

MATHEMATICS MAJOR REQUIREMENTS: ADVISEMENT FORM BACHELOR OF SCIENCE DEGREE

Name:

UMBC 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 300 Introduction to Mathematical Reasoning	_____	_____
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 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 374 Fundamentals of Financial Management
ECON 417 The Economics of Strategic Interaction
ECON 421 Introduction to Econometrics

EDUC 320 Teaching Mathematics in the Elementary School
EDUC 426 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