

Physics 2100 - Section 04

Introduction to Electricity and Magnetism Fall Semester 2024

- Room/Time:* Lectures: **MW 4:00 - 5:15pm, Seaver 101** (in person).
Lab Sections (starting **third week**): in person **T 3:40 – 5:20pm, Seaver 119-121**.
- Instructor:* Dr. Gabriele Varieschi
Office: Seaver Hall - 110
Phone: (310) 338-7632 (can leave a message)
E-mail: gvarieschi@lmu.edu (I will reply by the next day)
Office hours: MW 2:30 - 3:30pm, (in person office hours)
Other times available by appointment (in person, or on Zoom)
- Course Webpage:* <https://brightspace.lmu.edu/d2l/home/254778> (for all course materials)
Personal Webpage: <http://gvarieschi.lmu.build>
Zoom link: <https://lmula.zoom.us/my/gvarieschi.fall2024>
- COVID-19 info:* Please see the [latest LMU guidelines](#), and also visit:
<https://www.lmu.edu/together/resources/matrix/> for additional information regarding LMU policies.
- Textbook:* Ling, Moebs, and Sanny – University Physics, Vol 2 – Openstax
Free textbook available for download at: <https://openstax.org/details/books/university-physics-volume-2>
- Objectives and Topics:* From Chapter 5 to Chapter 13. Electrostatics. Current, resistance and DC circuits. Magnetism. Induced electromotive force. Electric and magnetic properties of matter. Maxwell's equations. Laboratory experiments pertaining to electricity and magnetism. Calculus based course for engineers and scientists.
- Prerequisite or concurrent enrollment:* Physics 1100 - Introduction to Mechanics, Math 132 – Calculus II (or concurrent enrollment).
- Learning Outcomes:* Understand the phenomenology of electricity and magnetism. Understand the concept of a classical field: electric and magnetic. Be able to solve problems involving DC circuits of increasing complexity and other e.m. problems. Understand the theoretical framework provided by Maxwell's equations. Understand the practical applications of Maxwell's equations. This course serves as a prerequisite for PHYS 3100.
- Tests:* There will be **three tests** during the semester. **The lowest score will be dropped, so only the two best test grades will count toward your final grade.** There will be **no make-up tests** given. **If you miss a test, it will be automatically considered as the dropped one.** Tests are closed-book, but you may bring in a sheet of equations.
- Test Dates:* TBA
- Final Exam:* **SECTION 04: Tuesday – December 10, 2:00pm**
The final exam is cumulative and is equivalent to 2 tests.
- Homework:* Weekly homework will be assigned and partially graded. Solutions will be discussed in class and posted online.

Laboratory: The laboratory is an integral part of this course. The experiments will complement the topics of the lectures. The laboratory will count for 15% of your final grade. Missing 2 or more lab sessions will result in a failing grade for the course. See lab schedule below for more information.

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<https://brightspace.lmu.edu/d2l/home/254778>

<i>Grading:</i>	Laboratory	15 %
	Homework	10 %
	Best Test 1	20 %
	Best Test 2	20 %
	Final Exam	35 %

Course Grading: **0-50%=F; 50-55%=D; 55-60%=C-; 60-65%=C; 65-70%=C+; 70-75%=B-; 75-80%=B; 80-85%=B+; 85-90%=A-; 90-100%=A.**

Academic Honesty: **Academic dishonesty** will be treated as an extremely serious matter with severe consequences that can range from receiving no credit for assignments/tests, failing the class, to expulsion. It is never permissible to turn in any work that has not been authored by the student, such as work that has been copied from another student or copied from a source (including Internet) without properly acknowledging the source. It is your responsibility to make sure that your work meets the standard set forth in the “[Academic Honesty Policy](#)”.

Special Accommodations: Students with special needs who require reasonable modifications, special assistance, or accommodations in this course should promptly direct their request to the Disability Support Services (DSS) Office. Any student who currently has a documented disability (ADHD, Autism Spectrum Disorder, Learning, Physical, or Psychiatric) needing academic accommodations should contact the DSS Office (Daum Hall 2nd floor, 310-338-4216) as early in the semester as possible. All discussions will remain confidential. Please visit <http://www.lmu.edu/dss> for additional information.

Syllabus changes: If necessary, this syllabus and its contents are subject to revision; students are responsible for any changes or modifications announced in class.

Have a nice semester. Good luck!

**Phys 2100 - Laboratory Schedule
Introduction to Electricity and
Magnetism, Fall 2024**

Lab Instructor	Section	Day	Time	Room
Dr. G. Varieschi	04	T	3:40 – 5:20pm	S119 and S121

	<i>Aug. 26</i>	<i>M</i>	<i>Classes begin – NO LAB this week</i>
	<i>Sep. 2</i>	<i>M</i>	<i>University Holiday – NO LAB this week</i>
1.	Sep. 10	T	Electrostatics
2.	Sep. 17	T	Coulomb’s Law
3.	Sep. 24	T	The Oscilloscope
4.	Oct. 1	T	Electric Field Plotting
5.	Oct. 8	T	The Capacitor
	<i>Oct. 11</i>	<i>F</i>	<i>No Classes – Autumn Day</i>
6.	Oct. 15	T	Ohm’s Law
7.	Oct. 22	T	Series and Parallel Resistors
8.	Oct. 29	T	Black Box Power Supply
9.	Nov. 5	T	RC Circuits
10.	Nov. 12	M	Measurement of the e/m Ratio
11.	Nov. 19	T	Magnetic Fields
	<i>Nov. 26</i>	<i>T</i>	<i>No Lab</i>
	<i>Nov. 27-29</i>	<i>W-F</i>	<i>No Classes – Thanksgiving Holidays</i>
	<i>Dec. 3</i>	<i>T</i>	<i>No Lab</i>

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