

This syllabus was last updated on **May 24, 2018**

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| Instructor | Reed Petersen Email: reed.petersen@ndus.edu |
| 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.” |
| Objectives | This course provides students with an understanding of the basic principles of electromagnetism, optics, and modern physics. It will guide them in their everyday lives and careers as informed members of our society. Students acquire conceptual understanding and the ability to solve quantitative physics problems such that they can readily apply their knowledge to novel problems and situations. Course objectives are met by readings, lectures, 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 exams and LON-CAPA homework. |
| Prerequisites | Physics 211 or consent of instructor |
| Website | https://www.ndsu.edu/physics/lon_capa/ |
| Meetings | Monday-Friday 9:00 AM - 10:00 AM in <i>NDSU Ladd Hall, Rm 114</i> . Class attendance is expected but is not a component of the course grade. |
| Office hours | Mon, Wed, Fri 8:00 AM - 9:00 AM; Tues, Thurs 10:00 AM - 11:00 AM in South Engineering 310 |
| Textbook | Nicholas J. Giordano, <i>College Physics, Reasoning and Relationships 2nd edition</i> , (Brooks/Cole, Cengage Learning), Chapters 17-30. This book is sometimes split into two volumes, only the second is useful for this course. Textbook is recommended, but not required. |
| 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 17-19: Electricity Exam I: Friday, June 22 Chapters 20-21: Magnetism Exam II: Friday, July 06 Chapters 23-25: Light and Optics Exam III: Friday, July 20 Chapters 27-30: Modern Physics Final Exam: Friday, August 03 (9 AM - 10 AM) |
| Format | The class will involve traditional lecture, along with discussion and problem solving. Students are encouraged to engage during in-class discussions and ask questions at any time during or after class, or in office hours. |
| 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** Homework problem sets will be assigned via the LON-CAPA online system. 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 $25 + 25 + 25 + 15 = 90$. 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 final exam will be given. The midterm exams and final will be based primarily on material covered since the last exam, but certain questions may require previous knowledge. As such, they are not intentionally cumulative exams, however the information does build upon itself. The exam problems will be 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, see grading section) count toward the final grade.
- 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 any exam. Bring a #2 pencil, photo ID, and calculator to each exam. 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: 90.0% - 100% A, 80.0% - 90.0% B, 70.0% - 80.0% C, 60.0% - 70.0% D, 0% - 60.0% F. Expressed in points, this corresponds to: 162 - 180 A, 144 - 162 B, 126 - 144 C, 108 - 126 D, 0 - 108 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.*