

**Major Course Requirements**

A minimum of 45 hours (at least 21.5-22.5 upper-division hours)

► **Required Core Courses (45 hours):**

MATH 131+132	Calculus I,II	4+4
MATH 265	Elementary Linear Algebra	4
MATH 269	Elementary Differential Equations	4
MATH 290	Sophomore Seminar	.5
MATH 310	Foundational Math for Modeling	4
MATH 385	Mathematical Modeling	4
MATH 390	Junior Seminar	.5
MATH 490	Senior Seminar	1

► **Required Core Electives (15-16 hours):**

At least 3 hours from the following: 3  
 Additional MATH courses

At least 12 hours from the following: 12  
 Additional upper-division MATH or STAT courses

► **Required Cognate Courses (4 hours):**

INFS 115	Intro to Computer Programming	4
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All core and cognate courses should be chosen in consultation with the major advisor. Students should consider the recommendations described below:

*Applied Mathematics*

MATH 462 & 462L, STAT 322 and INFS 470.

Students interested in applied mathematics should earn a minor in an applied field. Consult with your advisor for choices.

*Mathematics Education*

MATH 341, 350, 451, & PHYS 111.

*Actuarial Certification*

STAT 322 and INFS 470.

**Student Learning Outcomes**

**Students can:**

- Demonstrate proficiency in the basic mathematics and problem solving skills of the standard core of undergraduate mathematics.
- Apply mathematical principles to new situations, within mathematics as well as in other settings.
- Communicate mathematics in written and oral form to peers as well as to people with less mathematical background.
- Display familiarity with various technologies commonly used for mathematical investigations.

**Occupational Information**

**What can I do with this major?**

A focus on Applied Mathematics or Statistics can lead to mathematics-related careers in medicine, government, business, and industry. Graduate study opportunities can lead to specialties in actuarial science, operations research, and applied statistics (A minor is highly recommended. Consult with your advisor for choices).

A focus on Mathematics Education will lead to a California Teaching Credential in secondary school mathematics. The mathematics portion of the California Subject Exam for Teachers (CSET) is usually taken during the senior year. (Students who wish to complete their secondary teaching credential at PUC should consult the Credential Analyst in the Education Department).

**Actuarial Certification:** Actuaries help businesses assess the risk of certain events occurring and to formulate policies that minimize the cost of that risk. Using their broad knowledge of statistics, finance, and business, actuaries help design insurance policies, pension plans, and other financial strategies. (Students with interest in the national exams for actuarial certification should confer with departmental faculty.)

**Public Sector vs. Denominational**

Non-teaching jobs are most available in the public sector. There is a strong demand for math teachers in Adventist academies.

**Job Outlook**

In addition to high school teaching, there are many opportunities for mathematics-related careers in medicine, government, business, and industry.

### General Education Requirements

To view general education requirements for this major, please refer to page A-02, Summary of General Education Requirements: B.A. Degree.

### How to Construct Your Own Program

1. Counsel with your advisor.
2. Consider your aptitudes, interests, and available courses.
3. Schedule major courses and cognates first.
4. Fill the rest of your schedule with G.E. requirements.
5. For the freshman year include English, Religion, and PE courses. Also include Basic Algebra I+II unless waived by previous work.

### What the Degree Includes

A total of 192 quarter hours including:

1. A minimum of 60 upper division hours.
2. General Education requirements.
3. Major requirements.
4. Minimum 2.0 GPA, overall and major.

### Teaching Credential

Students desiring to enter a program of studies leading to a California teaching credential in mathematics should take the B.A. degree in Mathematics and complete the recommended courses for the Mathematics Education focus. For more information, please consult the Secondary Teaching Credential as outlined on page EDUC-06.

### For More Information

Mathematics and Physics Department  
 Pacific Union College  
 One Angwin Avenue  
 Angwin, CA 94508  
 (707) 965-7269

E-mail: [math@puc.edu](mailto:math@puc.edu)

Website: [www.puc.edu/mathematics](http://www.puc.edu/mathematics)

### Sample Four-Year Program

This sample curriculum is designed to show you how a program may be constructed and to help you select a proper sequence of courses in the major. It is not likely that these courses can always be taken in the order given. Your advisor will help you design a personalized program of studies.

<b>First Year</b>	<b>F</b>	<b>W</b>	<b>S</b>
Essential Algebra & Trig for Scientists	2	-	-
Introduction to Statistics	-	-	4
Calculus I,II	-	4	4
College English I,II	4	4	-
Religion Courses	3	3	3
General Education/Electives	7	5	5
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	16	16	16

<b>Second Year</b>	<b>F</b>	<b>W</b>	<b>S</b>
Elementary Differential Equations (even)*	4	-	-
Foundational Math for Modeling (even)*	-	4	-
Sophomore Seminar	-	0.5	-
Intro to Computer Programming	-	-	4
Religion Courses	-	-	3
General Education/Electives	12	11.5	9
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	16	16	16

<b>Third and Fourth Years</b>	<b>F</b>	<b>W</b>	<b>S</b>
Elementary Linear Algebra (odd)*	4	-	-
Overview of Real Analysis (odd)*	4	-	-
Geometries (odd)*	-	-	4
Overview of Abstract Algebra (even)*	4	-	-
History of Mathematics (even)*	-	4	-
Mathematical Modeling (even)*	-	-	4
Junior Seminar	-	-	0.5
Senior Seminar	-	-	1
Upper-Division Major Electives	5	4	4
Upper-Division Religion Courses	3	3	3
Senior Assessment Seminar	-	-	0.2
General Education/Electives	20	21	14
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	72	64	62.7

\* Courses marked (even) or (odd) are taught in alternate years only. 2022-2023 is odd, 2023-2024 is even.