Phys 213: General Physics I
Spring 2024 – Syllabus

Course Description: This course is the first part of an algebra and trig-based treatment of introductory physics. Topics include Newtonian mechanics, energy, rotational motion, fluids, oscillations and waves. I assume that students are familiar with the math concepts covered in college algebra and the basics of trigonometry, as well as properties of simple geometrical shapes such as triangles, circles and spheres, but previous knowledge of physics is not necessary to be successful in this course.

Course Objectives:

- Develop conceptual reasoning and physical understanding.
- Improve numerical problem solving skills.
- Solve problems including kinematic equations, forces, conservation of energy and momentum, rotational motion, torque and rotational equilibrium.
- Understand hydrostatics, fluid dynamics and wave motion.
- Develop ability to present organized solutions to problems.

Prerequisite: (Math 121 and Math 123) or Math 125 or Math 261
Corequisite: Phys 223, Laboratory Physics I

Lectures: TTh 8:00 – 9:15 am in Lewis 101
Instructor: Dr. Luca Bombelli
Office: Lewis 108A
Phone: 662-915-5319
E-mail bombelli@olemiss.edu (this is the best way to reach me)
Office Hours: Wednesdays 10:00 – 11:30 am, in Lewis 104

Recommended Textbook: *College Physics*, 11th edition, by Serway and Vuille.
Required Materials: Scientific calculator (not on phone) such as TI-30XS MultiView or TI-36X Pro.

Grading:			
	In-Class Problems	50 points (10 × 5 points each)	
	Homework Problems	120 points (24 × 5 points each)	
	Test 1	100 points	
	Test 2	100 points	
	Final Exam	130 points	Total Possible: 500 points

Grading scale:			
	450 ≤ points	A	(percentage ≥ 90%)
	435 ≤ points < 450	A –	(87% ≤ percentage < 90%)
	415 ≤ points < 435	B +	(83% ≤ percentage < 87%)
	400 ≤ points < 415	B	(80% ≤ percentage < 83%)
	385 ≤ points < 400	B –	(77% ≤ percentage < 80%)
	365 ≤ points < 385	C +	(73% ≤ percentage < 77%)
	350 ≤ points < 365	C	(67% ≤ percentage < 73%)
	300 ≤ points < 350	C –	(60% ≤ percentage < 67%)
	250 ≤ points < 300	D	(50% ≤ percentage < 60%)
	points < 250	F	(percentage < 50%)

However, a student cannot get a letter grade for the course if they have not obtained a score corresponding to that letter grade in at least one of the midterm tests or the final exam.

Homework:

Two or more homework problems will be assigned each week; two of those will be graded and will be worth 5 points each. They are to be submitted on paper either in class or in my mailbox in Lewis 104 (the tutoring room) by the due date at 5:00 pm Central Time. I will be posting the solutions to these problems on Blackboard shortly after the due date, so I won't accept late submissions without prior permission – in case of a special circumstance or issue, email me on or before the due date.

I will also list each week additional problems from the book that I recommend as practice. I suggest you work on those problems and check your answers in the back of the book for correctness. For tests, I will assume that you are familiar with problems of the same type.

In-Class Problems:

During class, we will do example problems (led by me) and practice problems (led by you). Over the course of the semester, 10 of these problems will be turned in for credit, 5 points each. The solution is due at the *beginning* of the next class. Late submissions will not be accepted without prior permission and solutions will be posted on Blackboard after the due date.

Midterm Tests:

There will be two midterm tests, as shown on the schedule on the last page. The dates of the midterms will not change unless class is cancelled for unforeseen reasons (weather, emergency, etc.). The chapters covered on each exam may change if needed, and those changes would be announced in class. No make-up tests will be given unless arrangements are made in advance or in case of unforeseeable emergencies.

The lowest midterm test score (including a zero) can be replaced with the final exam score, if the final exam score is higher than the lowest midterm test score. At the end of the term, the Blackboard gradebook will show this adjustment in a column marked "Replace Lowest" which will add on the point difference between your final exam and lowest midterm grade *if* the final was higher.

Final Exam:

The final exam will be given on the date and time posted on the university academic calendar. It is mandatory and comprehensive. Students may not take the final exam on a date other than the scheduled one except in cases of unforeseeable emergencies.

Attendance:

Consistent lecture attendance is important for your learning and your grade. Please scan your ID at the scanners in the classroom when you enter every class you attend. You will be able to make up any work you miss due to illness. Please do not come to class if you are feeling ill or are contagious!

Plan for success:

I recommend reading carefully the sections to be covered in each class in advance.

The use of mobile devices (cell phones, tablets, laptop computers) is not not allowed during class time unless I receive a request through Student Disability Services. To avoid the temptation to use them, keep your devices in your backpack. Solving in-class problems builds the problem-solving skills and confidence you will need to complete the homework and test, so try doing those problems by yourself.

Start the homework early in the week, so you have a chance to seek out help if necessary.

Anytime you need it, seek out help in addition to my office hours from:

- Supplemental Instruction – TTh 5:30-6:45 pm, in Hume 101, or use GroupMe to contact Trent.
- Tutoring from lab TAs – The schedule is on the door of Lewis 104.
- Set up a 1:1 appointment with me by email or talk with me at the end of class.

Academic Honesty:

You may work with other students on the in-class problems and homework, but you cannot copy their work. Make sure that all work submitted is your own, so that you would be able to fully explain it to me or redo a similar problem if asked. Uploading the materials from this class to Chegg, Coursehero, or other cheating websites or using any solutions that are posted there would violate the UM Standards of Honesty. Consequences for academic dishonesty depend on the seriousness of the offense. They will be at least a zero on the assignment or test/exam, and may include an overall grade of F for the course.

Student Support Services:

The University Counseling Center is a professional facility offering services to help students, faculty, and staff cope with many types of life stressors that interrupt day-to-day functioning. The Center offers individual counseling, couple's counseling, group counseling, stress management, crisis intervention, assessments and referrals, outreach programs, consultations, and substance abuse services. There is no fee for currently enrolled University students for those services and everything you say to your counselor is confidential. You may contact the Counseling Center for information about mental health issues at https://counseling.olemiss.edu, counslg@olemiss.edu, 662-915-3784, and at 320 Lester Hall. To schedule an appointment or get information about appointments cal the UCC at 662-915-3784.

Universitywide Policies:

Attendance
The university requires that all students have a verified attendance at least once during the first two weeks of the semester for each course. If your attendance is not verified, you will be dropped from the course and any financial aid will be adjusted accordingly. Please see http://olemiss.edu/gotoclass for more information.

Academic integrity and honesty
Students are expected to adhere to the University of Mississippi Creed and the Standards of Honesty as described in Policy Code ACA.AR.600.001 and the M Book. Students are reminded that cheating in any form will not be tolerated. Performance on all tests and assignments shall represent the individual work of the student. Those who violate the Standards of Honesty will be reported and subject to the appropriate sanction, which may include expulsion from the University.

Intellectual property
All materials distributed electronically and in hard copy in this class are protected under intellectual copyright. Any attempt to upload these documents to a file sharing service or to profit from their distribution by any means constitutes theft and will be in violation of intellectual property law and the UM Academic Conduct Code unless expressly permitted for by the instructor.

Nondiscrimination policy

The University complies with all applicable laws regarding affirmative action and equal opportunity in all its activities and programs and does not discriminate against anyone protected by law because of age, color, disability, national origin, race, religion, sex, sexual orientation, handicap, or status as a veteran or disabled veteran.

Disability Access and Inclusion

The University of Mississippi is committed to the creation of inclusive learning environments for all students. If there are aspects of the instruction or design of this course that result in barriers to your full inclusion and participation, or an accurate assessment of your achievement, please contact the course instructor as soon as possible. Barriers may include, but are not necessarily limited to, timed exams and in-class assignments, difficulty with the acquisition of lecture content, inaccessible web content, and the use of non-captioned or non-transcribed video and audio files. If you are approved through SDS, you must log in to your Rebel Access portal to request approved accommodations. If not yet approved through SDS, you must contact Student Disability Services (at 662-915-7128 or sds@olemiss.edu) so the office can (i) determine your eligibility for accommodations, (ii) send to your instructors a Faculty Notification Letter, (iii) facilitate the removal of barriers, and (iv) ensure you have equal access to the same opportunities for success that are available to all students.

Examinations and last week of class

Regulations governing all examinations: A student's failure to appear for an examination without an acceptable excuse, inability to present valid identification, absence from the room during the course of an examination without the consent of the examiner, or attempting any portion of an examination without submitting his or her answers shall result in failure of the examination. Tardiness beyond 15 minutes forfeits a student's right to an examination.

Final examinations: A final examination, to be given at the time posted in the examination schedule, is required in each undergraduate course, unless the appropriate chair and dean have approved an exception. A student who has three or four final examinations in one day may arrange with the course instructor to take the noon or 7:30 p.m. examination at another time. In order to give a final examination to a class at any time other than that shown in the posted examination schedule, an instructor must have prior approval of the department chair and dean.

Last week of class: The following guidelines exist to allow sufficient time for students and instructors to prepare for final examinations. These guidelines apply to the week preceding final examinations for undergraduate courses held during Fall and Spring semesters.

- During the period of Wednesday through Friday of the last week of class, instructors are not to give exams, tests, or quizzes that contribute more than 10% of the final grade for a class. An instructor can obtain approval of the department chair and dean to give an exam, test, or quiz, of this weight, during this three day period. Instructors should return graded work and/or inform students of their grades on exams, tests, or quizzes prior to the beginning of finals week.

- Exceptions to the above statement are automatically made for lab-based courses, technical writing courses, seminar courses that assign a term paper, and senior design courses that assign a multi-faceted project in lieu of a final exam. Major projects of the above types, which contribute more than 10% of the final grade and which are due during this Last Week period, should be assigned in the syllabus at the beginning of the semester and any substantial change in the assignment should be made known to students before the drop deadline.

Planned Schedule:

		Tuesday		Thursday	
Week 1 Jan 22 – 26		No class (weather delay)		1.7 – 1.9 Syllabus	
Week 2 Jan 29 – Feb 2		1.10, 2.1 – 2.2		2.3 – 2.4	
Week 3 Feb 5 – 9	HW 1, 2 due Tue 2/6	3.1 – 3.2	Wed 2/7: Last day to add	3.3	
Week 4 Feb 12 – 16	HW 3, 4 due Tue 2/13	4.1 - 4.3		4.4 – 4.5	
Week 5 Feb 19 – 23	HW 5, 6 due Tue 2/20	4.6 – 4.7		Midterm Test 1	
Week 6 Feb 26 – Mar 1	HW 7, 8 due Tue 2/27	5.1 – 5.2		5.3 – 5.5	
Week 7 Mar 4 – 8	HW 9, 10 due Tue 3/5	5.6 – 5.8		6.1 – 6.3	Fri 3/8: Last drop date
Break Mar 11 – 15	No class Spring Break	No class Spring Break	No class Spring Break	No class Spring Break	No class Spring Break
Week 8 Mar 18 – 22	HW 11, 12 due Tue 3/19	6.4, 7.1		7.2 – 7.4	
Week 9 Mar 25 – 29	HW 13, 14 due Tue 3/26	7.5		8.1 – 8.2	
Week 10 Apr 1 – 5	HW 15, 16 due Tue 4/2	8.3 – 8.4		8.5 – 8.6	
Week 11 Apr 8 – 12	HW 17, 18 due Tue 4/9	Midterm Test 2		9.1 – 9.4	
Week 12 Apr 15 – 19	HW 19, 20 due Tue 4/16	9.5 – 9.7		9.8, 9.10	
Week 13 Apr 22 – 26	HW 21, 22 due Tue 4/23	10.1 – 10.3		13.1 – 13.4	
Week 14 Apr 29 – May 3	HW 23, 24 due Tue 4/30	13.5 – 13.11		Quick overview of 14.1–14.6	
Finals Week May 6 – 10		**Final Exam Tu, 8:00 am**			