

DEPARTMENT: Institute of Engineering

COURSE PREFIX: PHY **COURSE NUMBER:** 256 **CREDIT HOURS:** 1

I. TITLE: Electricity, Magnetism, and Light Laboratory

II. COURSE DESCRIPTION AND PREREQUISITE(S): Laboratory course must be taken concurrently with PHY 255. Two hours laboratory per week.

III. COURSE OBJECTIVES:

The student should gain an understanding of, and proficiency in, the following items.

- A. The experimental foundations upon which physics is based.
- B. The development of physical laws in the solution of problems.
- C. The application of physical laws in the solution of problems.
- D. The development of analytical, logical thought processes which are required for problem solution, and which are also applicable in analyzing situations which occur in everyday life.
- E. The experimental techniques which are used in science.
- F. A familiarity with laboratory equipment and measuring devices.

IV. CONTENT OUTLINE:

- Electric Fields
- Electric Potential
- Capacitance and Dielectrics
- Electric Current
- Direct Current Circuits
- Magnetic Fields
- Magnetic Induction
- Alternating Current Circuits
- Maxwell's Equations and Electromagnetic Waves
- Light
- Geometrical Optics
- Interference and Diffraction

V. INSTRUCTIONAL ACTIVITIES: Lecture, demonstration, problem solution, laboratory experiments.

VI. FIELD, CLINICAL, AND LABORATORY EXPERIENCES: PHY 256 consists of one 2-hour laboratory per week, with experiments complementing the PHY 255 lecture material.

VII. TEXT(S) AND RESOURCES:

Textbook: *A Laboratory Course in Electricity, Magnetism, and Optics* by Don D. Duncan
Semester: Fall 2015

Class times: PHY 256-01 Thurs 9:30-11:20

PHY 256-02 Thurs 2:30-4:20

Instructor: Mrs. Carol Baltimore

E-mail: cbaltimore@murraystate.edu

Phone: (270) 809-4915

Office: Blackburn 16

Office Hours: 10:30-11:30 Monday - Friday and by appointment

VIII. EVALUATION AND GRADING PROCEDURES: Participation and teamwork during laboratory experiments and individual performance on laboratory exercises are used to determine the final grade. The final grade is based on the following:

A=90-100 B=80-89 C=70-79 D=60-69 E=0-59

IX. ATTENDANCE POLICY: Attendance is required in order to complete the lab experiments and exercises. At the end of the semester you will have the opportunity to make-up ONE missed lab.

X. ACADEMIC HONESTY POLICY:

Murray State University takes seriously its moral and educational obligation to maintain high standards of academic honesty and ethical behavior. Instructors are expected to evaluate students' academic achievements accurately, as well as ascertain that work submitted by students is authentic and the result of their own efforts, and consistent with established academic standards. Students are obligated to respect and abide by the basic standards of personal and professional integrity.

Violations of Academic Honesty include:

Cheating - Intentionally using or attempting to use unauthorized information such as books, notes, study aids, or other electronic, online, or digital devices in any academic exercise; as well as unauthorized communication of information by any means to or from others during any academic exercise.

Fabrication and Falsification - Intentional alteration or invention of any information or citation in an academic exercise. Falsification involves changing information whereas fabrication involves inventing or counterfeiting information.

Multiple Submission - The submission of substantial portions of the same academic work, including oral reports, for credit more than once without authorization from the instructor.

Plagiarism - Intentionally or knowingly representing the words, ideas, creative work, or data of someone else as one's own in any academic exercise, without due and proper acknowledgement.

Disciplinary action may include, but is not limited to the following:

- 1) Requiring the student(s) to repeat the exercise or do additional related exercise(s).
- 2) Lowering the grade or failing the student(s) on the particular exercise(s) involved.
- 3) Lowering the grade or failing the student(s) in the course.

If the disciplinary action results in the awarding of a grade of E in the course, the student(s) may not drop the course.

Faculty reserve the right to invalidate any exercise or other evaluative measures if substantial evidence exists that the integrity of the exercise has been compromised. Faculty also reserve the right to document in the course syllabi further academic honesty policy elements related to the individual disciplines.

A student may appeal the decision of the faculty member with the department chair in writing within five working days. Note: If, at any point in this process, the student alleges that actions have taken place that may be in violation of the Murray State University Non-Discrimination Statement, this process must be suspended and the matter be directed to the Office of Institutional Diversity, Equity and Access. Any appeal will be forwarded to the appropriate university committee as determined by the Provost.

XI. NON-DISCRIMINATION POLICY AND STUDENTS WITH DISABILITIES:

Policy Statement

Murray State University endorses the intent of all federal and state laws created to prohibit discrimination. Murray State University does not discriminate on the basis of race, color, national origin, gender, sexual orientation, religion, age, veteran status, or disability in employment, admissions, or the provision of services and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities equal access to participate in all programs and activities. For more information, contact the Executive Director of Institutional Diversity, Equity and Access, 103 Wells Hall, (270) 809-3155 (voice), (270) 809-3361 (TDD).

Students with Disabilities

Students requiring special assistance due to a disability should visit the Office of Student Disability Services immediately for assistance with accommodations. For more information, students should contact the Office of Student Disability Services, 423 Wells Hall, Murray, KY 42071. 270-809-2018 (voice) 270-809-5889(TDD).