PHYSICS AND MATH REQUIREMENTS FOR PHYSICS MAJORS

The information below is meant to help you make the best choices for your success in our program. We want you to succeed, and we are here to help. Please ask any questions you have!

UNDERGRADUATE ADVISOR: Michelle D. Chabot, Ph. D.
E-MAIL: mchabot@cas.usf.edu; CAMPUS LOCATION: PHY 006

Appointments and Advising Sessions:
Send an Email to Dr. Chabot (mchabot@cas.usf.edu) with your UID and your questions.
A response will be provided within 2 working days, usually sooner.

REQUIRED SEQUENCE OF COURSES FOR LOWER-LEVEL PHYSICS AND MATH COURSES

In addition to the PHY and MAC courses listed below, physics majors must also take CHM 2045/2045L and CHM 2046/2046L. These can be taken at any time that works best for the student.

ANY SEMESTER

MAC 2281 OR MAC 2311: Calculus 1

ANY SEMESTER

PHY 2048 and PHY 2048L: General Physics I with Lab
PR: Calc I (MAC 2311/2281)
MAC 2282 OR MAC 2312: Calculus 2
PR: Calc I (MAC 2311/2281)

ANY SEMESTER

PHY 2049 and PHY 2049L: General Physics II with Lab
PR: Calc II (MAC 2312/2282), PHY 2048/2048L
MAC 2283 OR MAC 2313: Calculus 3
PR: Calc II (MAC 2312/2282)

REGISTRATION CONSIDERATIONS FOR UPPER-LEVEL STUDENTS

B.A. vs B.S.
Our department offers both the B.A. and the B.S. degrees. The B.S. degree is best for those students who are considering graduate school in physics or a related field and who are not double-majoring. The B.A. degree is best for a variety of students, such as those who are planning to pursue graduate work in another field (eg: medicine, law, business, education), or those that are double-majoring. The curriculum is very similar for both degrees, so a decision does not need to be made right away.

UNDERGRADUATE RESEARCH
Obtaining research experience as an undergraduate is a critical aspect of our degree program. We require 1-2 credit hours of research, but you are strongly encouraged to extend your research time well past this requirement. Many undergraduate research projects have resulted in conference presentations or even journal publications; this is especially beneficial to students considering physics graduate school.

Upper-level course sequences are detailed on the following pages.
SUGGESTED SEQUENCE OF COURSES FOR UPPER-LEVEL PHYSICS COURSES

Traditionally, students start the upper level sequence in the fall term and take two years to complete it. This scenario is outlined below. However, many students take a non-traditional route by starting in the spring term and/or by taking 3 years to complete the major; possibilities for these scenarios are outlined below as well. However, students taking a non-traditional route are strongly encouraged to talk with an academic advisor to determine the best path for their situation. Contact the academic advisor with any and all questions!

RECOMMENDED 2-YEAR PATH, STARTING IN THE FALL TERM

FALL, YEAR 1
PHY 3101: Modern Physics - 3 hrs - Fall or Spring
PR: PHY2049, 2049L, and Calc III (MAC 2313 or MAC 2283)
PHZ 3113: Math Methods - 3 hrs - Fall Only
PR: PHY2049; Calc III
PHY 3822L: Intermediate Lab - 3 hrs - Fall Only
PR: PHY2049, PHY2049L

SPRING, YEAR 1
PHY 3221: Mechanics I - 3 hrs - Spring Only
PR: PHY3101, PHZ 3113
PHY 3323: Electricity and Magnetism I - 3 hrs - Spring Only
PR: PHY3101, PHZ 3113
PHY 4823L: Advanced Lab - 3 hrs - Spring Only
PR: PHY3822L

SUMMER C
PHY 4910: Undergraduate Research - 2 hrs for B.S.; 1 hr for B.A.
No PR; Requires a department approval form prior to registration

FALL, YEAR 2
PHY 4222: Mechanics II - 3 hrs - Fall Only
PR: PHY3221
PHY 4324: Electricity and Magnetism II - 3 hrs - Fall Only
PR: PHY3323
Possible Elective (6 total hrs of electives required for B.S. - see list on last page for course options)

SPRING, YEAR 2
PHY 4604: Introduction to Quantum - 3 hrs - Spring Only
PR: PHY3101, PHZ 3113
PHY 4523: Statistical Physics (required for B.S. only) - 3 hrs - Spring Only
PR: PHY3221 or PHY3323
PHY 4930: Undergraduate Seminar
Possible Elective (6 total hrs of electives required for B.S. - see list on last page for course options)

GRADUATE!
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<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Term</th>
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Possible Elective (6 total hrs of electives required for B.S. - see list on last page for course options)

GRADUATE!
In addition to the required courses detailed above, students must complete all College and University requirements for graduation. Students can access their degree audit (SASS report) at facts.org (college students > graduation check; use your U# and OASIS pin) to see which requirements are missing.

**LIST OF COURSES FOR PHYSICS ELECTIVES FOR THE B. S.**

For the B. S., a minimum of 6 credit hours of physics electives subject to approval of the undergraduate advisor are required. The following are approved electives and the term that they are offered.

- Optics (PHY 4936) - 3 hours - Fall Only
- Computational Physics (PHZ 4151C) - 3 hours - Fall Only
- Biophysics (PHY 4936) - 3 hours - Fall Only
- Intro to Electronics and Test Instrumentation (PHY4744C) - 3 hours - Spring Only
- Materials Physics (PHZ 4434) - 3 hours - Spring Only
- Mathematical Methods in Physics (PHZ 3113) - 3 hours - Fall Only

***For catalog years before 2010, Math Methods will count as an elective. For catalog year 2010 and later, Math Methods is not an elective because it is a required core course. Regardless of your catalog year, you must take math methods in your first fall term in upper level courses, because it is a prerequisite for other core courses.***

**MINIMUM GRADE AND GPA REQUIREMENTS FOR MAJORS**

"C" (not "C-") is the minimum grade needed in each of the following courses:
- the required supporting courses in math and chemistry
- all physics major courses

"C-") is the minimum grade needed in each of the following courses:
- the liberal arts general education courses
- the liberal arts exit courses

"C" average (2.0) is needed in the following GPAs:
- the major GPA with USF coursework
- the USF cumulative GPA
- the overall GPA

This is not an official document of the university or of the department although the information has been taken from the catalog. You must view your official SASS report regularly to verify that the decisions you make about your coursework reflect the official policies of the university.