WINTHROP UNIVERSITY
PHYS 101 Course Syllabus
Department of Chemistry, Physics, Geology and the Environment

Semester: Spring 2025 **Course:** PHYS 101
Lecture: TTR 2:00-3:15 SIMS 111

Professor: Dr. Fatima Amir
Office: 203, SIMS, **Office Hours: W 1-3**, or by appointment.
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Textbook: The Physics of Everyday Phenomena, 10th Edition, Griffith, McGraw Hill publishing.

Course Description:
PHYS 101 is an introductory physics course primarily intended for non-science majors. PHYS 101 can be used to meet the natural science requirement for non-science majors. Emphasis will be on conceptual introduction of introductory physics topics in mechanics, sound, heat, properties of matter, and electricity.

Course Objectives:

- Develop an understanding of physics' role as the most basic of the sciences.
- Demonstrate an understanding of the history of scientific discovery.
- Learn the introductory physics concepts associated with mechanics, sound, heat, properties of matter, electricity, magnetism, and optics.
- Gain an understanding of physics' role in technology and in everyday life and to discuss the strengths and limitations of science.
- Develop conceptual and analytical problem-solving skills.

University-Level Competency:

The Everyday Physics course introduces students to the role of scientific reasoning in solving introductory physics problems (e.g., how automobile air bags reduce injury during a collision, why the beach sand warms quicker than the nearby water, and estimating the cost of electricity). They will apply the scientific methodologies of inquiry during demonstrations to predict outcomes and write well-reasoned conclusions. They will also be introduced to the history of scientific discovery (e.g., topics and devices are introduced with historical perspectives) and learn that the theories in physics evolve into laws after continuous re-evaluations and arguments.

General Education Requirements:

PHYS 101 fulfills three hours of general education requirement for natural sciences. Listed below are the fundamental student learning outcomes (1 and 2,4,5,7) for natural science courses as well as examples of how they will be fulfilled in PHYS 101.

Upon completing this course, students will be:
1. Conversant with the following introductory physics concepts: mechanics, sound, heat, properties of

matter, electricity, magnetism, and optics. This competency will be assessed using tests and final exam.
2. Able to apply the scientific methodologies of inquiry. (e.g., Home experiments and Demonstrations are done where students will use scientific methods of inquiry to predict outcomes and write reports). The students' ability to fulfill this requirement is assessed using their reports.
4. Able to demonstrate an understanding of the history of scientific discovery. (e.g., topics and devices are introduced with historical perspectives). This competency will be assessed using tests and final exam.
5. Able to discuss the social and ethical contexts within which science operates. (e.g. environmental and health hazards of new devices and materials and sharing of knowledge). This competency will be assessed using tests and final exam.
6. Able to discuss the application of scientific knowledge to the social sciences and to non-scientific disciplines. (e.g. application of technology in everyday life). This competency will be assessed using essays on assigned topics.

Attendance: Although roll is not formally taken in class, I strongly recommend regular attendance. The course has a significant component of interactive learning, and the activities done in class reinforce the material discussed. If there is a reason that you must miss class, please talk with me to make arrangements to cover the material. The attendance policy described in the Winthrop University undergraduate catalog will be followed.

Students with Disabilities/Need of Accommodations for Access: Winthrop University is committed to providing access to education. If you have a condition which may adversely impact your ability to access academics and/or campus life, and you require specific accommodations to complete this course, contact the Office of Accessibility (OA) at 803-323-3290, or,accessibility@winthrop.edu. Please inform me as early as possible, once you have your official notice of accommodations from the Office of Accessibility.

Academic Dishonesty/Plagiarism: Collaboration on assignments is welcome, but please keep in mind that your final, turned-in work should be your own and not copied. However, no form of cheating/plagiarism will be tolerated in this class. If anyone is suspected of academic dishonesty, I will privately speak with them in an attempt to reach a solution to whatever the problem is. If anyone is without doubt determined to be cheating on a given assignment/test and no resolution can be offered, *negative credit will be given*. In extreme cases, the Department and/or College administration will become involved. The policy on student academic misconduct is outlined in the "**Student Conduct Code Academic Misconduct Policy**" in the online *Student Handbook*: (http://www2.winthrop.edu/studentaffairs/handbook/StudentHandbook.pdf)

Course Communication:

1. Be sure to check your Winthrop email account daily, as I may send out course related announcements that will come *only* to Winthrop email addresses.

2. If you email me, please be sure to use your Winthrop email account I will respond to email within 24 hours except from Saturday morning through Sunday afternoon when my response may be slower.

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Syllabus change policy: The instructor will make changes to this syllabus as deemed necessary for the progression of the course

Class Policy:

Quizzes: Every Thursday**,** there will be 15-20 minutes quizzes on the chapter covered during the week.
Online Component: Videos will be incorporated into this class; you will need to watch the videos included in the schedule and answer questions related to the video.

Exam Policy: There are three in class exams that are 75 minutes' duration and a two-hours final exam. Notes and your book are not allowed during the exam. All relevant equations and physical constants will be provided. If you are going to miss a test, you **must notify me in advance (preferably one week) so alternate arrangements can be made. If you miss a test and your absence is not excused, a grade of zero points must be assessed for that particular piece of work.** You must take all the in-class exams in order to pass the course.

Grading:
Quizzes 20%
Videos assignments 10%
Three in Class exams 15% each
Final exam 25%

The letter grade will be assigned as follows:
100% - 93% = A; 92.9% - 89% = A- ; 88.9% - 86% = B+; 85.9% - 80% = B; 79.9% - 76% = B-
75.9%-73% = C+ ; 72.9% - 67% = C ; 66.9% - 64% = C-; 63.9%-60% = D; 59.9%- 0% = F