

## General Physics B

### PHY2049C

#### Course Description:

An introduction to electricity, magnetism and optics for physical science majors, designed to be taken as a sequence with General Physics A (PHY 2048C) and Intermediate Modern Physics (PHY 3101). Calculus is used.

**Course Learning Objectives** (including liberal studies learning objectives assigned to the course):

By the end of the course, students will demonstrate the ability to:

- map electric fields and potentials due to point charges or continuous distributions of charge
- determine magnetic fields caused by moving charges and currents and calculate the magnetic forces on other moving charges and currents caused by these fields
- find voltage drops and currents across individual resistors in resistive networks
- calculate electromotive forces caused by magnetic induction in current loops
- measure and explain voltages and currents in alternating current circuits that include resistors, capacitors and inductors
- calculate interference patterns for single-frequency electromagnetic radiation passing through one slit, two slits or diffraction gratings
- pose questions or hypotheses based on scientific principles
- use appropriate scientific methods and evidence to evaluate claims or theoretical arguments about the natural world
- analyze and interpret research results using appropriate methods

#### Grading Assignments:

- Participation
- Laboratory reports
- Reading assignments
- Homework
- Exams
- Quizzes

#### LIBERAL STUDIES STATEMENT

This course has been approved to meet FSU's Liberal Studies Natural Sciences requirement and helps you become an effective interpreter of scientific results and a critical analyst of claims

about the natural world.

By the end of this course, students will:

1. Pose questions or hypotheses based on scientific principles.
2. Use appropriate scientific methods and evidence to evaluate claims or theoretical arguments about the natural world.
3. Analyze and interpret research results using appropriate methods.

## **UNIVERSITY ATTENDANCE POLICY**

Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

## **ACADEMIC HONOR POLICY**

The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the

process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "...be honest and truthful and... [to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at <http://fda.fsu.edu/Academics/Academic-Honor-Policy>)

## **AMERICANS WITH DISABILITIES ACT**

Florida State University (FSU) values diversity and inclusion; we are committed to a climate of mutual respect and full participation. Our goal is to create learning environments that are usable, equitable, inclusive, and welcoming. FSU is committed to providing reasonable accommodations for all persons with disabilities in a manner that is consistent with academic standards of the course while empowering the student to meet integral requirements of the course.

To receive academic accommodations, a student:

- (1) must register with and provide documentation to the Office of Accessibility Services (OAS);
- (2) must provide a letter from OAS to the instructor indicating the need for accommodation and what type; and, (3) should communicate with the instructor, as needed, to discuss recommended accommodations. A request for a meeting may be initiated by the student or the instructor.

Please note that instructors are not allowed to provide classroom accommodations to a student until appropriate verification from the Office of Accessibility Services has been provided.

This syllabus and other class materials are available in alternative format upon request.

For more information about services available to FSU students with disabilities, contact the

Office of Accessibility Services 874 Traditions Way 108 Student Services Building Florida State University Tallahassee, FL 32306-4167 (850) 644-9566 (voice) (850) 644-8504 (TDD)  
oas@fsu.edu <https://dsst.fsu.edu/oas>

## **ACADEMIC SUCCESS**

Your academic success is a top priority for Florida State University. University resources to help you succeed include tutoring centers, computer labs, counseling and health services, and services for designated groups, such as veterans and students with disabilities. The following information is not exhaustive, so please check with your advisor or the Dean of Students office to learn more.

## **CONFIDENTIAL CAMPUS RESOURCES**

Various centers and programs are available to assist students with navigating stressors that might impact academic success. These include the following:

Victim Advocate Program  
University Center A, Rm. 4100  
(850) 644-7161  
Available 24/7/365  
Office Hours: M-F 8-5  
<https://dsst.fsu.edu/vap>

Counseling and Psychological Services  
Askew Student Life Center, 2nd floor  
942 Learning Way  
(850) 644-8255  
<https://counseling.fsu.edu/>

University Health Services  
Health and Wellness Center  
(850) 644-6230  
<https://uhs.fsu.edu/>