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## Planning Sheet: BACHELOR OF ARTS in CHEMISTRY

(Effective Fall 2012. This major consists of 52 semester credits)

### Chemistry Requirements:

<u>Term</u>	<u>Grade</u>	<u>Course #</u>	<u>AugCore</u>	<u>Title</u>
___	___	CHM 115	NSM-L	General Chemistry I (Prereq: MPG 3; high school chemistry recommended)
___	___	CHM 116	NSM-L	General Chemistry II (Prereq: CHM 115)
___	___	CHM 351		Organic Chemistry I (Prereq: CHM 116)
___	___	CHM 352		Organic Chemistry II (Prereq: CHM 351)
___	___	CHM 353		Quantitative Analytical Chemistry (Prereq: CHM 116 & MPG 3)
___	___	CHM 362		Chemical Thermodynamics, Statistical Mechanics, and Kinetics (Prereq: CHM 116; PHY 121, 122; MAT 145, 146)
___	___	CHM 491		Chemistry Seminar ( <b>Non-credit</b> . 4 semesters)

**Biochemistry Requirement:** Complete 1 Biochemistry course, BIO 369 or other approved ACTC/transfer course. Consult with your faculty advisor.

___	___	BIO 369	<input type="checkbox"/> Biochemistry (Prereq: BIO 253 & CHM 351) <input type="checkbox"/> Other Approved Biochemistry course: _____
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**Chemistry Electives:** Select and complete one (1) of the following courses:

___	___	CHM 367	<input type="checkbox"/> Properties of Polymers (Prereq: CHM 352, 361)
___	___	CHM 368	<input type="checkbox"/> Quantum Chemistry, Molecular Structure, and Spectroscopy (Prereq: CHM 116; PHY 121, 122; MAT 145, 146)
___	___	CHM 464	<input type="checkbox"/> Advanced Organic Chemistry (Prereq: CHM 352, 353, & 362 or consent)
___	___	CHM 470	<input type="checkbox"/> Principles of Medicinal Chemistry (Prereq: CHM 352. BIO 369 recommended)
___	___	CHM 481	<input type="checkbox"/> Advanced Analytical Chemistry (Prereq: CHM 353 and 362 or consent)
___	___	CHM 482	<input type="checkbox"/> Advanced Inorganic Chemistry (Prereq: CHM 352 and 362 or consent)

### Non-departmental Supporting Requirements:

___	___	PHY 121	NSM-L	General Physics I (Prereq: MAT 145 or concurrent registration)
___	___	PHY 122	NSM-L	General Physics II (Prereq: PHY 121, & MAT 146 or concurrent registration, and ENL 111, 112 or HON 111)
___	___	MAT 145	NSM	Calculus I (Prereq: MPG 4)
___	___	MAT 146	NSM	Calculus II (Prereq: MAT 145)

### Notes:

- **Keystone:** SCI 490: Integrated Science (2 sem. credits) is recommended to meet the Keystone requirement.
- **Abbreviation Key:** ML = Modern Language; SC = Signature Curriculum; EM = Engaging Minneapolis; AE = Augsburg Experience; KC = Senior Keystone Course; NSM = Natural Science & Mathematics - no lab; NSM-L = Natural Science & Mathematics-with lab; SBS = Social & Behavioral Science; FA = Fine Arts; HUM = Humanities

**See back for information on graduation skills requirements**

## Planning Sheet: GRADUATION SKILLS REQUIREMENTS

These requirements were implemented for Fall 2008. Please talk with your faculty advisor for information.

**Graduation skills, including the Quantitative Reasoning requirements, are completed as follows.** Graduation skills in Critical Thinking, Writing, Speaking, and Quantitative Reasoning are required for graduation. Critical Thinking is embedded in all majors. Plans for completion of other graduation skills are determined by the major department. Consult your department chair or faculty advisor to select appropriate courses to meet the Quantitative Reasoning (QR) graduation skill. QR is satisfied by completing one (1) Quantitative Foundational course (QF) and one (1) Quantitative Application course (QA), or one (1) combined QFA course. The most current information on Graduation Skills can be found in the Augsburg College catalog at [www.augsburg.edu/catalog/](http://www.augsburg.edu/catalog/).

**Transfer students must consult an advisor about potential adjustments to their course requirements to fulfill each graduation skill.**

Designated Major Course	GRADUATION SKILLS – Chemistry B.S.		Completed
Embedded in major	<b>Writing Requirements</b> TWO (2) Writing courses		
Embedded in major			
COM 111, COM 115 or HON 130	<b>Speaking</b> One (1) Speaking course		
Designated Major Course	QUANTITATIVE REASONING		Completed
Embedded in major	<b>Quantitative Foundations &amp; Applications</b> One (1) QFA course (Prereq: MPG3)	QFA course	
<b>– OR –</b>			
Embedded in major	<b>Quantitative Foundations and Quantitative Applications</b> One (1) QF course (Prereq: MPG 3) <b>and</b> one (1) QA course		QF course
Embedded in major			QA course

## Graduation Tally Checklist

These requirements were implemented in April 2003 and remain in effect until further notice.

Requirement	Progress Towards Completion	
<b>Cumulative Course Credits</b> <ul style="list-style-type: none"> <li>▪ Minimum number of course credits needed for graduation = <b>128</b></li> <li>▪ At least 32 semester credits completed at Augsburg.</li> <li>▪ 24 of last 32 semester credits completed in residence.</li> <li>▪ Second degree – minimum of 32 sem. credits completed in residence.</li> </ul>	Transfer Credits Earned	
	+ Aug. Credits Earned	
	= Total Credits Earned	
	# Credits Needed	

<b>Grade Point Average (GPA)</b> <ul style="list-style-type: none"> <li>▪ Minimum 2.0 GPA required in major, minor, &amp; overall.</li> <li>▪ Some majors require higher GPA.</li> <li>▪ Latin Honors GPA requirements:                             <ul style="list-style-type: none"> <li>○ Summa cum laude: 3.9-4.0</li> <li>○ Magna cum laude: 3.80-3.89</li> <li>○ Cum laude: 3.60-3.79</li> </ul> </li> </ul>	Cumulative GPA	
	Major 1 GPA	
	Major 2 GPA	
	Minor GPA	

Other Limits	Minimum/Maximum	Your Total
<b>Overall maximum courses graded Pass/No Pass (P/N)</b> <ul style="list-style-type: none"> <li>▪ Grade of 2.0 or above required to Pass and earn credit for course.</li> <li>▪ Maximum of 8 of 24 sem. credits P/N may be in major.</li> </ul>	Maximum of 24 sem. Credits	
<b>Major Courses graded Pass/No Pass (P/N)</b>	Maximum of 8 semester credits	
<b>Latin Honors courses graded Pass/No Pass (P/N)</b>	Maximum of 8 semester credits	
<b>Latin Honors traditionally graded courses</b>	Minimum of 54 semester credits	
<b>Internships</b>	Maximum of 16 semester credits	
<b>Independent/Directed Studies</b>	Maximum of 8 semester credits	

## Sample Four-Year Plan (B.A.)

This is a possible plan for the Bachelor of Arts in Chemistry, though there are many configurations of courses. Students should complete CHM 115 – 116 and MAT 145 – 146 during the first year. Liberal Arts Foundation (LAF), Modern Language and other Core courses are more flexible.

### Freshman Year

#### Fall Term

CHM 115  
MAT 145  
LAF Course  
ENL 111  
AugSem

#### Spring Term

CHM 116  
MAT 146  
LAF Course  
REL 100  
HPE 001 (non-credit)

### Sophomore Year

#### Fall Term

CHM 351  
PHY 121  
Modern Language  
LAF Course

#### Spring Term

CHM 352  
PHY 122  
Modern Language  
REL 200

### Junior Year

#### Fall Term

CHM 362  
CHM 353  
CHM 491 (non-credit)  
LAF Course  
Minor or Elective  
Minor or Elective

#### Spring Term

CHM Elective  
CHM 491 (non-credit)  
LAF Course  
Minor or Elective  
Minor or Elective

### Senior Year

#### Fall Term

BIO 369 or ACTC Biochemistry course  
CHM 491 (non-credit)  
LAF Course  
Minor or Elective  
Minor or Elective

#### Spring Term

Keystone: SCI 490 (2 sem. credit)  
CHM 491 (non-credit)  
Minor or Elective  
Minor or Elective  
Minor or Elective  
HPE Lifetime Activity (non-credit)

#### Notes:

- CHM 464 and CHM 481 are offered in the fall; CHM 482 is in the spring. CHM 367 and CHM 470 are offered alternating springs.
- Students planning to apply to medical school should take certain biology requirements, including BIO 151, 152, 253, and 369. Also recommended for the MCAT are BIO 255, 473, 476, PSY105 and SOC 121.
- COM 115, COM 111 or HON130 fulfill both the speaking skill and a Humanities Liberal Arts Foundation requirement.

## Chemistry Department

The Chemistry Department is located in Science Hall. You may contact the following faculty for more information on the major requirements, and also check out the website at: [www.augsburg.edu/chemistry](http://www.augsburg.edu/chemistry).

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## What can I do with a Chemistry major?

The following jobs are some of the positions that chemistry majors could pursue. Many require professional or graduate school.

For more information on possible careers in chemistry, please talk with your faculty advisor, and also the Strommen Career and Internship Services office.

Biochemist  
Chemist  
Chemical Engineer  
Consultant  
Dietician  
Environmental Health Specialist  
Environmental Lawyer  
Food Scientist  
Forensic Technician  
Forensic Scientist  
Geneticist  
Laboratory Technician  
Patent Attorney  
Pharmaceutical Development  
Pharmaceutical Sales  
Pharmacist  
Pharmacologist  
Physician  
Plant Manager  
Professor  
Public Health  
Quality Control Scientist  
Research Scientist  
Teacher  
Technical Writer  
Toxicologist  
Veterinarian

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