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## Planning Sheet: BACHELOR OF ARTS in BIOLOGY

(Effective Fall 2012. This major consists of 13-14 courses)

### Biology Major Requirements:

Term	Grade	Course #	Lib. Arts	Title
_____	_____	BIO 151	NSM-L	Introductory Biology (Prereq: MPG 3)
_____	_____	BIO 152	NSM-L	Evolution, Ecology, and Diversity (Prereq: BIO 151)
_____	_____	BIO 253		Introductory Cellular Biology (Prereq: CHM 116 and sophomore status)

Select and complete one (1) of the following two (2) courses:

_____	_____	BIO 361	<input type="checkbox"/>	Plant Biology (Prereq: BIO 151, BIO 152, & ENL 111 or 112 or HON 111)
_____	_____	BIO 481	<input type="checkbox"/>	Ecology (Prereq: BIO 253 & MAT 114 or 145 or 163 or 248 or PSY 215)

**Biology Electives:** Select and complete five (5) upper division Biology electives.

_____	_____	BIO _____	_____	Biology Elective: _____
_____	_____	BIO _____	_____	Biology Elective: _____
_____	_____	BIO _____	_____	Biology Elective: _____
_____	_____	BIO _____	_____	Biology Elective: _____
_____	_____	BIO _____	_____	Biology Elective: _____

### Non-Departmental Supporting Requirements:

#### Chemistry Requirements

_____	_____	CHM 115	NSM-L	General Chemistry I (Prereq: MPG 3; high school chemistry recommended)
_____	_____	CHM 116	NSM-L	General Chemistry II (Prereq: CHM 115)

**Physics Requirements:** Select & complete one (1) of the following introductory Physics options:

_____	_____	PHY 116	NSM-L	Introduction to Physics (Prereq: MPG 3)
<b>OR</b>				
_____	_____	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 or 112 or HON 111)

**Mathematics Requirement:** Select & complete one (1) of the following courses:

_____	_____	MAT 114	NSM	<input type="checkbox"/>	Precalculus (Prereq: MPG 3)
		MAT 145	NSM	<input type="checkbox"/>	Calculus I (Prereq: MPG 4)
		MAT 163	NSM	<input type="checkbox"/>	Introductory Statistics (Prereq: MPG 3)
		MAT 248	NSM	<input type="checkbox"/>	Introductory Biostatistics (Prereq: MPG 4)
		PSY 215		<input type="checkbox"/>	Research Methods and Statistics I (Prereq: MPG 3)

#### Notes:

##### ■ Grade and GPA requirements:

- Grade and GPA requirements for courses with a prerequisite of BIO 253: GPA of 2.0 in BIO 151, 152, & 153 and minimum grade of 1.0 in each of these courses.
- Grade and GPA requirements for courses with prerequisite of BIO 151 & 152: GPA of 2.0 in BIO 151 & 152 and minimum grade of 1.0 in each of these courses.
- A grade of 2.0 or above is required for all supporting courses and upper division biology courses applied to the major.
- Upper division biology courses must be traditionally graded when used to satisfy a major requirement.

■ A student completing BIO 151, 152, 253, and at least two upper division electives may, in consultation with their advisor, seek approval from the department to complete major requirements with as many as 4 upper division courses from other institutions.

■ **Keystone:** BIO 490: Biology Keystone (.5 credit) or SCI 490: Integrated Science (.5 credit) is required. Double majors and students in the Honors program should consult with their BIO faculty advisor regarding 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 – Biology B.A.		Completed
Embedded in major	<b>Writing Requirements</b> TWO (2) Writing courses		
Embedded in major			
COM 115*	<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	
– OR –			
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

\* COM 111 also accepted to fulfill the Speaking Graduation Skill

## 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 = 32</li> <li>▪ At least 8 credits completed at Augsburg.</li> <li>▪ 6 of last 8 credits completed in residence.</li> <li>▪ Second degree – minimum of 8 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 2 of 6 credits P/N may be in major.</li> </ul>	Maximum of 6	
<b>Major Courses graded Pass/No Pass (P/N)</b>	Maximum of 2	
<b>Latin Honors courses graded Pass/No Pass (P/N)</b>	Maximum of 2	
<b>Latin Honors traditionally graded courses</b>	Minimum of 14	
<b>Internships</b>	Maximum of 4	
<b>Independent/Directed Studies</b>	Maximum of 2	

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

This is a possible plan for the Bachelor of Arts in Biology, though there are many configurations of courses. Students should limit lab courses to two per term. In general, students should try to complete math earlier in the curriculum, and physics during the junior or senior years. Liberal Arts Foundation (LAF), Modern Language and other Core courses are more flexible.

### Freshman Year

#### Fall Term (4)

BIO 151  
CHM 115  
LAF Course  
REL 100  
AugSem

#### Spring (4)

BIO 152  
CHM CHM 116  
MAT 163  
ENL 111

### Sophomore Year

#### Fall Term (4)

BIO 253  
Modern Language  
Minor or Elective  
COM 115

#### Spring (4)

Upper-Division BIO elective  
Modern Language  
Minor or Elective  
REL 200

### Junior Year

#### Fall Term (4)

PHY 116  
Upper-Division BIO elective  
LAF Course  
Minor or Elective  
HPE 001

#### Spring (4)

Upper-Division BIO elective  
LAF Course  
Minor or Elective  
Minor or Elective

### Senior Year

#### Fall Term (4)

Upper-Division BIO elective  
Upper-Division BIO elective  
LAF Course  
Minor or Elective  
HPE skill

#### Spring (4.5)

Upper-Division BIO elective  
Keystone: BIO 490 (.5 credit)  
LAF Course  
Minor or Elective  
Minor or Elective

#### Notes:

- COM 115 or COM 111 fulfills both the speaking skill and a Humanities Liberal Arts Foundation requirement.

## Biology Department

The Biology Department is located in Science Hall 224. You may contact the following faculty for more information on the major requirements, and also check out the website at [www.augsburg.edu/biology](http://www.augsburg.edu/biology).

Dale C. Pederson, Dept Chair  
Associate Professor  
Phone: 612-330-1073  
Email: [pederson@augsbu.edu](mailto:pederson@augsbu.edu)

Matthew Beckman  
Assistant Professor  
Phone: 612-330-1793  
Email: [beckmanm@augsbu.edu](mailto:beckmanm@augsbu.edu)

William C. Capman  
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Ralph J. Butkowski  
Assistant Professor  
Phone: 612-330-1075  
Email: [butkowsk@augsbu.edu](mailto:butkowsk@augsbu.edu)

David Crowe  
Assistant Professor  
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Email: [crowe@augsbu.edu](mailto:crowe@augsbu.edu)

## What can I do with a Biology major?

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

For more information on possible careers in biology, please talk with your faculty adviser, and also the Center for Service, Work and Learning.

Agronomist  
Botanist  
Cell Biologist  
Chiropractor  
Conservationist  
Dentist  
Environmental Scientist  
Environmental Lawyer  
Field Biologist  
Field Ecologist  
Fish and Wildlife Officer  
Forestry  
Geneticist  
Health Inspector  
Horticulturalist  
Naturalist  
Nutritionist  
Optometrist  
Pharmacologist  
Physical Therapist  
Physician  
Public Health  
Researcher  
Resource Management  
Taxonomist  
Veterinarian

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