Physics 243: College Physics I – Spring 2020 – Update 2

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E-mail:	fcamelli@gmu.edu ***Please note**: All communication via email to your instructor must be through your GMU email account. Your instructor may send information to the class via email. It is up to each student to regularly check his or her GMU email account.*
Office Hours:	Monday 2:00-4:00 PM and Thursday 1:00-3:00PM; and by appointment.
Course Material:	available in Blackboard

Intended Audience for This Course

This is a two-semester, non-calculus-based physics course intended for majors in biology and other sciences, excluding math, physics, or engineering. Generally, it is not taken by liberal arts students to satisfy the natural science requirement.

Prerequisites

A college-level math course and a working knowledge of algebra and trigonometry. If you are uncertain if you are properly prepared for this course, please discuss it with me.

Required Texts and Equipment

Physics – Principles with Applications (7th ed.) by Giancoli is the text for the course. I don't require that you purchase a hard copy of the text, but you will need the electronic version through ***Mastering Physics***, see below. We will cover chapters 1 to15 (which is Volume 1) in PHYS 243. You are required to have a scientific calculator without wireless connections or physics formulas included, which should be brought to all recitations and specially to tests and exams. Graphing or programmable calculators or those with wireless capabilities are not permitted in the Testing and Tutoring Center, which will be used for multiple-choice tests.

Mastering Physics: (http://www.masteringphysics.com/)

Homework assignments and unit quizzes require access to the ***Modified Mastering Physics*** problem solving system. You may purchase access with the text or separately online. The ***Modified Mastering Physics*** registration cost covers PHYS 243 and 245 for two years.

You should consult the homework schedule on ***Modified Mastering Physics*** several times a week for the due dates of homework assignments and unit quizzes. I will post the homework assignments and quizzes at least a week before they are due. The penalties for finishing the assignment increase daily up to a maximum which will be announced. It should be noted that these penalties only apply to the part of the assignment that is not completed by the deadline. I reserve the right to change these penalties with enough notice. You may work with other students on the weekly homework assignments and unit quizzes, but it would be cheating if another student entered answers for you or signed on to your account. The homework will be mainly problems and the answers will be randomized.

These homework assignments may include some non-credit practice materials at the end. They will be listed as counting zero points. They will mainly be tutorials that I want to make available to you but do not require.

The unit quizzes will have about 6 multiple choice questions that are randomly selected from a pool of questions. The idea is that you review the lecture notes and then take the quiz to test your understanding.

Computer Equipment

The hardware and software requirements for using Blackboard are available on the course site. The course notes are in PowerPoint so if you don't have that software you will need to download a free reader. There is also a version of the notes in PDF format with a script if you can't use PowerPoint. A video version of the notes is also available on Blackboard. Contact me immediately so we can work out any problems.

Grade Calculation

There will be 1 problem test and 3 multiple choice tests during the semester and a comprehensive final.

Final Exam

The final exam is scheduled for May, the date is **TBD**. The final exam will be comprehensive covering almost all chapters. There will be extra emphasis on chapters not covered on any of the tests. The final will be multiple choice.

Tests

During the semester, there will be three problem tests and three computerized multiple-choice tests for a total of 6 tests. The lowest two test grades will be dropped.

Comprehensive Final	22%
Tests (best 3 out of 4 counted, 16.67% each)	50%
Recitation	13%
Assignments on ***Modified MasteringPhysics***	10%
Unit Quizzes on ***Modified MasteringPhysics***	5%

Since the lowest test grade (out of four) will be dropped, no rescheduled problem tests will be allowed for any reason. Consideration will be given for missed multiple-choice tests for well-documented excuses. Since the multiple-choice test will be available for almost a week, there will be a penalty for most late tests even with an excuse.

The lowest recitation problem set grade will be dropped. The lowest *Modified MasteringPhysics* homework grade will be dropped and four of the unit quiz grades will be dropped.

Tests and Exams

The tests in this course will be multiple. Equation lists will be provided for the final exam and all tests.

Multiple Choice Tests: Randomized multiple-choice tests will be given in your home using Lockdown Browser. To take a test you must have access to your account on Blackboard. A schedule of times when each multiple choice may be taken will be posted on the website. The questions will be randomized to make cheating difficult.

Recitation

ALL STUDENTS REGISTERED FOR THE LECTURE MUST ALSO BE REGISTERED FOR ONE OF THE RECITATION CLASSES. RECITATION IS MANDATORY. Students must attend recitation sections for which they are registered unless they have permission. Your recitation instructor will discuss the grade components (quizzes, class participation), which will make up your recitation grade.

Letters of Recommendation

If you are in a situation where it may be necessary to request a letter of me, you must schedule several meetings with me during the semester so that I can get to know you better. This does not obligate me to write a letter; nor does it obligate you to request one. If you wish to have this interview, you must contact me by e-mail before March 4, 2016 to schedule a meeting.

Academic Integrity

You are expected to observe the GMU Honor Code on tests and exams. Cheating on exams will be dealt with very severely. It can even result in your dismissal from the University. There should be no communication of any kind between students during tests and exams. If you don't understand a question, please ask the instructor.

While taking the multiple-choice test in the Testing and Tutoring Center you may not view any web page other than the test. You may not talk to anyone or look at any materials on the computer, in your calculator or on paper. Anyone doing this will be turned into the Honor Council for cheating. It is important that you know that the center uses software that allows the monitor to view and save the screen of any computer in the center. It is cheating to pass any information about the test given in the Testing and Tutoring Center to anyone else in any form.

You may work with other students on all ***Modified MasteringPhysics*** assignments and unit quizzes, but it would be cheating for anyone to submit answers for you or sign into your account.

University Resources

Counseling and Psychological Services offers psychological services, a variety of learning services, multicultural services, and educational programs that support students' educational goals. They also offer faculty and staff consultation about how to help students who are experiencing difficulties that impact their learning, including how to respond to students in crisis.

English Language Institute holds workshops for students whose first language is not English.

Mathematics Tutoring Center offers tutoring on a walk-in basis for all George Mason students enrolled in math courses up to MATH 290

Office of Alcohol, Drug and Health Education Services provide health-related information, education and training, and resources for the Mason community.

Office of Disability Services implements and coordinates reasonable accommodations and disability-related services that afford students with special needs equal access to university programs and activities.

Office of Diversity Programs and Services serves students, cultural organizations, and the Mason community by promoting an environment that fosters and values human understanding and diversity. The office seeks to provide services and programs that will instill university-wide appreciation for diverse perspectives and ensure equal levels of inclusion, participation, and retention of underrepresented student groups in their quest for a quality education.

Sexual Assault Services provides direct services for survivors of sexual assault and sexual assault education and information to the university community. All services are available to survivors, and to their families, significant others, and friends at no cost.
Student Health Services provides high quality health care, counseling, education and prevention services in support of student learning and retention.

Schedule

I have set up the schedule below that shows when you should start to cover the material for each unit. Even though you don't have to come to lectures it is important that you structure things so that you keep up with the course. The schedule listed below is subject to change, although test dates would only be changed under extreme circumstances. The tests shown on the schedule will be taken in recitation. There will also be a multiple-choice test which must be completed at the Testing and Tutoring Center. It may be necessary to change test coverage or recitation assignments; you are responsible for being aware of any such changes. Major changes will be announced in class and posted on Blackboard.

PHYS 243 Spring 2020 Schedule

	Date		Date you should begin each Unit	Sections in Text
Week 1	W	1/22	Unit 01 Units and Measurements	1-1→1-8
	F	1/24	Unit 02 Displacement, Velocity and Acceleration	2-1→2-4
Week 2	M	1/27	Unit 03 Motion at Constant Acceleration	2-5, 2-56
	W	1/29	Unit 04 Vertical Motion	2-7
	F	1/31	Unit 05 Vectors	3-1→3-4
Week 3	M	2/03	Unit 06 Vector Problems and Relative Motion	3-4, 3-8
	W	2/05	Unit 07 Projectile Motion	3-5→3-7
	F	2/07	Unit 08 Newton's Laws of Motion	4-1→4-5
Week 4	M	2/10	Unit 09 Applications of Newton's Laws	4-6→4-7
	W	2/12	Unit 10 Friction and Inclined Planes	4-8→4-9
	F	2/14	Unit 11 Work and Energy	6-1, 6-4
Week 5	M	2/17	Unit 12 Conservation of Energy	6-5→ 6-9
	W	2/19	**Problem TEST 1 Ch. 1→4.4 in recitation.**	
	F	2/21	**Last Day to drop**	
			Test 1 Multiple-Choice Test is available 2/28 to 3/02	
Week 6	M	2/24	Unit 13 Power, Efficiency and Human Metabolism	6-10, 15-3
	W	2/26	Unit 14 Uniform Circular Motion	5-1→5-3,5-5
	F	2/28	Unit 15 Newton's Law of Universal Gravitation	5-6→5-8,5-10
Week 7	M	3/02	Unit 16 Momentum and Impulse	7-1→7-3
	W	3/04	Unit 17 Collisions and Center of Mass	7-4, 7-6, 7-8
	F	3/06	Unit 18 Angular Motion	8-1→8-3
			Spring Break (2 weeks)	
Week 10	M	3/23	Unit 23 Pressure and Archimedes' Principle	10-1→10-7
	W	3/25	Unit 24 Bernoulli's Equation	10-8→10-9
	F	3/27	Unit 25 Poiseuille's Law and Circulatory System	10-10→10-12
Week 11	M	3/30	Unit 26 Harmonic Motion and Resonance	11-1→11-6
	W	4/01	**Problem TEST 2 (in recitation is CANCELLED)**	
	F	4/03	Unit 19 Torque and Rotational Inertia	8-4→8-6
Week 12	M	4/06	Unit 20 Rotational Energy and Momentum	8-7→8-8
	W	4/08	Unit 21 Statics	9-1→9-2
	F	4/10	Unit 22 Muscles and Joints	9-3→9-4
			Test 2: from 4/08 @ 8 am to 4/11 @ 8 pm	
Week 13	M	4/13	Unit 32 Kinetic Theory and Ideal Gas Law	13-6→13-10
	W	4/15	Unit 32B Heat Flow and Diffusion	14-2, 14-6→14-8
	F	4/17	Unit 33 Heat and Work	15-1, 2, 4
Week 14	M	4/20	Unit 27 Wave Motion	11-7→11-8,11-11
	W	4/22	Unit 28 Superposition and Standing Waves	11-12→11-13
	F	4/25	Unit 29 Sound and the decibel scale	12-1→12-3
Week 15	M	4/27	Unit 30 Vibrating Strings, Air Columns, etc	12-4→12-5
	W	4/29	**Problem TEST 3 (in recitation is CANCELLED)**	
	F	5/01	Ch. 8-4 to 8-8, 9, 10, and 13-6 to 13-10	
			14-2, 14-6 to 4-8, 15-1, 2, 4	
			Test 3: from 04/29 @ 8 am to 05/02 @ 8 pm	
Week 16	M	5/04	Unit 31 Doppler Effect and Shock Waves	12-6→12-78
	W	5/06	Catchup and Review	
	F	5/08		
	The Final Exam will be available on BB from May 17th at 8:00 am to May 19th at 8pm.			