

Bachelor of Arts in Mathematics

The Bachelor of Arts (BA) in Mathematics prepares students for careers in academia, K-12 education, and a myriad of jobs requiring a balance of analytical and interpersonal abilities. In addition to a strong mathematics core curriculum, this degree helps to strengthen communication and critical thinking skills.

Admission Requirements

- Complete the Admission Requirements for Baccalaureate D (<http://catalog.uaa.alaska.edu/academicpoliciesprocesses/admissions/undergraduate/degrees>) (<http://catalog.uaa.alaska.edu/academicpoliciesprocesses/admissions/undergraduate/>).

Graduation Requirements

- Complete the General University Requirements for Baccalaureate Degrees (<http://catalog.uaa.alaska.edu/undergraduateprograms/baccalaureaterequirements/>).
- Complete the General Education Requirements for Baccalaureate Degrees (<http://catalog.uaa.alaska.edu/undergraduateprograms/baccalaureaterequirements/gers/>).
- All mathematics majors must take a standardized test of knowledge of mathematics approved by the mathematics faculty for the purpose of evaluating program effectiveness. There is no minimum score required for graduation. This test will normally be taken during the senior year.
- All mathematics majors must complete a portfolio demonstrating their mathematics knowledge. There is no grade for this requirement. The portfolio will normally be submitted in the semester of graduation.
- Complete the following major requirements:

Code	Title	Credits
Core Courses		
MATH A251 or MATH A251F	Calculus I F.A.T. Calculus I	4-6
MATH A252 or MATH A252F	Calculus II F.A.T. Calculus II	4-6
MATH A253	Calculus III	4
MATH A264	Introduction to the Mathematics Major	1
MATH A265	Fundamentals of Mathematics	3
MATH A306	Discrete Methods	3
MATH A314	Linear Algebra	3
MATH A401	Introduction to Real Analysis	3
MATH A405	Introduction to Abstract Algebra	3
MATH A420	Historical Mathematics	3
Analysis and Topology		
Select one of the following:		3
MATH A410	Introduction to Complex Analysis	

MATH A430	Concepts of Topology
MATH A431	Introduction to Differential Geometry

Applied Math

Select one of the following:		3
MATH A302	Ordinary Differential Equations	
MATH A426	Numerical Analysis	
MATH A432	Partial Differential Equations	
PHYS A456	Nonlinear Dynamics and Chaos	

Statistics

Select one of the following:		3-4
MATH A371	Stochastic Processes	
MATH A407	Mathematical Statistics	
STAT A307	Probability and Statistics	
STAT A308	Intermediate Statistics for the Sciences	
STAT A402	Scientific Sampling	
STAT A403	Regression Analysis	
STAT A404	Analysis of Variance	
STAT A407	Time Series Analysis	
STAT A408	Multivariate Statistics	
STAT A410	Statistical Methods	

Other Mathematics Courses

Select one of the following:		3
MATH A305	Introduction to Geometries	
MATH A309	Introduction to Number Theory	
MATH A490	Selected Topics in Mathematics ¹	

Select any 6 additional credits from any of the four categories above. 6

Additional Courses

PHIL A101	Introduction to Logic	3
Select 6 credits from the following (a WRTG GER plus one additional selection):		6

WRTG A212	Writing and the Professions
WRTG A213	Writing and the Sciences
WRTG A214	Arguing Across Contexts
ENGL A311	Writing and Rhetoric in Public Life
ENGL A312	Advanced Technical Writing
ENGL A313	Professional Writing
ENGL A414	Research Writing

Select 6 credits from the following: 6

COMM A111	Fundamentals of Oral Communication
COMM A235	Small Group Communication
COMM A237	Interpersonal Communication
COMM A241	Public Speaking
COMM A305	Intercultural Communication
COMM A330	Collaboration and Group Decision Making

COMM A335	Communication and Conflict	
COMM A340	Nonverbal Communication	
COMM A341	Advanced Public Speaking	
COMM A350	Communication in the Workplace	
COMM A450	Communication and Leadership	
THR A121	Fundamentals of Acting	
Mathematics Capstone Experience		
Select 1-3 credits from the following:		1-3
MATH A495A	Mathematics Practicum ¹	
MATH A495B	Mathematics or Statistics Internship ¹	
MATH A496	Advanced Readings in Mathematics ¹	
MATH A498	Individual Research ¹	
Total		65-72

¹ A maximum of 6 credits of MATH A490, MATH A495A, MATH A495B, MATH A496 and MATH A498 may be applied to the degree requirements.

A minimum of 120 credits is required for the degree, of which 39 credits must be upper-division.

Honors in Mathematics

The Bachelor of Arts in Mathematics recognizes distinguished achievement by conferring programmatic honors in mathematics. In order to receive honors in mathematics, a student must meet the following requirements:

- Meet the requirements for Graduation with Honors (<http://catalog.uaa.alaska.edu/academicpoliciesprocesses/academicstandardsregulations/graduation/>) as outlined in the catalog;
- Meet the requirements for a BA/BS in Mathematics;
- Earn a minimum cumulative GPA of 3.50 in the major requirements;
- Complete a minimum of 12 upper-division credits required for the major in residence.