

New Mexico State University College of Arts and Sciences

Department of Physics

Department of Physics

The NMSU Department of Physics offers BS, BA, MS, and Ph.D. degrees in Physics as well as a BS in Engineering Physics. It is recognized nationally for awarding degrees to under-represented minorities and women and for its high quality of education. Its award-winning faculty are dedicated teachers and known for top-notch research in nuclear physics, materials physics, optics, and geophysics, performed on campus and at international facilities.

About Us

The Department of Physics is housed in Gardiner Hall, right off the Horseshoe. The Department has sixteen faculty members, four postdocs, four administrative, teaching, and research staff members, and 69 undergraduate and 37 graduate students. The Department has an endowment of about USD 4.5 million, which allows us to award about USD 156,000 per year in scholarships and fellowships to our students. Research expenditures from federal funding agencies have been around USD 1.4 million per year.

Undergraduate Curriculum

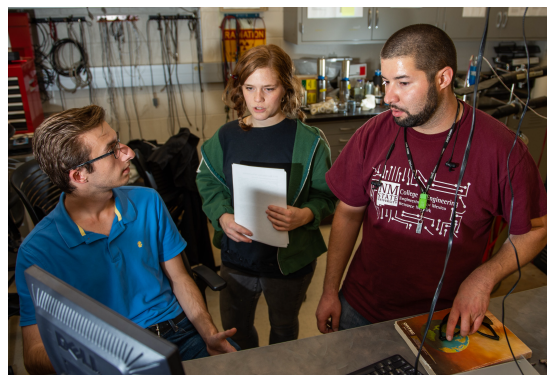
The Department offers ABET-accredited BS degrees in physics and engineering physics (with concentrations in electrical, mechanical, aerospace, or chemical engineering). A BA in physics is for students who wish to obtain a minor in a second field, such as astronomy, mathematics, chemistry, etc. All our students take two years of introductory courses in mechanics, electricity and magnetism, atomic and quantum physics, relativity, optics, and waves along with three semesters of calculus and differential equations. This introductory curriculum is followed by upper-division physics courses, which provide a more in-depth understanding of these topics. Our department offers students individual advising by physics faculty members, a low student/faculty ratio, small class sizes, and excellent laboratory and computational training.

Graduate Curriculum

Physics Ph.D students complete two years of course work in core subjects like mechanics, thermodynamics, electricity and magnetism, and quantum mechanics, followed by advanced courses in their specialty area of interest like quantum field theory, nuclear physics, geophysics, or modern materials. They also learn mathematical, computational, and laboratory methods. After passing two written and one oral examination, they perform three years of research, either on campus or at national research labs in New Mexico and around the world. MS students complete their degree in one to two years, following a customized program of study capped by a thesis or a written examination. A five-year BS/MS option is also available.

Current Research

Guided by NMSU faculty and government scientists, our undergraduate and graduate students perform research in nuclear physics, materials physics, optics, astronomy, and geophysics. They hunt neutrinos flying from Chicago to South Dakota, study the internal structure of the proton using quantum chromodynamics, model the properties of complex metal oxides for clean energy solutions, or shoot femtosecond lasers at electronic materials. Some of our undergraduate researchers are advised by faculty in the NMSU astronomy department.



Interested in more information?

575-646-3831 | <https://phys.nmsu.edu/>

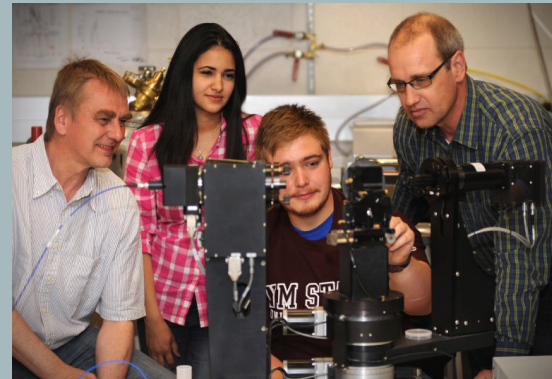
1255 N. Horseshoe Street | Las Cruces, NM 88003

Student Organizations

The Department has three student organizations, the Society of Physics Students (SPS), the Society for Engineering and Physics (SEPh), and the Physics Graduate Student Organization (PGSO). They usually meet weekly and are very active in physics outreach with visits to local high schools and hosting an annual summer camp. PGSO aims to provide physics graduate students with a sense of community (including peer mentoring). It also serves as an avenue for both participating in outreach and raising any questions/concerns about the department.

Scholarships

The Department has an endowment of about USD 4.5 million, which allows us to award about USD 156,000 each year in scholarships and fellowships to our students. Typical scholarship awards range from USD 500 to 2000 per semester, based on merit and financial need. It is important for students to submit a FAFSA and NMSU ScholarDollar application each year. We also offers employment opportunities to help with instructional laboratories, as peer learning assistants and tutors, and for undergraduate research. Most graduate students are supported with a 20-hour teaching or research assistantship (about USD 20,000 per academic year, with additional support available over the summer) and an out-of-state tuition waiver. Some research grants also pay for in-state tuition and health insurance.



Careers in Physics

Our graduates with a BS or BA either move on to graduate school in physics and astronomy, engineering, or other fields; or they take jobs in industry, the military, or with government research labs in New Mexico and elsewhere. MS or Ph.D. holders take jobs with companies like Intel or Raytheon, national labs like White Sands, Sandia, or Los Alamos, or they continue their research career in a postdoctoral position. A physics education prepares students for many different careers, including teaching, advanced manufacturing, engineering, and government research and development. Physicists are trained to have outstanding quantitative reasoning and computational skills, which can be applied in many different areas outside of physics and astronomy.

Contact Us

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