

## Physics 416: Undergraduate Physics Review

Fall 2020, On-line

Asynchronous

Instructor: Phil Rubin  
Office: PH 253  
Phone: 703.993.3815 (unattended)  
E-mail: prubin@gmu.edu (only way)  
“Office Hours”: By appointment (e-mail)  
Website: <http://prubin.physics.gmu.edu/courses/416/>

### Please note:

- All e-mail communication from the instructor concerning this course will be to GMU accounts only.
- If you are a student with a disability and require academic accommodations, please see me and contact the Office of Disability Resources or <http://ds.gmu.edu/> or at 703.993.2474. All academic accommodations must be arranged through that office: <https://ds.gmu.edu/forms/>
- Other relevant student services:
  - Counseling and Psychological Services: <https://caps.gmu.edu/>

### Course Goals:

1. To review undergraduate physics subjects
2. To assess students' understanding of undergraduate physics subjects
3. To practice for the physics Graduate Record Examination

### Expectations:

**Completion of all 9 review instruments.**

**Grading:** Each instrument is valued at 10 points, except for the practice GRE, which is valued at 20 points, for a total of 100 points. One point will be granted for attempting an instruments, and a maximum of 9 points will be granted for correct response (that is, each problem/question is worth  $9/N$  points, where  $N$  is the number of problems/questions).

A+=100-93.33	A=93.32-86.67	A-=86.66-80
B+=79.99-73.33	B=73.32-66.67	B-=66.66-60
C+=59.99-53.33	C=53.32-46.67	C-=46.66-40
	D=39.99-20	
	F<20	

**Schedule:**

Week	Subject	Instrument(s)
24 Aug	GRE	online: 100 questions, 170 minutes
31 Aug	Mechanics	online: 60 questions, 100 minutes
7 Sept	E&M	online: 55 questions, 100 minutes
14 Sept	Thermal and Atomic	1) online: 33 questions, 40 minutes; 2) online: 59 questions, 100 minutes
21 Sept	Quantum Mechanics	1) online: 31 questions, 50 minutes; 2) online: 40 questions, 75 minutes
28 Sept	Special Relativity, Lab, and Miscellany	1) online: 10 questions, 30 minutes; 2) online: 42 questions, 75 minutes

**Attendance and Tardiness:** Online instruments must be completed by the end of the week (Sunday, midnight) that they are scheduled (see schedule).

**Diversity and Inclusion:** George Mason University, the Department of Physics & Astronomy, and the instructor repudiate all manifestations of bigotry, intolerance, and discrimination. Please respect others as you would want them to respect you.

**Honor Code Violations:** Science is impossible when dishonesty, in any manifestation, exists. It's the worst possible conduct a scientist can display. Dishonesty of any sort (cheating, plagiarism, lying, stealing), as determined by the instructor, will result in an automatic F in the course, without recourse to appeal. Those so accused will be reported to the honor council for further disciplinary action. Regardless of the results of council actions, the failing grade stands. **Don't cheat. Let nothing suggest that you cheated.**

The GMU Honor Code:

<https://oai.gmu.edu/mason-honor-code/>