

DEPARTMENT OF PHYSICS

Location: 112 Archer Building

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Chair: Dr. Philip Cole

Physics is the most fundamental of the sciences. Indeed, one can say, everything derives from physics. All physical principles and the very laws of the universe stem from physics: ranging from the whispering of gravitational waves resulting from the cataclysmic merging of two black holes a billion years ago, to how the sun shines so brightly and why it will continue to do so for another 4 billion years, to the forces that bind together the atoms that make up the transistors in this computer, to the interactions of electromagnetic radiation with this screen monitor and your eye, which enables you to read these very words. Physics is all about the infinitesimally small to the infinitely big. Therefore, having a solid background in physics will serve you well in succeeding in other STEM fields, such as astronomy, biology, chemistry, geology, and all aspects of engineering.

The study of physics is subdivided into several basic areas of study, including Newtonian (classical and celestial) mechanics, statistical physics and thermodynamics, electricity & magnetism, quantum mechanics, optics and photonics, solid-state physics, nuclear physics, particle physics, and Einstein's general relativity. The study of physics offers a vast multitude of opportunities. A good foundation in physics will prepare a student for specializing in any number of areas of research, as well as provide for an excellent background upon entering such wide-ranging fields as electrical engineering, computer science, astronomy, nuclear engineering, unconventional energy sources, imaging, biology, mathematics, communications, meteorology, oceanography, law, medicine, and teaching. And most importantly, physics is fun!

The emphasis of the Lamar University physics program is on quality instruction at the undergraduate level. We strongly focus on face-to-face classroom instruction and encourage one-to-one interactions, with a personalized approach. Undergraduate students are strongly encouraged to participate in research activities directed by faculty mentors. We have a very solid track record. The program of study in physics is one of the most flexible in the university. It offers many options and electives that make it possible to get a good foundation in physics as well as the necessary background to go into many other fields. The undergraduate degree offered is the Bachelor of Science (B.S.).

Physics as a Second Major

Physics may be selected as a second major for students wishing to broaden their education. The most popular options are to combine Physics with Engineering or Mathematics. Combinations are also available with Chemistry and Computer Science. A student may choose one degree with a double major or two separate degrees (dual degree). A physics advisor can give you specific details on your choice of the field combinations.

Physics Minors

Students wishing to pursue a minor in Physics (20 hours) are strongly encouraged to instead consider Physics as a second major (30 hours) to receive a deeper professional understanding of Physics and increase their job marketability.

Programs

- **Physics (B.S.)** (<https://catalog.lamar.edu/college-arts-sciences/physics/physics-bs/>)
- **Physics Minor** (<https://catalog.lamar.edu/college-arts-sciences/physics/physics-minor/>)