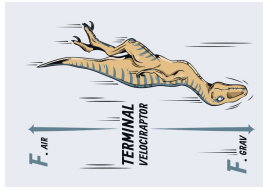


PHYS 117 – Exam Study Strategies

EXAM FORMAT

- Multiple choice questions
- These are often application questions that involve small calculations
- Long answer questions
- These questions can be related to one or more course concepts. It is therefore important to recognize how some of the formulas you are given can interact with one another



HOW TO STUDY

- Summarize key points from lectures
- While there is a textbook, anything in the textbook that is not covered in class is not testable material
- Re-do in-class examples
- Ensure you understand where numbers are coming from as well as how and why a certain formula was chosen
- It may be useful to:
 - Create a fact sheet for yourself to aid your studying
 - Annotate your formula sheet while you are studying
 - At the beginning of the exam write in your annotations on the formula sheet to avoid mixing up small details later on in the exam
- Familiarize yourself and practice with the formula sheet; it will be the same format as the one given to you during the exam and knowing where certain formulas are can save you time

DO'S AND DON'TS

Do	Don't
<ul style="list-style-type: none"> • Watch out for unit conversions • Look for irrelevant information given in questions. The GRASS Method can be helpful to avoid getting caught up in information that is not needed to solve the problem • Use Diagrams! They can be especially helpful for questions with forces or directions • Show all your work for the long answer questions • Read the <u>entire</u> question before starting to solve it • Remember that multiple formulas may be needed to solve a question 	<ul style="list-style-type: none"> • Get caught up on one multiple choice question. Some are harder than others but they are all worth the same number of marks • Sit and stare at one long answer question. These questions often vary in difficulty as well; move on and come back to it • Sometimes answering other questions on the exam can help remind you of different strategies to solve the long answer • Assume you know what the question is asking for because it is similar to another question you did previously

FINDING PRACTICE QUESTIONS

- Re-do in-class problems! It is beneficial to understand:
 - How and why a formula is being chosen
 - Where numbers are coming from
- It's easy to be overwhelmed by practice questions online. While this might work for some, if you find it stresses you out, stick to the course material given to you.
- Use your past term tests to your advantage!
- For additional questions, the textbook is also a good resource to use

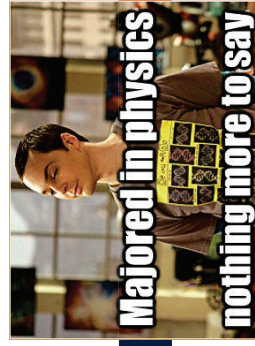
HOW TO CHOOSE THE CORRECT FORMULA

1. GRASS Method

- G - Given; Write out all of the given information in the question
- R - Required; Write down what the question is asking you to solve for
- A - Assess; Analyze your "given" and "required" data and see what formula(s) may be useful. Rearrange your formula(s) if necessary
- S - Substitute; Input your given data into your chosen formula(s)
- S - Solve; Complete the calculation and state your answer ensuring correct units

2. Working Backwards

- Find all the formulas that include the variable the question is asking you to solve for. From there you can see if you have the rest of the required variables
- If you do, you can proceed to complete the calculation
- If you don't, look at what other formulas you could use to obtain the required variables



ADDITIONAL RESOURCES

- Need help on how to approach application based questions?
- Want to review common types of difficult problems?
- Do you struggle with multiple-choice questions?
- Looking for special techniques about how to write math and science exams?
- Want useful advice about how to manage your time and reduce test anxiety?
- Then visit **SASS' online exam prep guide** at <http://sass.queensu.ca/exam-prep>

Also try:

- Asking profs questions at office hours – it's not too late!
- Creating a small study group
- Looking for course-specific workshops run by student groups such as the Physics DSC
- ASUS' Peer Tutoring service (or ask the Department of Physics for their list of tutors)
- Search for explanations of foundational concepts on the Khan Academy website: <https://www.khanacademy.org/science/physics>