

UNIVERSITY OF VERMONT

Department of Physics

Physics 13

Spring 2021

General Information

Instructor: Jason Pepe, Innovation Hall 231

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Office Hours: (via Teams) Mon, Wed 11:00-12:00 or by appointment

Materials:

- *Textbook:* "Conceptual Physics" by Paul G. Hewitt, 12th Edition, with MasteringPhysics registration code and etext.
- *Learning Catalytics:* a software extension of MasteringPhysics that will be used to deliver question and answer, tutorial, or simulation exercises
- *Microsoft Teams:* software available for free (UVM has a license) that we will use to communicate during synchronous class meetings
- *Pocket calculator*
- *Smartphone, Tablet or Laptop (laptop preferred):* You will need a device that can support a web browser to participate in Microsoft Teams meetings, Learning Catalytics exercises, and MasteringPhysics assignments.

Course format:

- Two 75-minute synchronous online meetings per week on Tuesdays and Thursdays, all via Microsoft Teams. Students are expected to prepare for class by completing assigned readings and pre-flight activities, including watching videos, short assignments, and/or quizzes. Selected homework problems to be completed after class will be assigned to consolidate the students' knowledge, while balancing the additional time needed to complete the pre-class activities.

Homework:

Homework problems serve as illustrations of the course material and are essential towards consolidation of the students' grasp of physical principles. The course outline shows the homework assignments for each chapter.

Mastering Physics Homework and Pre-Lectures:

There will be weekly Mastering Physics online homework assignments. Late Mastering Physics assignments will not be accepted. There will be no make-ups. The lowest score will be dropped from the record. In addition to the homework, a Mastering Physics pre-lecture assignment will be given each week.

Mastering Physics course identification: pepe10099

Examinations:

There will be three midterm exams based on class material, Learning Catalytics exercises, homework, and textbook material. An equation sheet will be provided for each exam. There will also be a final exam.

LockDown Browser + Webcam Requirement

This course requires the use of Respondus LockDown Browser and a webcam to monitor the online exams. The LockDown browser will prevent you from accessing other websites or applications during an exam. The webcam can be the type that's built into your computer or one that plugs in with a USB cable.

Carefully follow the steps in [this article](#). These will guide you through the process of:

- **Installing** Respondus LockDown Browser
- **Testing** your computer/webcam/network
- **Getting help** with Respondus LockDown and Monitor
- **Ensuring a successful exam** experience

Course Grades:

For each student, a score will be computed based on 100 percentage points to be distributed as follows:

- Hourly exams: $3 \times 16 = 48\%$
- MasteringPhysics/Learning Catalytics: 36%
- Final examination: 16%

Numerical to Letter Grade Conversion:

Letter grades will be assigned as follows:

A range = 90 - 100

B range = 80 - 89

C range = 70 - 79

D range = 60 - 69

F = below 60

Attendance:

Students are expected to attend all synchronous live online classes. A student's attendance record provides additional information for assessing a student's overall attitude in the course. It will be used for advising, for documentation in a letter of reference, etc. It is the student's responsibility to keep up with missed material, announcements, etc.

Excuses:

Circumstances beyond a student's control may warrant an absence. Valid excuses for such absences are notes from the academic dean, the attending physician, the team coach, the officiating clergyman, the presiding judge, the arresting officer, etc.

Missing Hourly Exams:

Missing a midterm exam will result in a score of zero unless the student has a valid excuse as defined above. A student with a valid excuse may be given a make-up exam at a time that is mutually convenient for the student and the instructor.

Missing the Final:

Missing the final examination will result in a final course grade of F unless the student has arranged with the instructor through the appropriate academic dean for an "Incomplete."

Extra Credit: Extra credit work will not be assigned for the course.

Schedule of Meetings**STUDENTS MUST READ APPROPRIATE SECTIONS BEFORE COMING TO CLASS.**

Week 1 Feb 2, 4	Chapter 2: Newton's 1st Law Chapter 3: Linear Motion Chapter 4: Newton's 2nd Law
Week 2 Feb 9, 11	Chapter 5: Newton's 3rd Law Chapter 6: Momentum Chapter 7: Energy
Week 3 Feb 16, 18	Chapter 8: Rotational Motion Exam prep
Week 4 Feb 23, 25	Exam I Chapter 22: Electrostatics
Feb 23	EXAM I - Chapters 2,3,4,5,6,7,8
Week 5 Mar 4	Chapter 23: Electric Current
Week 6 Mar 9, 11	Chapter 24: Magnetism Chapter 25: Electromagnetic Induction
Week 7 Mar 16, 18	Chapter 25 Exam prep
Week 8 Mar 23, 25	Exam II Chapter 19: Vibrations and Waves
Mar 23	EXAM II - Chapters 22,23,24,25
Week 9 Mar 30; Apr 1	Chapter 20: Sound Chapter 26: Properties of Light
Week 10 Apr 6, 8	Chapter 28: Reflection and Refraction Chapter 29: Light Waves
Week 11 Apr 13	Exam prep
Week 12 Apr 20, 22	Exam III Chapter 31: Light Quanta

Apr 20	EXAM III - Chapters 19,20,26,28,29
Week 13 Apr 27, 29	Chapter 32: The Atom and the Quantum Chapter 33: The Atomic Nucleus and Radioactivity
Week 14 May 4, 6	Chapter 34: Nuclear Fission and Fusion Chapter 35: Special Theory of Relativity
Week 15 May 11	Exam prep
May	Final Exam - TBA