



## BACHELOR OF SCIENCE IN MATHEMATICS (COMPUTATIONAL SCIENCE OPTION)

First Semester	Hours	Milestone(s)	Milestone Note	Term
MATH 206 - Analytic Geometry and Calculus I	4	Milestone Course	Core course. Prerequisite for MATH 207	
CS 101 - Programming Fundamentals	3	Milestone Course	Core course. Prerequisite for CS 102	
ENGL 101 - English Composition I	3			
G ED 101 (NSM)	3			
COMM 100 - Speech Communication	3			
<b>Semester Total</b>	16			

Second Semester	Hours	Milestone(s)	Milestone Note	Term
MATH 207 - Analytic Geometry and Calculus II	4	Milestone Course	Core course. Prerequisite for MATH 208, MATH 251, MATH 307	
MATH 222 - Elementary Statistics for Math and Natural Science	3	Milestone Course	Core course.	
CS 102 - The Object-Oriented Paradigm	3	Milestone Course	Core course. Prerequisite for CS 230, CS 250, CS 336	
ENGL 102 or ENGL 112 - English Composition II or Technical Writing	3			
HHP 157 or another G ED Wellness 🌀	2			
<b>Semester Total</b>	15			

Third Semester	Hours	Milestone(s)	Milestone Note	Term
MATH 208 - Analytic Geometry and Calculus III	4	Milestone Course	Core course. Prerequisite for MATH 403, MATH 415	
MATH 251 - Introduction to Computational Science	3	Milestone Course	Core course.	
MATH 205 - Discrete Mathematics	3	Milestone Course	Core course. Prerequisite for CS 250, MATH 403	
CS 230 - Database Management Systems	3	Milestone Course	Core course.	
COMM 140 or another G ED Humanities 🌀	3			
<b>Semester Total</b>	16			

Fourth Semester	Hours	Milestone(s)	Milestone Note	Term
CS 336 - Scripting Languages	3	Milestone Course	Core course.	
MATH 415 - Differential Equations for Science and Engineering	4	Milestone Course	Core course.	
CS 250 - Data Structures and Algorithms	3	Milestone Course	Prerequisite for some of the upper level CS courses	
FREN 101 or another G ED International Perspectives 🌀	3			
HIST 201 or another G ED History 🌀	3			
<b>Semester Total</b>	16			

Fifth Semester	Hours	Milestone(s)	Milestone Note	Term
MATH 403 - Introduction to Probability	3	Milestone Course	Core course.	
MATH 307 - Linear Algebra	3	Milestone Course	Core course.	
CS 355 - Big Data Analytics	3	Milestone Course	Core course.	
Free Elective	3			
BIOL 120 or Science Cognate	4-5	Milestone Course		
<b>Semester Total</b>	16-17			

Sixth Semester	Hours	Milestone(s)	Milestone Note	Term
MATH 406 - Mathematics Statistics	3	Milestone Course	Core course. Prerequisite for MATH 435	
MATH 355 - Fundamentals of Data Science	3	Milestone Course	Core course.	
CHEM 100 or another G ED Natural Science 🌀	3-4			
ART 101 or another G ED Arts 🌀	3			
PSYC 151 or another G ED Social Science 🌀	3			
<b>Semester Total</b>	15-16			

Seventh Semester	Hours	Milestone(s)	Milestone Note	Term
MATH 435 - Applied Regression and Time Series	3	Milestone Course	Core course.	
MATH 404 - Numerical Analysis	3	Milestone Course	Core course.	
Science Cognate	4-5			
PHYS 101 or another G ED Scientific Reasoning 🌀	3-4			
Free Elective	3			
<b>Semester Total</b>	16-18			

Eighth Semester	Hours	Milestone(s)	Milestone Note	Term
CS 455 - Applied Data Mining	3	Milestone Course	Core course.	
MATH 408 - Senior Mathematics Seminar	2	Milestone Course	Core course. (Should be taken in the last semester)	
Free Elective	3			
Free Elective	3			
Free Elective	3			
<b>Semester Total</b>	14			

## GENERAL EDUCATION COMPONENT AND COURSEWORK OPTIONS

Students in bachelor degree programs must complete the minimum number of hours indicated in each of the General Education components for a total of 35-41 credit hours. Your major field curriculum specifies courses or course categories that you must complete.

Courses with a  indicate that the course is recommended from a list of courses within a specific General Education Component. Students may choose to take another course within the same General Education Component in place of the recommended course. For descriptions of these courses, consult the online West Virginia State University Catalog.

Some prerequisite requirements are listed in the course schedule; others are at the end of the course descriptions in the University Catalog. Be sure you meet the prerequisites for a particular course before enrolling in the course.

Arts (3 credit hours)	Scientific Reasoning (3-4 credit hours)
ART 101 Studio I - Introduction to Art	BIOL 101 Principles of Biology (4 credits)
ART 101H Studio I – Introduction to Art (Honors)	BIOL 101H Principles of Biology (Honors) (4 credits)
COMM 170 The Art of the Theater	BIOL 108 Environmental Biology (4 credits)
MUSIC 107 Appreciation of Music	BIOL 110 Economic Biology (4 credits)
	BIOL 120 Fundamentals of Biology (4 credits)
International Perspectives (3 credit hours)	CHEM 100 Consumer Chemistry (3 credits)
COMM 446 International Cinema	CHEM 100H Consumer Chemistry (Honors) (3 credits)
INTS 210 Introduction to International Perspectives	CHEM 132 Introductory Environmental Chemistry (3 credits)
INTS 250 Diversity in Africana Studies	PHYS 101 Physical Science Survey I (3 credits)
ECON 109 Intro to World Economy	PHYS 102 Physical Science Survey II (4 credits)
ENGL 350 World Literature Classical Era	PHYS 103 Elements of Physical Science (3 credits)
ENGL 351 World Literature Modern Era	PHYS 106 Intro. to Physical Geology (4 credits)
ENGL 440 Interpreting the Holocaust	PHYS 107 Historical Geology (4 credits)
FREN 101 Beginning French	PHYS 110 Weather and Climate (4 credits)
FREN 102 Elementary French	PHYS 111 Energy and the Environment (4 credits)
FREN 205 A View of Changing Culture	PHYS 120 Astronomy (3 credits) (& (optional) PHYS 121 Astronomy Lab)
FREN 443 West African Culture	PHYS 121 Astronomy Lab (1 credit)
GERM 101 Beginning German	
GERM 102 Elementary German	Natural Science (3 - 4 credit hours)
SPAN 101 Beginning Spanish	BIOL 101 Principles of Biology (4 credits)
SPAN 102 Elementary Spanish	BIOL 101H Principles of Biology (Honors) (4 credits)
SPAN 205 Spain and its Culture	BIOL 108 Environmental Biology (4 credits)
POSC 210 International Relations	BIOL 110 Economic Biology (4 credits)
POSC 415 Arab Middle East	BIOL 120 Fundamentals of Biology (4 credits)
PHIL 308 World Religions	CHEM 100 Consumer Chemistry (3 credits)
EDUC 319 Content Area Literacy	CHEM 100H Consumer Chemistry (Honors) (3 credits)
EDUC 321 Teaching Writing in the Elementary School	CHEM 132 Introductory Environmental Chemistry (3 credits)
	PHYS 101 Physical Science Survey I (3 credits)
History (3 credit hours)	PHYS 102 Physical Science Survey II (4 credits)
HIST 201 World History	PHYS 103 Elements of Physical Science (3 credits)
HIST 201H World History (Honors)	PHYS 106 Intro. to Physical Geology (4 credits)
HIST 202 World History	PHYS 107 Historical Geology (4 credits)
HIST 207 American History to 1865	PHYS 110 Weather and Climate (4 credits)
HIST 208 American History from 1865	PHYS 111 Energy and the Environment (4 credits)
	PHYS 120 Astronomy (3 credits)
Humanities (3 credit hours)	PHYS 121 Astronomy Lab (1 credit)
ART 100 Art Appreciation	
COMM 140 Film Appreciation	Social Science (3 credit hours)
COMM 140H Film Appreciation (Honors)	BA 210 Business Law
ENGL 150 Introduction to Literature	BA 312 Personal Finance
ENGL 150H Introduction to Literature (Honors)	ECON 101 American Economy
MUSC 104 American Music A Panorama	POSC 100 Introduction to Government and Politics
	POSC 101 American National Government
Wellness (2 credit hours)	POSC 101H American National Government (Honors)
HHP 122 Fitness for Living	PSYC 151 General Psychology
HHP 157 Healthy Living	SOC 101 Introduction to Sociology
HHP 157H Healthy Living (Honors)	SOC 305 Birth Death and Migration
HHP 242 Team Sports II	EDUC 201 Human Growth and Development

## Degree Requirements & Graduation

Students are responsible for knowing and fulfilling requirements for graduation. Accordingly, they should carefully read the catalog and curriculum requirements. The University cannot assume responsibility for failure of students to fulfill catalog and curriculum requirements. If questions arise about requirements, students should consult with the appropriate department chair, college dean or the Registrar several semesters prior to graduation. See below listed requirements for Graduation and consult your respective year WVU Academic Catalog.

1. A cumulative grade point average of 2.0 (i.e., a C average) on all work attempted with the exception of developmental courses and courses with grades of P, K, W, and AUD.
2. A cumulative grade point average of 2.0 in major and minor (if applicable) courses. The department will identify the courses that count toward the major and the major cumulative grade point average.
3. Completion of the total number of hours required in the curriculum elected.
4. The necessary residence requirement for a degree.
5. Payment of all outstanding financial obligations to the University.
6. All grades of I and Q must be satisfied before graduation.