

This syllabus was last updated on **August 26, 2019**

- Instructor:** Sylvio May, South Engineering 216A
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web: <https://www.ndsu.edu/faculty/symay/>
- 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:** Tuesday and Thursday 11:00AM - 12:15PM in *NDSU A.G.HILL Building, Room 122*
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:** Mon and Fri 11am-12pm in South Engineering 216A
- 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.
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|-----------------|---|
| Chapters 17-19: | Electricity |
| | Exam I: Tuesday, September 24 |
| Chapters 20-22: | Magnetism |
| | Exam II: Tuesday, October 22 |
| Chapters 23-26: | Light and Optics |
| | Exam III: Tuesday, November 26 |
| Chapters 27-30: | Modern Physics |
| | Final Exam: Tuesday, Dec 17 (8:00am – 10:30am) |
- 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:

This course does not use Blackboard. Instead, 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)

Homework:

Four homework problem sets will be assigned via the LON-CAPA online system.

set #	coverage	assigned	due	# of problems
1	chapters 17-19	Aug 27	Sept 29	solve 25 out of 30
2	chapters 20-22	Sept 26	Oct 27	solve 25 out of 30
3	chapters 23-26	Oct 24	Dec 01	solve 25 out of 30
4	chapters 27-30	Dec 03	Dec 15	solve 15 out of 20

Each correctly 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 $25 + 25 + 25 + 15 = 90$. 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. Each exam (midterm and final) consists of 15 multiple-choice problems. Each correctly solved problem earns 2 points. The problems are a mix of conceptual and computational problem-based questions. Your lowest of the four exam scores (either midterm or final) will be dropped. That is, only the best three exam scores (with maximal 30 points for each exam) count toward the final grade.

All exams are open lecture notes (i.e., using the lecture notes but not the textbook is permitted during an exam). 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. Bring a #2 pencil, photo ID, and calculator to each exam. Scantron sheets will be provided. No makeup exams will be scheduled.

Grading:

Grading will be based on LON-CAPA homework score (max. 90 points) and best 3 out of 4 exams (max. $3 \times 30 = 90$ points). From the actual number of points and the maximal number ($90 + 90 = 180$ 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. Expressed in points, this corresponds to: 159 - 180 A, 139 - 158 B, 119 - 138 C, 99 - 118 D, 0 - 98 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 (www.ndsu.edu/disabilityservices) 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.