



**PHY 309L: Elementary Physics for Nontechnical Students**

*Texas Common Number: PHYS 1307*

**Course Format:** Online, Self-Paced

**Course Instructor:** Jennifer Palomino, Ph.D. Contact using the Inbox tool in Canvas.

**Course Credits:** 3

**Prerequisites:** Physics 309K with a grade of at least C- and approval of the University Extension advisor.

**How This Course Works**

This course is online and is self-paced. Students have five months from their date of enrollment to complete the course. All coursework and proctored exams are submitted or taken online.

While this course is self-paced in terms of when you complete the work and submit assignments, periodic assessments are critical to ensuring that students receive adequate support and are able to achieve the intended learning outcomes. Thus, this course is organized into modules that must be completed in order. Students will only be able to move forward once they have received a grade on all assessments within a given module.

Review the course outline and assignment descriptions carefully. Computer-graded assignments are scored immediately. You can expect to receive feedback on instructor-graded assignments or exams within three business days following submission. This does not include weekends or holidays. Requests for expedited grading are not accommodated, so please plan accordingly. During certain times (end of semester, spring break, etc.), instructors may experience higher-than-usual demands on their time and may need additional time for evaluation. Students should reach out to University Extension at [uex@austin.utexas.edu](mailto:uex@austin.utexas.edu) with any concerns regarding grading turnaround.

University Extension strongly advises students to be aware of when they may need a course grade to be recorded on their transcript. It can take up to two weeks after the final exam is complete for a grade to be officially recorded with the Office of the Registrar.

**Course Overview**

PHY 309L is the second in a two-course physics sequence designed for non-technical students. The course covers electricity and magnetism, light, and atomic and nuclear physics. No prior math is required beyond the high school level. This course is designed for students who do not intend to do further coursework in natural sciences, engineering, mathematics, or medicine. It is primarily conceptual in nature with some computational work.

## Required Materials

Griffith, W. T. & Broising, J. (2015). *Physics of Everyday Phenomena*, 8th ed. New York, NY: McGraw Hill. ISBN: 9780073513904

(The digital version of the textbook available through McGraw Hill Connect is not supported.)

You must also purchase a non-refundable Quest subscription for this course. Payment is made within Quest. Please login at [quest.cns.utexas.edu](http://quest.cns.utexas.edu) and locate your course.

## Course Organization

This course contains 13 lessons divided into 6 learning modules. You can work on the various items within a learning module in any order you wish, but you cannot move on to the next learning module until you have submitted all of your assignments and received a grade for each of them. Each lesson begins with a list of learning objectives and an assigned reading. A lesson overview highlights points of focus for the lesson or further explains important topics. Each lesson contains a computer-graded assignment, completed in Quest, and an instructor-graded assignment.

### *Computer-Graded Assignments*

Every lesson contains a computer-graded assignment you will complete in Quest. You must complete all of the questions on each Quest assignment before your grade will be sent to Canvas. Most questions offer multiple "tries." You must either answer the question correctly or use all available tries before a question is considered completed.

### *Instructor-Graded Assignments*

Every lesson also has an instructor-graded assignment. Many of these assignments contain an investigation and a quiz. The investigation will ask you to interact with an online physics simulation by making predictions, running scenarios, recording your results, and answering analysis questions. The quiz contains multi-part synthesis questions. You will submit your assignment in Canvas and receive graded feedback from your instructor. In some cases you will need to digitize your drawings or sketches; instructions are provided on the assignments where this is required.

### *Exams*

This course has two exams, a midterm and a final. The midterm covers material from lessons 1 through 7, and the final is comprehensive, covering material from lessons 1 through 13.

**You must pass the final exam to pass the course.**

## Course Outline

| Module       | Topics  | Assessments  |
|--------------|---|--|
| 1            | Lesson 1: Charges and Coulomb's Law               | <ul style="list-style-type: none"> <li>Computer-Graded Assignment 1</li> <li>Instructor-Graded Assignment 2</li> </ul>   |
|              | Lesson 2: Electric Fields                         | <ul style="list-style-type: none"> <li>Computer-Graded Assignment 3</li> <li>Instructor-Graded Assignment 4</li> </ul>   |
| 2            | Lesson 3: Current and Voltage                     | <ul style="list-style-type: none"> <li>Computer-Graded Assignment 5</li> <li>Instructor-Graded Assignment 6</li> </ul>   |
|              | Lesson 4: Resistance                              | <ul style="list-style-type: none"> <li>Computer-Graded Assignment 7</li> <li>Instructor-Graded Assignment 8</li> </ul>   |
|              | Lesson 5: Circuits                                | <ul style="list-style-type: none"> <li>Computer-Graded Assignment 9</li> <li>Instructor-Graded Assignment 10</li> </ul>  |
| 3            | Lesson 6: Magnetic Forces                         | <ul style="list-style-type: none"> <li>Computer-Graded Assignment 11</li> <li>Instructor-Graded Assignment 12</li> </ul> |
|              | Lesson 7: Electromagnetic Induction               | <ul style="list-style-type: none"> <li>Computer-Graded Assignment 13</li> <li>Instructor-Graded Assignment 14</li> </ul> |
| MIDTERM EXAM |   |  |
| 4            | Lesson 8: Light Waves and Color                   | <ul style="list-style-type: none"> <li>Computer-Graded Assignment 15</li> <li>Instructor-Graded Assignment 16</li> </ul> |
|              | Lesson 9: Light and Image Formation               | <ul style="list-style-type: none"> <li>Computer-Graded Assignment 17</li> <li>Instructor-Graded Assignment 18</li> </ul> |
| 5            | Lesson 10: The Structure of the Atom              | <ul style="list-style-type: none"> <li>Computer-Graded Assignment 19</li> <li>Instructor-Graded Assignment 20</li> </ul> |
|              | Lesson 11: The Nucleus and Nuclear Energy         | <ul style="list-style-type: none"> <li>Computer-Graded Assignment 21</li> <li>Instructor-Graded Assignment 22</li> </ul> |
| 6            | Lesson 12: Relativity                             | <ul style="list-style-type: none"> <li>Computer-Graded Assignment 23</li> <li>Instructor-Graded Assignment 24</li> </ul> |
|              | Lesson 13: Looking Deeper into Everyday Phenomena | <ul style="list-style-type: none"> <li>Computer-Graded Assignment 25</li> <li>Instructor-Graded Assignment 26</li> </ul> |
| FINAL EXAM   |   |  |

## Grade Calculation

Your final grade for the course will be calculated as follows:

|                                  |     |
|----------------------------------|-----|
| 13 Instructor-Graded Assignments | 40% |
| 13 Computer-Graded Assignments   | 15% |
| Midterm Exam                     | 20% |
| Final Exam                       | 25% |

**You must pass the final exam to pass the course.** You must also earn an overall passing grade:

|    |         |    |        |    |        |    |        |   |       |
|----|---------|----|--------|----|--------|----|--------|---|-------|
| A  | 100-93% | B+ | 89-87% | C+ | 79-77% | D+ | 69-67% | F | 59-0% |
| A- | 92-90%  | B  | 86-83% | C  | 76-73% | D  | 66-63% |   |       |
|    |         | B- | 82-80% | C- | 72-70% | D- | 62-60% |   |       |

## Getting Help

- Technical Support: [uextechsupport@austin.utexas.edu](mailto:uextechsupport@austin.utexas.edu)
- For content questions or questions about assignment and grades, use the Inbox tool within Canvas to contact the course instructor.
- For other questions (registration, transcripts, etc.), contact University Extension.

## University Extension Policies

Full University Extension policies for self-paced courses may be found on the University Extension website.

## Scholastic Dishonesty

Students in this course are expected to work independently, without direct supervision, and to conduct themselves responsibly in accordance with that freedom. To obtain the greatest benefit from their course work, and for the sake of everyone enrolled in our courses, students must demonstrate the willingness to exercise self-discipline, personal responsibility, and scholastic integrity.

We expect the course work and exams that you submit for course credit to be yours and yours alone. Plagiarism and other forms of scholastic dishonesty are serious academic violations that will not be tolerated. The penalties for scholastic dishonesty include the possibility of failure in the course. Scholastic dishonesty in examinations will automatically result in a grade of *F* on the exam and an *F* in the course.

## University Extension Contact Information

[uex@austin.utexas.edu](mailto:uex@austin.utexas.edu)

512-471-2900