

PHYS 252

University Physics II

Fall 2016

4 credit hours

Bulletin: Electric charge, field, potential, and current; magnetic field; capacitance; resistance; inductance; RC, RL, LC and RLC circuits; waves; optics.

Prerequisites: PHYS 251 or ME 222

Corequisite: MATH 166

Instructor: Dr. Andrei Kryjevski
Physics, South Eng. 318D

Tel: 231-7046
andrei.kryjevski@ndsu.edu

Classes: MTWF 11:00-11:50 a.m. (AGHILL CTR Building, 112)

Office Hours: MTW 12-1:30 p.m. (or by arrangement)

Goals: Gain conceptual mastery of classical electromagnetism and optics, while developing qualitative and quantitative problem-solving skills.

Objectives: Integrate and apply principles of electricity and magnetism (charge, field, potential, current, circuits, waves, etc.) to solve conceptual and practical problems and to explain fundamental physics underlying EM technologies.

Textbook: Halliday, Resnick, Walker, Fundamentals of Physics, 10 ed., (Wiley, 2013)

Evaluation:	Homework Assignments	200 points
	Midterm Exams	100 points each
	Final Exam (Dec. 16)	200 points
	No make-up exams will be scheduled	

Correct responses to 80% of the homework problems will earn the maximum 200 pts. To best prepare for exams, however, I recommend attempting all homework problems. Your final grade will be based on your homework score (200 pts), your best 2 out of 3 midterm exam scores (200 pts), and your score on the final exam (200 pts).

Total available points: 200 (homework) + 200 (midterms) + 200 (final) = 600 points

Grades: A: 90-100%; B: 80-89.9%; C: 70-79.9%; D: 60-69.9%; F: < 60%

Communication: Weekly homework will be posted on the LON-CAPA homepage:

http://www.ndsu.edu/physics/lon_capa

Follow the login instructions to access our course and mind the assignment deadlines.

Announcements and notes will be posted on our Blackboard course homepage:

<https://bb.ndsu.nodak.edu>

Topics and Timetable

Chapter 21	Electric Charge	Aug. 23-26
Chapter 22	Electric Fields	Aug. 29-Sep. 2
Chapter 23	Gauss' Law	Sept. 6-9
Chapter 24	Electric Potential	Sept. 12-16
Chapter 25	Capacitance	Sept. 19-27
Midterm Exam 1	Covering Chapters 21-24	Wed., Sept. 28
Chapter 26	Current and Resistance	Sept. 30
Chapter 27	Electric Circuits	Oct. 3-7
Chapter 28	Magnetic Fields	Oct. 10-14
Chapter 29	Magnetic Fields Due to Currents	Oct. 17-25
Midterm Exam 2	Covering Chapters 25-29	Wed., Oct. 26
Chapter 30	Induction and Inductance	Oct. 28
Chapter 31	EM Oscillations and AC Current	Oct. 31-Nov. 4
Chapter 32	Maxwell's Equations	Nov. 7-10
Chapter 33	Electromagnetic Waves	Nov. 14-18
Midterm Exam 3	Covering Chapters 30-33	Mon., Nov. 21
	Thanksgiving Break	Nov. 24-25
Chapter 34	Geometrical Optics: Images	Nov. 22-Dec. 2
Chapter 35, 36	Wave Optics: Interference, Diffraction	Dec. 5-9
Final Exam	Comprehensive (21-36)	Dec. 16, 8-10 AM

Physics TAs: http://www.ndsu.edu/physics/current_students/ta_office_hours

Ace Tutoring: http://www.ndsu.edu/studentsuccess/tutoring_schedule

Academic Honesty and Special Needs:

The academic community is operated on the basis of honesty, integrity, and fair play. NDSU Policy 335: Code of Academic Responsibility and Conduct applies to cases in which cheating, plagiarism, or other academic misconduct have occurred in an instructional context. Students found guilty of academic misconduct are subject to penalties, up to and possibly including suspension and/or expulsion. Student academic misconduct records are maintained by the Office of Registration and Records. Informational resources about academic honesty for students and instructional staff members can be found at www.ndsu.edu/academichonesty.

Any students with disabilities or special needs, who need accommodation in this course, are encouraged to speak with the instructor as soon as possible to make appropriate arrangements.