

## Mathematics

### Bachelor of Science

2022-2023

**Nature of Work:** Mathematics is one of the oldest and most basic sciences. Most important scientific discoveries about our world involve mathematics in some way. Mathematicians engage in a range of activities including educating, modeling and solving real world problems, and discovering new mathematics. Students with mathematics degrees from Walla Walla University go into a wide variety of occupations. While many go into secondary education, others find that the mathematics major is excellent preparation for professional schools such as law, medical, or veterinary school. Still others go on to graduate school in mathematics, engineering, or statistics, with eventual careers working in industry, teaching in colleges or universities, or conducting research. Some of our majors enter the workplace immediately after graduation, working as actuaries, in business, software development, at engineering firms or healthcare providers, or even in law enforcement.

**Professional Training:** Students select mathematics as a major because they enjoy studying logical systems and solving interesting problems. Mathematics majors need creativity and the ability to communicate clearly both verbally and in writing. The B.S. degree is more specialized than the B.A. degree in that it includes more mathematics and science courses, and it does not require a minor or a foreign language. The Walla Walla University B.S. degree in mathematics offers four concentrations:

- The preparation for graduate study concentration emphasizes theoretical courses as preparation for post-graduate coursework.
- The preparation for secondary teaching concentration includes courses required for a high school teaching endorsement in mathematics.
- The applied mathematics concentration is a good choice for those who seek employment outside of teaching right after graduation.
- The actuarial studies concentration emphasizes statistics and business courses to prepare students to become professionals who manage risk.

Students who wish to work in applied mathematics or statistics often go on to earn a master's degree before entering the workforce. A Ph.D. degree is ordinarily required if one wishes to go into mathematical research. Most researchers are also college or university professors, but some work for government agencies or private industry.

**Job Outlook:** According to the Bureau of Labor Statistics (BLS), "employment of math occupations is projected to grow 28 percent from 2020 to 2030, much faster than the average for all occupations, and will add about 67,200 jobs." Mathematicians will particularly be needed for data analysis and information security analysis in business operations. (See [www.bls.gov](http://www.bls.gov))

**Earnings:** In their May 2021 salary survey, the Bureau of Labor Statistics reports the median annual wage for mathematicians and statisticians as \$96,280; and \$105,900 for actuaries. (See [www.bls.gov](http://www.bls.gov))

**Note:** Before graduation, all students must take an exit exam.

### MATH DEPARTMENT

Kretschmar Hall  
(509) 527-2751

#### Websites

[Walla Walla University](#)  
[University Bulletin](#)

[Mathematics Department](#)

#### Faculty

Chair  
[Benjamin Jackson](#)

#### Advisors

[John Foster](#)  
[Benjamin Jackson](#)  
[Ross Magi](#)  
[Tim Tiffin](#)

#### Professional Organizations

[Mathematical Association of America](#)

[Society for Industrial & Applied Mathematics](#)

[Society of Actuaries](#)

[American Mathematical Society](#)

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 Math.

Cognates are listed in *italics* and courses marked UD must be at the 300 or 400 level.

### Freshman

Fall Courses	Hours	Winter Courses	Hours	Spring Courses	Hours
Calculus I ( <a href="#">MATH 181</a> )	4	Calculus II ( <a href="#">MATH 281</a> )	4	Calculus III ( <a href="#">MATH 282</a> )	4
College Writing I ( <a href="#">ENGL 121</a> )	3	College Writing II ( <a href="#">ENGL 122</a> )	3	<i>Fund. of Programming</i> ( <a href="#">CPTR 141</a> )	4
<i>*Cognate Science</i>	4	<i>*Cognate Science</i>	4	<i>*Cognate Science</i>	4
General Studies P.E. Activity	1	General Studies P.E. Activity	1	General Studies History	4
General Studies Religion	4	General History	4		
Total	16	Total	16	Total	16

### Sophomore

Fall Courses	Hours	Winter Courses	Hours	Spring Courses	Hours
Calculus IV ( <a href="#">MATH 283</a> )	4	Discrete Mathematics ( <a href="#">MATH 250</a> )	4	Ordinary Differential Equations ( <a href="#">MATH 312</a> )	4
Research Writing ( <a href="#">ENGL 223</a> )	3	Intro to Linear Algebra ( <a href="#">MATH 289</a> )	3	<i>*Prin. of Physics &amp; Lab</i> ( <a href="#">PHYS 253</a> & <a href="#">256</a> )	4
<i>*Prin. of Physics &amp; Lab</i> ( <a href="#">PHYS 251</a> & <a href="#">254</a> )	4	<i>*Prin. of Physics &amp; Lab</i> ( <a href="#">PHYS 252</a> & <a href="#">255</a> )	4	General Studies Humanities	4
General Studies Religion	3	General Studies Humanities	4	General Studies Religion	4
General Electives	2	General Electives	1		
Total	16	Total	16	Total	16

### Junior

Fall Courses	Hours	Winter Courses	Hours	Spring Courses	Hours
<sup>^</sup> Math Concentration/Electives	4	Junior Math Seminar I ( <a href="#">MATH 396</a> )	0	Junior Math Seminar II ( <a href="#">MATH 397</a> )	0
General Studies Language Arts	4	<sup>^</sup> Math Concentration/Electives	8	<sup>^</sup> Math Concentration/Electives	4
General Electives	8	General Studies Social Science	4	General Electives	12
Total	16	Total	16	Total	16

### Senior

Fall Courses	Hours	Winter Courses	Hours	Spring Courses	Hours
<sup>^</sup> Math Concentration/Electives	4	Senior Math Seminar I ( <a href="#">MATH 496</a> )	1	Senior Math Seminar II ( <a href="#">MATH 497</a> )	1
General Studies Religion (UD)	4	<sup>^</sup> Math Concentration/Electives	8	<sup>^</sup> Math Concentration/Electives	3
General Electives	8	General Studies Humanities	4	General Electives	12
Total	16	Total	16	Total	16

+ Offered even years only - Offered odd years only

\*Students in the Actuarial Studies concentration take Principles of Accounting ([ACCT 201, 202](#)), Macro and Micro Economics ([ECON 210, 211](#)), and several finance classes ([FIN 351, 365](#), and [441](#)) instead of Principles of Physics and an additional science sequence.

<sup>^</sup> For concentration and mathematics electives requirements, reference the Mathematics section of the bulletin.

Individuals seeking teaching certification should contact the School of Education and Psychology. Additional mathematics courses required for teaching certification are:

- Data Analysis ..... ([MATH 215](#))
- Probability and Statistics ..... ([MATH 315](#))
- Survey of Geometries in their Historical Contexts ..... ([MATH 321](#))
- Methods of Teaching Mathematics ..... ([MEDU 395](#))