

B.A. Mathematics

2020-21

WEBSITE

<https://www.swau.edu/mathphy>

DEPARTMENT PERSONNEL

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The Bachelor of Arts degree in Mathematics is one of four mathematics programs offered by Southwestern Adventist University's Department of Mathematics and Physical Sciences. This program requires that the student select a minor in any area of their choosing. The great mathematician, Carl Friedrich Gauss called mathematics "the Queen of the Sciences." The Mathematics program at Southwestern Adventist University aims to give each student an understanding of basic mathematics and its applications to solving problems expressible by algebraic equations and inequalities. The department also seeks to provide the foundation necessary for teaching the subject at the elementary or secondary level, or for the pursuance of graduate-level studies in mathematics.

Job Market

Students trained in Mathematics will find many opportunities that are either purely Mathematics or Mathematics related. Currently, there is a shortage of graduates with this kind of academic preparation. National interest in STEM (Science, Technology, Engineering, and Mathematics) areas have highlighted the need for graduates trained in these areas, at all academic levels and as a matter of highest national significance. Graduates will find openings in Applied Mathematics, Scientific Research, Statistics, Actuarial Work, and other related fields.

Job Outlook

According to the Bureau of Labor Statistics, "employment of mathematicians is expected to grow by 26 percent from 2018 to 2028, much faster than the average for all occupations, which will result in about 47,700 new jobs. Growth is anticipated as businesses and government agencies continue to emphasize the use of big data, which math occupations can analyze."

Earnings

Earning potential is also affected by geographic location and by whether one pursues a career in industry, academia, or in a government-related organization. Other factors such as experience and relevant skills also play a part in determining a graduate's earnings. According to the website, [payscale.com](https://www.payscale.com) salaries for holders of Bachelor's degrees in Mathematics start around \$38,949 and can reach up to \$96,135.

Bachelor's degree candidates are generally qualified for entry-level positions in most career fields. Getting a graduate or professional degree will significantly increase the earning potential of the holder of a first degree.



Required Courses

Item #	Title	Credits
MATH 141	Introduction to Probability and Statistics	3
MATH 181	Calculus I	4
MATH 182	Calculus II	4
MATH 283	Calculus III	4
MATH 211	Logic and Set Theory	3
MATH 321	Differential Equations	3
MATH 361	Introduction to Linear Algebra	3
MATH 431	Abstract Algebra	3
MATH 484	Mathematics Seminar	1
MATH 485	Portfolio	1
	Mathematics Upper Division Electives	3
	Sub-Total Credits	32

Required cognate: take one of the following courses:

Item #	Title	Credits
CSIS 110	Principles of Computer Programming I	3
CSIS 111	Principles of Computer Programming II	3
PHYS 121	General Physics I	4
PHYS 122	General Physics II	4
	Sub-Total Credits	3-4

Sample 4 Year Curriculum

General Education Requirements

To view general education requirements for this major please visit: <https://catalog.swau.edu/core-curriculum-for-a-bachelors-degree>

First Year First Semester

Item #	Title	Credits
CSIS 110	Principles of Computer Programming I	3
ENGL 121	Freshman Composition History GE Curriculum Guide	3
MATH 181	Calculus I Religion GE Curriculum Guide	4
	Sub-Total Credits	16

First Year Second Semester

Item #	Title	Credits
COMM 111	Speech	3
CSIS 111	Principles of Computer Programming II History GE Curriculum Guide	3
MATH 182	Calculus II	4
UNIV 111	Wellness for Life	2
	Sub-Total Credits	15

Second Year First Semester

Item #	Title	Credits
ENGL 220	Research Writing Kinesiology GE Curriculum Guide	3
MATH 211	Logic and Set Theory	3
MATH 283	Calculus III	4
PHYS 121	General Physics I	4
	Sub-Total Credits	15

Second Year Second Semester

Item #	Title	Credits
	Kinesiology GE Curriculum Guide Literature GE Curriculum Guide	1
MATH 361	Introduction to Linear Algebra	3
PHYS 122	General Physics II	4
	Religion GE Curriculum Guide Social Science GE Curriculum Guide	3
	Sub-Total Credits	17

Third Year First Semester

Item #	Title	Credits
	Beginning Language Requirement	4
BIOL 103	Human Biology Fine Arts GE Curriculum Guide	4
MATH 321	Differential Equations	3
	Sub-Total Credits	14

Third Year Second Semester

Item #	Title	Credits
	Beginning Language Requirement	4
MATH 141	Introduction to Probability and Statistics Mathematics Upper Division Electives	3
	Minor Elective	3
	Minor Elective	3
	Sub-Total Credits	16

Fourth Year First Semester

Item #	Title	Credits
	Intermediate Language Requirement	3
MATH 431	Abstract Algebra	3
MATH 484	Mathematics Seminar	1
	Minor Elective	3
	Minor Elective	3
	Religion GE Curriculum Guide	3
	Sub-Total Credits	16

Fourth Year Second Semester

Item #	Title	Credits
	Intermediate Language Requirement	3
MATH 485	Portfolio	1
	Minor Elective	3
	Minor Elective	3
	Minor Elective	3
	Religion GE Curriculum Guide	3
	Sub-Total Credits	16

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