

# Bachelor of Science in Chemistry with Biochemistry Concentration Program Requirements Check-List 2017 bulletin

## 1. B.S. IN CHEMISTRY MAJOR REQUIREMENTS<sup>1</sup>

	Semester	Grade (must be C or higher)
CHEM A111 (General Chemistry I and Lab) <sup>1</sup>	(4) _____	_____
CHEM A112 (General Chemistry II and Lab)	(4) _____	_____
CHEM A310 (Methods of Research & Computers)	(1) _____	_____
CHEM A311 (Introduction Inorganic Chemistry)	(3) _____	_____
CHEM A311L (Introduction Inorganic Chemistry Lab)	(1) _____	_____
CHEM A321 (Quantitative Analysis)	(3) _____	_____
CHEM A321L (Quantitative Analysis Lab)	(1) _____	_____
CHEM A331 (Organic Chemistry I)	(3) _____	_____
CHEM A331L (Organic Chemistry I Lab)	(1) _____	_____
CHEM A541 (Physical Chemistry I)	(3) _____	_____
CHEM A541L (Physical Chemistry I Lab)	(1) _____	_____
CHEM A332 (Organic Chemistry II)	(3) _____	_____
CHEM A332L (Organic Chemistry II Lab)	(1) _____	_____
CHEM A542 (Physical Chemistry II)	(3) _____	_____
CHEM A542L (Physical Chemistry II Lab)	(1) _____	_____
CHEM A499 (Senior Research) <sup>2</sup>	(2-3) _____	_____
CHEM A499 (Senior Research) <sup>2</sup>	(1-3) _____	_____
these two 500 Level Chemistry Electives		
CHEM A522 (Instrumental Analysis and Lab)	(5) _____	_____
CHEM A550 (Advanced Biochemistry and Lab)	(4) _____	_____

## 2. GENERAL EDUCATIONAL REQUIREMENTS

	Semester	Grade
_ Natural Sciences		
PHYS A211 (Calc Physics I) OR PHYS A201 (General Physics I)	(4) _____	_____
PHYS A212 (Calc Physics II) <sup>3</sup> PHYS A202 (General Physics II)	(4) _____	_____
BIOL A121 (Biology I) <sup>4</sup>	(4) _____	_____
BIOL A122 (Biology II) <sup>4</sup>	(4) _____	_____

_ History of Western Civilization		
HIST A101 or HIST A102 (circle one)	(3) _____	_____

\_ Social and Behavioral Sciences (at least 2 areas, at least 6 credits)<sup>5</sup>  
Psychology, Sociology, Anthropology, Economics, Political Science, Geography, Honors

Course Num.	Course Title	√ non-Western <sup>5</sup>	Semester	Grade
_____	( _____ )	_____	( ) _____	_____
_____	( _____ )	_____	( ) _____	_____
Total _____				(required at least 6 credit hours)

\_ Foreign Language (at least 2 semesters of the same language or direct placement into 210 and at least a C in the course)

Language: FREN / GERM / SPAN / LATN / ITAL	Semester	Grade
circle 101 / 102 / 210	(4) _____	_____
101 / 102 / 210	(4) _____	_____

\_ Humanities (at least 2 areas, at least 9 credits)<sup>5</sup>  
[Communications (last two digits must be in 50s or 60s), History, Literature, Art History, Music History, Theater History, Religion, Philosophy (not logic), selected Language courses, Humanities (HSSI), Honors (HONS)]

Course Num.	Course Title	√ non-Western <sup>5</sup>	Semester	Grade
_____	( _____ )	_____	( ) _____	_____
_____	( _____ )	_____	( ) _____	_____
_____	( _____ )	_____	( ) _____	_____
Total _____				(at least 9 credit hours)

\_ Critical Inquiry  
AFCI A101 (Critical Inquiry) (1) \_\_\_\_\_ Transfer exemption \_\_\_\_\_

\_ English (must be C or higher)  
ENGL A101 (Composition)<sup>6</sup> (3) \_\_\_\_\_  
ENGL A102 (Composition and Literature)<sup>6</sup> (3) \_\_\_\_\_

\_ Oral Communication  
COMM 201 or 241 circle (3) \_\_\_\_\_

\_ Mathematics<sup>7</sup> Test Out  
MATH A111 (Pre-Calc I)<sup>7</sup> (3) \_\_\_\_\_  
MATH A112 (Pre-Calc II)<sup>7</sup> (3) \_\_\_\_\_  
MATH A141 (Calculus I)<sup>7</sup> (4) \_\_\_\_\_  
MATH A142 (Calculus II) (4) \_\_\_\_\_

\_ Writing in the University Proficiency (should be completed as soon after CHEM 541L as possible)  
 Writing Portfolio turned in \_\_\_\_\_ approved \_\_\_\_\_ OR ENGL 201 (Writing in the Univ.) (3) \_\_\_\_\_

\_ American Political Institutions Semester Grade  
 POLI A201 or HIST A201 or HIST A202 (circle one) (3) \_\_\_\_\_

**Check-Offs** (courses used to meet these requirements can & should be used to meet another degree requirement)

\_ Non-Western Course (counts in another category) Course \_\_\_\_\_ ( ) Semester \_\_\_\_\_ Grade \_\_\_\_\_

\_ Writing Intensive Requirement (3 courses completed after completion of ENGL 102, at least one in Chem.)<sup>8</sup>  
 CHEM A541L (Physical Chemistry I Lab) \_\_\_\_\_ Others \_\_\_\_\_  
 CHEM A542L (Physical Chemistry II Lab) \_\_\_\_\_  
 CHEM A550 (Advanced Biochemistry) \_\_\_\_\_

\_ ICE events

Students are required to attend at least 2 ICE approved events for each semester enrolled at USCA.

First Year	Second Year	Third Year	Fourth Year	Extra Semesters
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

**Total Required 16 ICE events**

### 3. BIOCHEMISTRY COGNATE

Course Num.	( Title )	(hr)	Semester	Grade
BIOL 541	Princp. Biochem. <sup>4</sup>	(4)	_____	_____
BIOL A350 or BIOL A360	Fund. of Genet. or Animal Physiol. <sup>4</sup>	(4)	_____	_____
BIOL A502	Cell & Molec Biol <sup>4</sup>	(4)	_____	_____

**Cognate: Total 12 credit hours**

### 4. ELECTIVES (A total of at least 120 credit hours is required for graduation)

Course Num.	Course Title	Semester	Grade
_____	( )	( ) _____	_____
_____	( )	( ) _____	_____
_____	( )	( ) _____	_____
_____	( )	( ) _____	_____

- 1 - A grade of C or higher is required in all chemistry courses counting toward the degree. Students placing in Mathematics 108 or below will successful complete these courses before enrolling in any chemistry course.
- 2 - Completion of a thesis and seminar on the research project are required for graduation.
- 3 - PHYS A212 can be counted toward a cognate.
- 4 - At least a C in BIOL A121 and CHEM A332 are prerequisites for BIOL A541. At least a C in BIOL 121/122 are pre-requisites for BIOL 350. At least a C in BIOL 121/122 and either BIOL A350 or BIOL A360 are pre-requisites for 502.
- 5 - At least three (3) credit hours of the degree must be in non-Western studies. A list of courses that meet this requirement can be found in the Academic Regulations/General Education Section of the appropriate Student Bulletin and in the Non-Western section of Degree Works.
- 6 - Students must complete English 101/102 with a grade of C or better in order to fulfill general education requirements. Freshmen should take English in their first semester unless they have already completed the 101/102 requirement. Students must complete AEGL 102 with a grade of C or better before taking other English courses and for any course to count as Writing Intensive including ACHM 541L, 542L, and 511L.
- 7 - Freshmen should take Math in their first semester unless they have already completed their math requirement. MATH 111 and MATH 112 may be taken in any order or at the same time. MATH 111 and 112 are pre-requisites for AMTH 141/142. MATH 141 is a pre-requisite for MATH 142.
- 8 - Transfer students need one WI course for each 30 hours at USCA including one in the major.
- 9 - A Cognate is an additional studies intended to support course work in the major. Cognate courses cannot be counted as major or general education requirements. Cognate courses must be approved by the major department. BIOL 541 is a required cognate for a Chemistry degree. Classes that can count as a Cognate Elective for a Chemistry degree include any 300+ course (not CHEM); PHYS 212; MATH 241, 242; BIOL 244, 250, ENCP 200, 210, 260, 290 ELCT 221. A minor in another discipline will replace the Cognate Elective requirement.

(May 2017 Revised)