PREPARING FOR THE PHYSICS GRE

The Subject and General GRE

General and Subject GRE

- The GRE comes in two pieces and most graduate schools require both.
- Many fields require the general GRE and there are quite a number of study materials for the test. You should select one and prepare.
- The subject test is a different matter. There are almost no useful preparation materials for the Physics Subject GRE.
- Both tests are administered by ETS, the Educational Testing Service.

Beware The General GRE

- The general GRE contains a test of verbal reasoning, quantitative reasoning, and a writing component.
- Generally graduate programs ignore the general GRE because everyone does very well.
- You don’t want to have a low score that stands out on any of the three parts (don’t shoot yourself in the foot).
- A number of WVU students from last year scored much lower on the writing component than they should have. This definitely affected some graduate decisions. Since all physicists write for a living, a poor writing score is a bad sign.
- You have to practice the general GRE and take it seriously.

The Subject Test

- The Subject Test has 100 multiple-choice physics questions.
- It is offered 3 times per year, once in the spring and twice in the fall.
- You must sign up in advance.
- You may take the test multiple times and chose which scores you report.
- Many WVU students in hindsight wish they had taken the test twice (I am not so sure).
- You have 170 minutes to complete it.
- Calculators are not allowed.
- There is a VERY limited formula sheet.
- Subject GRE scoring has changed recently and incorrect answers are no longer penalized.

WHAT DO YOU NEED?

What Do You Need on the subject test?

- Scores range from 440 to 990
- Less than 500 and you're probably out for schools requiring GRE scores (which is not all graduate schools).
- 600 will probably get you in (somewhere).
- 700 will probably get you in someplace you want to go.
- 800 and some of your sins are forgiven and you will be accepted at more schools.
- There are really no firm rules.

Examples

- University of Maryland – Average GRE score 740, GPA 3.79.
- University of Illinois – Typical 700-800.
- We have placed students with a score of 510. These students had an otherwise outstanding resume.
- There is a movement to reduce the focus on GRE scores, but I would not bet my career on it.

Arkansas Specific Examples

- Student 1 – 4.0 gpa, 820 GRE, multiple awards, publishable honors research. Student was accepted everywhere, finally chose Illinois.
- Student 2 – 4.0 gpa, 700 GRE, summa honors research. Accepted early admission University of Rochester. Number one optics school.
- Student 3 – 3.5 gpa, 980 GRE, no honors research. Accepted Maryland, rejected Cal-Tech.
- Student 4 – 4.0 gpa, 680 GRE, no honors research. Hardship. UT-Austin.

Specific Examples

- Student 5 – gpa 3.5, GRE 560, honors research, accepted after a phone call to Oklahoma.
- Student 6 – gpa 3.2, GRE 560, honors research, Alabama – Birmingham.

HOW TO PREPARE?

A sense of urgency helps

Its Not Enough to Read

You have to work problems and memorize formula to be prepared for this test. If you just read your class notes, you are doomed.

If you did very well in your classes and do not invest substantial preparation time, you will not do well.

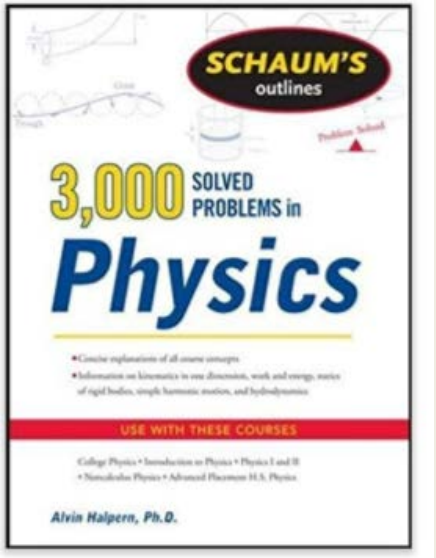
This is a test of preparation (think rite of passage).

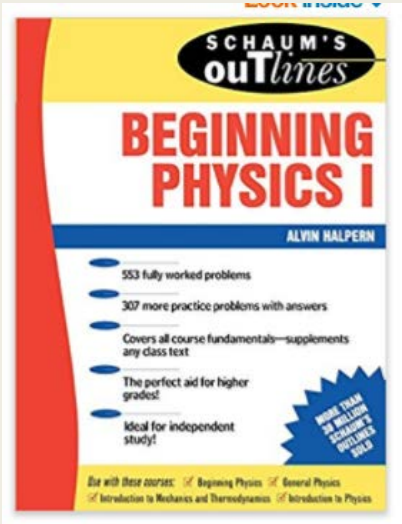
What Does it Cover?

- Mostly it covers the introductory sequence, PHYS111-Modern but you have to know it well, including things your class did not get to. Focus 70% of your study effort here.
- Some of the most important topics from Quantum, Thermo, EM, and Mechanics, but only the simplest examples of these topics.

Resources

- Start with your intro physics book, Young and Freedman with all topics through Modern and master it.
- Find some physics study guides
- Do not trust physics GRE specific guides





Six Published Exams

- There are only six published physics GRE exams, make sure you use them well.
- Using these exams strategically has been the key to doing well on the exam.
- The six exams are linked to my GRE page: http://stewartphysics.com/phys-gre.html

You Will Fool Yourself

- This exam requires substantial preparation. You need to set up a schedule for reviewing and working practice problems that sets aside a consistent amount of time preferably each day.
- Start as soon as the semester ends.
- What matters is the time you work on it yourself. Study groups are fine for support, but they have proven ineffective at producing high GRE scores.

What if you get a bad score?

- Use the option to see your scores before sending them to schools.
- There are many graduate schools who would love to accept WVU grads with good undergraduate GPA and research experience that do not require GRE scores.
- A bad score changes where you apply. Where you apply changes what professional goals you are pursuing.

My GRE Materials

I have placed everything I could find about the GRE at my personal website, StewartPhysics.com.

The GRE materials are under the “becoming a physicist link.” http://stewartphysics.com/phys-gre.html