Biophysics
Bachelor of Science
2025-2026

Nature of Work: The Biophysics major has significant components of mathematics and physical science that provide a strong background for careers in biotechnology. Biophysicists use their knowledge of living systems to develop mathematical models that can simulate and predict the actual behavior of the system. Their expertise in instrumentation gives them the ability to obtain quantitative data on the operation of living organisms and to determine the structure of biomolecules. A biophysics background is important for positions in radiation and medical physics. Radiation physics is concerned with the interaction of all types of radiation (such as microwaves, low frequency power lines, gamma rays, neutrons, etc.) with living organisms. Biophysics major also provides a strong foundation for a career as a physician.

Professional Training: Graduates with a four-year degree usually start out as technicians and eventually advance to independent research and leadership as they gain experience and competence in the field. With graduate training, one may specialize in fields such as molecular biology, neuroscience, and physiology.

Denominational Opportunities: Currently, medical physicist positions are available in some of the larger hospitals. Some college-level teaching positions also provide employment opportunities.

Job Outlook: As new technology continues to be discovered, the BLS projects that, "employment of biochemists and biophysicists is projected to grow 15 percent from 2021 to 2031, slower than the average for all occupations. Despite limited employment growth, about 4,000 openings for biochemists and biophysicists are projected each year, on average, over the decade." (See www.bls.gov)

Earnings: The Bureau of Labor Statistics reports the median annual wage for biochemists and biophysicists was $102,270 in May 2021. The lowest 10 percent earned less than $61,090, and the highest 10 percent earned more than $167,210. (See www.bls.gov)

Note: Biophysics majors are expected to spend the summer between their Junior and Senior years at Rosario Marine Station and are required to take two 5 credit biology elective courses.

Biology/Physics electives must be upper division, chosen in consultation with biology/physics advisers.

Before graduation, all students must take an exit exam.

BIOLOGY DEPARTMENT

Rigby Hall
(509) 527-2602

PHYSICS DEPARTMENT

Kretschmar Hall
(509) 527-2881

Websites

Walla Walla University
University Bulletin

Biology Department
Physics Department

Faculty

Advisors
David Lindsey (Biology)
Tom Ekkens (Physics)

Professional Organizations

American Institute of Physics

American Association of Physicists in Medicine

Biophysical Society

Suggested Degree Path

TOTAL CREDITS REQUIRED: 192 cr. GENERAL STUDIES REQUIREMENTS: 64-69 cr. See the Undergraduate Bulletin for Details
The chart below details one suggested path a student may take to complete a bachelor's degree in Biophysics.
Cognates are listed in *italics*

Freshman Year

Fall Courses	Hours
General Biology (BIOL 141& 141L)	4
Fund. of Programming I (CPTR 141)	4
Calculus I (MATH 171)	4
Intro to Analytical Writing (ENGL 121)	3
General Studies	1
Total	16

Winter Courses	Hours
General Biology (BIOL 142& 142L)	4
Calculus II (MATH 172)	4
Intro to Research Writing (ENGL 122)	3
General Studies	5
Total	16

Spring Courses	Hours
General Biology (BIOL 143&143L)	4
Calculus III (MATH 273)	4
General Studies	8
Total	16

Sophomore Year

Fall Courses	Hours
Principles of Physics & Lab (PHYS 251 & 254)	4
Intro. to Biol. Research I (BIOL 216)	3
General Chemistry & Lab (CHEM 141 & 144)	4
Research Writing (ENGL 223)	3
General Studies	2
Total	16

Winter Courses	Hours
Principles of Physics & Lab (PHYS 252 & 255)	4
Calculus IV (MATH 274)	4
General Chemistry & Lab (CHEM 142 & 145)	4
General Studies	4
Total	16

Spring Courses	Hours
Principles of Physics & Lab (PHYS 253 & 256)	4
^ *Statistics Option*	4
General Chemistry & Lab (CHEM 143 & 146)	4
General Studies	4
Total	16

Junior Year

Fall Courses	Hours
Modern Physics I & Lab (PHYS 310 & 314)	4
Cell Biology I (BIOL 381)	4
- Experimental Physics I (PHYS 414)	1
Organic Chemistry & Lab (CHEM 321 & 324)	5
*Biology Colloquium (BIOL 495)	0
General Studies	1
Total	16

Winter Courses	Hours
- Intro to Nanotechnology & Lab (PHYS 331 & 332)	4
Cell Biology II (BIOL 382)	4
Thermodynamics (PHYS 313)	4
Organic Chemistry & Lab (CHEM 322 & 325)	5
*Biology Colloquium (BIOL 495)	0
Total	16

Spring Courses	Hours
- Modern Physics II & Lab (PHYS 311 & 316)	4
Intro to Linear Algebra (MATH 239)	4
Advanced BIOL Option (BIOL 445)	4
*Biology Colloquium (BIOL 495)	0
General Studies	4
Total	16

Summer Quarter

Rosario Marine Station: Biology Electives

Senior Year

Fall Courses	Hours
Upper Division BIOL Electives	4
Found. of Biochemistry (CHEM 431)	4
*Biology Colloquium (BIOL 495)	0
General Studies	8-12
Total	16

Winter Courses	Hours
^ Advanced BIOL Option (BIOL 445)	(4)
Found. of Biochemistry (CHEM 432)	3
Upper Division Physics Electives	3
*Biology Colloquium (BIOL 495)	0
General Studies	6-10
Total	16

Spring Courses	Hours
+ Biophysics (PHYS 470)	4
Senior Seminar	2
*Biology Colloquium (BIOL 495)	0
General Studies	10
Total	16

+ Offered even years only - Offered odd years only

*Required each quarter of Junior & Senior year While in Residence.
^ Choose one of the following:

- MATH 315; Offered in Fall and Spring Quarter
- BIOL 250; Offered in Winter Quarter

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