

This syllabus was last updated on **May 30, 2019**

- Instructor:** Wathsala Jayawardana, South Engineering 318C
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- Bulletin Description:** Second course for students without a calculus background. Includes electricity, magnetism, optics and modern physics.
This course has been approved for the General Sciences category in general education because “Students will learn to comprehend concepts and methods of inquiry in science and technology, and their application for society.” and “Students will learn to integrate knowledge and ideas in a coherent and meaningful manner.”
- Goals:** This course provides students with an understanding of the basic principles and applications of electromagnetism, optics, and modern physics. It will guide them in their everyday lives and careers as informed members of our society.
- Objectives:** Students acquire the ability to recognize, analyze, and solve conceptual and quantitative physics problems and apply this ability to novel problems and situations.
Course objectives are met by readings, lectures, in-class discussions, and homework through the development of conceptual understanding and the ability to quantify concepts in specific physical situations. Students demonstrate their level of comprehension in LON-CAPA homework and exams.
- Prerequisites:** Physics 211 or consent of instructor
- Meetings:** Monday-Friday 9:00AM - 10:00AM in *NDSU South Engineering, Rm 120*
According to NDSU Policy 333 (www.ndsu.edu/fileadmin/policy/333.pdf) class attendance is expected but is not a component of the course grade.
- Office hours:** Tue, Thu and Fri 10am-12pm in South Engineering 318C.
- Textbook:** Nicholas J. Giordano, *College Physics, Reasoning and Relationships 2nd edition*, (Brooks/Cole, Cengage Learning), Chapters 17-30
- Topic Outline and Timing:** The textbook chapters to be covered in this course are listed below, along with the tentative exam dates. Most (but not all) material of chapters 17-26 will be covered, chapters 27-30 will only be surveyed.
- Chapters 17,18: Electricity
Exam I: Friday, June 21
- Chapters 19,20: Magnetism
Exam II: Friday, July 5
- Chapters 21,23: Light and Optics
Exam III: Friday, July 19
- Chapters 25,26,30: Modern Physics
Final (make-up) Exam: Friday, August 2
- Format:** The class will involve traditional lecture, along with discussion and problem solving. If desired, paper flash cards will be distributed and used. Students are encouraged to engage in in-class discussions and ask questions at any time during or after class.
- How to succeed:** Attending class, reviewing lecture notes, reading the textbook, taking part in class activities and discussions, and doing homework (and additional) problems are keys to success. Each student is encouraged to contact the instructor with any concerns, questions, and suggestions. If desired, review sessions will be held prior to exams.

LON-CAPA:

The LON-CAPA course management system will be used to post homework, lecture notes, grades, and other information. LON-CAPA can be accessed by selecting the appropriate server at http://www.ndsu.edu/physics/lon_capa/. Your username is everything to the left of the @ in your NDSU email address (use all lowercase letters). For example, if your email address is Sheldon.Cooper.2@ndsu.edu, then your LON-CAPA username is sheldon.cooper.2. Initially you create your own password by following the link “Forgot Password”. For help using LON-CAPA contact your instructor or laboratory technician Paul Omernik (SE110, Paul.Omernik@ndsu.edu, 231-7047) A \$5 course fee is assessed for LON-CAPA server upgrades and maintenance.

Homework: Three homework problem sets will be assigned via the LON-CAPA online system.

set #	coverage	assigned	due	# of problems
1	chapters 17-19	June 11	July 2	solve 20 out of 24
2	chapters 20,21	June 28	July 16	solve 15 out of 16
3	chapters 23-26	July 11	July 30	solve 25 out of 33

Each solved problem earns 1 point (For problems with multiple parts each part earns 1 point). The maximal number of points for all homework sets is $20 + 15 + 25 = 60$. You may work together on homework sets, but simply copying another’s answers is neither recommended nor beneficial. No late homework will be accepted.

Exams: Three in-class “midterm” exams and a comprehensive final exam will be given. The midterm exams will be based primarily on material covered since the last exam, but certain questions may require previous knowledge. The final exam will be comprehensive, covering all course material. Your lowest of the four exam scores (either midterm or final) will be dropped. That is, only the best three exam scores (with maximal 20 points for each exam) count toward the final grade.

One sheet of paper with handwritten notes on both sides is allowed to bring to the mid exams and 2 papers allowed for final. A calculator will be required for successful completion of the exams; all other electronic devices must be turned off and stored. The use of calculator software in cell phones, translators, laptop computers, etc., is not permitted on an exam. No makeup exams will be scheduled.

Grading: Grading will be based on LON-CAPA homework score (max. 60 points) and best 2 out of 3 exams (max. $3 \times 20 = 60$ points). From the actual number of points and the maximal number ($60 + 60 = 120$ points) the percentage will be calculated and used to grade according to: 88.0% - 100% A, 77.0% - 88.0% B, 66.0% - 77.0% C, 55.0% - 66.0% D, 0% - 55.0% F. The instructor reserves the right to lower the grade cutoffs in response to class performance, but they will not be raised.

Additional Statements:

Veterans and student service members with special circumstances or who are activated are encouraged to notify the instructor as soon as possible and are encouraged to provide Activation Orders. Any students with disabilities or other special needs, who need special accommodations in this course are invited to share these concerns or requests with the instructor and contact the Disability Services Office as soon as possible. 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.