

**UNIVERSITY OF MISSISSIPPI**  
Department of Physics and Astronomy  
General Physics I (Phys. 213) — Prof. Leo C. Stein — Spring 2021

**General Physics I Syllabus**

## Course description

This course is the first part of an algebra-based treatment of introductory physics. Topics include Newtonian mechanics, energy, rotational motion, fluids, oscillations and waves. Of the courses Phys 107, Phys 211, and Phys 213, only one can be counted toward a degree.

## 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 equilibrium, hydrostatics, and fluid dynamics.
- Understand wave motion and the properties of sound.

**Prerequisite:** (Math 121 and Math 123) or Math 125 or Math 261

**Corequisite:** Phys 223: Laboratory Physics I

**Asynchronous Videos:** links will be posted on Blackboard

**Synchronous Class:** Tuesday/Thursday 0800–0915, at <https://meet.google.com/daq-ucxm-enm>

**Instructor:** Leo C. Stein, Ph.D. (he/him; you can call me “Dr. Stein” or “Prof. Stein” or “Leo”)

**E-mail:** [lcstein@olemiss.edu](mailto:lcstein@olemiss.edu)

**Google Chat:** [lcstein@go.olemiss.edu](mailto:lcstein@go.olemiss.edu)

If you log into your go.olemiss Gmail account from the web interface, you can sign in to “Hangouts” in the left panel. Or, if you navigate to <https://chat.google.com/> (using your go.olemiss account in the top right corner), you should be able to search for my account.

## Office Hours:

- Group discussion Thursday 0915–1015, at <https://meet.google.com/daq-ucxm-enm>
- One-on-one videochats by appointment – email or chat me to schedule.
- Send me a message via Google Chat anytime and I’ll respond when I can.

**Textbook:** College Physics, 11th edition by Serway and Vuille. Access to the e-book is included with WebAssign or Cengage Unlimited.

## Other Required Materials:

- Calculator with trigonometric function keys (sin, cos, tan) not on your phone. If purchasing a new calculator, I recommend TI-30XS MultiView or TI-36X Pro.
- Subscription to online homework system WebAssign (pricing info below)

## Grading

All points carry identical weight. You can check your current grade using Blackboard.

Online Homework	110 points (11 x 10 points each)
Offline Homework	110 points (22 x 5 points each)
Exam 1	160 points
Exam 2	160 points
Final Exam	160 points
<hr/>	
Total Possible	700 points

### Grading scale :

$644 \leq \text{points} \leq 700$	A	(percentage $\geq 92\%$ )
$630 \leq \text{points} < 644$	A -	( $90\% \leq \text{percentage} < 92\%$ )
$609 \leq \text{points} < 630$	B +	( $87\% \leq \text{percentage} < 90\%$ )
$574 \leq \text{points} < 609$	B	( $82\% \leq \text{percentage} < 87\%$ )
$560 \leq \text{points} < 574$	B -	( $80\% \leq \text{percentage} < 82\%$ )
$539 \leq \text{points} < 560$	C +	( $77\% \leq \text{percentage} < 80\%$ )
$504 \leq \text{points} < 539$	C	( $72\% \leq \text{percentage} < 77\%$ )
$490 \leq \text{points} < 504$	C -	( $70\% \leq \text{percentage} < 72\%$ )
$420 \leq \text{points} < 490$	D	( $60\% \leq \text{percentage} < 70\%$ )
$0 \leq \text{points} < 420$	F	(percentage $< 60\%$ )

## Online homework

Online homework will be due on Fridays at 11:59 pm Central Time and should be accessed through the WebAssign link under Course Content on Blackboard. The link will bring you to both the homework assignments and the e-book. WebAssign is available for purchase on its own (through the Blackboard link) or through Cengage Unlimited, a subscription that gives you access to all Cengage products.

WebAssign Single Term (not LOE)	\$100	Valid only for this textbook, this term.
<b>WebAssign Multiterm (LOE)</b>	<b>\$125</b>	<b>Valid for this textbook, for the lifetime of this edition of the book. Best option if you plan to take 214 at UM soon and don't have other classes using Cengage textbooks or digital learning platforms.</b>
Cengage Unlimited (4 months)	\$119.99	Includes unlimited access to Cengage textbooks or digital learning platforms for as many of your classes as are using Cengage products.
Cengage Unlimited (1 year)	\$179.99	"
Cengage Unlimited (2 year)	\$239.99	"

WebAssign has a two week grace period to use it free before paying – so I recommend holding off on purchasing access until you have figured out which of these options is best for you.

Online homework must be completed by the deadline for full credit, but can be completed after the deadline for partial credit by requesting an extension on WebAssign. In order to receive an automatic extension, you must request an extension on WebAssign before you view the key and no later than 14 days after the homework due date. The portion of the homework that you complete after the deadline will be worth 50%. If you completed some problems before the deadline, they will be worth full credit.

## Offline Homework

Solutions to two problems, worth 5 points each, will be turned in via Blackboard on Fridays by 11:59 pm Central Time. I will be posting the solutions to these problems on Blackboard shortly after the due date, so I won't be able to accept late submissions without prior permission – if you have a special circumstance or issue, email me on or before the due date.

## Exams

Two exams and a mandatory comprehensive final, as shown on the schedule on the last page. The dates of the exams and final will not change unless class is canceled for unforeseen reasons (weather, emergency, etc.). The chapters covered on each exam may change, if needed.

You will submit your exam solutions and the offline problem solutions via Blackboard as PDFs. You can write your work on paper and then use a free phone app (Adobe Scan, Tiny Scanner, etc) or a physical scanner to create the PDF to upload. Or, if you have a tablet, you can do your work on there and save it as a PDF. If you don't have the necessary technology to do this, email me and we'll figure out an alternative way for you to submit your work.

No make-up exams will be given unless arrangements are made in advance or the same day, in case of unforeseeable emergencies. If you miss an exam or the final without making prior arrangements, you will receive a zero.

The lowest exam score (including a zero) can be replaced with the final exam score, if the final exam percentage is higher than the lowest midterm exam percentage. Examples:

- Student A's exam scores are 156/160 and 130/160, and then 135/160 on the final. This is higher than her lowest exam grade of 130/160, so her second exam grade will be adjusted to a 135/160. The Blackboard gradebook will show all the exam grades as unchanged but there will be an additional 5 points in a column marked "Drop Lowest" to account for the change from 130/160 to 135/160.
- Student B's exam scores are 156/160 and 130/160, then 129/160 on the final. This is lower than her lowest exam grade so her exam grades will be unchanged. The Blackboard gradebook will show all the exam grades as unchanged and 0 points in the column marked "Drop Lowest."

**Academic Honesty** The exams will be open-book and open-note, but not open-internet. You will not be allowed to collaborate with any other person. If anyone posts offline homework problems or exam questions to Chegg or other cheating websites, the problem or exam will be invalidated and another problem or exam will be administered the next day. The student who posted will get an F in the course. It is especially important to maintain the Standards of Honesty during this time of mandatory online courses. I am showing trust in you by allowing take-home exams that aren't proctored via software. Deserve that trust.

**Attendance** We will use completion of the offline homework problems as a proxy for attendance verification. Make sure you submit at least one offline HW problem before 01/29 or you may be marked as Not Attended and dropped from the class.

## University-wide 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 to 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 at <https://sds.olemiss.edu> to request approved accommodations. If you are not yet approved through SDS, you must contact Student Disability Services (at 662-915-7128 or [sds@olemiss.edu](mailto:sds@olemiss.edu)) so the office can (i) determine your eligibility for accommodations, (ii) disseminate 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 at any time other than that shown in the posted examination schedule, an instructor must have prior approval of the department chair and dean.

**COVID-19:** Students are encouraged to visit the University's Keep Learning site (<https://olemiss.edu/keeplearning/>) to access information and resources related to COVID-19 support. The site provides links to University student services to facilitate and support learning.

## What I Expect of My Students

1. I expect you to come to class ready to participate.
  - Watch the videos and/or read the book sections in advance of class.
2. I expect that you will engage during class.
  - Participate in discussions and group work.
  - Ask questions if you have them – either via chat or voice.
  - Don't be scrolling in another tab while class is in session. Try to focus on physics.
  - Your groupmates will be depending on you. Give them your best effort.
3. I expect that you will allot enough time for this course. –
  - For each lecture hour, you should spend 2-3 hours working outside of class.
  - Outside of class work includes watching videos, online and offline HW, and studying for exams.
4. I expect that you will ask questions and seek extra help when you encounter topics, concepts, or problems that you don't understand. Most students will need at least occasional extra help.
  - Come to office hours!
  - Go to Supplemental Instruction (SI) – schedule will be posted.
  - Free online tutoring through the Physics Learning Center – schedule will be posted.
  - Email, chat, or Google Hangouts me! I am happy to help you.
  - Email, chat, or Google Hangouts your lab TA -- they are also ready to help.
  - Contact your classmates! Support each other and help everyone do their best.

Physics involves a way of thinking and problem-solving that may be new to you. Don't try to memorize your way through this class and don't lose patience with yourself. You will get it!

## Schedule (subject to change)

T	Jan	19	Lecture 01:	1.1 — 1.9
R	Jan	21	Lecture 02:	1.10, 2.1
T	Jan	26	Lecture 03:	2.2 – 2.3
R	Jan	28	Lecture 04:	2.4
T	Feb	02	Lecture 05:	3.1 – 3.2
R	Feb	04	Lecture 06:	3.2 – 3.3
T	Feb	09	Lecture 07:	4.1 – 4.3
R	Feb	11	Lecture 08:	4.4 – 4.6
T	Feb	16	Lecture 09:	4.7
R	Feb	18	Lecture 10:	<b>Exam 1 (1–4)</b>
T	Feb	23	Lecture 11:	5.1 – 5.2
R	Feb	25	Lecture 12:	5.3 – 5.6
T	Mar	02	Lecture 13:	5.7 – 5.8?, 6.1
R	Mar	04	Lecture 14:	6.2 – 6.3
T	Mar	09	Lecture 15:	7.1 – 7.3
R	Mar	11	Lecture 16:	7.4 – 7.5
T	Mar	16	Lecture 17:	8.1 – 8.3
R	Mar	18	Lecture 18:	8.4 – 8.6
T	Mar	23	Lecture 19:	9.1 – 9.5
R	Mar	25	Lecture 20:	<b>Exam 2 (5–8)</b>
T	Mar	30	Lecture 21:	9.6 – 9.9 or 9.10
R	Apr	01	Lecture 22:	13.1 – 13.4
T	Apr	06	Lecture 23:	13.5 – 13.6
R	Apr	08	Lecture 24:	13.7 – 13.11
T	Apr	13	Lecture 25:	14.1 – 14.3
R	Apr	15	Lecture 26:	14.4 – 14.6
T	Apr	20	Lecture 27:	14.7 – 14.9
R	Apr	22	Lecture 28:	14.10 – 14.13
Apr 26–30 Final exams				
T	Apr	27	<b>0800–1120 Final</b>	