Physics 416: Undergraduate Physics Review
Fall 2022, On-line
Asynchronous

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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/`

Overview:
This one-credit, half-semester is comprised entirely of exercises designed to review much of the core of the physics curriculum and the topics most likely to appear on the physics GRE. An exit survey may also be required for some, most, or all of you. All exercises are on-line, and may be completed at your convenience during the week(s) they are assigned (see schedule below). They are timed and must be completed in one sitting. Do not swipe or leave pages, as the work completed to that point will be lost.

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 review instruments and possibly an exit suvrvey.

Browser Configuration:

- **Download PDF documents to either your Downloads folder or to an external reader outside (external to) your browser. Do not open them in your browser.** Opening pdf documents in your browser window will block opening of the associated answer sheet; whatever you do will not be scored. Check on-line for instructions how to configure your browser and pdf reader for your operating system.
- Once an exercise has begun **do not swipe or leave whatever is on the browser screen** (online exercise or answer sheet). Work completed to that point will be lost and unrecoverable.

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. Two points will be granted for attempting an instrument, and a maximum of 8 points will be awarded for correct responses (that is, each problem/question is worth 8/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)
22 Aug	GRE	online: 100 questions, 170 minutes
29 Aug	Mechanics	online: 60 questions, 100 minutes
5 Sept	E&M	online: 55 questions, 100 minutes
12 Sept	Thermal and Atomic	1) online: 33 questions, 40 minutes; 2) online: 59 questions, 100 minutes
19 Sept	Quantum Mechanics	1) online: 31 questions, 50 minutes; 2) online: 40 questions, 75 minutes
26 Sept	Special Relativity, Lab, and Miscellany (Exit Survey)	1) online: 10 questions, 30 minutes; 2) online: 42 questions, 75 minutes online: $\sim$ 10 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/`