

MATHEMATICS MAJOR REQUIREMENTS: ADVISEMENT FORM BACHELOR OF SCIENCE DEGREE

Name:

UMBC username or ID:

NOTE: A grade of C or better is required in courses to fulfill major requirements.

I Core Requirements

		Semester/Year	Grade
MATH 151	Calculus and Analytic Geometry I	_____	_____
MATH 152	Calculus and Analytic Geometry II	_____	_____
MATH 221	Introduction to Linear Algebra	_____	_____
MATH 225	Introduction to Differential Equations	_____	_____
MATH 251	Multivariable Calculus	_____	_____
MATH 301	Introduction to Mathematical Analysis I	_____	_____
MATH 302	Introduction to Mathematical Analysis II OR		
MATH 401	Mathematics Analysis	_____	_____
CMSC 201	Computer Science I	_____	_____
PHYS 121	Introductory Physics I	_____	_____
PHYS 122	Introductory Physics II	_____	_____

II Upper Level Mathematics/Statistics Electives

Courses must be numbered higher than MATH 302. MATH 380, MATH 432, STAT 350 and STAT 351 are not counted as upper level electives for the major. At least **THREE** of these courses must be at the 400 level.

		Semester/Year	Grade
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____
6	_____	_____	_____

Note: For **ONE** of the mathematical electives, a major may bundle together three or more credits from courses carrying one or two credits. These include: MATH 426, 427, 479, 480, 490, 496, 499 and STAT 432, 470, 490, 496 and 499.

III Supplementary Requirements

Students must take **TWO** courses from the following list:

- BIOL 463 Theoretical and Quantitative Biology

- CHEM 401 Chemical and Statistical Thermodynamics
- CHEM 415 Statistical Mechanics and Theory of Rate Processes

CMPE 320 Probability Statistics and Random Processes
CMPE 323 Signal and System Theory

CMSC 203 Discrete Structures (*Must be taken before MATH 301 to be accepted*)
CMSC 341 Data Structures
CMSC 441 Algorithms
CMSC 442 Information and Coding Theory
CMSC 443 Cryptography
CMSC 451 Automata Theory and Formal Languages
CMSC 452 Logic for Computer Science
CMSC 453 Applied Combinatorics and Graph Theory

ECON 311 Intermediate Economic Analysis
ECON 417 The Economics of Strategic Interaction
ECON 421 Introduction to Econometrics
EDUC 320 Teaching Mathematics in the Elementary School
EDUC 322 Teaching Mathematics in the Secondary School

ENCH 300 Chemical Processes and Thermodynamics

ENME 217 Engineering Thermodynamics
ENME 315 Intermediate Thermodynamics
ENME 342 Fluid Mechanics
ENME 410 Operations Research

MATH 432 History of Mathematics

PHIL 248 Introduction to Scientific Reasoning
PHIL 346 Deductive Systems
PHIL 372 Philosophy of Science

PHYS 224 Introductory Physics III
PHYS 303 Thermal and Statistical Physics
PHYS 321 Intermediate Mechanics
PHYS 407 Electromagnetic Theory
PHYS 424 Introduction to Quantum Mechanics
PHYS 440 Computations Physics