B.A., MATHEMATICS

Program Requirements

Students must earn a C- grade or better in each course.

Minimum Requirements for Mathematics B.A.: 120 credits

CONCENTRATIONS: MATHEMATICS (P. 1), STATISTICS (P. 1)

Code	Title	Credits
Pre-major Requirement		
Students must be ready to matriculate into MATH F251X before they will be allowed to declare mathematics as their major.		
General University Requirements		
Complete the general university requirements. (https://catalog.uaf.edu/archives/2020-2021/bachelors/)		
General Education Requirements		
Complete the general education requirements. (https://catalog.uaf.edu/archives/2020-2021/bachelors/general-education-requirements/)		
As part of the general education requirements, complete:		
MATH F251X	Calculus I	
B.A. Degree Requirements		
Complete the B.A. degree requirements. (https://catalog.uaf.edu/archives/2020-2021/bachelors/summary-of-bachelors-degree-reqs/#bachelorofartstext)		
As part of the B.A. requirements, complete:		
MATH F252X	Calculus II	
Mathematics Program Requirements		
MATH F253X	Calculus III	4
MATH F265	Introduction to Mathematical Proofs	3
MATH F314	Linear Algebra	3
Complete one of the following concentrations:		29
Mathematics Concentration		
Statistics Concentration		

Concentrations

MATHEMATICS CONCENTRATION

Code	Title	Credits
MATH F401	Introduction to Real Analysis	3
MATH F405	Abstract Algebra	3
MATH F490	Senior Seminar [1]	2
Complete at least 21 additional credits of electives. [2]		
The following are some suggested elective packages:		
Pure Math Suggested Elective Package		
MATH F305	Geometry	3
MATH F320	Topics in Combinatorics	3
or MATH F321	Number Theory	
MATH F404	Introduction to Topology	3
MATH F410	Introduction to Complex Analysis	3
additional 9 elective credits		
Applied Math Suggested Elective Package		
MATH F302	Differential Equations	3
MATH F410	Introduction to Complex Analysis	3
MATH F432	Introduction to Partial Differential Equations	3
MATH F460	Mathematical Modeling	3
Complete 2 of the following:		
MATH F307	Discrete Mathematics	
MATH F426	Numerical Analysis	
STAT F300	Statistics	
Additional 3 elective credits		
Elective Package for Mathematics Teachers (Grades 7-12) [3]		
Complete the following:		
CS F201	Computer Science I	3
MATH F305	Geometry	3
MATH F316	Introduction to the History and Philosophy of Mathematics	3
STAT F300	Statistics	3
or MATH F371	Probability	
or MATH F408	Mathematical Statistics	
Complete one from the following:		
MATH F307	Discrete Mathematics	3
MATH F320	Topics in Combinatorics	3
MATH F321	Number Theory	3
Complete 2 from the following:		
MATH F302	Differential Equations	3
MATH F410	Introduction to Complex Analysis	3
MATH F426	Numerical Analysis	3
MATH F432	Introduction to Partial Differential Equations	3
MATH F460	Mathematical Modeling	3

STATISTICS CONCENTRATION

Code	Title	Credits
CS F201	Computer Science I	3
or NRM F338	Introduction to Geographic Information Systems	
ENGL F314	Technical Writing	3
or ENGL F414	Research Writing	
MATH F371	Probability	3
MATH F401	Introduction to Real Analysis	3
or MATH F405	Abstract Algebra	
MATH F408	Mathematical Statistics	3
STAT F300	Statistics	3
STAT F401	Regression and Analysis of Variance	4
STAT F402	Scientific Sampling	3
STAT F454	Statistical Consulting Seminar [1]	1
Additional 3 elective credits at the F300 level or above [4]		

1 Fulfulls the baccalaureate capstone requirement.

2 Acceptable elective courses include any math or statistics course at the F300 level or above, and CS F201 (https://catalog.uaf.edu/archives/2020-2021/search/?P=CS%20F201). At least 15 credits must be math courses. In some cases, courses with strong mathematical content from other disciplines may be used as electives. Such an elective must be approved by an advisor in the Department of Mathematics and Statistics. The requirement that at least 15 credits be math courses still applies.

3 We strongly recommend that prospective secondary science teachers seek advising from the UAF School of Education early in their undergraduate degree program, so that they can be appropriately advised of the State of Alaska requirements for teacher licensure. Students may choose to pursue a double major with education or complete a postbaccalaureate teacher certification program.

4 Acceptable elective courses include any MATH or STAT course at the F300 level or above. In some cases, courses with strong mathematical content from other disciplines may be used as electives. Such an elective must be approved by an advisor in the Department of Mathematics and Statistics.

Note: All mathematics majors — including double majors — must have an advisor from the Department of Mathematics and Statistics.

Note: At least 12 approved mathematics credits at the F300 level or above must be taken while in residence on the Fairbanks campus.