



**BACHELOR OF SCIENCE IN COMPUTER SCIENCE (DATA SCIENCE OPTION)**

First Semester	Hours	Milestone(s)	Milestone Note	Term
CS 101 - Programming Fundamentals	3	Milestone Course	Core course	
MATH 206 - Analytic Geometry and Calculus I	4	Milestone Course	Cognate course.	
G ED 101 (NSM)	3			
G ED Oral Communication	3			
G ED Written Communication I	3			
<b>Semester Total</b>	<b>16</b>			

Second Semester	Hours	Milestone(s)	Milestone Note	Term
CS 102 - Object Oriented Paradigm	3	Milestone Course	Core course	
CS 215 - Introduction to Unix/Linux Systems	2	Milestone Course	Core course.	
MATH 207 - Analytic Geometry and Calculus II	4	Milestone Course	Cognate course.	
G ED Social Science.	3			
G ED Written Communication II	3			
<b>Semester Total</b>	<b>15</b>			

Third Semester	Hours	Milestone(s)	Milestone Note	Term
CS 230 - Database Management Systems	3	Milestone Course	Core course.	
CS 240 - Data Communications and Networking	3	Milestone Course	Core course.	
MATH 205 - Discrete Mathematics	3	Milestone Course	Cognate course	
GED Arts	3			
G ED Humanities	3			
<b>Semester Total</b>	<b>15</b>			

Fourth Semester	Hours	Milestone(s)	Milestone Note	Term
CS 250 - Data Structures and Algorithms	3	Milestone Course	Core course	
CS 336 - Scripting Languages	3	Milestone Course	Core course	
MATH 222 - Elementary Statistics for Math and Natural Science	3	Milestone Course	Cognate course.	
MATH 251 - Introduction to Computational Science	3	Milestone Course	Cognate course.	
G ED Scientific Reasoning	3-4			
<b>Semester Total</b>	<b>15-16</b>			

Fifth Semester	Hours	Milestone(s)	Milestone Note	Term
CS 355 - Big Data Analytics	3	Milestone Course	Core course	
MATH 307 - Linear Algebra	3	Milestone Course	Cognate course	
MATH 355 - Fundamentals of DataScience	3	Milestone Course	Cognate course	
GED History	3			
G ED International Perspectives	3			
<b>Semester Total</b>	<b>15</b>			

Sixth Semester	Hours	Milestone(s)	Milestone Note	Term
CS 455 - Applied Data Mining	3	Milestone Course	Core course.	
CS 456 - Applied Artificial Intelligence	3	Milestone Course	Core course.	
G ED Wellness	2			
Restricted Elective	3			
Free Elective	3			
<b>Semester Total</b>	<b>14</b>			

Seventh Semester	Hours	Milestone(s)	Milestone Note	Term
CS 405 - Algorithms	3	Milestone Course	Core course.	
CS 408 - Senior Seminar	2	Milestone Course	Core course.	
Restricted Elective	3			
GED Natural Science	3-4			
Free Elective	3			
<b>Semester Total</b>	<b>14-15</b>			

Eighth Semester	Hours	Milestone(s)	Milestone Note	Term
Free Elective	3			
Free Elective	3			
Free Elective	3			
Free Elective	3			
Free Elective	3			
<b>Semester Total</b>	<b>15</b>			

**Science Cognate Choices**

**BIOLOGY Choice:**

- BIO 120 - Fundamentals of Biology
- BIO 121 - Biological Diversity

**CHEMISTRY Choice:**

- CHEM 105 - General Chemistry I
- CHEM 106 - General Chemistry II
- CHEM 107 - General Chemistry Lab I
- CHEM 108 - General Chemistry Lab II

**PHYSICS Choice:**

- PHYS 231 - Physics for Scientists and Engineers I
- PHYS 232 - Physics for Scientist and Engineers II

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

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