

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

<b>MAJOR REQUIREMENTS</b>	<b>ALTERNATIVE SEQUENCE</b>
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<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 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 325	Analytical Chem	3		
CHM 326	Analytical Chem Lab	1		
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 346	Physical Chem II	3		
CHM 349	Phys Chem Lab II	1		
CHM 453	Inorganic Chem	3		
CHM 452	Inorganic Chem Lab	1		
CHM 460	Biological Chem	3		
CHM Elective		3		

<i>Course</i>	<i>Title</i>	<i>Hrs</i>	<i>Tr</i>	<i>UD</i>
CHM 113	Gen Chem	4		
CHM 115	Gen Chem (or 116)	5		
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		

Electives: CHM 302, 392, 424, 431, 471, 481, 485

**Related Courses**

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		

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

<b>University General Studies</b>	<b>College of Liberal Arts &amp; Sciences</b>
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**First Year Comp** ("C" minimum) \_\_\_\_\_  
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**Second Language** \_\_\_\_\_  
 (proficiency through intermediate level, "C" min.)

**Literacy/Critical Inquiry (L)** \_\_\_\_\_

**Humanities** (6 hours, upper division, choose from:

**Literacy/Critical Inquiry** (upper division satisfied by major)

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

**Mathematical Studies (CS)** (satisfied by CHM 240)

*All second language literature or civilization courses  
 Can NOT double count with University General Studies.*

**Mathematical Studies (MA)** (satisfied by major)

**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.*

**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)

**Bridge Course** (to view refer to:

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

**HU and SB Awareness Areas** (must cover all three)

Cultural (C) \_\_\_\_\_ Global (G) \_\_\_\_\_ Historical (H) \_\_\_\_\_

**Natural Science/Mathematics** (satisfied by major)

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

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		Year 1	
Semester (Fall)	hours	Semester (Spring)	hours
CHM 117 General Chemistry Majors I	4	CHM 118 General Chemistry Majors II	4
MAT 270 Calculus w/Geom. I	4	MAT 271 Calculus w/Geom. II	4
		PHY 121 Physics	3
ENG 101 First-year Comp.	3	PHY 122 Physics Lab	1
		ENG 102 First-year Comp.	3
*Non-major	<u>4-6</u>	*Non-major	<u>15</u>
	15-17		
Year 2		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 Physics	3	CHM 240 Intro Physical Chem.	3
PHY 132 Physics Lab	1		
MAT 272 Calculus w/Geom.III	4		
*Non-major	<u>3-5</u>	*Non-major	<u>8-10</u>
	15-17		15-17
Year 3		Year 3	
Semester (Fall)	hours	Semester (Spring)	hours
CHM 325 Analytical Chem.	3	CHM 327 Instrumental Analysis	3
CHM 326 Analytical Chem. Lab	1	CHM 328 Instrumental Analysis Lab	2
CHM 345 Physical Chem. I	3	CHM 346 Physical Chem. II	3
CHM 348 Physical Chem. Lab I	1	CHM 349 Physical Chem. Lab II	1
*Non-major	<u>7-9</u>	*Non-major	<u>6-8</u>
	15-17		15-17
Year 4		Year 4	
Semester (Fall)	hours	Semester (Spring)	hours
CHM 453 Inorganic Chem.	3	CHM 460 Biological Chem.	3
		CHM 452 Inorganic Chem. Lab	1
		@ CHM elective	3
*Non-major	<u>12-14</u>	*Non-major	<u>9-11</u>
	15-17		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.