



# Physics and Astronomy

Major Preparation Sheet 2017-2018

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## 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, with this 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.) 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.

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## 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.

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## 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 5233

[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/)

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## 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>.

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### What courses should I take?\*

General Education Requirements (20 Credits)	<b>Required:</b> ENGL& 101 (A); MATH& 151 (A); One course in Multicultural Understanding; One of the following: ENGL& 102 (A), 230 (W,S) or CMST& 101 (A);
Humanities/Social Sciences (10 Credits)	<b>Required:</b> One course each in Humanities and Social Sciences
Pre-Major Requirements (31.5 Credits)	<b>Required:</b> Mathematics: MATH& 152 (A), 163 (A); MATH 208 (F,W) Physics: PHYS& 221 (F,W), 223 (W,S), 222 (W,S,U) <b>Strongly Recommended:</b> Additional Science: CHEM 171/181 (A)
Program Specific Courses and Electives to reach 90 Credits	<b>Recommended:</b> CS 121 (A), 143 (F,W,S); CS& 141 (A); CHEM 172/182 (W,S,U); CHEM 173/183 (S,U); MATH 207 (F,S); MATH& 264 (S)

F=Fall, W=Winter, S=Spring, U=Summer, A=All– indicates quarter(s) in which class is offered.

### Where can I transfer and 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	Transfer information	School	Transfer information
<a href="#">Central Washington University</a> (P)	<a href="http://tinyurl.com/mh2nxa">http://tinyurl.com/mh2nxa</a>	<a href="#">University of Washington - Bothell</a> (P)	<a href="http://tinyurl.com/lckjug9">http://tinyurl.com/lckjug9</a>
<a href="#">Eastern Washington University</a> (P)	<a href="http://tinyurl.com/l2qpdqe">http://tinyurl.com/l2qpdqe</a>	<a href="#">University of Washington - Seattle</a> (A,P)	<a href="http://tinyurl.com/me5ht53">http://tinyurl.com/me5ht53</a>
<a href="#">Gonzaga University</a> (P)	<a href="http://tinyurl.com/7c9d6xh">http://tinyurl.com/7c9d6xh</a>	<a href="#">Walla Walla University</a> (P)	<a href="http://tinyurl.com/z5a4h8p">http://tinyurl.com/z5a4h8p</a>
<a href="#">Pacific Lutheran University</a> (P)	<a href="http://tinyurl.com/zygoljk">http://tinyurl.com/zygoljk</a>	<a href="#">Washington State University</a> (P)	<a href="http://tinyurl.com/jk3a2v2">http://tinyurl.com/jk3a2v2</a>
<a href="#">Seattle Pacific University</a> (P)	<a href="http://tinyurl.com/z46xxr">http://tinyurl.com/z46xxr</a>	<a href="#">Western Washington University</a> (P)	<a href="http://www.wvu.edu/vtc/">http://www.wvu.edu/vtc/</a>
<a href="#">Seattle University</a> (P)	<a href="http://tinyurl.com/lete467">http://tinyurl.com/lete467</a>	<a href="#">Whitman College</a> (A,P)	<a href="http://tinyurl.com/kadesfr">http://tinyurl.com/kadesfr</a>
<a href="#">The Evergreen State College</a> (P)	<a href="http://tinyurl.com/zhyjy3s">http://tinyurl.com/zhyjy3s</a>	<a href="#">Whitworth University</a> (P)	<a href="http://tinyurl.com/zcdww66">http://tinyurl.com/zcdww66</a>
<a href="#">University of Puget Sound</a> (P)	<a href="http://tinyurl.com/h7yqx8s">http://tinyurl.com/h7yqx8s</a>		

A=Astronomy, P=Physics

**\*\* 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.**