

**ASEN 2001 - Fall 2021**  
**Introduction to Statics, Structures and Materials**

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**Class Website:** log on to <https://canvas.colorado.edu>

**Homework Site:** Mastering Engineering, linked through Canvas!

**Discussion Site:** In Canvas!

**Lab Submission Site:** Gradescope, <https://gradescope.com>

- ! 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.

**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. MATLAB programming will be required for some laboratory assignments.

### **Major Course Topics**

1. Introduction to basic concepts of structures and materials.
2. Forces, moments, equilibrium.
3. Internal loads, distributed loads.
4. Stress and strain.
5. Stiffness, strength, and failure of materials
6. Truss analysis, method of sections, method of joints
7. Beam analysis, shear force and moment diagrams.
8. Moments of inertia.
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! Quiz 3: October 7

! Mechanics of Materials Quizzes

! Quiz 4: October 28

! Quiz 5: November 11

! Quiz 6: November 30 (TUESDAY)

**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: Saturday, December 11, 7:30 – 9:00 pm MST

**Lecture:** Lecture will be in person. Please note that 8:30 AM lectures will be taped, ke platuresuresureon. Pha

**Important Notes:**

1. Questions regarding quizzes, course policies, lecture material, homework, and labs must be directed to the appropriate Canvas discussion board. If we receive an email regarding one of these topics we will refer you to the Canvas discussion board.
2. Emails to the directly instructor should occur if you experience a medical/family emergency, or if you

- ! At the end of the semester your lowest homework grade will be dropped.
- ! All homework questions must be submitted to the Piazza discussion page under the appropriate homework assignment/question. No homework questions should be emailed to the instructional team—all questions should be asked at office hours or posted on the Canvas discussion board. The instructional team will not respond to posts that are posted after 5:00 pm the day before the homework is due.
- ! Collaboration is permitted on homework. However, we strongly recommend to first work on your own on the homework before comparing your results with your homework team members. You may discuss the means and methods for formulating and solving problems and even compare answers, but you are not free to copy someone's assignment. Copying material from any resource (including solutions manuals) and submitting it as one's own is considered plagiarism and is an Honor Code violation. Remember, the less you think about the problems yourself, the less you actually learn, and the more difficult it will be to succeed on quizzes.
- ! Homework solutions are posted shortly after the submission deadline.

8. Quizzes:

- + Makeup quizzes will not be granted for any reason. The final exam will be used for replacing up to 3 quiz grades per the policy stated above.
- ! Regrade requests must be submitted to the professors in writing within 2 weeks of the grade posting to Canvas. Submit a single pdf document to the 'regrade request' folder on canvas with: the quiz problem with your original work, your hand-written CORRECT solution to the quiz problem in question, and a page stating the problem number, grading issue, and what you believe the correct grade should be.

9. Labs:

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- ! Students are encouraged to submit lab questions to the Canvas discussion page under the appropriate lab number and check/participate in the ongoing discussions. As with the homework, you may discuss the means and methods for formulating and solving problems but you cannot compare answers on Canvas nor post your exact work or computer code.

#### 10. Grading

- ! Minor adjustments may be made in the determination of final letter grades and with grade cut



Please know that faculty and graduate instructors have a responsibility to inform OIEC when made aware of incidents of sexual misconduct, dating and domestic violence, stalking, discrimination, harassment and/or related retaliation, to ensure that individuals impacted receive information about their rights, support resources, and reporting options.

### **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, excused absences for labs on religious holidays need to be communicated to the instructor via email 2 weeks ahead of the expected absence. See the [campus policy regarding religious observances](#) for full details.