Name	ID	Date

Planning Sheet: BACHELOR OF SCIENCE in BIOLOGY

(Effective Fall 2011. This major consists of 17 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: BIO 151, 152 & CHM 116)

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

____	____	BIO 361	❒ Plant Biology (Prereq: BIO 151, BIO 152, & ENL 111 or 112 or HON 111)
		BIO 481	❒ 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: Complete an introductory series of Chemistry courses (CHM 115 & 116) and an Organic Chemistry sequence (CHM 351 & 352).

____	____	CHM 115	NSM-L	General Chemistry I (Prereq: HS Chemistry & MPG 3)
____	____	CHM 116	NSM-L	General Chemistry II (Prereq: CHM 115)

Organic Chemistry

____	____	CHM 351		Organic Chemistry I (Prereq: CHM 116)
____	____	CHM 352		Organic Chemistry II (Prereq: CHM 116)

Physics:

____	____	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:

____	____	MAT 145	NSM	Calculus I (Prereq: MPG 4)
____	____	MAT 146	NSM	Calculus II (Prereq: MAT 145)

Notes:

- A GPA of 2.0 for BIO 151, 152, and 253 is a prerequisite for enrollment in upper division biology courses. A grade of 2.0 or above is required for all upper division biology courses and supporting courses in chemistry, mathematics, and physics applied to the major. Upper division biology courses must be graded traditionally.
- A student who had completed 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.
- **B.S. Waiver**: Student completing the B.S. in Biology may waive two Liberal Arts Foundation courses (in two different areas), or waive the two-course Modern Language requirement.
- **Keystone:** BIO 490: Biology Keystone (.5 credit) 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/.

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.S.**		Completed
Embedded in major	**Writing Requirements** TWO (2) Writing courses		
Embedded in major			
COM 115*	**Speaking** One (1) Speaking course		
Designated Major Course	**QUANTITATIVE REASONING**		Completed
Embedded in major	**Quantitative Foundations & Applications** One (1) QFA course (Prereq: MPG3)	QFA course	
– OR –			
Embedded in major	**Quantitative Foundations and Quantitative Applications** One (1) QF course (Prereq: MPG 3) **and** one (1) QA course	QF course	
Embedded in major		QA course	

* COM 111 is 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**	
Cumulative Course Credits ▪ Minimum number of course credits needed for graduation = **32** ▪ At least 8 credits completed at Augsburg. ▪ 6 of last 8 credits completed in residence. ▪ Second degree – minimum of 8 credits completed in residence.	Transfer Credits Earned	
	+ Aug. Credits Earned	
	= Total Credits Earned	
	# Credits Needed	

Grade Point Average (GPA)		
▪ Minimum 2.0 GPA required in major, minor, & overall. ▪ Some majors require higher GPA. ▪ Latin Honors GPA requirements: o Summa cum laude: 3.9-4.0 o Magna cum laude: 3.80-3.89 o Cum laude: 3.60-3.79	Cumulative GPA	
	Major 1 GPA	
	Major 2 GPA	
	Minor GPA	

Other Limits	**Minimum/Maximum**	**Your Total**
Overall maximum courses graded Pass/No Pass (P/N) ▪ Grade of 2.0 or above required to Pass and earn credit for course. ▪ Maximum of 2 of 6 credits P/N may be in major.	Maximum of 6	
Major Courses graded Pass/No Pass (P/N)	Maximum of 2	
Latin Honors courses graded Pass/No Pass (P/N)	Maximum of 2	
Latin Honors traditionally graded courses	Minimum of 14	
Internships	Maximum of 4	
Independent/Directed Studies	Maximum of 2	

Sample Four-Year Plan (B.S.)

This is a possible plan for the Bachelor of Science 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. **NOTE: Students completing the B.S. curriculum may waive two Liberal Arts Foundation courses (in two different areas), or waive the two-course Modern Language requirement.**

Freshman Year

Fall Term (4)	Spring (4)
BIO 151	BIO 152
CHM 115	CHM 116
MAT 145	MAT 146
REL 100	ENL 111
AugSem	

Sophomore Year

Fall Term (4)	Spring (4)
BIO 253	Upper-Division BIO elective
CHM 351	CHM 352
Modern Language	Modern Language
COM 115	REL 200

Junior Year

Fall Term (4)	Spring (4)
PHY 121	PHY 122
Upper-Division BIO elective	Upper-Division BIO elective
LAF Course	LAF Course
Minor or Elective	Minor or Elective
HPE 001	

Senior Year

Fall Term (4)	Spring (4.5)
Upper-Division BIO elective	Upper-Division BIO elective
Upper-Division BIO elective	Keystone: BIO 490 (.5 credit)
LAF Course	Minor or Elective
Minor or Elective	Minor or Elective
HPE skill	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.

Dale C. Pederson, Dept Chair
Associate Professor
Phone: 612-330-1073
Email: pederson@augsburg.edu

Jennifer Bankers-Fulbright
Assistant Professor
Phone: 612-330-1071
Email: bankers@augsburg.edu

Matthew Beckman
Assistant Professor
Phone: 612-330-1793
Email: beckmanm@augsburg.edu

Ralph J. Butkowski
Assistant Professor
Phone: 612-330-1075
Email: butkowsk@augsburg.edu

William C. Capman
Associate Professor
Phone: 612-330-1074
Email: capman@augsburg.edu

David Crowe
Assistant Professor
Phone: 612-330-1794
Email: crowe@augsburg.edu

Ann Impullitti
Assistant Professor
Phone : 612-330-1072
Email : impullit@augsburg.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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