

The following table outlines how transfer credits will be applied to the Bachelor of Science in Chemistry degree at Youngstown State University for students who completed an Associate of Science degree via the Ohio Guaranteed Chemistry Transfer Pathway. The OGTP designation guarantees the transfer and applicability of credits, but does not guarantee admission to a program. Some bachelor-degree granting programs may be competitive, and students should check with individual institutions for their program admission requirements.

COURSE EQUIVALENCIES FROM THE ASSOCIATE DEGREE	Course Number	Credit Hours
<b>GENERAL EDUCATION REQUIREMENTS/OHIO TRANSFER 36</b>		
Any Ohio Transfer 36 approved First Writing (TME001) course	ENGL 1550	3
Calculus I (TMM005)	MATH 1571	4
Any Ohio Transfer 36 approved Arts and Humanities course	Ohio Transfer 36 Elective*	3
Any Ohio Transfer 36 approved Arts and Humanities course	Ohio Transfer 36 Elective*	3
Any Ohio Transfer 36 approved Social and Behavioral Sciences course	Ohio Transfer 36 Elective*	3
Any Ohio Transfer 36 approved Social and Behavioral Sciences course	Ohio Transfer 36 Elective*	3
General Chemistry I with lab (OSC008)	CHEM 1515/L	4
General Chemistry II with lab (OSC009)	CHEM 1516/L	4
Any Ohio Transfer 36 approved Second Writing (TME002) course	ENGL 1551	3
Calculus II (TMM006)	MATH 1572	4
Up to 3-4 additional hours of Ohio Transfer 36 approved courses	Ohio Transfer 36 Elective*	3
<b>PRE-MAJOR/BEGINNING MAJOR</b>		
Calculus-based Physics I with lab (OSC016)	PHYS 2610/L	5
Calculus-based Physics II with lab (OSC017)	PHYS 2611/L	5
Full-Year Sequence of Organic Chemistry with lab (OSC010)	CHEM 3719/L and CHEM 3720/L	8
<b>OTHER RECOMMENDATIONS</b>		
Any Ohio Transfer 36 approved Oral Communications course	CMST 1545	3
General Electives	Varies*	0-5
<b>TOTAL HOURS FROM ASSOCIATE DEGREE:</b>		<b>60-65</b>
Advising Notes: (*) Indicates that coursework will be evaluated for applicable equivalency upon transfer at the university. If a Transfer Assurance Guide (TAG) course is taken, the approved course equivalency will be awarded.		

### SPECIAL NOTES

Students with plans of pursuing a pre-professional or graduate studies track in the future should work closely with their academic advisor and receiving institution starting in the first year of their program in order to adequately prepare themselves for those types of tracks. Some pre-professional degrees include pre-medicine, pre-veterinary, pre-law, and pre-dentistry.

The following additional coursework will be required to complete the Bachelor of Science in Chemistry degree at Youngstown State University after a student has completed their Associate of Science Ohio Guaranteed Chemistry Transfer Pathway degree. Some bachelor-degree granting programs may be competitive and admission into the program is not guaranteed. Students should check with individual institutions for their program admission requirements.

REMAINING COURSEWORK TO COMPLETE BACHELOR'S DEGREE		Course Number	Credit Hours
Major:	Quantitative Analysis with Laboratory	CHEM 2604/L	5
Major:	Inorganic Chemistry <sup>1</sup>	CHEM 3729	3
Major:	Physical Chemistry 1 with Laboratory <sup>1</sup>	CHEM 3739/L	4
Major:	Physical Chemistry 2 with Laboratory <sup>1</sup>	CHEM 3740/L	4
Major:	Biochemistry 1 <sup>1</sup>	CHEM 3785	3
Major:	Chemistry Research with Laboratory	CHEM 4850/L	3
Major:	Upper Division CHEM Electives (4 of 16 hours must be laboratory component)	Varies	16
Major:	Calculus III	MATH 2673	4
Minor:	Minor Courses <sup>2</sup>	Varies	6-18
Electives:	General Electives	Varies	0-11
<b>REMAINING COURSEWORK TO COMPLETE BACHELOR'S DEGREE TOTAL:<sup>3</sup></b>			<b>59-60</b>
Advising Notes: <sup>1</sup> CHEM 3729, CHEM 3739/L, and CHEM 3785 are only offered during the fall semester. CHEM 3740/L is offered only during spring semesters. Most upper-level chemistry electives are also offered only during fall or spring semester. Students should plan their schedules accordingly. <sup>2</sup> A minor in mathematics or physics is recommended. Students are already required to take three supporting mathematics courses (12 credit hours), so only two additional (6 credit hours) are needed to complete the minor. Two physics courses (8 credit hours) are also required for the major, so students may opt to complete 10 additional hours to complete the minor. <sup>3</sup> Students must complete at least 39 hours of coursework must be upper-division (3700 or higher). Youngstown State University requires a total of 120 credit hours to earn a bachelor's degree. The total number of hours to complete a bachelor's degree represents a range of hours that may be needed depending on the individual course selections made during the associate degree program.			

COMPLETE BACHELOR'S DEGREE	Total Credit Hours
<b>BACHELOR'S DEGREE TOTAL:</b>	<b>120</b>

SPECIAL NOTES
For more information, please contact: Chemistry 5053 Ward Beecher Science Hall chemistry@ysu.edu (330) 941-3664 <a href="http://stem.ysu.edu">http://stem.ysu.edu</a>

**SAMPLE DEGREE MAP**

**THIRD YEAR**

SEMESTER 5		SEMESTER 6	
Course Name & Number	Credit Hours	Course Name & Number	Credit Hours
CHEM 2604/L Quantitative Analysis with Laboratory	5	CHEM 3740/L Physical Chemistry 2 with Laboratory	4
CHEM 3739/L Physical Chemistry 1 with Laboratory	4	CHEM 37xx+ CHEM Elective	3
MATH 2673 Calculus III	4	CHEM 37xx+ CHEM Elective	3
CHEM 3729 Inorganic Chemistry	3	Minor Course	3
		Minor Course or Elective	3
<b>Total Semester 5 Credit Hours</b>	<b>16</b>	<b>Total Semester 6 Credit Hours</b>	<b>16</b>

**FOURTH YEAR**

SEMESTER 7		SEMESTER 8	
Course Name & Number	Credit Hours	Course Name & Number	Credit Hours
CHEM 3785 Biochemistry 1	3	CHEM 37XX+ CHEM Elective	3
CHEM 4850/L Chemistry Research with Laboratory	3	CHEM 37XX+ CHEM Elective	3
CHEM 37xx + CHEM Elective	4	Minor Course or General Elective	3
Minor Course	3	Minor Course or General Elective	3
Minor Course or General Elective	2-3		
<b>Total Semester 7 Credit Hours</b>	<b>15-16</b>	<b>Total Semester 8 Credit Hours</b>	<b>12</b>