

PHYSICS AND ASTRONOMY

Andrew S. Ware, Chair

Physics is considered to be the most fundamental of all disciplines in the natural sciences. In physics we try to describe and understand a myriad of physical phenomena ranging from subatomic to cosmological scales by quantifying the relationships among different physical quantities.

Not only does physics have its own merit as a challenging but exciting scientific endeavor, it provides the basis for understanding underlying processes in astronomy, biology, chemistry, geology, computer science, engineering, and even in behavioral sciences. Applications of physics are virtually unlimited: computers, communications, energy production, medical technology, and space flight, to name just a few. The Department of Physics and Astronomy offers a range of physics courses from introductory to advanced undergraduate level in both experimental and theoretical physics with computational methods in mind. In addition, we offer introductory to advanced astronomy and astrophysics courses in which astronomical applications of physics are emphasized. These courses deal with the Universe, from the solar system to clusters of galaxies, both theoretically and observationally. The Department of Physics and Astronomy offers the Bachelor of Arts degree with a major in physics. Graduates with this degree are prepared for further study in physics or related fields at the masters or Ph.D. level, as well as a wide variety of technical positions in industry.

In addition, the department offers five concentrations that combine a solid background in the study of physics with in-depth study in other fields. These concentrations allow for specialization in related fields and provide appropriate background for certain employment opportunities and for continued graduate or professional study. For more details, see the related sections of this catalog.

Baccalaureate Degrees

- Physics B.A. (<http://catalog.umt.edu/colleges-schools-programs/humanities-sciences/physics-astronomy/ba-physics/>)
- Physics B.A. - Astronomy Concentration (<http://catalog.umt.edu/colleges-schools-programs/humanities-sciences/physics-astronomy/ba-astronomy/>)
- Physics B.A. - Computational Physics Concentration (<http://catalog.umt.edu/colleges-schools-programs/humanities-sciences/physics-astronomy/ba-computational-physics/>)
- Physics B.A. - Engineering Physics Concentration (<http://catalog.umt.edu/colleges-schools-programs/humanities-sciences/physics-astronomy/ba-physics-engineering/>)
- Physics B.S. - Physics Education Concentration (<http://catalog.umt.edu/colleges-schools-programs/humanities-sciences/physics-astronomy/ba-physics-education/>)
- Physics B.A. - Teaching Broadfield Science Concentration (<http://catalog.umt.edu/colleges-schools-programs/humanities-sciences/physics-astronomy/ba-teaching-broadfield-science/>)

Minors

- Astronomy Minor (<http://catalog.umt.edu/colleges-schools-programs/humanities-sciences/physics-astronomy/minor-astronomy/>)
- Physics Minor (<http://catalog.umt.edu/colleges-schools-programs/humanities-sciences/physics-astronomy/minor-physics/>)

- Physics Education Minor (<http://catalog.umt.edu/colleges-schools-programs/humanities-sciences/physics-astronomy/minor-physics-education/>)