

Mathematics Major Check-Off Form: Applied and Pure Mathematics BS

(Major Declared *Spring 2020 and Thereafter*)

Name:	
Student ID #:	Expected Graduation (month & year):

- C average (2.0) required in courses fulfilling the Mathematics majors.
- No requirement for the mathematics major (BA or BS) may be taken P/F
- At least **four** Mathematics courses numbered 300s or more must be taken at UMB.
- **Capstone requirement** may be met through any of the courses with numbers between 420-499

Required Core Math Courses:

Sem	Grade	Course	Sem	Grade	Course
		MATH 140 – Calculus I			MATH 291 – Mathematical Software
		MATH 141 – Calculus II			MATH 314 – Intro to Proofs
		MATH 242 – Multivariable & Vector Calc			MATH 345 – Prob & Stats
		MATH 260 – Linear Algebra			PHYSIC 113 – Fundamentals of Physics I
		MATH 265 – Discrete Structures in Math			CS 110 – Intro to Computing
		MATH 270 – Applied ODEs			

Concentration Requirements:

Electives must be chosen from MATH 300+ courses.

Sem	Grade	Course
		MATH 358 – Complex Analysis
		MATH 360 – Abstract Algebra I
		MATH 361 – Abstract Algebra II
		MATH 450 – Real Analysis
		Elective #1 – MATH
		Elective #2 – MATH

Required Science Courses: *three science courses (excluding Physics 113 and 114 and CS 110)*

For the BS degree you must take four science courses INCLUDING Physics 114. One of these courses can be a lab. The courses have to be offered by Biology, Chemistry, Computer Science, Engineering or Physics Department and **MUST** be required for a major in the program offered by the respective department.

Sem	Grade	Course	Sem	Grade	Course
		PHYSIC 114 - Fundamentals of Physics II			

***Advisors:** Please release the advising hold at the end of the advising session if you feel the student is ready to register. Navigate to “Advising Center” --> “Student Summary All Terms (UM)” --> “⊙” symbol on top of the page --> “ADV” in the holds list --> Release. If the student shows math as their additional major (AM), ensure that the student see’s their primary major’s advisor to release the hold. If you have any questions, please contact math@umb.edu.



When is My Course Offered?

Course availability subject to change based on student/institutional needs
Last Update: February 2026



Courses Offered Fall, Spring, and Summer:

MATH 115 – College Algebra
MATH 125 – Introductory Statistics
MATH 130 – Precalculus
MATH 140 – Calculus I
MATH 141 – Calculus II
MATH 240* – Multivariable Calculus (“Calculus III”)
MATH 242* – Multivariable and Vector Calculus
MATH 260* – Linear Algebra
MATH 345 – Probability and Statistics I

* During the summer, this course is typically only offered during SS2

Courses Offered Fall and Spring Only:

MATH 114QR – Quantitative Reasoning
MATH 135 – Survey of Calculus
MATH 270 – Ordinary Differential Equations
MATH 314 – Introduction to Proofs

Courses Offered Fall Only:

MATH 291 – Mathematical Software
MATH 309 – Financial Mathematics
MATH 358 – Complex Analysis
MATH 360 – Abstract Algebra I
MATH 390 – Math Problem Solving Seminar
MATH 425 – Numerical Analysis
MATH 447 – Probability Models
MATH 455 – Introduction to Statistical Machine Learning
MATH 460 – Survey of Geometry

Courses Offered Spring Only:

MATH 265 – Discrete Structures in Mathematics
MATH 361 – Abstract Algebra II
MATH 370 – History of Mathematics
MATH 426 – Numerical Linear Algebra
MATH 440 – Topology
MATH 448 – Computational Statistics
MATH 450 – Real Analysis
MATH 458 – Theory of Numbers

Courses Offered Summer Only:

MATH 470 – Mathematical Logic (SS1)