



## BACHELOR OF SCIENCE IN ENGINEERING (CHEMICAL Option)

First Semester	Hours	Milestone(s)	Milestone Note	Term
MATH 206 - Analytic Geometry and Calculus I	4	Milestone Course	Prerequisite for ENGR 102, ENGR 241, ChE 206, MATH 207	
ENGR 101 - Intro to Problem Solving I	2	Milestone Course	Core course.	
CHEM 105 - General Chemistry I	3	Milestone Course	Prerequisite for CHEM 106	
CHEM 107 - General Chemistry Laboratory I	2	Milestone Course		
ENGL 101 - English Composition I	3			
G ED 101 (NSM)	3			
<b>Semester Total</b>	<b>17</b>			

Second Semester	Hours	Milestone(s)	Milestone Note	Term
MATH 207 - Analytic Geometry and Calculus II	4	Milestone Course	Prerequisite for MATH 208, ENGR 242, ENGR 243, ENGR 301, ENGR 311	
ENGR 102 - Intro to Problem Solving II	3	Milestone Course	Core course.	
ENGR 210 - Engineering Graphics/CAD	2	Milestone Course	Core course.	
PHYS 231 - Physics for Scientists and Engineers I	4	Milestone Course	Prerequisite for ENGR 241, ENGR 311, PHYS 232	
PHYS 203 - General Physics Laboratory I	1	Milestone Course		
ENGL 102 - English Composition II	3			
<b>Semester Total</b>	<b>17</b>			

Third Semester	Hours	Milestone(s)	Milestone Note	Term
MATH 208 - Analytic Geometry and Calculus II	4	Milestone Course	Prerequisite for MATH 415	
ENGR 241 - Statics	3	Milestone Course	Prerequisite for ENGR 242, ENGR 243, ENGR 301	
PHYS 232 - Physics for Scientists and Engineers II	4	Milestone Course		
PHYS 204 - General Physics Laboratory II	1	Milestone Course		
CHEM 106 - General Chemistry II	3	Milestone Course	Prerequisite for CHEM 205, ChE 206	
CHEM 108 - General Chemistry Laboratory II	2	Milestone Course	Prerequisite for ChE 305	
<b>Semester Total</b>	<b>17</b>			

Fourth Semester	Hours	Milestone(s)	Milestone Note	Term
MATH 415 - Differential Equations for Science and Engineering	4	Milestone Course		
CHEM 205 - Organic Chemistry I	3	Milestone Course	Prerequisite for CHEM 206	
CHEM 207 - Organic Chemistry Laboratory I	2	Milestone Course		
ENGR 243 - Mechanics of Materials	3	Milestone Course	Core course.	
ENGR 301 - Fluid Mechanics	4	Milestone Course	Core course. Prerequisite for ChE 304	
<b>Semester Total</b>	<b>16</b>			

Fifth Semester	Hours	Milestone(s)	Milestone Note	Term
MATH 222 - Elementary Statistics for Math and Natural Science	3	Milestone Course		
CHEM 206 - Organic Chemistry II	3	Milestone Course		
CHEM 208 - Organic Chemistry Laboratory II	2			
ENGR 311 - Thermodynamics	3	Milestone Course	Prerequisite for ChE 311	
ChE 206 - Material and Energy Balances	3	Milestone Course	Prerequisite for ChE 305, ChE 311	
ChE 304 - Transport Phenomena	3	Milestone Course	Prerequisite for ChE 402, ChE 305	
<b>Semester Total</b>	<b>15-16</b>			

Sixth Semester	Hours	Milestone(s)	Milestone Note	Term
ChE 305 - Chemical Engineering Lab I	2	Milestone Course	Core course. Prerequisite for ChE 405	
ECON 202 - Principles of Microeconomics	3	Milestone Course	Cognate course.	
ENGR 242 - Dynamics	3	Milestone Course	Core course.	
ChE 311 - Phase and Reaction Equilibrium	3	Milestone Course	Core course. Prerequisite for ChE 315	
G ED Natural Science	3-4			
G ED Arts	3			
<b>Semester Total</b>	<b>17-18</b>			

Seventh Semester	Hours	Milestone(s)	Milestone Note	Term
ChE 315 - Chemical Equipment and Process Design I	3	Milestone Course	Core course. Prerequisite for ChE 415, ChE 402	
G ED History	3			
G ED Wellness	2			
G ED Scientific Reasoning	3-4			
G ED Social Science	3			
G ED Oral Communication	3			
<b>Semester Total</b>	<b>17-18</b>			

Eighth Semester	Hours	Milestone(s)	Milestone Note	Term
ChE 402 - Chemical Reaction Engineering	3	Milestone Course	Core course. Co-requisite for ChE 405	
ChE 405 - Chemical Engineering Lab II	3	Milestone Course	Core course	
ChE 415 - chemical Equipment and Process Design II	3	Milestone Course	Core course	
ENGR 479 - Senior Seminar	3	Milestone Course	Core course	
G ED Humanities	3			
G ED International Perspectives	3			
<b>Semester Total</b>	<b>18</b>			

## GENERAL EDUCATION COMPONENT AND COURSEWORK OPTIONS

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.

<b>Arts (3 credit hours)</b>	<b>Scientific Reasoning (3-4 credit hours)</b>
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)
<b>International Perspectives (3 credit hours)</b>	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	<b>Natural Science (3 - 4 credit hours)</b>
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)
<b>History (3 credit hours)</b>	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)
<b>Humanities (3 credit hours)</b>	PHYS 121 Astronomy Lab (1 credit)
ART 100 Art Appreciation	
COMM 140 Film Appreciation	<b>Social Science (3 credit hours)</b>
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
<b>Wellness (2 credit hours)</b>	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 WVSU 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
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.