

### Physics and Astronomy – What are they?

Physics is the study of all matter and energy and the laws that govern them. From sub-atomic particles to the stars and galaxies, Physics is the foundation of all natural sciences. Through the observation of such things as motion, light, electricity, gravity and speed, physicists use the scientific method to test theories and write conclusions often expressed in mathematical equations. Astronomy, a subset of physics, is the study of the origin and structure of the universe, including the sun, stars, moon, planets and galaxies.

**Areas of study in Physics:** Astronomy, Acoustical Physics, Optics and Waves, Quantum and Atomic Physics, Electricity and Magnetism, Fluid and Plasma, Thermodynamics, Astrophysics, Biophysics, Geophysics, Health Physics, Medical Physics, and Nuclear Physics.

### Where does my path start?

You will complete an Associate of Science-Transfer (AS-T) Track 2 at Shoreline.

Use the AS-T Track 2 **Degree Planning Guide** to understand the requirements for graduation.

Once you complete your Shoreline degree, you can transfer to a four-year school to earn a Bachelor of Arts (B.A.) or Bachelor of Science (B.S.) program in Physics or Astronomy.

Physics is an excellent major for graduate studies in Astronomy, Atmospheric Sciences, Applied Math, Education, Environmental Studies, Medicine, Law and Physics.

### Where can I go for help?

#### Program Faculty Advisors

**Stephanie Diemel** 206-546-4579  
[sdiemel@shoreline.edu](mailto:sdiemel@shoreline.edu) Rm 5352

**Tiffany Meier** 206-546-6953  
[tmeier@shoreline.edu](mailto:tmeier@shoreline.edu) Rm 5231

[mathadvising@shoreline.edu](mailto:mathadvising@shoreline.edu)

[chemistryadvising@shoreline.edu](mailto:chemistryadvising@shoreline.edu)

#### General Academic Advising

FOSS (5000) Building, Rm. 5229  
206-546-4559

[advising@shoreline.edu](mailto:advising@shoreline.edu)

[www.shoreline.edu/advising](http://www.shoreline.edu/advising)

#### Career Planning

[www.shoreline.edu/job-career-services/](http://www.shoreline.edu/job-career-services/)

#### International Student Academic Advising

9000 Building, Rm. 9302  
206-546-4697

[ieadvisors@shoreline.edu](mailto:ieadvisors@shoreline.edu)

[www.shoreline.edu/international/advising/](http://www.shoreline.edu/international/advising/)

### Where can I transfer?

The AS-T makes it possible for students to transfer to a number of public and private colleges and universities in the U.S. with junior standing. Washington State institutions with Astronomy (A) and/or Physics (P) majors are listed below.

[Central Washington University](#) (P)

[Eastern Washington University](#) (P)

[Gonzaga University](#) (P)

[Pacific Lutheran University](#) (P)

[Seattle Pacific University](#) (P)

[Seattle University](#) (P)

[The Evergreen State College](#) (P)

[University of Puget Sound](#) (P)

[University of Washington–Seattle](#) (A, P)

[University of Washington–Bothell](#) (Pending) (P)

[Walla Walla University](#) (P)

[Whitman College](#) (A, P)

[Whitworth University](#) (P)

[Washington State University](#) (P)

[Western Washington University](#) (P)

### What can I do with a Bachelor's Degree in Astronomy or Physics?

Graduates in Astronomy and Physics develop strong observation, critical thinking, problem solving, computational and technical skills to work in a variety of careers fields, such as: astronomy, health care, research and development, education, consulting, engineering design, quality control, operations and management.

**Potential employers include:** Research and development firms, engineering and manufacturing firms, atomic and nuclear labs, government agencies—Departments of Energy and Defense, National Aeronautics and Space Administration, hospitals, medical schools, colleges and universities, observatories, planetariums, science museums, environmental agencies and weather bureaus. For more, please visit <http://www.shoreline.edu/counseling-services/career-counseling.aspx>.

**What courses should I take?\***

I. GENERAL EDUCATION REQUIREMENTS   20 Credits	QTR	GR	CR
ENGL &101			5
ENGL &102, &230, or CMST &101			5
One course in Multicultural Understanding			5
Quantitative/Symbolic Reasoning (MATH &151)			5

II. DISTRIBUTION REQUIREMENTS   10 Credits	QTR	GR	CR
One course in Humanities			5
One course in Social Sciences			5

**III. PRE-MAJOR PROGRAM I 31.5 credits**

Mathematics	15 Credits	QTR	GR	CR
MATH &152	<i>Every Quarter</i>			5
MATH &163	<i>Every Quarter</i>			5
MATH 208	<i>Fall, Win</i>			5

Physics	16.5 Credits	QTR	GR	CR
PHYS &221	<i>Fall, Win</i>			5.5
PHYS &223	<i>Win, Spr</i>			5.5
PHYS &222	<i>Win, Spr, Sum</i>			5.5

Additional Science	6.5 Credits	QTR	GR	CR
CHEM 171/181	<i>Every Quarter</i>			6.5

**Program Specific Courses and Electives to reach 90 credits**

Recommended Courses	QTR	GR	CR
CS 121 <i>Every Quarter</i>			5
CS &141 <i>Every Quarter</i>			5
CHEM 172/182 <i>Win, Spr, Sum</i>			6.5
CHEM 173/183 <i>Spr, Sum</i>			6.5
MATH 207 <i>Fall, Spr</i>			5
MATH &264 <i>Spr</i>			5

**What does my chosen four-year school require?**

Before choosing classes, become familiar with the four-year program where you want to apply: visit the website, email the department, and/or speak with a Shoreline advisor. Below are examples from Washington schools with different admissions and graduation requirements. Check with the school for world language requirements. (Non-native speakers of English are often exempt from this requirement.)

School	Degrees	Admission Requirements
Central Washington University	B.A. and B.S. in Physics with Physics/Engineering option.	CHEM 171/181, 172/182, ECON &201, MATH 207, 208, &264
Seattle University	B.S. and B.A. in Physics with an option in teaching	MATH 207, 208, &264
University of Washington – Seattle	B.S. in Astronomy, B.S. in Physics	MATH 208 and &264
Washington State University	B.S. in Physics with options in Astrophysics, Biophysics, Computational, Continuum and Acoustics, Environmental, Instrumentation, Materials, Mathematical, Nanotechnology, Optic and Electronics and Physics Education.	CHEM 171/181, 172/182, 173/183, MATH 207, 208
Western Washington University	B.S. in Physics and B.A. in Education with majors in Physics/Mathematics and Chemistry/Physics	CS &141, MATH 207, 208, &264

**\*\* This unofficial guide is intended to support you as you prepare for your major. Please consult with an advisor and your chosen four-year school(s), as program and admissions requirements vary and may change without notice.**