• PHYSICS (PHY/PHS)

The Department of Physics offers undergraduate programs leading to a Bachelor of Arts (B.A.) or a Bachelor of Science (B.S.) degree. The B.A. program is designed for students interested in a more general education in physics. The curriculum allows enough flexibility in electives to enable students to combine a physics major with another major in such areas as mathematics, biology, chemistry, computer science, engineering, business, and teacher education. The B.S. program is for students planning to pursue graduate studies in physics, applied science or engineering. For those students who desire additional capabilities in physics beyond the General Physics sequence, they may pursue a Minor in Physics or Biomedical Physics.

At the graduate level, the Department of Physics offers three Master’s degree programs (Master of Science in Physics, Master of Science in Applied Physics and Dual-Master Degrees in Physics and Engineering Science) and a Ph.D. degree program in Applied Physics.

Requirements for the Majors in Physics
Prerequisites (State Mandated Common Prerequisites)

Students wishing to transfer to USF should complete the A.A. degree at the community college. Some courses required for the major may also meet General Education Requirements thereby transferring maximum hours to the university. If students transfer with fewer than 60 semester hours of acceptable credit, the students must meet the university’s entering freshman requirements including ACT or SAT test scores, GPA, and course requirements.

The transfer student should also be aware of the immunization, foreign language, and continuous enrollment policies of the university.

Students should complete the following prerequisite courses listed below at the lower level prior to entering the university. If these courses are not taken at the community college, they must be completed before the degree is granted. Unless stated otherwise, a grade of “C” is the minimum acceptable grade.

**PHY 2048 General Physics I (3)  **
**PHY 2048L General Physics I Lab (1)  **
**PHY 2049 General Physics II (3)  **
**PHY 2049L General Physics II Lab (1)  **
**PHY 3101 Modern Physics (3)  **
**PHY 3221 Mechanics I (3)  **
**PHY 3822L Intermediate Lab (3)  **
**PHY 3323 Electricity and Magnetism I (3)  **
**PHY 4222 Mechanics II (3)  **
**PHY 4930 Undergraduate Seminar (1)  **
**PHY 4910 Undergraduate Research (1-4)  **
**PHY 4823L Advanced Laboratory (3)  **
**PHY 4604 Intro. to Quantum Mechanics (3)  **

Coursework for Majors in Physics

**B.A. PHYSICS (PHY) (34 credit hours)  **

**PHY 2048 General Physics I (3)  **
**PHY 2048L General Physics I Lab (1)  **
**PHY 2049 General Physics II (3)  **
**PHY 2049L General Physics II Lab (1)  **
**PHY 3101 Modern Physics (3)  **
**PHY 3221 Mechanics I (3)  **
**PHY 3822L Intermediate Lab (3)  **
**PHY 3323 Electricity and Magnetism I (3)  **
**PHY 4222 Mechanics II (3)  **
**PHY 4930 Undergraduate Seminar (1)  **
**PHY 4910 Undergraduate Research (1-4)  **
**PHY 4823L Advanced Laboratory (3)  **
**PHY 4604 Intro. to Quantum Mechanics (3)  **

**B.S. PHYSICS (44 credit hours)  **

**PHY 2048 General Physics I (3)  **
**PHY 2048L General Physics I Lab (1)  **
**PHY 2049 General Physics II (3)  **
**PHY 2049L General Physics II Lab (1)  **
**PHY 3101 Modern Physics (3)  **
**PHY 3221 Mechanics I (3)  **
**PHY 3822L Intermediate Lab (3)  **
**PHY 3323 Electricity and Magnetism I (3)  **
**PHY 4222 Mechanics II (3)  **
**PHY 4930 Undergraduate Seminar (1)  **
**PHY 4910 Undergraduate Research (1-4)  **
**PHY 4823L Advanced Laboratory (3)  **
**PHY 4604 Intro. to Quantum Mechanics (3)  **

Requirements for the Minor in Physics

A minor in Physics consists of 19 credit hours which includes:

**Required Courses  **

**PHY 2048 or 2053 General Physics I (3)  **
**PHY 2048L or 2053L General Physics I Lab (1)  **
**PHY 2049 or 2054 General Physics II (3)  **
**PHY 2049L or 2054L General Physics II Lab (1)  **
**PHY 3101 Modern Physics (3)  **

**Elective Courses (Pick from list below) (8 credit hours)  **

**PHY 3221 Mechanics I (3)  **
**PHY 3323 Electricity and Magnetism I (3)  **
**PHY 4604 Intro. to Quantum Mechanics (3)  **

Or Physics electives subject to approval of undergraduate advisor.

**Required Supporting Courses  **

Correct prerequisites for any course required.

Requirements for the Minor in Biomedical Physics

A minor in Biomedical Physics consists of 16 credit hours which includes:

**Required Courses  **

**PHY 2048 or 2053 General Physics I (3)  **
**PHY 2048L or 2053L General Physics I Lab (1)  **
**PHY 2049 or 2054 General Physics II (3)  **
**PHY 2049L or 2054L General Physics II Lab (1)  **
**PHZ 4731 Appl of Phy to Bio. & Medicine I (4)  **
**PHY 4732 Appl of Phy to Bio. & Medicine II (4)  **
This minor combines fundamental knowledge of physics acquired through the General Physics lectures and laboratories to applications that cover a wide spectrum of topics of interest to students pursuing a future clinical or research career in the areas of biology, medicine, biophysics, and other related areas.

A minimum "C" average in the 16 credit hours is required for obtaining this minor.

**Teacher Education Programs**

For information concerning the degree programs for secondary school teachers, see College of Education, Department of Secondary Education; for junior college teachers, see USF Graduate Catalog.