MATHEMATICS B.A. - MATHEMATICS EDUCATION

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the Teacher Education Program through the Department of Teaching and Learning. Individuals must complete the teaching track within that degree program, which may contain different course requirements than the non-teaching track since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program (https://www.umt.edu/education/departments/teaching-and-learning/tep/)
- Licensure Degree Requirements (https://catalog.umt.edu/colleges-schools-programs/education/teaching-learning/lic-secondary-licensure/)

General Degree Requirements

To earn a baccalaureate degree, all students must complete successfully, in addition to any other requirements, the University of Montana General Education Requirements. Please refer to the General Education Requirements page (https://catalog.umt.edu/academics/general-education-requirements/) for more information.

Additional requirements for graduation can be found on the Degree/Certificate Requirements for Graduation page (https://catalog.umt.edu/academics/graduation-requirements/).

Unless otherwise noted in individual program requirements, a minimum grade point average of 2.00 in all work attempted at the University of Montana-Missoula is required for graduation. Please see the Academic Policies and Procedures page (https://catalog.umt.edu/academics/policies-procedures/) for information on how your GPA is calculated.

Courses taken to satisfy the requirements of a major, minor, or certificate program must be completed with a grade of C- or better unless a higher grade is noted in the program requirements.

Bachelor of Arts - Mathematics; Mathematics Education Concentration

- The number of degree specific credits required is significantly higher if one also counts the additional course work required by the Teacher Education Program.
- Note that the Teacher Education Program requires in addition an overall cumulative GPA of at least 2.75
- Residency Requirement: At least four of the upper-division mathematics courses must be taken at UM-Missoula.

Course Requirements

Code	Title	Hours
Core Courses		
Complete all of the following courses:		
M 171	Calculus I	4
or M 181	Honors Calculus I	
M 172	Calculus II	4
or M 182	Honors Calculus II	
M 221	Introduction to Linear Algebra	4
M 301	Teaching Mathematics with Technology	3
M 307	Introduction to Abstract Mathematics	3
M 326	Number Theory	3
M 429	History of Mathematics [1]	3
M 431	Abstract Algebra I	4
M 439	Euclidean and NonEuclidean Geometry	3
STAT 342	Probability and Simulation [2]	3
or STAT 451	Statistical Methods I	
Elective		
Complete one of the following courses:		3-4
M 273	Multivariable Calculus	
M 274	Introduction to Differential Equations	
M 325	Discrete Mathematics	
M 361	Discrete Optimization	
M 362	Linear Optimization	
M 381	Advanced Calculus I	
M 412	Partial Differential Equations	
M 414	Deterministic Models	
M 432	Abstract Algebra II	
M 440	Numerical Analysis	
M 445	Statistical, Dynamical, and Computational Modeling	
M 461	Data Science Analytics	
M 462	Theoretical Basics of Big Data Analytics and Real Time Computation Algorithms	
M 472	Introduction to Complex Analysis	
M 473	Introduction to Real Analysis	
M 485	Graph Theory	
STAT 421	Probability Theory	
STAT 422	Mathematical Statistics	
STAT 451	Statistical Methods I [2]	
STAT 452	Statistical Methods II	
Mathematics Teaching Methods Course		
Complete the following course:		
EDU 497	Teaching and Assessing (Methods: 5 - 12 Mathematics)	4
Student Teaching Requirement for the Mathematics Education Concentration		
Complete the following course:		
EDU 495	Student Teaching	14
Science Requirement for the Mathematics Education Concentration [3]		
Complete 12 credits in at most two areas selected from astronomy (ASTR), biology (BIO*), chemistry (CHMY), computer science (CSCI, except CSCI TR*), economics (ECNS), forestry (FORS, WILD), geosciences (GEO), management information systems (BMIS), and physics (PHSX).		12
Total Hours		**67-68**

[1] M 429 satisfies the Advanced Writing Requirement for this major.

[2] STAT 451 may not count as both a Core and Elective course.

[3] Students completing a minor in another subject or a second major are exempt from this requirement. Transfer courses listed on the transcript as "CSCI TR*" may include course work in other areas such as Computer Applications (CAPP) and therefore do not count towards this requirement unless a student successfully petitions the Department of Mathematical Sciences.

Secondary Teaching Licensure

For endorsement to teach this subject, a student also must gain admission to the Teacher Education Program and meet all the requirements for secondary teaching licensure (https://catalog.umt.edu/colleges-schools-programs/education/teaching-learning/lic-secondary-licensure/). For more information, see the Teaching and Learning Department webpage (https://www.umt.edu/education/departments/currinst/default.php).

Four Year Plan

Course	Title	Hours
Freshman		
Autumn		
M 171	Calculus I	4
COMX 111A or WRIT 101	Introduction to Public Speaking (WRIT 101 required, COMX 111A recommended) [1] or College Writing I	3-4
NASX 105H	Introduction to Native American Studies	3
HUSC 194	Seminar/Workshop	1
Science Elective [2]		3
Elective		1
	Hours	**15-16**
Spring		
M 172	Calculus II	4
WRIT 101 or COMX 111A	College Writing I (WRIT 101 required, COMX 111A recommended) [1] or Introduction to Public Speaking	3-4
EDU 222	Educational Psychology and Child Development	3
Science Elective [2]		3
Elective		2
	Hours	**15-16**
Sophomore		
Autumn		
M 221	Introduction to Linear Algebra	4
M 301	Teaching Mathematics with Technology (or Math Elective) [2]	3
Science Elective [2]		3
LIT 110L	Introduction to Literature [1]	3
Elective		1
	Hours	**14**
Spring		
M 307	Introduction to Abstract Mathematics	3
Science Elective [2]		3
HSTA 102H	American History II [1]	4
Elective		6
	Hours	**16**
Junior		
Autumn		
M 301	Teaching Mathematics with Technology (or Math Elective) [2]	3
STAT 342 or STAT 451	Probability and Simulation or Statistical Methods I	3
EDU 382	Assessment, Curriculum, & Instruction	3
EDU 346	Addressing the Needs of Diverse Learners	3
Elective		3
	Hours	**15**
Spring		
M 326	Number Theory	3
M 429	History of Mathematics	3
EDU 481	Content Area Literacy	3
EDU 444	Classroom Management in Secondary Schools	3
EDU 395	Clinical Experience	1
Elective		3
	Hours	**16**
Senior		
Autumn		
M 431	Abstract Algebra I	4
M 439	Euclidean and NonEuclidean Geometry	3
EDU 407E	Ethics & Policy Issues	3
EDU 395	Clinical Experience (K-12 II)	1
EDU 497	Teaching and Assessing (Methods: 5 - 12 Mathematics)	3
	Hours	**14**
Spring		
EDU 494	Seminar	1
EDU 495	Student Teaching	14
	Hours	**15**
	Total Hours	**120-122**

Last updated Autumn 2025

It is recommended that you apply to the Teacher Education Program at the start of Year 2 (since admission to the TEP is required before you can take EDU courses). Discuss this with your Math Faculty Mentor in the Spring of Year 1

[1] Recommended but not required. To ensure that you meet all relevant requirements, replace them only after consultation with your math advisor.

[2] Details regarding the Math and Science Electives are in the Catalog and on Degree Works. Choose these courses in consultation with your math advisor.