



## Sample Four-Year Plan for Computational Math Concentration (BS)

For mathematics students who declared major in Spring 2020 or after

	Fall Semester	Spring Semester
Freshman Year	Math 140 – 4 cr CS 110 – 4 cr English 101 – 3 cr First Year Seminar – 4 cr  (15 credits)	Math 141 – 4 cr Math 260 – 3 cr ** Physics 113 – 4 cr English 102 – 3 cr  (14 credits)
Sophomore Year	Math 242 – 4 cr * Math 291 – 3 cr ** Physics 114 – 4 cr Intermediate Seminar – 3 cr General Education – 3 cr  (17 credits)	* Math 265 – 3 cr Math 270 – 3 cr ** Science Elective – 3 cr General Education – 3 cr General Education – 3 cr  (15 credits)
Junior Year †	* Math 314 – 3 cr * Math 425 – 3 cr ** Science Elective – 3 cr General Education – 3 cr Elective – 3 cr  (15 credits)	Math 345 – 3 cr * Math 426 – 3 cr ** Science Elective – 3 cr General Education – 3 cr Elective – 3 cr  (15 credits)
Senior Year	* Math 447 – 3 cr *** Math 300+ Elective – 3 cr General Education – 3 cr Elective – 3 cr Elective – 3 cr  (15 credits)	* Math 448 – 3 cr *** Math 300+ Elective – 3 cr General Education – 3 cr Elective – 3 cr Elective – 3 cr  (15 credits)

\* - Class may be offered only once a year.

\*\* - For a Bachelor of Science degree, a student must take five science courses, including Physics 113 and 114. One of these courses can be a lab.

\*\*\* - At least one Math 300+ elective has to be either Math 360 or Math 450.

† - The Writing Proficiency Requirement (WPR) is recommended to be completed at 60-75 credits. Please consult the WPR website:  
[www.umb.edu/academics/vpass/undergraduate\\_studies/writing\\_proficiency](http://www.umb.edu/academics/vpass/undergraduate_studies/writing_proficiency)

• This document is a suggested plan for the major. Students must meet with their faculty advisor each semester and refer to their degree audit to ensure adequate progress toward their degree. See reverse side for more detailed information.

## Mathematics BS Course Number Guide

This course guide provides the detailed names of courses listed by number on the four-year plans. It is not a comprehensive list of courses for your major, or a substitute for an advising appointment! Consult with your faculty advisor when choosing courses, and check your degree audit regularly.

CS 110 – Introduction to Computing

Math 140 – Calculus I

Math 141 – Calculus II

Math 242 – Multivariable and Vector Calculus

Math 260 – Linear Algebra

Math 265 – Discrete Structures in Mathematics

Math 270 – Applied Ordinary Differential Equations

Math 291 – Mathematical Software

Math 314 – Introduction to Proofs

Math 345 – Probability and Statistics

Math 360 – Abstract Algebra I

Math 425 – Numerical Analysis

Math 426 – Numerical Linear Algebra

Math 447 – Probability Models

Math 448 – Computational Statistics

Math 450 – Real Analysis

Physics 113 & 181 – Fundamentals of Physics I Lecture & Lab

Physics 114 & 182 – Fundamentals of Physics II Lecture & Lab

### Additional resources:

[www.umb.edu/academics/vpass/undergraduate\\_studies/general\\_education\\_requirements](http://www.umb.edu/academics/vpass/undergraduate_studies/general_education_requirements)

[www.umb.edu/academics/course\\_catalog/search](http://www.umb.edu/academics/course_catalog/search)

[www.umb.edu/academics/csm/student\\_success\\_center/degree\\_planning/math\\_placement](http://www.umb.edu/academics/csm/student_success_center/degree_planning/math_placement)