Physics
Bachelor of Science
2025-2026

General Areas of Service: Physicists conduct research to understand the nature of the universe and everything in it. Physics encompasses many areas of emphasis such as nanotechnology, optics, plasma, nuclear physics, medical physics, and many others. Solid-state physicists work with the material properties and conduction processes in nanotechnology systems. Those with an emphasis in optics work with light, developing light sources and optical processing devices for light wave communications. Plasma physicists are involved in the production of usable power through the process of fusion. Nuclear physicists focus on using basic building blocks of matter usually for application in power production, and medical physics is utilized in medical imaging and in various types of radiation therapy.

Professional Training: A Bachelor of Science degree in physics prepares the student for graduate study and/or for a career in industry, research, or teaching. The majority of baccalaureate physics graduates pursue advanced degrees which qualify them to enter research programs as senior scientists or project managers, pursue a career in industry with options for management, or teach at the university level. Those who do not attend graduate school may qualify for a wide range of positions related to engineering, mathematics, computer science, environmental science, and health. They may work as research associates, junior scientists, or as science teachers in middle or high schools.

Denominational Opportunities: The church employs physicists primarily as educators, with the majority teaching at the secondary level and some at universities. Demand for physicists in health care is growing as hospitals offer more technical services.

Job Outlook: Physicists can work in a variety of fields as outlined above. Some even go into less science specific areas such as technical law and the financial and information processing sectors. According to the Bureau of Labor Statistics (BLS), "Overall employment of physicists and astronomers is projected to grow 8 percent from 2021 to 2031, about as fast as the average for all occupations. About 2,100 openings for physicists and astronomers are projected each year, on average, over the decade." (See www.bls.gov)

Earnings: In their May 2021 salary survey, the Bureau of Labor Statistics reports the median annual wage for physicists as $128,160, with the lowest 10 percent earning less than $61,910 and the top 10 percent earning more than $208,000. (See www.bls.gov)

Note: Individuals seeking teaching certification should contact the School of Education & Psychology, and take Methods of Teaching Secondary Science (EDUC 395 & 396). See the secondary teaching certification page for a list of required education courses.

See the WWU bulletin and a physics adviser for electives options and recommended general electives.

Before graduation, all students must take an exit exam.

PHYSICS DEPARTMENT

Kretschmar Hall
(509) 527-2881

Websites
Walla Walla University
University Bulletin

Physics Department

Faculty
Chair
Tom Ekkens

Advisors
Roy Campbell
Tom Ekkens

Professional Organizations
American Institute of Physics

American Physical 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 Physics.
Cognates are listed in *italics*.

Freshman Year

Fall Courses	Hours
Fundamentals of Programming I (CPTR 141)	4
General Chemistry & Lab (CHEM 141 & 144)	4
Intro to Analytical Writing (ENGL 121)	3
Calculus I (MATH 171)	4
General Studies	1
Total	16

Winter Courses	Hours
Fundamentals of Programming II (CPTR 142)	4
General Chemistry & Lab(CHEM 142 & 145)	4
Intro to Research Writing (ENGL 122)	3
Calculus II (MATH 172)	4
General Studies	1
Total	16

Spring Courses	Hours
General Chemistry & Lab (CHEM 143 & 146)	4
Calculus III (MATH 273)	4
General Studies	8
Total	16

Sophomore Year

Fall Courses	Hours
Principles of Physics & Lab (PHYS 251 & 254)	4
Calculus IV (MATH 274)	4
Research Writing (ENGL 223)	3
General Studies	5
Total	16

Winter Courses	Hours
Principles of Physics & Lab (PHYS 252 & 255)	4
Intro to Linear Algebra (MATH 239)	3
General Studies	9
Total	16

Spring Courses	Hours
Principles of Physics & Lab (PHYS 253 & 256)	4
^ Intro to Matlab & Mathmatica (PHYS 340)	2
Ordinary Differential Equations (MATH 286)	4
General Studies	6
Total	16

Junior Year

Fall Courses	Hours
Modern Physics I & Lab (PHYS 310 & 314)	4
+ Electricity & Magnetism I (PHYS 401)	4
General Studies	8
Total	16

Winter Courses	Hours
Thermodynamics (PHYS 313)	4
+ Electricity & Magnetism (PHYS 402)	4
+ Classical Mechanics I (PHYS 420)	3
General Studies	5
Total	16

Spring Courses	Hours
+ Classical Mechanics II (PHYS 421)	3
General Studies	13
Total	16

Senior Year

Fall Courses	Hours
Graduate Review (PHYS 419)	1
- Experimental Physics I (PHYS 414)	1
General Studies	14
Total	16

Winter Courses	Hours
- Quantum Mechanics (PHYS 422)	3
- Experimental Physics II (PHYS 415)	1
General Studies	12
Total	16

Spring Courses	Hours
- Quantum Mechanics (PHYS 423)	3
- Modern Physics II & Lab (PHYS 311 & 316)	4
General Studies	9
Total	16

+ Offered even years only - Offered odd years only*See the WWU Bulletin. 6 hours must be upper division.

Office of Academic Advisement
Canaday Technology Center, Room 311 • (800) 558-2132 • (509) 527-2132