

**SYLLABUS**  
**PHYSICS 115: DESCRIPTIVE PHYSICS**  
**FALL 2016**

**INSTRUCTOR:** Prof. Donald Umstadter

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**CLASS MEETING ROOM:** 136 Jorgenson Hall

**CLASS MEETING TIME:** MWF 10:30 PM – 11:20 AM

**REQUIRED MATERIALS (See BOOKS link on course Blackboard webpage):**

1. **Textbook: Physics of Everyday Phenomena**
2. **SmartBook Access Card for Physics of Everyday Phenomena**
3. **Calculator**
4. **I-Clicker2** (registered for the UNL personal response system)

**Course Description:** Qualitative approach to physics for the non-science major that emphasizes concepts and how they are used to understand the everyday physical world. Newton's description of motion and forces, the atomic view of matter, kinds and transformations of energy, the nature of electricity and magnetism, sound and light waves, and subatomic particles. **Mathematics at the high school level, including algebra, graphing, and geometry, will be used in discussing the physical concepts.** *3 Credit Hours*

**Course Objectives:**

1. Develop basic science literacy of students, particularly with regard to physics, so that they can better fulfill their role as knowledgeable citizens.
2. Improve students' quantitative reasoning skills.
3. Develop an appreciation for the processes by which scientific knowledge is obtained and evaluated.
4. Develop an understanding of some of the fundamental laws and principles of physics.
5. Develop an understanding of common phenomena from the perspective of physics.

**LEARNING METHODOLOGY:** This is a student-centered-learning course. This entails learning the concepts and methods associated with physics and physics problem solving. Extensive research on learning has shown that mastery of a subject comes not from the instructors or the text, but from the active engagement of every student in the consideration of the concepts and methods of physics. The course activities lead you through the stages of learning from *knowledge* and examples in the textbook and lecture, to *comprehension* of how the concepts work together, to *application* of your mastery in analyzing and solving problems.

**TEXT: Descriptive Physics: Physics 115, Physics of Everyday Phenomenon**, by W. Thomas Griffith and Juliet W. Brosing.

**COURSE MATERIALS, LECTURE NOTES, ETC.:** We will cover ten chapters of the textbook during the course of the semester. In addition to reading assignments from the textbook, there are corresponding study materials online.

**OFFICE HOURS MEETING TIME:** TBA

**COMMUNICATION:**

- I am happy to talk to you about any aspect of the course *in person*. Feel free to talk to me during office hours, or before or after class, or make an appointment for a mutually convenient time.
- I may send occasionally e-mail to the class, and so please make sure your correct e-mail address is listed in BlackBoard, and that you check your email regularly.
- If you send me e-mail, please put “PHYS 115” in the subject heading – this allows me to separate your e-mail from all the spam and reply promptly.

**ASSIGNMENTS**

It is every student’s sole responsibility to frequently check the Blackboard Assignments folder or Calendar for the due dates of assignments. You will be notified in the Announcements folder of some but not all of the upcoming assignments. However, since they are assigned automatically on a regular schedule, you should not miss any if you check regularly. Alternatively, you can create your own calendar reminders using the dates provided in the document "Assignments schedule" (See Course Documents).

| <b>Assignment</b>                          | <b>Frequency</b> |
|--|------------------|
| In-class participation (clicker questions) | Every class      |
| Chapter reading                            | Weekly           |
| Learnsmart module (online self-study)      | Weekly           |
| Reading quiz (online test)                 | Weekly           |
| Homework (online)                          | Weekly           |
| Exam (taken online at testing center)      | Monthly          |

**IN-CLASS PARTICIPATION: Attendance is required.** In order for students to be prepared to participate in discussions and problem solving during the class meetings, they must have read the assigned reading and taken the online **reading quiz** (discussed below). *Class participation is an important part of the learning process.* Please notify me in advance of any absences, or as soon as possible if your absence is due to an emergency.

- It is important that everyone feel free to express his or her understanding – or confusion – during class discussions. Derogatory comments, non-constructive criticism, and other disrespectful behavior (reading newspapers or other materials not related to class, talking while others are talking, etc.) is not acceptable.
- Cell phones must be turned off during class.

**READING:** One chapter of the textbook will be covered approximately each week of the course.

**LEARNSMART:** These learning modules should be completed before taking the reading quiz for the corresponding chapter. Your two lowest scores will not count towards the final grade.

**READING QUIZZES:** The philosophy behind “reading quizzes” is to prepare the student for the work done in class. Reading assigned for each class period, and a reading quiz whenever new material is introduced. The reading must be done and quiz taken *before* the lecture so that you can participate meaningfully in the class discussion.

The goal is to find out what was not clear to you from the reading, so that in class we can focus group discussion on points people do not understand. A reading quiz should only take a few minutes if you have read the material carefully. You may take each reading quiz twice, and will be assigned the highest score of your two attempts. Of course, there is no point taking the quiz and guessing at the answers prior to reading the assignment. Collaboration is not allowed on the reading quizzes.

**IN-CLASS PARTICIPATION:** This work is communicated with the personal response system (clickers). Your participation and performance will be given credit towards your final grade.

**HOMEWORK:** The assignments typically become available at the end of the lecture in which we finished discussing the material from the previous section. No unexcused late homework will be accepted, but you will receive a 10% penalty for each late day for excused assignments, and your two assignments with the lowest scores will not be counted towards the final grade.

**EXAMS:** There will be two in-class quizzes, plus one midterm, and one final exam. No make-up tests will be given; if you have a conflict, you must notify the instructor at least two weeks in advance. The quizzes and exams will be given at the **Digital Learning Center Exam Commons**. They will be closed book. Non-programmable calculators may be used in the exams and quizzes. The equations used in the chapters covered in the exam will be available to you, linked to the test (See Course Documents folder in Blackboard), so that you do not need to memorize them. **Any student caught cheating during a test or exam will be given a failing grade for the course.**

#### **Digital Learning Center Exam Commons Procedures:**

Exams for this course will be taken under electronic supervision at Digital Learning Center, which is located in the Adele Coryell Hall Learning Commons. All testing times are pre-scheduled and exams will be completed on a computer. Before you begin an exam, you must place your personal items in your pre-assigned locker and check-in with Digital Learning Center staff at the front desk. When you have completed your exam, you must check-out at the front desk.

#### **Guidelines:**

- All testing times are pre-scheduled by students. All students are responsible for self sign-up and early sign-up is recommended. Time slots fill up quickly.
- All students are required to have their current N-Card to test. Other forms of ID will not be accepted as a substitute for N-Cards. DLC staff reserve the right to ask for a second ID if needed for identity verification.
- All students will receive two pieces of barcoded scratch paper for their exam. This paper will be scanned in to students upon check-in and scanned out upon check-out.
- Only permitted items are allowed at your computer station during testing, including your N-Card, DLC provided barcoded scratch paper, and writing utensils. Nothing else is allowed at your computer station unless your instructor has made prior arrangements with the DLC.
- All exams must be submitted for grading at the posted closing time. Students will not be given additional time to finish their exams past the posted closing time.

To schedule your exam, please visit <http://dlc-reserve.unl.edu>. For more information about the Exam Commons location, operating hours and student guidelines, please visit <http://dlc.unl.edu>.

**FINAL EXAM:** Taken at a time of your choosing at the testing center during finals week.

**GRADING:** The components that contribute to your grade and their weights are shown in the table below.

Although the grading reflects the determination of grades under typical circumstances, the instructor reserves the right to adjust grades - *both up and down* - based upon the subjective assessment of elements such as participation, diligence, and improvement in class performance, among other factors. No adjustments for extra work will be given.

**Students with disabilities** are encouraged to contact the instructor for a confidential discussion of their individual needs for academic accommodation. It is the policy of the University of Nebraska-Lincoln to provide flexible and individualized accommodation to students with documented disabilities that may affect their ability to fully participate in course activities or to meet course requirements. To receive accommodation services, students must be registered with the Services for Students with Disabilities (SSD) office, 132 Canfield Administration, 472-3787 voice or TTY.

| Item                   | % weight   | Grade | Min. score |
|------------------------|------------|-------|------------|
| Quiz 1                 | 10         | A+    | 90         |
| Quiz 2                 | 10         | A     | 85         |
| Midterm                | 15         | A-    | 80         |
| Final Exam             | 20         | B+    | 75         |
| Homework               | 15         | B     | 70         |
| Reading Quizzes        | 10         | B-    | 65         |
| In-Class Participation | 10         | C+    | 60         |
| LearnSmart             | 10         | C     | 55         |
| <b>Expected Total</b>  | <b>100</b> | C-    | 50         |
|                        |            | D+    | 45         |
|                        |            | D     | 40         |
|                        |            | D-    | 30         |

**From the UNL Student Code of Rights and Responsibilities**

Any student found guilty of academic dishonesty shall be subject to both academic and disciplinary sanctions. Academic dishonesty includes, but is not limited to, the following:

- 1. Cheating.** Copying or attempting to copy from an academic test, examination, or assigned work of another student; using or attempting to use unauthorized materials, information, notes, study aids or other devices for any academic test or assignment. Engaging or attempting to engage the assistance of another individual in misrepresenting the academic performance of a student; or communicating information in an unauthorized manner to another person for an academic test, examination or exercise. *This includes providing your work to another person who submits it as his or her own work.*
- 2. Fabrication and Falsification.** Falsifying or fabricating any information or citation in any academic exercise, work, speech, test or examination. Falsification is the alteration of information, while fabrication is the invention or counterfeiting of information.
- 3. Plagiarism.** Presenting the work of another as one's own (i.e., without proper acknowledgment of the source) and submitting examinations, theses, reports, speeches, drawings, laboratory notes or other academic work in whole or in part as one's own when such work has been prepared by another person or copied from another person. This includes the copying of ideas as well as words.
- 4. Abuse of Academic Materials.** Destroying, defacing, stealing, or making inaccessible library or other academic resource material.
- 5. Complicity in Academic Dishonesty.** Helping or attempting to help another student to commit an act of academic dishonesty.
- 6. Falsifying Grade Reports.** Changing or destroying grades, scores or markings on an examination or in an instructor's records.
- 7. Misrepresentation to Avoid Academic Work.** Misrepresentation by fabricating an otherwise justifiable excuse such as illness, injury, accident, etc., in order to avoid or delay timely submission of academic work or to avoid or delay the taking of a test or examination.

**8. Other.** Academic units and members of the faculty may prescribe and give students prior notice of additional standards of conduct for academic honesty in a particular course, and violation of any such standard of conduct shall constitute misconduct under this Code of Conduct and the University Disciplinary Procedures.

I understand that failure to abide by the University Of Nebraska Student Code Of Conduct will result in a grade of zero being given for the exam or assignment on which the violation occurred, and may include failing the course.