

B.A. IN MATHEMATICS

College of the Sciences and Mathematics

Curriculum

General Education Requirements (<http://catalog.wcupa.edu/undergraduate/general-education-requirements>)

English Composition requirements	6
Mathematics requirement	3
Public Speaking requirement	3
Science requirements	6
Behavioral & Social Science requirements	6
Humanities requirements	6
Arts requirement	3
Diverse Communities requirement	3
Interdisciplinary requirement	3
Student Electives	9
Writing Emphasis requirements	9

Language Requirement

Demonstrating language proficiency through the intermediate level (202). 3-12

Major Requirements

MAT 161	Calculus I	4
MAT 162	Calculus II	4
MAT 200	The Nature of Mathematics	3
MAT 261	Calculus III	4
MAT 311	Linear Algebra ¹	3
MAT 411	Algebra I	3
MAT 421	Mathematical Statistics I	3
MAT 441	Real Analysis I	3

Mathematics Electives

At least 5 upper-division (300 level or higher) mathematics courses, one in each of the areas below. In lieu of a minor, students may select 3 additional upper-division mathematics courses with approval of the advisor and department chair. 15-24

Algebra elective	
Analysis elective	
Applied mathematics elective	

Related/Cognate Requirements

CSC 141	Computer Science I ¹	3
PHY 170	Physics I ¹	4

Total Minimum Credits Required 120

¹ Satisfies general education requirement.

Accelerated B.A. in Mathematics to M.A. in Mathematics Program

Students may substitute up to 5 graduate courses for B.A. course requirements, subject to the following guidelines:

Algebra Elective

May be replaced by one of the following:

MAT 513	Linear Algebra
MAT 514	Theory Of Numbers
MAT 515	Algebra I
MAT 516	Algebra II

Analysis Elective

May be replaced by one of the following:

MAT 535	Topology
MAT 543	Topics in Differential Equations
MAT 545	Real Analysis I

MAT 546	Real Analysis II
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Applied Mathematics Elective

May be replaced by one of the following:

STA 505	Mathematical Statistics I ¹
MAT 548	Industrial Mathematics - Continuous Models
MAT 549	Industrial Mathematics - Discrete Models
MAT 552	Operations Research
MAT 553	Stochastic Modeling
MAT 554	Scientific Computing
MAT 555	Industrial Practicum - Continuous Models
MAT 570	Math Models In Life, Phys & Soc Sciences

Mathematics Electives

May be replaced by any course from the three areas above or any of the following:

MAT 521	Discrete Mathematics & Graph Theory
MAT 532	Geometry I
MAT 533	Geometry II
MAT 595	Topics in Mathematics

Student Electives

May be replaced by any course from the four areas above or any other 500-level MAT, MTE, STA, or CSC course.

¹ Or higher level STA course

Requirement of a Minor

Students in the B.A. degree program are required to complete either a minor or, with the approval of the student's advisor and the Department of Mathematics chairperson, an additional nine credit hours of upper-division mathematics. The discipline chosen for the minor will reflect a student's post-baccalaureate goals. The department recommends completing a minor in the natural sciences (astronomy (<http://catalog.wcupa.edu/undergraduate/sciences-mathematics/geology-astronomy/astronomy-minor>), biology (<http://catalog.wcupa.edu/undergraduate/sciences-mathematics/biology/biology-minor>), chemistry (<http://catalog.wcupa.edu/undergraduate/sciences-mathematics/chemistry/chemistry-minor>), earth sciences (<http://catalog.wcupa.edu/undergraduate/sciences-mathematics/geology-astronomy/earth-science-minor>), geology (<http://catalog.wcupa.edu/undergraduate/sciences-mathematics/geology-astronomy/geology-minor>), and physics (<http://catalog.wcupa.edu/undergraduate/sciences-mathematics/physics-pre-engineering/physics-minor>)), computer science (<http://catalog.wcupa.edu/undergraduate/sciences-mathematics/computer-science/computer-science-minor>), economics (<http://catalog.wcupa.edu/undergraduate/business-public-management/economics-finance/economics-minor>), or finance (<http://catalog.wcupa.edu/undergraduate/business-public-management/economics-finance/finance-minor>), but other minors may be selected with the approval of the student's advisor and the mathematics chairperson.

All mathematics major courses must be passed with a C- or better.

Sample Course Plan

To track their individual degree progress, students are advised to access their Degree Progress Report (DPR) via myWCU regularly. For more information, visit wcupa.edu/DegreeProgressReport.

The following is a suggested course sequence for this program; course offerings and availability are not guaranteed. Students should consult their academic advisor with any questions.

Course	Title	Credits
Year One		
Semester One		
MAT 161	Calculus I	4

CSC 141	Computer Science I	3	Free Elective	3
Language 101		3	Credits	15
Gen Ed Humanities Course		3	Total Credits	124
Gen Ed Arts Course		3		
	Credits	16		
Semester Two				
MAT 162	Calculus II	4		
MAT 200	The Nature of Mathematics	3		
WRT 120	Effective Writing I	3		
Language 102		3		
PHY 170	Physics I	4		
	Credits	17		
Year Two				
Semester Three				
MAT 261	Calculus III	4		
MAT 311	Linear Algebra	3		
WRT 200	Critical Writing and Research	3		
Language 201		3		
Minor Elective		3		
	Credits	16		
Semester Four				
SPK 208	Public Speaking	3		
or	or Business and Professional Speech			
SPK 230	Communication			
Applied Mathematics Elective		3		
Language 202		3		
Minor Elective		3		
Gen Ed Behavioral/Social Science Course		3		
	Credits	15		
Year Three				
Semester Five				
MAT 411	Algebra I	3		
MAT 421	Mathematical Statistics I	3		
IW Course		3		
Minor Elective		3		
Gen Ed Elective		3		
	Credits	15		
Semester Six				
MAT 441	Real Analysis I	3		
Algebra Elective		3		
Minor Elective		3		
Mathematics Elective		3		
JW Course		3		
	Credits	15		
Year Four				
Semester Seven				
Analysis Elective		3		
Mathematics Elective		3		
Minor Elective		3		
Gen Ed Humanities Course		3		
Gen Ed Elective		3		
	Credits	15		
Semester Eight				
Mathematics Elective		3		
Minor Elective		3		
Gen Ed Behavioral/Social Science Course		3		
Gen Ed Elective		3		