

Youngstown State University

B.S. Degree in Chemistry*

YEAR ONE	<u>SH</u>	YEAR TWO	<u>SH</u>
<u>Fall Semester</u>		<u>Spring Semester</u>	
CHEM 1515/L , GenChem1/Lab	4	CHEM 1516/L , GenChem.2/Lab	4
CHEM 1515R , Recitation Gen Chem 1	1	CHEM 1516R , Recitation Gen Chem 2	1
MATH 1571 ¹ , Calculus 1	4	MATH 1572, Calculus 2	4
ENGL 1550 ¹ , Writing 1	3	ENGL 1551, Writing 2	3
Foreign Language ¹	<u>4</u>	Foreign Language	<u>4</u>
Total	16	Total	16
<u>Fall Semester</u>		<u>Spring Semester</u>	
CHEM 3719/L , OrganicChem 1/Lab	4	CHEM 3720/L , OrganicChem 2/Lab	4
CHEM 3719R , Recitation/Org Chem 1	1	CHEM 3720R , Recitation/Org Chem 2	1
CHEM 2604/L , QuantAnalysis/Lab	5	PHYS 2611/L ² , GenPhysics 2/Lab	5
PHYS 2610/L ² , GenPhysics 1/Lab	<u>5</u>	MATH 2673, Calculus 3	4
Total	15	GER ³	<u>3</u>
		Total	17
<u>Fall Semester</u>		<u>Spring Semester</u>	
CHEM 3739/L , Physical Chemistry 1 ⁴	4	CHEM 3740/L , Physical Chemistry 2 ⁴	4
CHEM 3729 , Inorganic Chemistry	3	Upper-Level CHEM Electives ⁵	3
GER	<u>8</u>	Upper-Level Electives ⁶	3
Total	15	GER	<u>6</u>
		Total	16
<u>Fall Semester</u>		<u>Spring Semester</u>	
CHEM 4850 , Chemistry Research	1	Upper-Level CHEM Electives	6
CHEM 4850L , Chemistry Research Lab	2	Upper-Level ⁷ GER	3
CHEM 3785 , Biochemistry 1	3	Electives	<u>5</u>
Upper-Level CHEM Electives	3	Total	14
GER Speech – COMST 1545	3		
Upper-Level GER	<u>3</u>		
Total	15		

*124 total semester hours (sh) required for the BS degree, of which 54 sh are in Chemistry.

¹Placement exams in English, Math, and Foreign Language (FNLG) are required before registration in classes. ENGL 1550 & 1551 must be completed by 62 sh. FNLG through level 2600 required unless satisfied through placement exam.

²Courses in physics may be applied to the GER Natural Science (NS) requirement.

³GER requirements in the Knowledge Domain: 2-3 courses in Societies & Institutions (SI); 2 courses in Personal & Social Responsibilities (PS); 2-3 courses in Artistic & Literary Perspectives (AL). For BS CHEM majors, SI + PS + AL must equal seven courses, all other requirements for the GER Knowledge Domain are met through the major.

⁴CHEM 3739 and 3740, Physical Chem 1 and 2, are designated as both writing and critical thinking-intensive courses. To complete the Basic Skills GER requirements, BS Chemistry students therefore need only one oral communication-intensive course, which they should take from their electives or GER courses in the Knowledge Domain.

⁵In addition to BS core, BS majors must complete *twelve (12)* hours of upper-level chemistry electives (from the list below), four (4) hours of which must be in upper-level laboratory. All majors must also complete the capstone sequence (4850 – 1 hour and 4850L – 2 hours).

⁶Electives must include courses to fulfill the student's chosen minor. Typically for BS Chemistry majors, the minor will be in Physics or Mathematics.

⁷Students must complete at least 48 sh of upper-division courses (3700 or higher) to graduate from YSU with a baccalaureate degree. BS Chemistry students will complete 39 of these 48 sh as part of the requirements for the major.

B.S. CHEMISTRY ELECTIVES:

[4850L](#) Chemistry Research Laboratory (2-3)

[5804/L](#) Chemical Instrumentation (4)

[5821](#) Intermediate Organic Chemistry (3)

[5822/L](#) Advanced Organic Lab (4)

[5830](#) Intermediate Inorganic Chemistry (2)

[5831](#) Inorganic Lab (2)

[5832/L](#) Solid State Structural Methods (3)

[5836](#) Quantum Chemistry (3)

[5861/L](#), [5862/L](#) Polymer Science 1, 2 (3+3)

[5876](#) Enzyme Analysis (2)

NOTES:

- Grades of C or better are required in the major and minor.
- Classes taken or repeated out of sequence will not count toward graduation. **Check prerequisites.**
- Residency rule states that the last 30 sh must be completed at YSU; 16sh in major, 21 sh in upper division courses.
- “Intent to Graduate” Form must be filed by 93 sh.