Bachelor of Science in Physics (Second Major)

About This Program

Students who satisfy the requirements for any other baccalaureate degree qualify to have Physics named as a second major upon completion of program requirements.

Physics majors are encouraged to participate in research projects for course credit or financial reward under faculty guidance. In this way, undergraduate students can gain hands-on experience from various research disciplines, including astrophysics, biophysics, computational physics, high-energy physics, medical physics, optics, space physics, and theoretical and experimental condensed matter physics.

Competencies

1. Graduates will gain a strong understanding of fundamental physics concepts like mechanics, electromagnetism, quantum mechanics, and thermodynamics, and in-depth knowledge in chosen areas of specialization within physics, such as condensed matter physics, astrophysics, or particle physics.
2. Graduates will gain the ability to apply mathematical tools and computational methods to solve complex physics problems.
3. Graduates will develop experimental skills and competence in designing and conducting experiments, analyzing data, and reporting findings.
4. Graduates will develop the ability to undertake independent research, including literature reviews, methodology development, data analysis, and scientific communication.
5. Graduates will develop critical thinking and problem-solving skills by analyzing complex physical systems, formulating precise scientific questions, and applying appropriate theoretical and experimental methods to find effective solutions.
6. Graduates will develop the ability to clearly and effectively communicate scientific information both verbally and in writing.
7. Graduates will develop analytical skills to understand complex concepts, interpret data, and construct logical arguments.
8. Graduates will gain proficiency in using appropriate software and programming languages for data analysis and computational modeling.
9. Graduates will be able to articulate the skills and knowledge they have gained and apply them to future career, employment, or educational goals.

Curriculum

PHYS 1443	GENERAL TECHNICAL PHYSICS I	4
PHYS 1444	GENERAL TECHNICAL PHYSICS II	4
PHYS 2311	MATHEMATICAL METHODS OF PHYSICS	3
PHYS 3313	INTRODUCTION TO MODERN PHYSICS	3
PHYS 3321	INTERMEDIATE ELECTRICITY AND MAGNETISM	3
PHYS 4326	INTRODUCTION TO QUANTUM MECHANICS	3
Select 17 hours of PHYS electives approved by a Physics undergraduate advisor or department chair.		17
Total Hours		**37**

Advising Resources

Location:

Science Hall 328 C

Email:

kaycee.nikses@uta.edu

Phone:

817-272-9686

Web:

Schedule an Appointment (https://www.uta.edu/academics/schools-colleges/science/departments/physics/advising/)