

## Wayne State University

General Physics – PHY 2140 section 005 (25980) and section 010 (26522)

Winter 2015 – January 12 to May 5

### Course information

<b>Lectures</b>	Tuesdays and Thursdays 6 pm – 7:20 pm in Science Hall 2009
<b>Learning community sessions</b>	Tuesdays 7:30 pm – 9:20 pm in State Hall 113 (section 005) Tuesdays 7:30 pm – 9:20 pm in State Hall 114 (section 010)
<b>Required texts</b>	Physics, 2nd Edition, Giambattista, McGraw-Hill [ISBN: 9780077339685] Tutorials in Introductory Physics, McDermott [ISBN: 9780130653642]
<b>Course description</b>	The course covers Electricity and Magnetism, Electromagnetic Radiation and Interference, Optics, and aspects of Modern Physics.
<b>Corequisite</b>	PHY 2141
<b>Credit hours</b>	4.0

### Instructor

<b>Name</b>	Dr. Matthew Gonderinger
<b>E-mail</b>	<a href="mailto:gonderinger@wayne.edu">gonderinger@wayne.edu</a>
<b>Phone</b>	313-577-1409
<b>Office</b>	Physics (666 W Hancock) 370
<b>Office hours</b>	Wednesdays 5 pm – 6 pm and Thursdays 4 pm – 5 pm

### Learning outcomes

When confronted with problems involving electricity and magnetism, electromagnetic radiation and interference, optics, and/or aspects of modern physics, students will be able to:

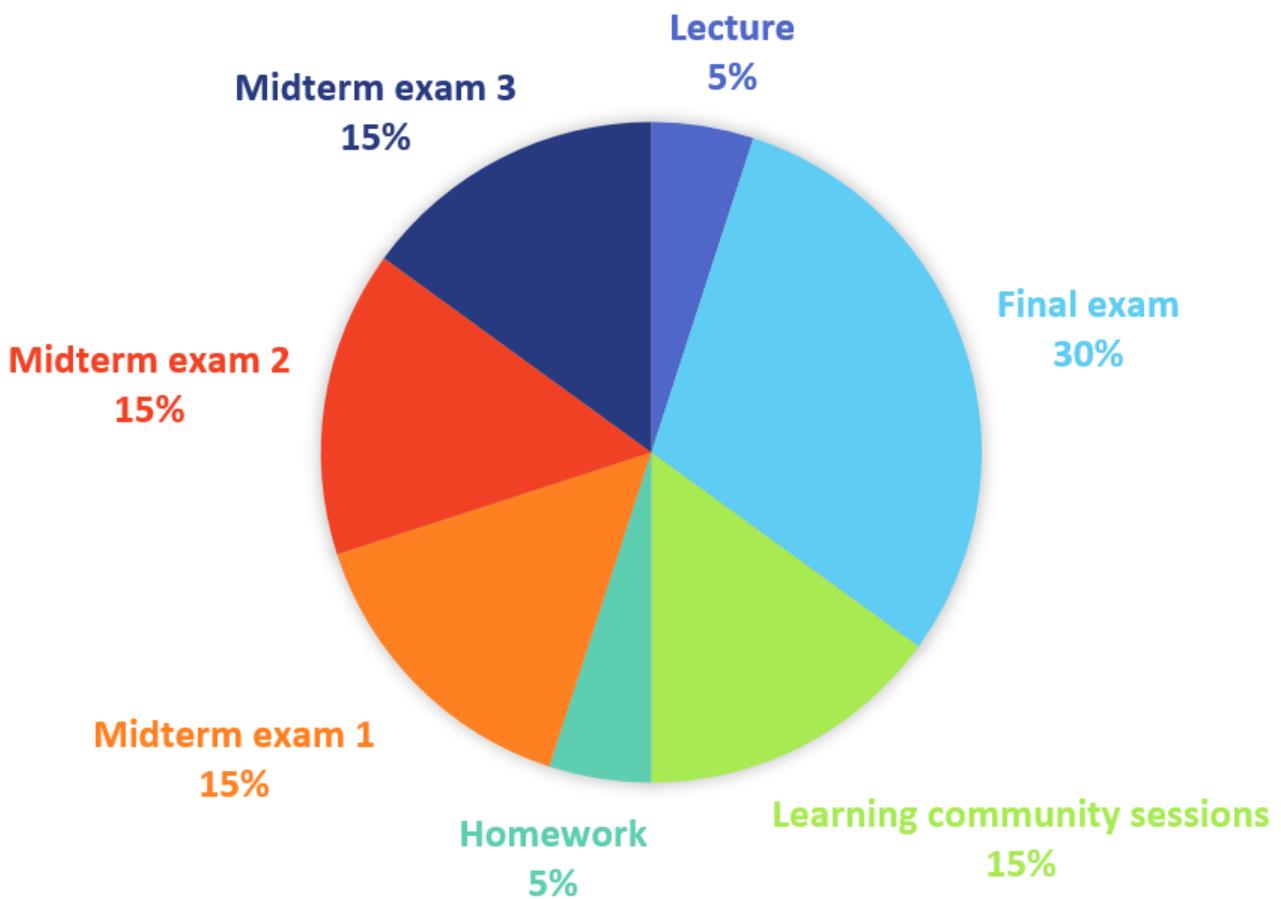
- Recognize which physical phenomena or principles are relevant for the problem;
- Think critically and use appropriate concepts to qualitatively analyze the problem; and
- Use appropriate mathematical techniques and concepts to obtain quantitative solutions to the problem.

## Grading

The grading scale used for final grades is:

Percent	Letter grade
90-100	A
85-89	A-
80-84	B+
75-79	B
70-74	B-
65-69	C+
60-64	C
55-59	C-
50-54	D+
45-49	D
40-44	D-
0-39	F

The breakdown of the final course grade is:



<b>Grade adjustments</b>	If necessary, exam and quiz grades will be adjusted so that all sections of 2140 have roughly the same average. The grading scale above should not be used to determine a letter grade from your unadjusted percent score on an individual exam or quiz.
<b>Extra credit</b>	There are no extra credit opportunities for this course.

## Exams

<b>Midterm exams</b>	There will be three in-class midterm exams on the dates shown in the schedule. The exams will be held in the same room as the lectures.
<b>Final exam</b>	There will be a final exam on Tuesday, May 5 from 1:20 pm to 3:50 pm. The exam will be the same for all sections of PHY 2140 and all sections will take the exam at the same time.
<b>Make-up exams</b>	No make-up midterm exams will be given. A missed midterm exam will count as a 0. Your lowest midterm exam grade will be replaced with the grade you earn on the final exam (only if this will help your grade).
<b>Exam rules</b>	You must bring your Wayne State ID to the exam and present it to the exam proctor if asked. Only a scientific calculator is allowed during the exam. No graphing calculators and no other electronic devices (including calculators on smartphones) are allowed during the exam. An equation sheet will be provided on the exams. Students are not allowed to bring any notes or other materials into the exam.

## Homework

<b>WebAssign</b>	The homework will be online through WebAssign, <a href="http://www.webassign.net">www.webassign.net</a> . All students will need a WebAssign access key. These keys come bundled with the purchase of a new textbook in the university bookstore or can be purchased separately from the bookstore or the WebAssign website.
<b>Assignments</b>	There are assignments labeled CREDIT and NON-CREDIT on WebAssign. Only the CREDIT assignments count toward your final grade. The NON-CREDIT assignments are provided for extra practice.
<b>Deadlines</b>	Homework assignments will be made available on Tuesdays after lecture and will be due on the following Tuesdays at noon, as shown on the course schedule (with the exception of the last assignment). No extensions on homework assignments will be granted.
<b>Submissions</b>	You can submit answers to a WebAssign question a maximum of five times. You will receive full credit if you get the correct answer on your first or second submission. You will be penalized 5% of the points for each submission after the second. If you do not have the correct answer after your fifth and final submission, you will get zero points for the problem.
<b>Rounding</b>	WebAssign has a default tolerance of $\pm 2\%$ for most submitted numerical answers. Exceptions are problems which explicitly ask about significant figures and problems requiring an integer answer.

## Lecture

- Attendance** Attendance and participation in class is required and will be recorded. This will be worth 1/2 of the lecture component of your final grade, or 2.5% of the total for the course.
- Online lectures** Lecture slides and audio will be posted on Blackboard in advance of every class. You are required to view the online lectures before coming to class so that you're prepared to participate in class.
- Online quizzes** Before each class, short quizzes will be posted on Blackboard. You will have 24 hours to take the quizzes but they must be completed by 3 pm on the day of class. These quizzes will assess whether you understand the material presented in the online lectures, so you should take the quizzes only after viewing the online lectures. The online quizzes will be worth 1/2 of the lecture component of your grade, or 2.5% of the total for the course.

## Learning Community Sessions (LCS)

- Introduction** The LCS part of the course gives you the opportunity to study concepts from the lectures in greater detail and work on homework problems. You will work together in groups (guided by facilitators) on numerous activities such as tutorials, demonstrations and simulations, and solving textbook problems.
- Attendance** Attendance and participation at the learning community sessions is required and will be recorded. This will be worth 1/3 of the LCS component of your final grade, or 5% of the total for the course.
- Quizzes** Each week (except the first), a quiz will be given at the beginning of the session. These are to be done individually. There will be 13 quizzes in all, and the two lowest ones will be dropped. The quizzes are collectively worth 2/3 of the LCS component of your final grade, or 10% of the total for the course.
- Materials** Students should bring their textbook, tutorial book, calculator, laptop (if you have one), and pencil and paper every week. Students who don't bring the required materials will not receive attendance and participation points.

## Notes

- Course drops and withdrawals** In the first two weeks of the (full) term, students can drop this class and receive 100% tuition and course fee cancellation. After the end of the second week there is no tuition or fee cancellation. Students who wish to withdraw from the class can initiate a withdrawal request on Pipeline. You will receive a transcript notation of WP (passing), WF (failing), or WN (no graded work) at the time of withdrawal. No withdrawals can be initiated after the end of the tenth week. Students enrolled in the 10th week and beyond will receive a grade. Because withdrawing from courses may have negative academic and financial consequences, students considering course withdrawal should make sure they fully understand all the consequences before taking this step. More information on this can be found at: <http://reg.wayne.edu/pdf-policies/students.pdf>.

**Last day to drop with tuition cancellation** January 26

**Last day to withdraw** March 29

**Religious holidays** Because of the extraordinary variety of religious affiliations of the University student body and staff, the Academic Calendar makes no provisions for religious holidays. However, it is University policy to respect the faith and religious obligations of the individual. Students with classes or examinations that conflict with their religious observances are expected to notify their instructors well in advance so that mutually agreeable alternatives may be worked out.

**Studying resources** The Physics Resource Center is in Physics 172 and provides drop-in office hours with graduate TAs. Supplemental Instruction and various workshops are available through the Academic Success Center ([www.success.wayne.edu](http://www.success.wayne.edu)).

**Student disabilities** If you have a documented disability that requires accommodations, you will need to register with Student Disability Services for coordination of your academic accommodations. The Student Disability Services (SDS) office is located in the Adamany Undergraduate Library. The SDS telephone number is 313-577-1851 or 313-202-4216 (Videophone use only). Once your accommodation is in place, someone can meet with you privately to discuss your special needs. Student Disability Services' mission is to assist the university in creating an accessible community where students with disabilities have an equal opportunity to fully participate in their educational experience at Wayne State University.

Students who are registered with Student Disability Services and who are eligible for alternate testing accommodations such as extended test time and/or a distraction-reduced environment should present the required test permit to the professor at least one week in advance of the exam. Federal law requires that a student registered with SDS is entitled to the reasonable accommodations specified in the student's accommodation letter, which might include allowing the student to take the final exam on a day different than the rest of the class.

**Academic dishonesty – cheating and plagiarism**

Academic misbehavior means any activity that tends to compromise the academic integrity of the institution or subvert the education process. All forms of academic misbehavior are prohibited at Wayne State University, as outlined in the Student Code of Conduct (<http://www.doso.wayne.edu/student-conduct-services.html>). Students who commit or assist in committing dishonest acts are subject to downgrading (to a failing grade for the test, paper, or other course-related activity in question, or for the entire course) and/or additional sanctions as described in the Student Code of Conduct.

*Cheating:* Intentionally using or attempting to use, or intentionally providing or attempting to provide, unauthorized materials, information or assistance in any academic exercise. Examples include: (a) copying from another student's test paper; (b) allowing another student to copy from a test paper; (c) using unauthorized material such as a "cheat sheet" during an exam.

*Fabrication:* Intentional and unauthorized falsification of any information or citation. Examples include: (a) citation of information not taken from the source indicated; (b) listing sources in a bibliography not used in a research paper.

*Plagiarism:* To take and use another's words or ideas as one's own. Examples include: (a) failure to use appropriate referencing when using the words or ideas of other persons; (b) altering the language, paraphrasing, omitting, rearranging, or forming new combinations of words in an attempt to make the thoughts of another appear as your own.

*Other* forms of academic misbehavior include, but are not limited to: (a) unauthorized use of resources, or any attempt to limit another student's access to educational resources, or any attempt to alter equipment so as to lead to an incorrect answer for subsequent users; (b) enlisting the assistance of a substitute in the taking of examinations; (c) violating course rules as defined in the course syllabus or other written information provided to the student; (d) selling, buying or stealing all or part of an un-administered test or answers to the test; (e) changing or altering a grade on a test or other academic grade records.

In this course, the first instance of cheating by a student will result in a grade of 0 for the work in question (homework assignment, quiz, exam, etc.). This 0 grade may not be dropped or replaced like other quizzes or midterm exams may be. Repeated instances of cheating will result in a failing grade for the course. For all instances of cheating, the Department of Physics and Astronomy will be notified to ensure that the procedures described in the Student Code of Conduct are followed.

## **Honors**

Honors credit is not available for this course. According to the Honors Option form (effective Winter 2009), the course must be taught by a full-time faculty member for honors credit to be available.

## Schedule

Date	Lecture	LCS	Homework
1/13 (T)	Lecture 1 (16.1 – 16.4)	LCS 1	--
1/15 (Th)	Lecture 2 (16.5 – 16.7, 17.1)	--	--
1/20 (T)	Lecture 3 (17.2 – 17.5)	LCS 2	Homework 1 due
1/22 (Th)	Lecture 4 (17.6 – 17.7, 18.1 – 18.2)	--	--
1/27 (T)	Lecture 5 (18.3 – 18.6)	LCS 3	Homework 2 due
1/29 (Th)	Lecture 6 (18.7 – 18.10)	--	--
2/3 (T)	Exam 1 review	LCS 4	Homework 3 due
2/5 (Th)	Exam 1	--	--
2/10 (T)	Lecture 7 (18.11, 19.1 – 19.3)	LCS 5	Homework 4 due
2/12 (Th)	Lecture 8 (19.4 – 19.9)	--	--
2/17 (T)	Lecture 9 (20.1 – 20.4, 20.6)	LCS 6	Homework 5 due
2/19 (Th)	Lecture 10 (20.8 – 20.10, 22.1)	--	--
2/24 (T)	Lecture 11 (22.3 – 22.6)	LCS 7	Homework 6 due
2/26 (Th)	Lecture 12 (22.7 – 22.8, 23.1 – 23.2)	--	--
3/3 (T)	Exam 2 review	LCS 8	Homework 7 due
3/5 (Th)	Exam 2	--	--
3/10 (T)	Lecture 13 (23.3 – 23.4, 23.6 – 23.7)	LCS 9	Homework 8 due
3/12 (Th)	Lecture 14 (23.8 – 23.9, 24.1 – 24.2)	--	--
3/17 (T)	NO CLASS – SPRING BREAK	--	--
3/19 (Th)	NO CLASS – SPRING BREAK	--	--
3/24 (T)	Lecture 15 (24.3 – 24.6, 25.1)	LCS 10	Homework 9 due
3/26 (Th)	Lecture 16 (25.2 – 25.6)	--	--
3/31 (T)	Lecture 17 (25.7 – 25.9, 27.1 – 27.3)	LCS 11	Homework 10 due
4/2 (Th)	Lecture 18 (27.4 – 27.8)	--	--
4/7 (T)	Exam 3 review	LCS 12	Homework 11 due
4/9 (Th)	Exam 3	--	--
4/14 (T)	Lecture 19 (28.1 – 28.5)	LCS 13	Homework 12 due
4/16 (Th)	Lecture 20 (28.6 – 28.7, 28.9, 29.1)	--	--
4/21 (T)	Lecture 21 (29.2 – 29.5)	LCS 14	Homework 13 due
4/23 (Th)	Final exam review	--	Homework 14 due