



Astronomy Major

www.PhysicsAndAstronomy.Pitt.edu/Undergraduate/Degree-Programs

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The University of Pittsburgh's internationally recognized Department of Physics and Astronomy has been an important leader at the frontier of science and, with 500 PhD alumni, has launched many distinguished careers. Now, at the onset of the 21st Century, the department is maintaining its traditions of excellence and innovation while leading the field in breakthroughs that promise an ever-deeper understanding of the universe. From sub-nuclear particles to the unimaginably large, from the birth of the universe to the edge of technology – and at the intersection of quantum and classical physics – our faculty and students explore the fundamental laws of nature. Students may expect to pursue research that influences many fields, including biology, mathematics, medicine, chemistry, engineering, and computer science.

Required courses for the Astronomy major

The BA in astronomy requires the completion of 39 credits in physics and astronomy and six credits in communication and history and philosophy of science, distributed as follows.

Introductory Physics courses

Select one group

- PHYS 0174 Basic Physics, Science and Engineering 1
- PHYS 0175 Basic Physics, Science and Engineering 2
- PHYS 0475 Intro to Physics, Science and Engineering 1
- PHYS 0476 Intro to Physics, Science and Engineering 2

Introductory Astronomy course

- ASTRON 0113 Introduction to Astronomy

Intermediate and advanced Physics courses

- PHYS 0477 Introduction to Thermodynamics, Relativity, and Quantum Theory
- PHYS 0481 Applications of Modern Physics
- PHYS 1310 Undergraduate Seminar
- PHYS 1331 Mechanics

Laboratory courses

- PHYS 0219 Basic Lab Physics for Science and Engineering (2 cr.) or PHYS 0520 Modern Physical Measurements (3 cr.)
- ASTRON 1263 TechASTR1eR____.7 (n)JTJ 0 erm
- BIOSC 0160 Foundations of Biology 2
- BIOE 1070 Introduction to Cell Biology 1
- BIOE 1071 Introduction to Cell Biology 2
- CHEM 0110 General Chemistry 1 or CHEM 0710 Honors General Chemistry 1
- CHEM 0120 General Chemistry 2 or CHEM 0720 Honors General Chemistry 2
- CHEM 0310 Organic Chemistry 1 or CHEM 0730 Honors Organic Chemistry 1
- CHEM 0320 Organic Chemistry 2 or CHEM 0740 Honors Organic Chemistry 2
- CHEM 1410 Physical Chemistry 1
- CHEM 1420 Physical Chemistry 2
- CS 0401 Intermediate Programming using Java
- CS 0445 Data Structures
- GEOL 0040 Physical Geology
- GEOL 1410 Exploration Geophysics
- GEOL 1701 Geology of the Planets **
- MATH 0280 or MATH 1180 or MATH 1185 Linear Algebra
- MATH 1470 Partial Differential Equations
- MATH 1550 Vector Analysis and Applications
- MATH 1560 Complex Variables and Applications
- PHYS 1321 Computational Methods in Physics
- PHYS 1341 Thermodynamics and Statistical Mechanics
- PHYS 1351 Intermediate Electricity/Magnetism

** If this course is taken as a science elective, it cannot be used to satisfy the requirement for nine credits of intermediate and advanced courses.

Course in the history and philosophy of science or science policy/management; choose at least three credits

- ___ BUSERV 1915 Introduction to Management
- ___ PHYS 0086 Physics and Public Policy
- ___ PHYS 0087 Nuclear Science and Society
- ___ PUBSRV 1315 Managing Projects and Contracts
- ___ Any course in the Department of History and Philosophy of Science (HPS)

Writing or communication courses; choose at least three credits

- ___ COMMRC 0320 Mass Communication Process
- ___ COMMRC 0520 Public Speaking
- ___ COMMRC 1105 Television and Society
- ___ ENGCOMP 0400 Written Professional Communication
- ___ ENGCOMP 1101 Language of Science & Technology
- ___ ENGCOMP 1400 Grant and Proposal Writing
- ___ ENGWRT 1330 Intermediate Nonfiction
- ___ ENGWRT 1340 Advanced Nonfiction
- ___ ENGWRT 1394 Science Writing
- ___ LING 1000 Introduction to Linguistics

Grade requirements

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