: learn and practice effective teamwork skills; learn how to rely on other team members to give and receive help; demonstrate increased understanding of diversity; and practice conflict resolution.
3) Communication Skills: develop a professional

Grading:

What	Who	Where
PILOT First stop for finding things 3D printers/ laser cutters, test equipment, lockers, hand tools	KatieRae Williamson, & Engineering Students	AERO 141E Katierae.williamson@colorado.edu
Machine Shop & Wood & Composites Shop General machine tools Metal, plastic and wood. Saws, drills, mills, lathes. Hand tools.	Matt Rhode and Nate Coyle	AERO 155 303.492.7556 rhodem@colorado.edu nathan.coyle@colorado.edu
Electronics Center Simulate, build and test electronic circuits and printed circuit boards	Trudy Schwartz & Robert Hodgkinson	AERO 150 trudy.schwartz@colorado.edu robert.hodgkinson@colorado.edu
Arduino, Microcontrollers and Data Acquisition Programming and collecting measurement data	Joshua Mellin	AERO 141E Joshua.Mellin@colorado.edu

Writing Resources

Written communication is an important skill for all engineers, and will be emphasized in this course in various ways, including individual writing assignments and a team report. There are resources available to help you with your writing skills:

> The Writing Center, located in Norlin Library, offers free assistance:
> https://www.colorado.edu/libraries/services/writing-center

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 policies on classroom behavior and the Student Code of Conduct.

Requirements for COVID-19

As a matter of public health and safety due to the pandemic, all members of the CU Boulder community and all visitors to campus must follow university, department and building requirements, and public health orders in place to reduce the risk of spreading infectious disease. Required safety measures at CU Boulder relevant to the classroom setting include:

 maintain 6-foot distancing when possible,

 wear a face covering in public indoor spaces and outdoors while on campus consistent with state and county health orders,

 clean local work area,

 practice hand hygiene,

follow public health orders, and

if sick and you live off campus, do not come onto campus