

Lecturer: Prof. Matthew Jones (jones105@purdue.edu); Office: PHYS 378/337; Office hours: Tuesday, 9:30-10:30 AM or by appointment.

Purdue Course Web Pages:

http://www.physics.purdue.edu/~mjones/phys21900_Fall2015

<http://www.physics.purdue.edu/phys219>

Blackboard Learn Web Page:

<https://mycourses.purdue.edu/>

Course e-mail: Please send any questions about the course material by clicking on the “Q/A PHYS219 Topics” link located under the “Course Tools” tab on the MasteringPhysics® web site.

Using this utility, you can easily ask focused questions about the lecture, lecture notes, etc. In most cases, your questions along with an answer will be displayed for the benefit of the entire class.

Text: Etkina, Gentile, and van Heuvelen: *College Physics* WITH modified MasteringPhysics® Access Code, 1st Ed., (Pearson), ISBN: 9781323064573. This is the same text used for the prerequisite course (Physics 218).

If you do not buy the package above and prefer only an e-text with a modified MasteringPhysics® Access Code, please make sure to purchase this ISBN: 9780321918444.

Please see the handout, lecture notes, or link on the course web pages for instructions on how to purchase a modified MasteringPhysics® access code through Pearson.

This course will rely heavily on modified MasteringPhysics® for homework, quiz submission, and pre-lab assignments. For this reason, you will need reliable and readily available access to the internet.

Assignments: The homework schedule will be available on-line but will generally require weekly assignments to be turned in by 11:59 pm on Tuesdays.

Lectures: 10:30-11:20 Monday and Wednesday in PHYS 112. Questions are encouraged before, during or after any lecture. The purpose of the lectures is to allow a more detailed presentation of the principles and connections of the subject material covered in the textbook. Demonstrations will be used to help illustrate the principles under discussion.

The emphasis of the lectures will be on the conceptual material of the course rather than on a particular exam or homework assignment.

Recitations: 10:30-11:20 Friday in PHYS 112. The purpose of the recitation is to allow a discussion of the homework problems. During weeks when exams or holidays occur, a review or lecture might be given in lieu of a recitation.

Exams: Three exams will be given. Exams will be closed book. A one-page formula sheet will be provided with each exam. A simple scientific calculator can also be used. *Please come to exams with your Purdue identification card which lists your 10-digit PUID number.*

Exam 1: Thursday, September 24th, 8:00-10:00 pm in PHYS 112.

Exam 2: Thursday, November 5th, 8:00-10:00 pm in PHYS 112.

Final exam: The Office of Schedules and Space will determine the date and location.

Note 1: No make-up exams are scheduled for this course. This means that if you arrive late for an exam or miss it entirely, there is no make-up exam that you can take.

Note 2: No electronic devices other than a simple scientific calculator can be used during the exam. Please do not bring other portable electronic devices to the exam.

Note 3: An acceptable scientific calculator is one that meets the ACT guidelines (see <http://www.actstudent.org/fag/calculator.html>).

Homework: The modified MasteringPhysics® from Pearson will be used to assign credit for homework completed this semester. General instructions can be found on the handout distributed during the first day of class, which will also be made available on the course web page. A web expert from Pearson will be available during the first day of class to answer any of your questions.

The homework assignment for each week typically consists of about 10 problems. During the semester, each problem will be assigned a value of 1 point. There will be about 15 homework assignments during the semester so your final homework score will equal about 150 points. Your final homework score will be determined by normalizing your point total so that if you correctly answered all problems, your score would be exactly 150 points.

Using the MasteringPhysics® web-based system, you can enter answers to homework problems by using your own personal Pearson account. For most problems, you will receive four (4) tries for 100% credit. No credit will be given for correct answers after the 4th try. The time cutoff for answering homework for full credit will be 11:59 pm on the Tuesday that the homework problems are due. This means that if you run into problems answering the homework questions on the weekend, you can ask about them on Monday and complete them by Tuesday.

After you use your four tries for 100% credit, you are still encouraged to submit answers until you correctly solve the problem. MasteringPhysics® will still inform you if your answer is correct. However, once the number of attempts exceeds the four tries discussed above, no credit will be assigned.

Many years of experience has shown that there are many opportunities for misunderstandings when entering answers into a web-based homework system. The misunderstandings could be as simple as a minus sign or a lack of accuracy when entering your answer.

Laboratory: There is a laboratory associated with this course and the required lab manual can be purchased in the local bookstores. Lab sections meet once a week during the semester and you will perform approximately 11 lab experiments. In addition, there are required pre-lab assignments which are also available on the Physics 219 modified MasteringPhysics® web site.

The lab syllabus, along with the details of how each lab section is run, will be discussed during the first lab meeting of the semester. Please consult your class schedules to determine when and where your lab section will meet.

Note that the laboratory associated with this course is run *independent* of the lecture. I have no control over the labs but questions about any lab experiment are always welcome. Be aware that there may be some topics covered in the lab that are not discussed in the lecture. Also, the labs may be slightly out of synchronization with the topics covered in the lecture.

Grades: There is one overall letter grade for the course, determined on the basis of 600 points as shown below:

Two one-hour exams (100 points each)	= 200
Homework (normalized)	= 150
Laboratory (normalized)	= 150
Third exam (during finals week)	= 100

Total	600

Course Outcomes: The expected outcomes of this course are to develop an ability to identify, formulate and solve simple problems that require concepts from electricity, magnetism, optics, and modern physics. Specifically, a student should develop

- a broad appreciation of issues (both theoretical and experimental) that led to the development of the modern theory of electricity and magnetism
- an ability to calculate electric and magnetic forces in one and two dimensions
- an ability to calculate electric and magnetic fields in one and two dimensions
- a quantitative understanding of dc and ac current flow in simple circuits containing resistors, capacitors and inductors
- a quantitative understanding of how visible light is influenced by the presence of lenses and mirrors
- a quantitative understanding of the consequences of interference and diffraction
- an understanding of the quanta of light – photons
- an appreciation for de Broglie matter waves
- an understanding of the electronic energy levels of atoms based on early models of quantum mechanics
- a basic understanding of the physics underlying the nucleus of an atom

Course Office: The place to go for organizational information on the course is the Physics Undergraduate office in PHYS 144 (telephone 49-42970).

Help Center: A teaching assistant will be available in Physics room 11 (PHYS 11) during posted office hours to answer any questions you might have. The schedule for the Help Center will be posted after the first week of the semester. You can find more information about the Help Center from the Purdue Physics course web page – click on the [Help Center Hours](#) link.

Academic Dishonesty: The emphasis of this course is on learning material that may benefit your future career, not in competition to see who scores highest on the assignments. The scores on course assignments are used as a metric to judge how much you understand. Your score on any assignment is not only determined by how hard you study but also by your prior academic preparation before taking this course.

Dishonesty will not be tolerated. All Purdue students are assumed to be familiar with [Purdue's Code of Honor](#). Dishonesty is detrimental to your own development and is unfair to all other students in the university. Cheating on exams, lab reports, quizzes, or tutorials, no matter how minor, will lead to an immediate **F** in the course and possible dismissal from Purdue.