

**ASEN 2001 - Fall 2020**  
**Introduction to Statics, Structures and Materials**

**Instructors:** Kathryn Wingate, PhD (Statics)  
She/her  
Email: [kathryn.wingate@colorado.edu](mailto:kathryn.wingate@colorado.edu)  
Lab Sections: 12:50 – 2:40 pm (**303**, 307, 311)  
3:00 – 4:50 pm (**304**, 308, 312)

Aaron Johnson, PhD (Mechanics of Materials)  
He/him  
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**Required Equipment**

A way to turn written work into a PDF. This could be a tablet computer on which you write electronically, or a scanner smartphone app (such as CamScanner or Scannable) to scan in handwritten work on paper.

A computer microphone or a phone would be very beneficial to participate in group work.

**Course Objectives:** Introduce the fundamental analytical tools for statics and structural analysis in the context of the physics of aerospace materials. Topics include force/moment equilibrium, truss analysis, beam theory, stress and strain, stiffness and strength of material, and aerospace structural design.

<b>Class</b>	<b>Class Delivery</b>	<b>Notes</b>
Lecture	Online (Asynchronous)	Online videos posted to Canvas. Recommend watching the day of or before the scheduled lecture.
Quizzes	Remote (Synchronous)	Quizzes occur during scheduled lecture time and will be submitted via Canvas and Gradescope.
Final Exam (Optional)	Remote (Synchronous)	The final exam will occur during scheduled time, and will be submitted via Canvas and Gradescope.
Office Hours	Remote (Synchronous)	Offered over Zoom, and will occur during lecture time.
Lab	Hybrid Remote (Synchronous)	Offered over Zoom and will occur during scheduled lab time. You also need to work with your assigned lab team outside of lab hours to complete assignments. If public health orders allow, some optional pedagogically meaningful in person activities may occur starting mid-September.

No portion of the course will require you to attend in-person. Pedagogically meaningful in-person activities will be made available following the guidance of the Colorado Department of Public Health and CU Boulder administration but participation in those activities will not be required. Further0.24 361 (c)d. sc q o

- 4) You will be able to fully participate in the class without having a webcam. You will be able to ask questions during office hours and lab through voice (by using the “Raise Hand” feature in Zoom) or through chat.
- 5) This course is a professional space. If you are not in an office-like setting, we recommend that you use a virtual background if your computer allows. Please wear attire that you would wear to class if we were meeting in person.
- 6) Be engaged and responsive during the meeting. Don’t be afraid to speak or use chat, especially if the meeting is small. Your feedback and engagement are essential to the communication that takes place in a meeting.

### **Quiz Times and Policies**

Instead of exams, students will take 6 quizzes Remotely every other Thursday throughout the semester. Each quiz will consist of a few multiple choice questions and 1 work-out problem. Each quiz will open at 9:15 am MDT/MST and will close at 10:35 am MDT/MST. The quiz will be available as a Canvas quiz, and once you start the quiz you will have a half hour to submit your final answers to Canvas. You will then have until 11:00 am MDT/MST to scan and submit your handwritten work to Gradescope. You will not be given credit for the work-out problem without submitting this work, even if you enter the correct answer in Canvas. If you have the wrong final answer, this work will be used to give you partial credit.

#### Statics Quizzes

Quiz 1: September 10

Quiz 2: September 24

Quiz 3: October 8

#### Mechanics of Materials Quizzes

Quiz 4: October 22

Quiz 5: November 5

Quiz 6: November 19

**As students may use the final exam to replace up to 3 quizzes, no make-up quizzes will be granted.**

### **Final Exam**

The final exam is optional: students are not required to take the final exam and the final exam will not be counted towards your grade on its own. The final exam will be used to replace up to 3 quiz grades. The final exam will consist of 6 questions, each one covering material from a different quiz. You will choose up to 3 questions to answer. If your score on a given final exam question is higher than your score for the corresponding quiz, your quiz score will be replaced with your score on that final exam question. If your score on a given final exam question is lower than your score for that quiz, your quiz score will remain unchanged.

The final exam will take place during the university-scheduled final exam time, which is:

Optional Final Exam: Thursday, Decin unco (y, D) n1og TJ ET Q q 0.24 0 0 0.24 54 203.76cm BT 50 0

**Office Hours:** Students can ask questions about concepts, example problems given in the lecture videos, and homework assignments Remotely via Zoom during office hours that will be held during the scheduled lecture times (Tuesday and Thursday, 8:30 - 11:30 am). Students are strongly encouraged to participate in office hours, even if they don't have specific questions about the material or the homework. Online Canvas discussion boards may also be used for any questions at any time and will be moderated by the instructional team.

Office hours will be held in the same Zoom meeting as lab section meetings:  
<https://cuboulder.zoom.us/j/91427234884>

mental processes that help you to become proficient in a subject. Before beginning any homework assignment, you should review the book, lectures, and lecture examples.

quiz problem in question, and a page stating the problem number, grading issue, and what you believe the correct grade should be.

#### 8. Labs:

Lab meetings will be conducted Remotely. Therefore, ALL students are expected to join live during their scheduled lab sessions. This will ensure that students have an opportunity to hear the lab introductions, work in small groups on the lab assignments, ask questions about the lab assignments, take short lab quizzes, and participate in debriefs at the conclusion of each assignment. The course schedule will provide a summary of lab topics, duration of the lab, and lab deliverables.

In addition to these Remote meetings, students will work in groups on lab assignments outside of class time in a Remote, In-person, or Online fashion with synchronous or asynchronous group meetings at the discretion of and organization by the lab group. Resources and tools to help facilitate group efforts will be provided on the course Canvas page. Group formation will be defined prior to the lab introduction and will attempt to account for an individual's situation such as time-zone differences or access to high speed internet for synchronous activities.

Students can ask questions about lab assignments Remotely via Zoom during the normal scheduled lab dates and times, or during office hours.

Many assignments will require access to a computer and basic programming skills. Computer programming skills are a prerequisite for this class, e.g. GEEN 1300 or CSCI 1300. We will not teach computer programming, although we will make an effort to formulate the assignments to emphasize proper computing skills. In this class, we will exclusively use the programming language MATLAB. You can download a free MATLAB license for your personal computer from CU at <https://oit.colorado.edu/software->

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](#)



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 policy may include: 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 the Honor Code ([honor@colorado.edu](mailto:honor@colorado.edu)); 303-492-5550). Students found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code as well as academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found at the [Honor Code Office website](#).

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

The University of Colorado Boulder (CU Boulder) is committed to fostering an inclusive and welcoming learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct (harassment, exploitation, and assault), intimate partner violence (dating or domestic violence), stalking, or protected-class discrimination or harassment by members of our community. Individuals who believe they have been subject to misconduct or retaliatory actions for reporting a concern should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127 or [cureport@colorado.edu](mailto:cureport@colorado.edu). Information about the OIEC, university policies, [anonymous reporting](#), and the campus resources can be