

# Physiology 2021-22

## What can you do with a Physiology major from SPU?

The Physiology major at Seattle Pacific University looks at how our cells, muscles, and organs interact, providing a solid foundation for grad school and pre-professional training for medicine, dentistry, optometry, pharmacy, veterinary medicine, and other health-related and applied biology fields.

## Potential occupations include:

• Agricultural Researcher

Dentist

Forensic Scientist

Pharmacist

Physician

Veterinarian

### Suggested transfer preparation at Shoreline Community College

Associate in Arts (AA-DTA) with completion of the courses noted below, or an Associate in Science Track I (AST-I) with completion of the courses noted below plus a 15-credit Physics sequence.

#### Courses in the major you may complete at Shoreline Community College

Shoreline Community College Courses Equivalent SPU Courses				
BIOL& 211 Majors Cellular: Biology (5)	BIO 2101 General Biology (5)			
BIOL& 212 Majors Animal: Biology (5)	BIO 2102 General Biology (5)			
BIOL& 213 Majors Plant: Biology (5)	BIO 2103 General Biology (5)			
CHEM 171 Gen Inorganic Chemistry I (4) – and – CHEM 181 Gen Inorganic Chemistry I Lab (2.5)	CHM 1211 General Chemistry I (5)			
CHEM 172 Gen Inorganic Chemistry II (4) – and – CHEM 182 Gen Inorganic Chemistry II Lab (2.5)	CHM1212 General Chemistry II (5)			
CHEM 173 Gen Inorganic Chemistry III (4) – and – CHEM 183 Gen Inorganic Chemistry III Lab (2.5)	CHM 1213 General Chemistry III (3) – and – CHM 2213 Inorganic Qualitative Analysis (2)			
MATH& 148 Business Calculus (5) – or – MATH& 151 Calculus I (5)	MAT 1221 Survey of Calculus (5) – or – MAT 1234 Calculus I (5)			
MATH& 146 Introduction to Statistics (5) – or – MATH 211 Elements of Statistical Method (5)	MAT 2360 Intro to Stats for Sciences (5)			
Consider taking the following courses: BIOL& 260 Microbiology (5) BIOL 124 Northwest Flora (5) BIOL 277 Immunology (6) - or - BIOL 276 and 281 Immunology Lecture (3) and Lab (3)	BIO 3351 General Microbiology (5) * BIO 3454 Biodiversity: Plant Ident & Tax (5) * BIO 3350 Immunology (5) *			

**Note:** Only courses with a regular grade of 1.7 (C-) or higher may count toward a major or minor.

#### Admission to the major

If you identify the Physiology major as your first choice on your application for admission to the University, you will automatically gain entry to the major when admitted to SPU.

#### Learn more about the Physiology major and pre-professional health sciences at:

http://spu.edu/physiology http://spu.edu/physiology-reqs http://spu.edu/pre-pro-health

**Get more information** about transfer admission to Seattle Pacific University at <a href="http://spu.edu/transfer">http://spu.edu/transfer</a>. Questions? Contact <a href="mailto:transfer@spu.edu">transfer@spu.edu</a>.

<sup>\*</sup>Indicates this course is not required, but will count towards the major's Micro (13-15 credits) or Evolution (5 credits) requirement. Note that this course transfers to SPU as lower-division credit for the equivalent course.

#### Courses to take at SPII

Courses to take at 3FO				
BIO 1859 Biology Cornerstone Seminar (1)				
BIO 3325 Genetics (5)				
BIO 3899 Scientific Literature (1)				
BIO 4352 Cell Biology (5)				
BIO 4899 Natural Sciences Seminar (2)				
CHM 3371 Organic Chemistry I (5)				
CHM 3372 Organic Chemistry II (5)				
CHM 3373 Organic Chemistry III (5)				
Select three Physiology Core courses:				
<ul> <li>BIO 4256 Environmental Physiology (5)</li> </ul>				

- BIO 4410 Human Physiology (5)
- BIO 4413 Animal Physiology (5)
- BIO 4415 Plant Physiology (5)
- BIO 4418 Neurobiology (5)
- BIO 4419 Medical Virology (5)

#### Select **three**<sup>1</sup> Molecular/Cellular/Micro Core courses:

- BIO 3320 Principles of Development (5)
- BIO 3350 Immunology (3)
- BIO 3351 General Microbiology (5)
- BIO 4325 Molecular Biology (5)
- BIO 4420 Histology & Microscopic Tech (5)
- BIO 4435 Biodiversity: Pests and Parasites (5)
- BIO 4361 Biochemistry (5)
- BIO 4362 Biochemistry (5)

Approved Ecology/Evolution course (5) <sup>2</sup>

Approved Ethics course (3) <sup>2</sup>

## Other requirements for the degree

In addition to the major, the degree requires completion of any remaining general education and University requirements, and at least 180 college-level credits total, including 60 upper-division (UD) credits.

All students must complete the University Foundations Requirement at SPU – even those who have completed the Direct Transfer Agreement (DTA) Associate Degree.

Students admitted with fewer than 90 credits (freshmen and sophomores) complete 15 credits:

UFDN 1000 The Christian Faith (5)

UFDN 2000 Christian Scriptures (5)

UFDN 3100 Christian Theology (5)

Students admitted with 90 credits or more (juniors and seniors) complete 10 credits:

UFDN 3001 Christian Scriptures (5)

UFDN 3100 Christian Theology (5)

## Suggested course plan for your junior and senior years at SPU

Assumes junior standing at entrance, with successful completion of BIOL& 211, 212, and 213; CHEM 171, 172, 173, 181, 182, and 183; MATH& 146 or MATH 211; and MATH& 148 or 151, prior to transfer.

Junior Year				
Autumn	Winter	Spring	Notes	
<ul> <li>BIO 1859 (1)</li> <li>BIO 3325 or take this in winter.</li> <li>CHM 3371 (5)</li> <li>+ credits to total 15 – 18</li> </ul>	<ul> <li>BIO 3325 if not taken in autumn.</li> <li>CHM 3372 (5)</li> <li>+ credits to total 15 – 18</li> </ul>	<ul><li>CHM 3373 (5)</li><li>+ 10 – 13 credits</li></ul>	A one-year physics sequence (1101–1103 or 1121–1123), and MAT 1235 are recommended if you plan to apply to a post-graduate program.	
<ul> <li>Any Quarter Offered:</li> <li>Approved Ecology or Evolution course (5), unless BIOL 124 transferred.</li> <li>BIO 3899 (1).</li> <li>Begin taking Physiology Core and Molecular/Cellular/Micro Core courses.</li> <li>UFDN, general education, and University requirements.</li> </ul>			Check the Time Schedule as most UD classes are offered in only one quarter and some are offered only in alternate years.	
Senior Year				
Autumn	Winter	Spring	Notes	
• + 15 – 18 credits	• + 15 – 18 credits	<ul><li>BIO 4352 (5)</li><li>+ 10 – 13 credits</li></ul>	BIO 4418 and 4419 may be used in the	
<ul> <li>Any Quarter Offered:</li> <li>Approved Ethics course(s) (3 credits required).</li> <li>BIO 4899 (2) – must be taken twice, for one credit each time.</li> <li>Complete remaining Physiology Core and Molecular/Cellular/Micro Core courses.</li> <li>Complete remaining UFDN, general education, and University requirements including enough credits to reach 180 total and 60 upper-division.</li> </ul>			Mol/Cell/Micro Core, if not used in the Physiology Core.  • CHEM 4361 and 4362 are recommended, if you plan to take the MCAT.	

<sup>&</sup>lt;sup>1</sup> Select two, instead of three, if BIOL& 260 transferred to SPU.

<sup>&</sup>lt;sup>2</sup> See catalog or consult advisor for approved list of options.