

ME 405 Exams and Quizzes, Fall 2024

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Equation Sheet

- The **Equation Sheet** for the whole course is posted here as a pdf file, [Equation sheet ME405.pdf](#). You should study this equation sheet before a quiz or exam to familiarize yourself with the layout in order to avoid time searching for equations while taking the quiz or exam.
- The equation sheet will be updated/modified as necessary throughout the semester.
- The equation sheet is also a useful reference for homework, quizzes, exams, and study.

Quizzes

- Due to the hybrid format of this class, there are **no midterm exams**. Instead, **a short quiz is provided after most lessons**. [Lessons are based on **topic** rather than **time**. Instead of a 50-minute lecture, each lesson is typically under 20 minutes. If a topic takes more than 20 minutes, it is split into shorter parts.]
- On average, expect 4 to 6 lessons per week. Not all lessons have a quiz, but you can expect 4 to 6 quizzes per week with a total of 70 quizzes throughout the 15-week semester.
- **Each individual quiz is worth 1% of your final course grade, but you can drop the lowest 10 quiz scores.** In total, **quizzes are thus worth 60% of your final course grade.**
- All quizzes are taken **online in Canvas**. Your score appears on Canvas out of 100 points per quiz.
- Most quizzes are **open-book, open-notes**. You may use calculators and computer software (Excel, Matlab, ...). Some **qualitative quizzes** (terminology and concepts), however, are **closed-book, closed-notes**.
- A typical quiz is composed of one numerical completion question, testing your knowledge of the lesson material to which it is affiliated. Here is how it works:
 - View the lesson videos on Canvas or directly on YouTube.
 - Attend class. I will quickly review a couple lessons and then solve some more example problems.
 - Take the quiz associated with each lesson.
 - If you do not get the correct answer(s), you can re-take an individual quiz **up to 4 times**. (**NOTE: when you re-take a quiz, numerical values are randomized, and the quiz itself may differ from previous attempts.**)
 - Your final score for the quiz is the average of all your attempts. In this way there is built-in partial credit:

▪ Get it correct the first time:	=	100
▪ Get it wrong the first time but correct the second time:	$(0 + 100) / 2 =$	50
▪ Get it wrong the first two times but correct the third time:	$(0 + 0 + 100) / 3 =$	33.33
▪ Get it wrong the first three times but correct the fourth time:	$(0 + 0 + 0 + 100) / 4 =$	25
▪ Get it wrong all four times:	$(0 + 0 + 0 + 0) / 4 =$	0
▪ NOTE: If you get the wrong answer the first time but take it 3 more times after you figured out what you did wrong, you can improve your grade from a 0 to a 75!	$(0 + 100 + 100 + 100) / 4 =$	75
 - **The deadline for taking a quiz is midnight** (actually 11:59 pm to avoid confusion) **of the Wednesday of the week after the week in which that lesson is provided**. For example, all quizzes for lessons covered in Week 1 must be completed by Midnight Wednesday of Week 2.
- **Hint 1: Be careful with units**, especially factors of 1000 (J vs. kJ, mg vs. g vs. kg, etc.), typically one of the most common mistakes. It would be a shame to get an incorrect answer because of improper unit conversions.
- **Hint 2:** You are **strongly** encouraged to perform your calculations in Excel, Matlab, EES, or other software. As the semester rolls on, you will find yourself building on to previous calculations; portions of these calculations will then be useful for other quizzes, for homework, and for the final exam.

Midterm Exams

- The quizzes replace midterm exams. Thus, **there are no midterm exams**.

Final Exam

- The **final exam** will be online during finals week. **12:01 am December 16 to 11:59 pm December 18.**
- You will have 3 hours to take the final exam; this should give you plenty of time.
- The final exam is **comprehensive**, covering material from the entire semester.
- The final exam is graded out of 100 points and is worth 19% of your final course grade.
- You are strongly encouraged to use software to avoid calculator errors. **Always check your units!**
- The final exam will consist of 10 questions, 10 points each. **The questions will be similar to the quizzes.** More details are provided on the **Final Exam Instruction Sheet** to be posted on Canvas.