

# Louisiana Delta Community College

## Academic Affairs Master Syllabus

**Course Name:** GENERAL PHYSICS II

**Course Number:** PHYS 220

**Lecture hours:** 3                      **Lab Hours:** 0                      **Credit Hours:** 3

**Textbook, Author, and Publisher:** To be provided by College Campus

**Instructor Information:** To be provided by College Campus

**Class Location:** To be provided by College Campus

### **Course Description:**

This first semester of a two-semester course is an overview of basic concepts and principles of optics, electricity, magnetism, and other topics of modern physics. This course is intended for science majors.

**Prerequisites:** Successful completion of PHYS 210 & 211 with a grade of C or better

**Co-requisites:** Concurrent enrollment in PHYS 221

### **Learning Outcomes:** On completion of this course, the student will be able to:

1. Relate electric charge to atomic structure and describe the forces between charged bodies
2. State and apply Coulomb's Law
3. Define and calculate an electric field
4. Identify parts of an electric circuit
5. Compare a series and a parallel circuit and calculate equivalent resistance in a circuit
6. State and apply Ohm's Law
7. Describe how electrical energy is calculated
8. State and apply Kirchhoff's Rules
9. Define capacitance
10. Calculate the equivalent capacitance and the energy stored by a capacitor
11. Define dielectric, conductors, and insulators
12. State and apply the Biot-Savart Law
13. Describe magnetism and the behavior of magnetic poles
14. Describe the Earth's magnetic field
15. Relate magnetic field and magnetic field lines of force
16. Calculate the magnetic force of current carrying wires
17. State the relationship between work, energy, EMF, and potential difference
18. State and apply Lenz's Law and Faraday's Law
19. Apply the lens equation
20. State the laws of light reflection
21. Define the Index of refraction of a medium; state and apply Snell's Law
22. Demonstrate mastery of the terminology pertaining to lenses, rays, images and magnification
23. Describe the structure and properties of atoms and nuclei
24. Explain Einstein's two basic postulates that the foundation of the Theory of Relativity
25. Compare and contrast the types of properties of radioactivity
26. Describe the types of nuclear reactions.

**Assessment Measures:** To be provided by College Campus

**Library Resource Center:**

The Delta Library and Learning Resource Center is committed to providing quality information and learning resources and services, including technology, in supporting the overall mission of Delta Community College and its commitment to lifelong learning.

**Special Accommodations:**

Louisiana Delta Community College complies with Section 504 of the Rehabilitation Act, as well as the Americans with Disabilities Act. Students with disabilities who attend the Monroe campus may make a request by contacting the Director of Counseling and Disability Services (See College Directory for contact information.) at the beginning of each semester. Reasonable accommodations will be attempted for students with documented disabilities. If an impairment is identified later in the semester, a non-retroactive accommodation plan will be developed. Students at satellite campuses should contact the Coordinator of Student Affairs at their particular campus.

**Title IX:**

Louisiana Delta Community College is committed to protecting the rights of students, which includes compliance with Title IX requirements. As such, the institution and members of our community will not tolerate the offenses of dating violence, domestic violence, sexual assault, and stalking. Students with Title IX concerns should contact the College's Title IX Coordinator (See College Directory for contact information.) Students are required to complete Sexual Assault Awareness and Prevention Online Training. Access to this online course will be sent out through the Delta email account.

**Student Code of Conduct:**

Louisiana Delta Community College encourages an environment of academic integrity and mutual respect. Students should read and follow both academic and behavioral expectations identified in the Code of Student Conduct that can be found online at [www.ladelta.edu](http://www.ladelta.edu). Students are expected to act with integrity, respect the rights of others, and conduct themselves in a professional manner. The Honor Code prohibits academic misconduct such as cheating, engaging in unauthorized collaboration, and plagiarism. Violations of the Code of Student Conduct may result in disciplinary action as provided in the Code. Incidents are reported through the online Student Conduct system.