

**B.S. in Chemistry, ACS-Certified Concentration (ABM option)****Suggested Course Sequence for 8-semester plan**See catalog for additional guidelines and requirements ([catalog.wcu.edu](http://catalog.wcu.edu)).**Freshman Year**

Fall		Spring	
Course	Credits	Course	Credits
†CHEM 139* - General Chemistry I	4	†CHEM 140* - General Chemistry II	4
MATH 153 - Calculus I	4	MATH 255 - Calculus II	4
1 <sup>st</sup> yr. seminar or ENGL 101	3	1 <sup>st</sup> yr. seminar or ENGL 101	3
LS** or elective	3	LS or elective	3
<i>Total credit hours:</i>		<i>Total credit hours:</i>	
<i>Hours per week spent in class and lab:</i>		<i>Hours per week spent in class and lab:</i>	
14		14	
16		16	

**Sophomore Year**

Fall		Spring	
Course	Credits	Course	Credits
†CHEM 232* - Quantitative Analysis or PHYS 230* - Physics I	4	†PHYS 230* - General Physics I or CHEM 232* - Quant. Analysis	4
†CHEM 241* - Organic Chemistry I	4	†CHEM 242* - Organic Chemistry II	4
MATH 256 - Calculus III	4	LS or elective or ENGL 202	3
LS or elective or ENGL 202	3	LS or elective	3
		LS or elective	3
<i>Total credit hours:</i>		<i>Total credit hours:</i>	
<i>Hours per week spent in class and lab:</i>		<i>Hours per week spent in class and lab:</i>	
15		17	
19		21	

**Junior Year**

Fall		Spring	
Course	Credits	Course	Credits
CHEM 352 - Physical Chem.: Thermo.	3	†CHEM 361 - Principles of Biochemistry	3
†CHEM 380* - Research in Chemistry	2	CHEM 370* - Instrumental Analysis I	4
†PHYS 231* - General Physics II	4	†CHEM 380* - Research in Chemistry	2
†CHEM 371* - Phys. Chem. Lab or LS or elective	2 or 3	LS or elective	3 or 2
		or †CHEM 371* - Phys. Chem. Lab	
CHEM 495/596 - Seminar	1	†CHEM 321 - Inorganic Chemistry	3
LS or elective	3	or LS or elective	
<i>Total credit hours:</i>		<i>Total credit hours:</i>	
<i>Hours per week spent in class and lab:</i>		<i>Hours per week spent in class and lab:</i>	
15 or 16		15 or 14	
26 or 23		21 or 24	

**Senior Year**

Fall		Spring	
Course	Credits	Course	Credits
†LS or Elective or †CHEM 321 - Inorganic Chemistry	3	CHEM 4/553 - Physical Chem.: Quantum	3
CHEM 4/535* - Instrumental Analysis II	3	CHEM 4/571* - Inorganic Syntheses	1
CHEM 4/572* - Chemical Syntheses	1	CHEM 4/575* - Biochemistry Laboratory	1
†Elective - †CHEM 380* - Chem. Research	2	†Elective - †CHEM 380* - Chem. Research	2
LS or elective	3	Elective	2
LS or elective	3	LS or elective	3
		LS or elective	3
<i>Total credit hours:</i>		<i>Total credit hours:</i>	
<i>Hours per week spent in class and lab:</i>		<i>Hours per week spent in class and lab:</i>	
15		15	
23		23	

† This course is offered every semester

\* This course has a laboratory component

† Suggested Elective

\*\* LS = liberal studies course

**B.S. in Chemistry, ACS-Certified Concentration (ABM option)  
Program Requirements (Effective Fall 2018)**

*See catalog for additional guidelines and requirements (catalog.wcu.edu).*

Term	Grade	Course	Hours
<b>Liberal Studies (C2 and C5 courses are met with major requirements)</b>			<b>33</b>
		First Year Seminar, 19X	3
		C1: ENGL 101 - Writing and Rhetoric	3
		C1: ENGL 202 - Writing and Critical Inquiry	3
		C3: COMM 201 - Foundations Communication	3
		C4: Wellness	3
		*P1: Social Science, course 1	3
		*P1: Social Science, course 2 ( <i>must be from a different discipline than course 1</i> )	3
		*P3: History	3
		*P4: Humanities	3
		*P5: Fine & Performing Arts	3
		*P6: World Cultures	3
		<i>*Note: at least one of the LS perspectives must be at the junior-senior level</i>	

<b>Chemistry Core (note that some courses have grade prerequisites)</b>			<b>45</b>
		CHEM 139 - General Chemistry I	4
		CHEM 140 - General Chemistry II (C- or better in 139 required)	4
		CHEM 232 - Quantitative Analysis (C or better in 140)	4
		CHEM 241 - Organic Chemistry I (C- or better in 140 required)	4
		CHEM 242 - Organic Chemistry II (C or better in 241 required)	4
		CHEM 352 - Physical Chemistry: Chemical Thermodynamics (C or better in 232 and MATH 153 required)	3
		CHEM 361 - Principles of Biochemistry	3
		CHEM 370 - Instrumental Analysis I (C or better in 232 and 241 required)	4
		CHEM 371 - Physical Chemistry Laboratory	2
		CHEM 495/596 - Seminar in Chemistry	1
		MATH 153 - Calculus I	4
		PHYS 230 - General Physics I	4
		PHYS 231 - General Physics II	4

<b>ACS-Certified Concentration with ABM Option</b>			<b>24</b>
		CHEM 321 - Inorganic Chemistry (C or better in 140 required)	3
		CHEM 380 - Research in Chemistry (take <b>at least</b> two 2-credit sections)	4
		CHEM 4/535 - Instrumental Analysis II	3
		CHEM 4/553 - Physical Chemistry: Quantum Chemistry and Spectroscopy	3
		CHEM 4/571 - Inorganic Syntheses	1
		CHEM 4/572 - Chemical Syntheses	1
		CHEM 4/575 - Biochemistry Laboratory	1
		MATH 255 - Calculus II	4
		MATH 256 - Calculus III	4

<b>General Electives (Suggested Electives: BIOL 140 (4), MATH 270 (3), ENGL 402 (3), CS 150 (4), CS 151 (4), an additional 500-level chemistry course, additional CHEM 380 sections)</b>			<b>18</b>

*Graduation Check*

- |   |  |
|---|--|
| <input type="checkbox"/> 30 hours of 300-400 level classes at WCU | <input type="checkbox"/> GPA in major $\geq 2.0$ |
| <input type="checkbox"/> Upper level perspective                  | <input type="checkbox"/> 120 total hour          |