



The **Bachelor of Arts** in

# Physics

## **Understand matter.**

Physicists investigate the fundamental nature of forces and particles and the resulting states of matter that make up the physical world. Studying physics strengthens quantitative reasoning and problem solving skills that are valuable in areas beyond physics because students learn how to analyze complex problems, giving them a strong quantitative background that can be applied in any technical field.

## **The Bachelor of Arts in Physics**

The BA in Physics is designed to combine the rigorous study of physics with additional studies of languages and the liberal arts and is tailored to students wishing to preserve the option for specialization in graduate school without sacrificing the advantages of a liberal arts education. This program provides undergraduates with a broad-based education in the fundamental concepts of physics and with the experimental and theoretical skills essential to practicing scientists. This degree is ideal preparation for a career that combines science with other fields, such as science journalism, science policy or patent law.

Students seeking to major in physics are designated as 'pre-physics majors' until they have completed both PHYSICS 2111 and PHYSICS 2112 (or equivalent courses) with grades of C- or better.

Upon completion of the BA in Physics, graduates will be able to understand basic physics concepts including classical mechanics, electricity, magnetism and modern physics; demonstrate proficiency in a foreign language; understand several advanced undergraduate areas of physics/astronomy, such as observational astrophysics, biophysics, quantum mechanics or experimental design; be skilled in problem solving, critical thinking and analytical reasoning as applied to scientific problems; be proficient communicators of scientific work results; conduct original scientific research as part of an interdisciplinary problem-solving team; identify possible errors in scientific data; and assess the significance of observed results.

## Transforming Lives

The Bachelor of Arts in Physics at UMSL is earned through our College of Arts and Sciences, the academic core of the University of Missouri–St. Louis. Through academic programs offered on- and off- campus, traditional and nontraditional students gain knowledge, skills and intellectual leadership for a variety of career paths, advanced study and research in many academic disciplines.

Graduates are known for their professionalism on the job and their strong sense of civic responsibility. Students in our programs engage in creative and critical thinking, learn to analyze evidence, to appreciate patterns of complexity and to reflect on important issues that impact our daily lives. Students gain skill sets to prepare for a changing workplace that requires flexible, dynamic, and well-educated employees.

## Serious education. Serious value.

The Bachelor of Arts in Physics is designed to provide specialized knowledge, skills and training in a flexible format, with classes available in person, online and in a hybrid format. You'll learn from highly qualified educators and researchers who hold terminal degrees from some of the world's most prestigious academic institutions.

The University of Missouri–St. Louis provides the knowledge, resources, tools, skills and support students need to be successful in our programs. Our comprehensive student support services include workshops, tutoring and career services to help you develop skills and strategies to be successful in the classroom and beyond. UMSL welcomes transfer students and our transfer specialists will assist you with getting the most transfer credits possible. We're also committed to increasing access to higher education, which is why UMSL is consistently ranked number one in affordability in the St. Louis region.

The Physics and Astronomy Department offers undergraduate research opportunities in astrophysics, biophysics, nanoscience and material science. The student run public outreach program includes upgraded digital planetarium projectors with student designed shows and a public observing program with telescope viewings of astronomical objects and events. Enhance your experience by joining the Physics and Astronomy Club which hosts professor lectures, game nights, planetarium and observatory visits and more, allowing students to socialize with others who are interested in these two sciences.

## Learn more at [physics.umsl.edu](http://physics.umsl.edu)

The University of Missouri–St. Louis is the largest public research university located in Missouri's most populous and economically important region. UMSL provides high-quality, affordable education to one of the most diverse student bodies in the state. No university is better connected to the surrounding region than UMSL. Seventy-three percent of our graduates stay in St. Louis. The region needs a well-equipped workforce and UMSL is prepared to help you meet those needs. Choose the University of Missouri–St. Louis for physics.

## Career Pathways

High School Physics Teacher  
Science Journalist  
Science Museum Curator  
Science Museum Educator  
Science Policy Analyst  
Scientific Editor  
Scientific Illustrator  
Software Engineer

### College of Arts & Sciences

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[umsl.edu/divisions/artscience/](http://umsl.edu/divisions/artscience/)

### Department of Physics and Astronomy

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[physics.umsl.edu](http://physics.umsl.edu)

### Office of Admissions

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