## **Exam Study Strategies:**

- Make a Cheat Sheet
  - The goal is to create a personalized reference that contains everything you need to know to solve problems for the class.
  - O How to make:
    - Look over each homework problem and ask yourself what you needed to know to solve the problem. Add that to the cheat sheet.
    - Identify common problem types and write step-by-step instructions for solving
    - Include drawings of diagrams you found helpful
    - When writing down important equations, label what each variable represents and note when you are (and are NOT) allowed to use the equation.
    - Make notes of mistakes that you've made and how to prevent them
  - After you create a draft cheat sheet, use it as your only reference when doing practice problems. If you can't solve a problem just using the cheat sheet, figure out what needs to be added and add it.
  - Once you've worked with the draft version for a bit, re-write the cheat sheet in a neat and orderly format so that you can easily find what you're looking for when referencing it.
  - This will be a great resource for a final exam and also for future classes!
- Practice Problems / Exams
  - Use cheat sheet as only reference
  - Do a practice exam in a timed environment
  - Look at your homework or practice exam as if you were a grader.
    - Can you follow the thought process with just what is written on the paper?
    - Is there enough context to award partial credit if the answer is wrong?
  - What did you spend the most time on?
- Create your own exam problems
  - Put yourself in the professor's shoes and write your own exam.
  - Think about what topics you've covered and how you would construct a problem to test someone's knowledge of the topic.
  - Do this activity with a classmate and compare the exams you came up with. Did you cover the same topics? Are you able to solve each others' problems?

## **Day-of Exam Strategies:**

- Anxiety management
  - Breathing Exercises
  - Cold water
  - o 5-4-3-2-1 Senses
  - Rainbow grounding
- What to do when you don't know what to do
  - Ask "What tools have I learned that could apply to this problem?" (recall cheat sheet)
  - o Draw a diagram, even if it feels super basic or silly
  - Write down knowns and unknowns and give them variables
  - o Make the problem easier:
    - Identify what is making the problem complicated.
    - Ignore the complication and think about how to solve the simpler version of the problem (e.g. how would I solve this problem without friction?)
    - How would you change the simple-solution method to address the added complication?
- Checking your work
  - Accept that small mistakes (typos, algebra errors, etc) are inevitable and are even more common in exam settings. Focus on effectively catching the errors instead of ineffectively preventing them.
  - Check your units as you go
    - If two terms are added, they need to have the same units
    - Does your end answer have the units it needs?
  - Check the limiting case
    - What happens when a distance/angle/velocity/mass/etc is really big? What happens when it is really small or zero?
    - Do those behaviors match with your physical intuition?
  - Pretend your work is that of your sworn enemy.
    - Don't check that your work is correct assume that it is wrong and try to figure out how.
  - Check algebra steps by working backwards (bottom to top) instead of forward (top to bottom)
    - This helps avoid falling into the same mental groove that led to the initial mistake.