

PHYS 2112 – Fall 2019 - Section 2

Fluids, Thermodynamics, Waves and Modern Physics

Instructor: Mark M. Wilde mwilde@lsu.edu 447 Nicholson Hall

Class Hours: MWF 12:30 – 1:20 PM, Nicholson Hall 119

Office Hours M 1:20PM–2:20PM, T 4PM–5PM

- TBA in Nicholson 447 (Wilde)
- TA tutoring in Nicholson 201 – times TBD
- Other instructor office hours (TBA)
- Other times by email appointment.

Course Web Site: <http://markwilde.com/teaching>

Textbook: Halliday and Resnick's Fundamentals of Physics –by Jearl Walker, 10th ed. Also, you can get the e-book on WileyPlus if you prefer. If you've previously used WileyPlus (e.g. PHYS2110) and the 10th ed in a previous semester, *WileyPlus is free* and you'll have access to the e-book online. If you need to purchase the online version, go to <https://www.wileyplus.com/go/login>. NOTE: Use promo code sent by email in the shopping cart to receive the online-only access pricing (see instructions which have been sent by email).

CLASS OVERVIEW:

- This course covers chapters 14-20; 33-39. There are sections/chapters that will be omitted. This is the introductory course primarily for technical science majors (physics, chemistry, geology, or engineers). It builds upon and extends the material from PHYS 2110 to discuss thermodynamics, waves, fluids, and modern physics. It will build your problem solving skills and your ability to apply mathematical principles to describe nature.
- The lecture schedule requires that we cover approximately one chapter per week. That means we will be moving quickly, and you will need to be sure to keep up with both the reading and the homework.
- You are required to read the textbook material before coming to class. Some material may show up in the lecture a day or so before the schedule indicates. Students should be aware of this and read ahead in the text as necessary.
- Attendance at lectures is required! The concepts and approaches to problem solving will be developed through the readings, lectures, demonstrations and class discussion. If you need to leave early, let me know ahead of time. To encourage participation, there will be daily in-class participation and/or quizzes (see below).
- It is the student's responsibility to be familiar with the University Code of Conduct that details the university's policy and disciplinary action regarding academic dishonesty.
- Students with special needs or accommodations should contact the Office of Disability Services (112 Johnston Hall) early so that any necessary accommodations can be arranged ASAP.
- PHYS 2112 is a general education course in the Natural Sciences Area. The material in this course addresses your achievement of one of the LSU General Education competencies: *"LSU graduates will employ scientific and mathematical methods and technology in the resolution of laboratory and real-world problems."*

Course Web Site: The course syllabus, daily notes, practice exams (from previous semesters), and other items are located on the course web site.

I. HOMEWORK

A. Computer-based homework (100 points):

- **Homework is the most important part of the course!** It is your physics “practice.” You will likely do well in the course if you do all the homework on your own (*i.e.*, without an answer key) since you will then be better able to answer the questions and problems on the three tests and the final exam.
- Computer-based assignments through [WileyPLUS](#):
 - Typically 20 problems will be posted once a week online at [WileyPLUS](#).
 - Unless otherwise announced, homework is due at 11:45 pm on Sunday evenings for full credit. **This full-credit due date and time is firm and will not be relaxed for individual students; however, you can earn up to 80% of the credit for problems that you submit after the deadline. Any homework submitted after 11:45pm Sunday Dec. 8th will receive 0% credit.**
 - You will typically be given a maximum of 5 submissions. Only the last submission will be graded, no points off for multiple submissions.
 - Your semester percentage score will be used to compute the homework contribution to your grade.
- **When you register for WileyPLUS and enter your personal information, use your LSUID (your 89-number) as your WileyPLUS student ID.** (See handout sent by email for directions.)
- Do the homework daily. Often the number of problems is too large to do in one sitting. It is best if you do the homework the same day that the material is covered in class.
- You should begin your homework early enough so that you can guarantee submission by the due time.
- Get in the habit of carrying the units through the solution from start to finish. Units are required as part of the answer and will definitely be required on the tests. This will also help you catch mistakes – if you end up with incorrect units for your answer, something has gone awry!
- It will be very important to keep up with the homework! Homework problems are your way of assessing your mastery of the material AND your problem solving ability. You are encouraged to solve additional problems in the text as exam problems may be similar to the problems in the text.

II. QUIZZES/PARTICIPATION (40 points):

Quizzes or other in-/out-of-class participation activities will be given in each lecture. These may include written quizzes, reading quizzes, take-home quizzes, group problems, etc. There will be no make-up quizzes.

III. EXAMS

**The three one-hour regular exams will be given on Tuesdays
from 6:00 pm - 7:00 pm**

in Nicholson 130 as follows:

Sept. 24th, Oct. 22nd, and Nov. 19th

*“UP TO FOUR EXAMS WILL BE GIVEN ON TUESDAY FROM 6:00PM TO 7:00 PM.
DO NOT SCHEDULE ANY OTHER CLASSES OR ACTIVITIES DURING THIS TIME”,
Course Registrar*

The two-hour (cumulative) final exam is scheduled as follows:

Monday, December 9th, from 7:30 am - 9:30 am, *place: TBD*

PLEASE MARK ALL OF THESE DATES ON YOUR CALENDAR

- All exams will be a combination of multiple-choice questions and free-response problems for which you must show your work. Because partial credit may be given on free-response problems, it is important that you show all work and give explanation and intermediate steps. ***Free-response problems will be graded on completeness and reasoning as well as the final answer; final answers with absent or incorrect supporting work will receive little or no credit.***
- ***There will be no make-up exams and no exam scores will be dropped from a student's grade. Students who miss an exam and have a valid and documented excuse, as per [LSU Student Policy 22](#), will be handled on a case-by-case basis.*** Medical emergencies should be brought to the instructor's attention as soon as possible after the fact.
- **Approximately 50% of the exam problems will be based on the assigned homework.**
- The two-hour final exam is cumulative, but approximately 1/3 of the final will come from new material.
- Students having three or more final examinations in a 24 hour period may request permission to take no more than two examinations on the day concerned. These requests should be made to the dean or director at the college or school in which the student is registered before **Friday, November 8th**.
- You will be supplied with a standard formula sheet for use during the exam. These will be available on the course web site some time before the exam. No other written material is allowed: notes, books, and crib sheets are strictly forbidden.
- **You may only use a standard scientific or graphing calculator on the exam.** You may not use the calculator function/application on a non-approved electronic device during an exam, nor may you use the extended memory functions (programs, etc.) on your graphing calculator.
- During your test, the only electronic device that you may have with you at your seat is your scientific calculator. You may not have your cell phone, watch, smartphone, digital camera, computer, or any other device capable of taking pictures or video, sending/receiving text messages, or accessing the Internet. Any student found in possession of any forbidden electronic device will be suspected of violating the Code of Conduct and will be referred to the office of Student Advocacy & Accountability. It is your responsibility to understand the [LSU Student Conduct and Commitment to Community](#).

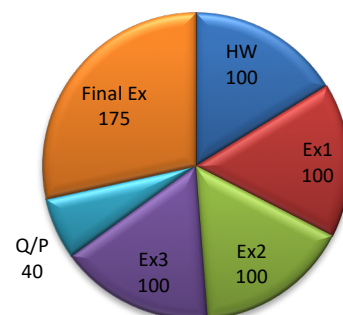
Outside help:

- If you do not understand the material or you experience difficulty in working the problems, seek help!!!
- If available during the term, seek help from the CAS tutoring center in Middleton Library (Room 141B).
- A list of tutors is also available from the Physics department – inquire in the main office (Nich 202)
- Make sure you take advantage of the instructor's office hours. This is usually a very under-used resource. If you cannot attend the instructor's office hours, feel free to make an appointment by email.

Grading:

- Online homework (WileyPLUS) – 100 pts
- Quizzes/Participation – 40 pts
- Regular exams – 100 pts each.
- Final Exam – 175 pts
- Your final grade will be based on 615 total points.
- The letter grade ranges are as follows:

A⁺: 97.5% & up **A:** 91.5% & up **A⁻:** 88.5% & up
B⁺: 85.5% & up **B:** 79.5% & up **B⁻:** 76.5% & up
C⁺: 72.5% & up **C:** 64.5% & up **C⁻:** 59.5% & up
D⁺: 56.5% & up **D:** 52.5% & up **D⁻:** 49.5% & up
F: 49.5% & down



If your overall average is within these ranges, you are guaranteed the associated letter grade. In general, there will be no curving of individual exam grades. We welcome students who wish to check that all scores have been recorded accurately or who have questions regarding grading; however grading errors must be brought to the instructor's attention no later than one week after the day the exam is returned to the class.

Please see your instructor during office hours or set up an appointment via email if you have any questions.

Tentative Class schedule – MWF:

The following class schedule is tentative and may be adjusted as the term progresses. Any updates to the schedule will be announced on the course web site; so check there often throughout the term.

PHYS 2112 – Fall 2019 Class Schedule (Tentative)			
Week	Dates	Sections Covered [§]	Important Dates
1	Aug. 26, 28, 30	14.1, 18.1 – 18.5	Aug. 26: classes begin
2	Sept. 4, 6	19.1–19.4	Sept. 4: last day for dropping without a “W” Sept. 5: last day to add or change a section
3	Sept. 9, 11, 13	19.7 – 19.9; 20.1–20.2	
4	Sept. 16, 18, 20	20.1 – 20.3; 15.1 – 15.3 [^]	
5	EXAM 1 Sept. 23, 25, 27	15.4 – 15.6 [^] 16.1 – 16.3	Sept. 24 (Tues): Exam 1*, Chap 18 – 20
6	Sept. 30; Oct. 2, 4	16.4 – 16.7 17.1 – 17.3	
7	Oct. 7, 9, 11	17.4–17.7	
8	Oct. 14, 16	33.1 – 33.2, 33.5	Oct. 17-18: Fall Break
9	EXAM 2 Oct. 21, 23, 25	33.6, 34.1 – 34.3	Oct. 22 (Tues): Exam 2*, Chap 15 – 17
10	Oct. 28, 30; Nov. 1	34.3 – 34.5 35.1 – 35.2	
11	Nov. 4, 6, 8	35.2 – 35.5 36.1	Nov. 8: Final date for dropping course
12	Nov. 11, 13, 15	36.1 – 36.7 38.1	
13	EXAM 3 Nov. 18, 20, 22	Overview of Ch. 21, 22, & 24 24 38.2 – 38.6	Nov. 19 (Tues): Exam 3*, Chap 33-36
14	Nov. 25, 27	38.6 – 38.8 14.1 – 14.2	Nov. 27 (12:30pm) – 29: Thanksgiving
15	Dec. 2, 4, 6	Finish 14, review	
16	FINAL EXAM		December 9 (Monday): Cumulative Final Exam 7:30–9:30 am

[§] exact lecture schedule will be announced in class

[^] material already covered in 2110; will only review!!

* Tentative Test Material (exact material covered/not covered will be announced)