B.A. in Mathematics

Program Description

The Bachelor of Arts in Mathematics degree hones students' analytical and problem-solving skills while building their understanding of mathematical theories and applications.

Delivery Mode

Traditional (on campus)

Curriculum

Course	Credits
General Education Courses	**42**
Building a Sense of Community **UNI 100** First-Year Seminar	1
Composition **ENG 101** English Composition I	3
Public Speaking Any Public Speaking Course	3
Mathematics and Quantitative Literacy **MAT 215** Statistics OR **MAT 225** Business Statistics (recommended)	3
Health and Wellness Any Health and Wellness Course	3
Technological Literacy Any Technological Literacy	3
Humanities **PHI 311** Formal Logic	3
Fine Arts Any Fine Arts Course	3
Natural Sciences **CHE 101** General Chemistry I OR **PHY 101** College Physics I	4
Social Sciences Any Social Sciences Course	3
General Education Options • Any Ethics and Multicultural Awareness Emphasis Course • **CHE 102** General Chemistry II OR **PHY 102** College Physics II • **MAT 303** Geometry (recommended) • **MAT 290** Technology for Math (recommended)	13

Course	Credits
Required Major Courses	**30**
MAT 272 Discrete Mathematics	3
MAT 281 Calculus I	3
MAT 282 Calculus II	3
MAT 341 Linear Algebra I	3
MAT 351 Abstract Algebra I	3
MAT 381 Calculus III	3
MAT 382 Calculus IV	3
MAT 400 Mathematical Modeling	3
MAT 461 Statistical Analysis I	3
MAT 406 Differential Equations	3
Related Electives	**12**
MAT Category I (select one): • **MAT 451** Abstract Algebra II • **MAT 481** Real Analysis I • **MAT 474** Complex Analysis	3
MAT Category II (select two): • **MAT 441** Linear Algebra II • **MAT 462** Statistical Analysis II • **CSC 424** Numerical Analysis	6
MAT Category III (select one): • **MAT 419** Math Internship • **PHY 341** Math Methods of Physics • **MAT 304** History of Math • **MAT 468** Field Experience in Math • **CSC 475** Theory of Languages • **MAT 496** Senior Research Project	3
Approved Minor*	**18 to 21**
Free Electives	**15 to 18**
Total	**120**

Additional requirements, not counted toward the General Education requirements, include:

- **Special Experience Course (1 course required):** Any MAT Special Experience Course
- **Writing-Intensive Component Courses (2 courses required):** MAT 400 Mathematical Modeling AND MAT 461 Statistical Analysis I
- **Laboratory Course (1 course required):** CHE 102 General Chemistry II OR PHY 102 College Physics II

* Must declare minor with the dean of the Eberly College of Science and Technology.

Accelerated Bachelor's-to-Master's Program

An accelerated bachelor's-to-master's (B.A. in Mathematics to PSM in Applied Math) program is also available to undergraduate students who qualify. Curriculum requirements are listed under the "Accelerated Programs" section of this catalog.

Program Webpage

https://www.calu.edu/academics/undergraduate/bachelors/mathematics/index.aspx