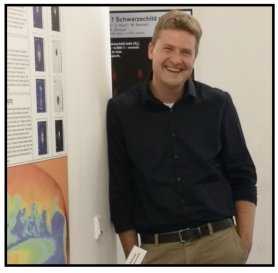
Phys 212

Physics for Science & Engineering II Fall 2025

Tue,Thu 8:00-9:15am, Rm 101 Lewis Hall (Section 1)



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The syllabus may evolve dynamically depending on class progress.

Course Description: This course consists of a three credit-hour, calculus-based introduction to electricity, magnetism, electromagnetic waves, and related topics, including geometrical optics. Phys 212 is the second part of a two-semester survey of classical physics.

Text: *University Physics*, Volume 2 (URL) & Volume 3 (URL)
Author: OpenStax; **ISBN:** 978-1-947172-21-0; e-book access is sufficient and included with the *WebAssign* homework system (access links provided in each module section on BlackBoard: URL).

Course Objectives:
At the completion of this course, students will be able to:

- Solve problems related to electrostatics, magnetism, and electromagnetic waves.
- Demonstrate advanced problem solving skill sets.
- Demonstrate a command of dimensional analysis and scientific notation.
- Apply calculus based approaches to solving physics problems.

Grade Distribution:

Attendance	10%
Assignments	45%
Summative Quiz 1	10%
Summative Quiz 2	10%
Summative Quiz 3	10%
Final Exam	15%

Course Policies:

- **General**
  - Computers are not to be used unless for note taking.
  - The quizzes and final exams are closed book, closed notes.
- **Grades**
  - Grades will be maintained on the course's Blackboard page (https://blackboard.olemiss.edu/) and students are responsible for tracking their own progress.
  - Grading Scale:

    $92\% \leq$ A $\leq 100\%$

    $88\% \leq$ A- $\leq 92\%$

    $84\% \leq$ B+ $\leq 88\%$

    $80\% \leq$ B $\leq 84\%$

    $76\% \leq$ B- $\leq 80\%$

    $72\% \leq$ C+ $\leq 76\%$

    $68\% \leq$ C $\leq 72\%$

    $64\% \leq$ C- $\leq 68\%$

    $60\% \leq$ D $\leq 64\%$

    F $\leq 60\%$
- **Expectations**
  - Students should expect to spend about 8 hours per week reading, doing homework, and preparing for class in order to do well.
  - Study the textbook regularly. Class discussion will not cover all of the material, but students will have the opportunity to ask questions about any aspect of the text.
  - Complete the *WebAssign* questions after the completion of each lecture. It will take longer to complete the *WebAssign* homework if the textbook reading assignments are not completed first.
  - Homework sets will be assigned using the *WebAssign* online homework system that can be accessed through Blackboard. It is very important to start early and finish homework on time. This will also be very helpful when studying for the quizzes and exam.
  - As scientists and engineers normally work in groups, students are encouraged to work together on homework to teach and learn from each other. However, each student is responsible for understanding all details of a problem solution.
  - Students may be required to turn in written homework solutions for grading. Students should use good problem-solving strategies (which will be demonstrated in class).

- **Attendance and Absences**
  - Attendance is **mandatory** and will be taken each class (Ole Miss ID card system).
  - Students are responsible for all missed work, regardless of the reason for absence. It is also the absentee's responsibility to get all missing notes or materials.
- **Important Dates**
  - See the academic calendar (https://olemiss.edu/registrar/calendars/). Summative quiz dates are tentative and subject to change. The final exam date is fixed and cannot be changed.
  - Summative Quiz1(Modules 1-4): Thursday *TBD, 5:30-7:00pm, Rm 101, Lewis Hall
  - Summative Quiz2(Modules 5-8): Thursday *TBD, 5:30-7:00pm, Rm 101, Lewis Hall
  - Summative Quiz3(Modules 9-12): Thursday *TBD, 5:30-7:00pm, Rm 101, Lewis Hall
  - Final Exam (Section 1): Thursday, December 9th, 8:00-11:00am, Rm 101, Lewis Hall
- **Academic Integrity**
  - Every student of the University of Mississippi, by virtue of choosing to be part of the university community agrees to abide by the University of Mississippi Creed and the UM Academic Integrity Policy.
  - Cheating is forbidden and will result in a zero grade on the assignment. If a second case of cheating occurs, this will result in an F for the entire course.
  - UM Creed The University of Mississippi is a community of learning dedicated to nurturing excellence in intellectual inquiry and personal character in an open and diverse environment. As a voluntary member of this community:
    * I believe in respect for the dignity of each person
    * I believe in fairness and civility
    * I believe in personal and professional integrity
    * I believe in academic honesty
    * I believe in academic freedom
    * I believe in good stewardship of our resources
    * I pledge to uphold these values and encourage others to follow my example
  - All materials distributed electronically and in hard copy in this class are protected under intellectual copyright. Any attempt to upload these documents onto the Internet (or to distribute them by some other means) or to profit from the distribution (by Internet or other means) of these documents constitutes theft and will be in violation of intellectual property law and the UM Academic Conduct Code unless expressly permitted for by the instructor.

- **Audio and video recording:**
  - Audio and/or video recording of class lectures is not allowed unless explicit permission is given by the instructor. Permission will only be given if the student has a Student Disability Services (SDS) request. In such cases, recordings may only be used by the student to whom permission is given and all recordings must be deleted at the end of the semester. Recordings may not be distributed online or elsewhere.
- **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 academic 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 registered with SDS, you must log in to your Rebel Access portal at https://sds.olemiss.edu/rebel-access-portal to request approved accommodations. If you are NOT registered with SDS, you must complete the process to become registered. To begin that process, please visit our website at https://sds.olemiss.edu/apply-for-services. SDS will:

    (1) Complete a comprehensive review to determine your eligibility for accommodations,
    (2) If approved, disseminate to your instructors a Faculty Notification Letter,
    (3) Facilitate the removal of barriers, and,
    (4) Ensure you have equal access to the same opportunities for success that are available to all students.

    If you have questions, contact SDS at 662-915-7128 or sds@olemiss.edu.

Other Required Items:

- Online homework system: *WebAssign*. The system can be accessed through Blackboard (blackboard.olemiss.edu). Students must purchase access to *WebAssign* via Blackboard for this class.
- Scientific calculator. Any calculator with trigonometric functions, exponential functions, and scientific notation.

Table 1: Tentative Course Outline

Week	Content
Week 1	• Aug.26 - Lecture 1 - Module 1: Volume 2 (5.1-5.3) • Aug.28 - Lecture 2 - Module 1: Volume 2 (5.4.-5.6)
Week 2	• Sep.2 - **Labor Day** • Sep.4 - Lecture 3 - Module 2: Volume 2 (6.1-6.2)
Week 3	• Sep.9 - Lecture 4 - Module 2: Volume 2 (6.3-6.4) • Sep.11 - Lecture 5 - Module 3: Volume 2 (7.1-7.3)
Week 4	• Sep.16 - Lecture 6 - Module 3: Volume 2 (7.4-7.5) • Sep.18 - Lecture 7 - Module 4: Volume 2 (8.1-8.3)
Week 5	• Sep.23 - Lecture 8 - Module 4: Volume 2 (8.4-8.5) • Sep.25 - Lecture 9 - Module 5: Volume 2 (9.1-9.3)
Week 6	• Sep.30 - Lecture 10 - Module 5: Volume 2 (9.4-9.5) • Oct.2 - Lecture 11 - Module 6: Volume 2 (10.1-10.3)
Week 7	• Oct.7 - Lecture 12 - Module 6: Volume 2 (10.4-10.5) • Oct.9 - Lecture 13 - Module 7: Volume 2 (11.1-11.3)
Week 8	• Oct.14 - Lecture 14 - Module 7: Volume 2 (11.4-11.5) • Oct.16 - Lecture 15 - Module 8: Volume 2 (12.1-12.3)
Week 9	• Oct.21 - Lecture 16 - Module 8: Volume 2 (12.4-12.6) • Oct.23 - Lecture 17 - Module 9: Volume 2 (13.1-13.3)
Week 10	• Oct.28 - Lecture 18 - Module 9: Volume 2 (13.4-13.6) • Oct.30 - Lecture 19 - Module 10: Volume 2 (14.1-14.3)
Week 11	• Nov.4 - Lecture 20 - Module 10: Volume 2 (14.4-14.5) • Nov.6 - Lecture 21 - Module 11: Volume 2 (15.1-15.2)
Week 12	• Nov.11 - Lecture 22 - Module 11: Volume 2 (15.3-15.4) • Nov.13 - Lecture 23 - Module 12: Volume 2 (16.1-16.3)
Week 13	• Nov.18 - Lecture 24 - Module 12: Volume 2 (16.4-16.5) • Nov.20 - Lecture 25 - Module 13: Volume 3 (1.1-1.7)
Week 14	• Nov.25 - **Thanksgiving** • Nov.27 - **Thanksgiving**
Week 15	• Dec.2 - Lecture 26 - Module 14: Volume 3 (2.1-2.8) • Dec.4 - Lecture 27 - Module 15: Volume 3 (3.1-3.5)
Week 16	• Dec.9 - **Final Exam** (Section 1)