

2004-2005
CHEMISTRY MAJOR – BACHELOR OF SCIENCE DEGREE
ENVIRONMENTAL CHEMISTRY CONCENTRATION
DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

MAJOR REQUIREMENTS	ALTERNATIVE SEQUENCE
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<i>Course</i>	<i>Title</i>	<i>Hrs</i>	<i>Tr</i>	<i>UD</i>
CHM 113	General Chemistry	4		
CHM 115	General Chemistry	5		
CHM 317	Org Chem Majors	3		
CHM 319	Org Chem Lab Majors	1		
CHM 318	Org Chem Majors II	3		
CHM 320	Org Chem Lab Maj II	1		
CHM 240	Intro Phys Chem	3		
CHM 302	Environmental Chem.	3		
CHM 303	Environ. Chem. Lab	2		
CHM 327	Instr Analysis	3		
CHM 328	Instr Analysis Lab	2		
CHM 345	Physical Chem I	3		
CHM 348	Phys Chem Lab I	1		
CHM 460	Biological Chem	3		
CHM 481	Geochemistry	3		
Related Elective		3		
Related Courses				
GLG 321	Mineralogy	3		
MAT 270	Calculus w/Geom. I	4		
MAT 271	Calculus w/Geom. II	4		
MAT 272	Calculus w/Geom. III	4		
PHY 121	Univ. Physics I	3		
PHY 122	Univ. Physics Lab	1		
PHY 131	Univ. Physics II	3		
PHY 132	Univ. Physics Lab II	1		

<i>Course</i>	<i>Title</i>	<i>Hrs</i>	<i>Tr</i>	<i>UD</i>
CHM 117	Gen Chem. Majors	4		
CHM 118	Gen Chem. Majors	4		
CHM 331	Gen Org Chem	3		
CHM 335	Gen Org Chem Lab	1		
CHM 332	Gen Org Chem	3		
CHM 336	Gen Org Chem Lab	1		

NOTE: If CHM 117 and CHM 118 are used in place of CHM113 and CHM 115, then one credit hour of elective credit with a CHM or BCH prefix must also be earned.

Electives: **BIO 320, 426, GLG 461**

Major must include minimum of 66 hours, 12 hours upper division at ASU, "C" minimum in all upper division courses

University General Studies	College of Liberal Arts & Sciences
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First Year Comp ("C" minimum) _____

Literacy/Critical Inquiry (L) _____

Literacy/Critical Inquiry (upper division)

Mathematical Studies (CS) (satisfied by CHM 240)

Mathematical Studies (MA) (satisfied by major)

Humanities/Fine Art (HU)

(6-9 hours, HU and SB must total 15 hours)

Social Behavioral Sciences (SB)

(6-9 hours, one HU or SB must be upper division)

HU and SB Awareness Areas (must cover all three)

Cultural (C) _____ Global (G) _____ Historical (H) _____

Required: 120 total hours, 45 upper division hours, 30 hours in residence at ASU, 2.00 minimum GPA

Second Language _____
 (proficiency through intermediate level, "C" min.)

Humanities (6 hours, upper division, choose from:

AFH, CSH, ENG, HPS, HUM, PHI, REL, WSH)

All second language literature or civilization courses

Can NOT double count with University General Studies.

Social Behavioral Sciences (6 hours, upper division

choose from: AFS, ASB, CSS, ECN, GCU, HST, PGS, POS, SOC, WST **except for WST 413, 464 and 470**)

Can NOT double count with University General Studies.

Bridge Course (to view refer to:

<http://clas.asu.edu/students/roadmap/degrequirements/>)

Natural Science/Mathematics (satisfied by major)

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CATALOG 2004-2005

The schedule presented below is a model program of study that includes all the departmental requirements for courses in chemistry and related subjects. It presents a sequence that accommodates prerequisites for the required courses. Students and advisers should recognize that the order of courses in this outline is a model program and many other plans will work as well.

Year 1

Semester (Fall)	hours	Semester (Spring)	hours
CHM 113 General Chemistry	4	CHM 115 General Chemistry	5
MAT 270 Calculus w/Geom. I	4	MAT 271 Calculus w/Geom. II	4
ENG 101 First-year Comp.	3	PHY 121 University Physics I	3
		PHY 122 University Physics Lab I	1
		ENG 102 First-year Comp.	3
*Non-major	<u>3-6</u>		
	14-17		<u>16</u>

Year 2

Semester (Fall)	hours	Semester (Spring)	hours
CHM 317 Organic Chem. - Majors	3	CHM 318 Organic Chem. - Majors	3
CHM 319 Org. Chem. Lab - Majors	1	CHM 320 Org. Chem. Lab - Majors	1
PHY 131 University Physics II	3	CHM 240 Intro Physical Chem.	3
PHY 132 University Physics Lab II	1	CHM 302 Environmental Chemistry	3
MAT 272 Calculus w/Geom.III	4	CHM 303 Environmental Chem. Lab	2
*Non-major	<u>3-5</u>		
	15-17		<u>12</u>

Year 3

Semester (Fall)	hours	Semester (Spring)	hours
CHM 345 Physical Chem. I	3	CHM 327 Instrumental Analysis	3
CHM 348 Physical Chem. Lab I	1	CHM 328 Instrumental Analysis Lab	2
		CHM 481 Geochemistry	3
*Non-major	<u>9-12</u>		<u>6-9</u>
	13-16		14-17

Year 4

Semester (Fall)	hours	Semester (Spring)	hours
@ Related Elective	3	CHM 460 Biological Chemistry	3
		GLG 321 Mineralogy	3
*Non-major or Electives	<u>9-12</u>		<u>9-11</u>
	12-15		15-17

* Non-major courses: Courses that satisfy university general studies and College of Liberal Arts and Sciences graduation requirements and any other interests the student chooses to pursue.

@ May be taken any semester to complete the chemistry hours requirement. NOTE: only 3 hrs. of credit for CHM/BCH elective is required.