Accelerated Bachelor's-to-Master's Programs

B.A. in Mathematics to PSM in Applied Math

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. Qualified undergraduate students in the math program may be eligible to participate in the accelerated B.A.-to-PSM program, which enables them to take graduate courses that apply to both their bachelor's degree in Mathematics and (thereafter) a master's degree in Applied Math.

The Professional Science Master's (PSM) in Applied Mathematics is designed to help develop skills in big data analysis and mathematics for a variety of STEM-related occupations for business, government and commercial applications.

Program Coordinator

Dr. Melissa Sovak

Curriculum

The following curriculum shows the requirements for completing the bachelor's degree under the accelerated B.A.-to-PSM program. Additional graduate-level courses are required to complete the master's degree; refer to the graduate academic catalog for these requirements.

Course	Credits
General Education Courses	**41**
CHE 101 General Chemistry I OR **PHY 101** College Physics I	4
ENG 101 Composition I	3
Ethics and Multicultural Awareness Course	3
Fine Arts Course	3
Health and Wellness Course	3
MAT 215 Statistics OR **MAT 225** Business Statistics	3
MAT 290 Technology for Math (Recommended)	3
MAT 303 Geometry (Recommended)	3
PHI 311 Formal Logic	3
Public Speaking Course	3
Social Science Course	3
Technological Literacy Course	3
UNI 100 First-Year Seminar	1
Any General Education Course	3
Required Major Courses	**42**
MAT 272 Discrete Mathematics OR **MAT 331** Intro to Mathematical Proofs I	3

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Course	Credits
MAT 281 Calculus I	3
MAT 282 Calculus II	3
MAT 341 Linear Algebra I	3
MAT 351 Abstract Algebra II	3
MAT 381 Calculus III	3
MAT 382 Calculus IV	3
MAT 400 Mathematics Modeling	3
MAT 406 Differential Equations	3
MAT 461 Statistical Analysis	3
Category I (select one)	*3*
MAT 451 Abstract Algebra II	3
MAT 474 Complex Analysis	3
MAT 481 Real Analysis I	3
Category II (select two)	*6*
CSC 424 Numerical Analysis	3
MAT 345 Cryptography I	3
MAT 441 Linear Algebra II	3
MAT 462 Statistical Analysis II	3
Category III (select one)	*3*
CSC 475 Theory of Languages	3
MAT 304 History of Math	3
MAT 419 Math Internship	3
MAT 468 Field Experience in Math	3
MAT 495 Senior Research Project	3
PHY 341 Math Methods of Physics	3
Approved Minor	**21**

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Course	Credits
Free Electives	**18**
Undergraduate Credits	6
Graduate Credits from the PSM in Applied Mathematics Program*	12
Total	**120**

Program Notes
- MAT 195 can be substituted for MAT 272 if the student is completing a Computer Science minor.
- CSC 475 requires a pre-requisite of CSC 216 and is suggested if the student is completing a Computer Science minor.
- Students who enter the B.A. in Math to PSM in Applied Math must have completed at least 9 credits of calculus, Linear Algebra I and Statistics prior to beginning PSM courses.

* PSA 611, PSM 645 (or PSM elective), PSM 760 and one PSM elective will be applied toward undergraduate credits.

Additional Requirements
Undergraduate students in the accelerated program may register for no more than 6 graduate credits in any one term, and in terms when a graduate course is registered, the student may not register for more than 18 total credits.

It is the student's responsibility to apply and meet the qualifications of the graduate program portion of the accelerated program. Failure to follow through with enrollment in the accelerated graduate program will result in additional undergraduate credits to complete the bachelor's degree, as outlined in the Undergraduate Credit for Graduate Courses policy.

Additional accelerated program requirements may be found at: https://www.calu.edu/inside/forms/_files/academic-affairs/accelerated-program-application.pdf

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

Graduate: https://www.calu.edu/academics/graduate/masters/applied-mathematics/index.aspx