THE UNIVERSITY OF COLORADO BOULDER

ASEN 3111: Aerodynamics Spring 2023

SYLLABUS

Instructors:	Professor Kenneth Jansen (Lecture Instructor) E-Mail Address: jansenke@colorado.edu Office Hours Location: AERO 356 Office Hours Times: Wednesday 3:00-4:00 (in office), Tuesday 11:00-12:00 (Zoom) Professor John Farnsworth (Lab Instructor) E-mail Address: liohn farnsworth@colorado.edu	
	Office Hours Location: In Lab	
Lecture Location: Lecture Time:	AERO 120 Monday Wednesday Friday, 10:40 am – 11:30 am	
Lab Time/Location:	Section 011: Tuesday, 8:30 am – 10:20 am / AERO N100 Section 012: Thursday, 8:30 am – 10:20 am / AERO N100 Section 013: Thursday, 10:35 am – 12:25 pm / AERO 141	
Teaching Assistants:	Jenna Cooper E-mail Address: jenna.cooper@da[(0 0 0 50 2 -2 ()]TJ ET Q 0 0 1 sc q 0.24 0 0 0.24 1	

Web Page:

Canvas (<u>https://canvas.colorado.edu</u>)

Course Objectives:

The primary course objective is to develop a fundamental understanding of the origins and magnitude of aerodynamic forces and moments, primarily on aircraft where they provide the lift and balance needed to fly, and to develop methodol

Textbook, References, and Material:

Fundamentals of Aerodynamics, J.D. Anderson, Fifth or Sixth Edition !

Course Website and E-mail List:

There will be a class website on Canvas. All relevant documents, lab assignments, schedules, and supplemental documents will be posted to this site throughout the semester. Please check back to see what has been posted. All course announcements outside of lecture and lab will be sent as Canvas announcements, so it is the student's responsibility to make sure their Canvas settings are appropriately configured to receive these announcements.

Students should only e-mail the teaching team if they have a pressing logistical or health issue. The teaching team will aim to respond to e-mails within one business day. All questions on assignments, quizzes, exams, and course content should be asked during lecture, lab, or office hours.

Course Format:

The course will follow a blend of traditional lectures and laboratory exercises. There will be a total of four computational modeling assignments. Homework will be assigned every Wednesday to be due the next Wednesday at the start of class. There will be three midterm exams throughout the semester and a final examination. Student assessment will be based on homework assignments, computational assignments, concept/reading quizzes, lab quizzes, midterm exams, and the final exam.

Grading:

Course grades will be assigned based on the following percentages:

Individual Effort: 36% Midterm Exams (3 x 12%) 24% Final Exam 5% Reading Quizzes 10% Lab Quizzes Group Effort:

5% Homework20% Computational Assignments

Grades will be posted to the cours11.9904 JTJ ET Q 50 730 -E 1 Tf () 2 (gn) 2 (he) 904 JTJ ET Q -10 (t) - (om)

B-	80.00 - 82.99	2.67
C+	77.00 - 79.99	2.33
С	73.00 - 76.99	2.00
C-	70.00 - 72.99	1.67
D	60.00 - 69.99	1.00
F	Below 60.00	-

in a comment section at the top of your "driver" or "main" MATLAB script. Each computational assignment will be due on a Sunday. *Codes should be submitted via the course website by 11:59 PM on the due date.*

Further guidelines for the code submission will be given in class.

Reading Assignments Policy:

There will be reading assignments associated with each lecture. These are to be completed before the lecture. The lecture and discussions should help to clarify and supplement what you have read.

Attendance Policy:

Attendance is expected at all scheduled lecture and laboratory periods. Expect new material to be presented in both the lecture and laboratory periods. Exams will cover all the material in the course, including lecture, discussions, homework, and laboratory exercises. All lectures and lab introductions will be recorded via Classroom Capture for asynchronous review (not live over Zoom). Quizzes will not be available to those who do not attend the lecture or lab in-person, where they are given.

Evaluated Outcomes:

The Department of Aerospace Engineering Sciences has adopted a policy of assigning grades to "evaluated outcomes" in each course:

- O1: Professional context and expectations
- O2: Current and historical perspective
- O3: Multidisciplinary systems perspective
- O4: Written, oral, and graphical communication ability
- O5: Knowledge of key scientific/engineering concepts
- O6: Ability to define and conduct experiments and use experimentation
- O7: Ability to lead independently and find information
- O8: Ability to work in teams
- O9: Ability to design
- O10: Ability to formulate and solve problems
- O11: Ability to use and program computers

Evaluation of these outcomes allows an assessment of your performances and provides a major portion of the process we, the Faculty, use for continuous assessment and improvement of the entire AES undergraduate curriculum. The model for these outcomes derives from several sources including the *Desired Attributes of an Engineer* as defined by The Boeing Company and

For ASEN 3111, these outcomes are grouped according to:

Knowledge of scientific and engineering principles (O5)
Ability to formulate and solve problems (O7, O10)
Ability to develop and use computer programs (O11)
Ability to design with a multidisciplinary systems perspective (O3, O9)
Ability to work in a team (O8)
Ability to communicate effective (O4)
Ability to design and conduct experiments (O6)
Ability to appreciate ethical, economic, historical, and technical context (O1, O2)

Accommodation for Disabilities:

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). 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). In this class, if you are sick or quarantined, please send an email to the instructors alerting us to your absence. You are not required to disclose the nature of the illness or provide any doctor's note for an illness related absence.

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.

Sexual Misconduct, Discrimination, Harassment, and/or Related Retaliation

all course instructors involved, and aiding academic dishonesty. All incidents of academic