

PHYS101 General Physics 1- Syllabus

Fall 2016

Instructor: Maia Magrakvelidze; JEPS 429

Textbook: "Physics fundamentals" (2th Edition) by Vincent P. Coletta, ISBN-10: 0971313423

Section 2	Time	Room #
LEC (MWF)	8:00-8:50 a.m.	JEPS 219
LAB (R)	9:00 -10:50 a.m.	JEPS 217

Section 3	Time	Room #
LEC (TR)	2:00-3:15 p.m.	JEPS 217
LAB (W)	1:00 -2:50 p.m.	JEPS 217

Course Description: This course is an algebra/trigonometry based course designed to deepen understanding of basic physical principles. The course focuses on the physics of: motion, mechanics, matter and energy. Emphasis is on conceptual development and systematic problem solving.

Objectives: Successful students will obtain a broad idea of how to analyze the processes of nature, what goes on in the world, and how some technology works, including the basic concepts and how to make numerical estimates of interesting quantities. Also to learn critical analysis of real-life situations.

Reading: Please read the textbook before each lecture class and before doing homework. Reading from the textbook is assigned for each week. Completing the reading before class will greatly improve your learning experience.

Homework: There will be one homework (on average) assigned each week adding up to **total 300 points**. Doing homework problems is an important part of obtaining success in physics, helping you organize your thoughts, learn the concepts, and apply them. Try to do Homework as soon as possible after the lecture. So you don't get behind. Please see **the written homework procedure. NO LATE HOMEWORK IS ACCEPTED.**

Help: Any student needing help should take full advantage of instructors during her/his office hours or by appointment. **Students should give an honest and exhaustive effort and have her/his questions clearly formulated BEFORE seeking help.**

Labs: The laboratory is a required and integrated part of the course, and counts 20% towards your grade. **A passing grade (60%) in the laboratory is required to pass the course.** See the lab manual and listen to your lab instructor for rules and grading procedures. Take the lab seriously and do well - the lab can greatly affect your overall grade. **NO LATE LABS ARE ACCEPTED and you must not be late to lab - attendance will be taken. MISSED LABS CANNOT BE MADE UP FOR ANY REASON.**

Exams: There are three 1-hour exams during the semester and one two-hour final exam. No makeup exam. Assignment of exam rooms will be announced in lecture. The final exam is mandatory and comprehensive. Try to study the concepts and how to apply them; **do not** just try to memorize how to solve **particular** problems. **No notes or devices other than calculators will be allowed in the exams** - an equations/information sheet will be provided. Exams questions/problems will be similar (BUT NOT IDENTICAL) to homework, in class examples/

questions/ problems. **Make-up exams are given only in extraordinary circumstances and only with prior arrangement.**

Grading:

Grades are determined on a 1000 point scale as shown below. You cannot get a good grade in the course unless you do all the homework, take all the exams, and do well in the laboratory. You must pass the laboratory to pass the course.

A	A-	B+	B	B-	C+	C	D	F
930-1000	900-929	870-899	830-869	800-829	770-799	700-769	600-699	Below 600

Available points:

Exams: 300 points;
Final exam: 200 points
Laboratory: 200 points *;
Homework: 300 points;
Total available: 1000 points.

* A passing grade in laboratory is required to pass the course.

Authorized versus Unauthorized Aid in Academic Work

You are permitted to talk with other students about homework problems, but you may not copy solutions or answers from any source. You must work the problems for yourself. Please note that you may not use solution manuals, online answer sites, other people's homework, or similar sources in obtaining your solutions and answers. **Plagiarism and cheating are serious offenses and may be punished by failure on the exam, paper or project; failure in the course; and/or expulsion from the university.**

Note: If you have any condition such as a physical or learning disability, which will make it difficult for you to carry out the work as I have outlined it or which will require academic accommodations, please notify me.

Honor Code: I encourage students to work collaboratively; however, cheating is a serious offense. Please read and understand your University of Mary Washington Honor

Tentative Course Schedule: General Physics 101, Fall 2016

Week	Date	Lecture Topics	Ch	Labs	Notes
1	08-29	Intro. to measurements and units, 1-D motion Vectors	0-2		
2	09-05	No class on Monday 2-D and 3-D motion	3		
3	09-12	Newton's Laws, applications	4	1.measurements	
4	09-19	Forces and Free-body diagrams, COM <i>review</i>	5	2.Vectors	Exam #1
5	09-26	Gravitation, Kinetic Energy, Work, Potential Energy	6,7	3.Friction	
6	10-03	Energy Conservation, linear momentum,	8	4.Centripetal	
7	10-10	Rotation, torque, moment of inertia,	9	5.Projectile	
8	10-17	No Class on Monday <i>review</i>			Fall Break Exam #2
9	10-24	Static equilibrium	10	6.equilibrium	
10	10-31	oscillations SHM, Waves and Sound,	15,16	7.SHM	
11	11-07	Pressure, Archimedes principle, fluid dynamics	11	8.Hooke's law	
12	11-14	Temperature, Ideal gas, Kinetic theory <i>review</i>	12	9.Resonance	Exam #3
13	11-21	No class			Thanksgiving
14	11-28	Heat	12,13	10.Specific Heat	
15	12-05	Thermodynamics laws Engines and entropy, <i>review</i>	14		
16	12-12	time???			Final Exam

Tentative HW Schedule for section 02

HW	Given on	Due date			Points	Total	Chapters	Week #
		Date	Day	Time				
1	8/29	9/6	Tuesday	4:45 PM	25	25	0,1,2	1
2	9/5	9/12	Monday	4:45 PM	25	50	3	2
3	9/12	9/19	Monday	4:45 PM	25	75	4	3
4	9/19	9/26	Monday	4:45 PM	25	100	5	4
5	9/26	10/3	Monday	4:45 PM	25	125	6,7	5
6	10/3	10/10	Monday	4:45 PM	25	150	8	6
7	10/10	10/19	Wednesday	4:45 PM	25	175	9	7
	10/17	Fall break						8
8	10/24	10/31	Monday	4:45 PM	25	200	10	9
9	10/31	11/7	Monday	4:45 PM	25	225	15,16	10
10	11/7	11/14	Monday	4:45 PM	25	250	11	11
11	11/14	11/21	Monday	4:45 PM	25	275	12	12
	11/21	Thanksgiving						13
12	11/28	12/5	Monday	4:45 PM	25	300	13	14
13	12/5	12/12	Monday	4:45 PM	25	325	14	15

Tentative HW Schedule for section 03

HW	Given on	Due date			Points	Total	Chapters	Week #
		Date	Day	Time				
1	8/29	9/6	Tuesday	4:45 PM	25	25	0,1,2	1
2	9/6	9/13	Tuesday	4:45 PM	25	50	3	2
3	9/13	9/20	Tuesday	4:45 PM	25	75	4	3
4	9/20	9/27	Tuesday	4:45 PM	25	100	5	4
5	9/27	10/4	Tuesday	4:45 PM	25	125	6,7	5
6	10/4	10/11	Tuesday	4:45 PM	25	150	8	6
7	10/11	10/19	Wednesday	4:45 PM	25	175	9	7
	10/18	Fall break						8
8	10/25	11/01	Tuesday	4:45 PM	25	200	10	9
9	11/1	11/8	Tuesday	4:45 PM	25	225	15, 16	10
10	11/8	11/15	Tuesday	4:45 PM	25	250	11	11
11	11/15	11/22	Tuesday	4:45 PM	25	275	12	12
	11/22	Thanksgiving						13
12	11/29	12/6	Tuesday	4:45 PM	25	300	13	14
13	12/6	12/13	Tuesday	4:45 PM	25	325	14	15

Dr. Magrakvelidze ☺

	Monday	Tuesday	Wednesday	Thursday	Friday
7:00					
8:00	General Physics Jepson 219		General Physics Jepson 219		General Physics Jepson 219
9:00		Univ.Physics Lab Jepson 217		Gen.I Phys. Lab Jepson 217	
10:00	Univ.Physics Jepson 219		Univ.Physics Jepson 219		Univ.Physics Jepson 219
11:00	OFFICE HOUR	OFFICE HOUR			
12:00	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
1:00			Gen.I Phys. Lab Jepson 217		
2:00		General Physics Jepson 217		General Physics Jepson 217	
3:15	OFFICE HOUR			OFFICE HOUR	
4:00					
5:00					