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 (http://www.coehs.umt.edu/departments/currinst/undergradprograms/seced/default.php)
- Licensure Degree Requirements (http://catalog.umt.edu/colleges-schools-programs/education/teaching-learning/lic-secondary-licensure/)

Bachelor of Arts - Mathematics; Mathematics Education Concentration

General Education Requirements

Information regarding these requirements can be found in the General Education Section (http://catalog.umt.edu/academics/general-education-requirements/) of the catalog.

Summary

Code	Title	Hours
Mathematical Sciences Courses Required for the Mathematics Education Concentration		41-42
	Core Courses	
	Elective Course	
	Mathematics Teaching Methods Course	
Student Teaching Requirement for the Mathematics Education Concentration		14
Science Requirement for the Mathematics Education Concentration		12
Secondary Teaching Licensure		
Total Hours		**67-68**

Degree Specific Credits: 67-68

Required Cumulative GPA: 2.5

Note:

1. The number of degree specific credits required is significantly higher if one also counts the additional course work required by the Teacher Education Program.
2. Note that the Teacher Education Program requires in addition an overall cumulative GPA of at least 2.75.

Mathematical Sciences Courses Required for the Mathematics Education Concentration

Rule: The courses in this category must be completed with a cumulative GPA of at least 2.75.

Core Courses

Note:

1. Residency Requirement: At least 4 of the upper-division courses in this category must be taken at UM Missoula (only 3 if the Elective Course is an upper-division course taken at UM-Missoula).
2. Note that taking M 429 satisfies the Advanced College Writing Requirement for this degree.
3. STAT 451 can be substituted for STAT 341, if STAT 451 is not selected as the elective course.

Code	Title	Hours
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	3
M 431	Abstract Algebra I	4
M 439	Euclidean and NonEuclidean Geometry	3
STAT 341	Introduction to Probability and Statistics	3
or STAT 342	Probability and Simulation	
or STAT 451	Statistical Methods I	
Total Hours		**34**

Minimum Required Grade: C-

Elective Course

Code	Title	Hours
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	
STAT 452	Statistical Methods II	
Total Hours		**3-4**

Minimum Required Grade: C-

Mathematics Teaching Methods Course

Note: The course number EDU 497 covers many different teaching methods courses. The section of EDU 497 entitled "Methods: 5 - 12 Mathematics" is required for the Mathematics Education concentration.

Code	Title	Hours
Complete the following course:		
EDU 497	Teaching and Assessing	4
Total Hours		**4**

Minimum Required Grade: C-

Student Teaching Requirement for the Mathematics Education Concentration

Code	Title	Hours
Complete the following course:		**14**
EDU 495	Student Teaching	
Total Hours		**14**

Minimum Required Grade: C-

Science Requirement for the Mathematics Education Concentration

Note:

1. Students completing a teaching minor (in another subject) or a second major are exempt from this requirement.
2. 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.

Code	Title	Hours
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		**12**

Minimum Required Grade: C-

Secondary Teaching Licensure

Note: For endorsement to teach Mathematics, a student also must gain admission to the Teacher Education Program and meet all the requirements for secondary teaching licensure (http://catalog.umt.edu/colleges-schools-programs/education/teaching-learning/lic-secondary-licensure/). For more information, see the Teaching and Learning Department (http://catalog.umt.edu/colleges-schools-programs/education/teaching-learning/).