

MILLERSVILLE UNIVERSITY

Student Name: _____ Student ID # _____

DEGREE: BS	MAJOR REQUIREMENTS FOR A BS DEGREE IN
MAJOR: BIOL	BIOLOGY: PLANT SCIENCES
OPTION: PLNT	Total credit hours required: 120.0 minimum

REQUIREMENTS AND POLICIES FOR THE BS BIOLOGY MAJOR

A. Policies for Admission to the Major

1. New students (freshmen and transfers) must be admitted to the Biology major by the Office of Admissions upon admission to the University.
2. Admission of Millersville University students to the Biology major (from other departments or undeclared status) requires that the student is in satisfactory academic standing as described in the Undergraduate catalog. Students who were dropped from a Biology major also must satisfy the Biology Retention in the Major criteria before being readmitted to a Biology major.
3. Non-degree and continuing education students must be admitted to the Biology major by the Office of Admissions.

B. Policies for Retention in the Major

1. University requirements for retention must be met.
2. All Biology majors must earn grades of C- (C minus) or higher in all core courses (BIOL 101, 211, 221, 343, 362, 364) required for their option.
3. The requirements stated above must be satisfied before completion of 90 Millersville University credit hours.
4. Millersville University students changing majors, or Biology majors changing options within the Biology major, must satisfy the above requirements prior to completion of 45 additional Millersville University credit hours. Note: Students who desire to change their major to Biology must refer to the Biology department's Admission to the Major Policy. Those transferring into the major may substitute BIOL 100 for BIOL 101 if they earn a grade of B- (B minus) or higher in this course.
5. Transfer students with 60 credit hours or more must satisfy the above requirements prior to completion of 45 Millersville University credit hours. Transfer students with fewer than 60 credits should refer to the policy for all other majors (part 3 above).
6. Any students failing to meet the above requirements will be dropped from the Biology major. Students who wish to re-enter the major, must follow the requirements stipulated in part 4 above.

C. Policies for Completion of the Major

1. Completion of all University curricular requirements.
2. ENGL 319, Science Writing, is the recommended course for the Upper Level Writing Requirement under the General Education Curriculum Requirements.

Note to the student: *This form is provided as a guide. It is your responsibility to consult regularly with your adviser to be aware of changes and curriculum details which are not incorporated on this form.*

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MAJOR SEQUENCE AND DEGREE REQUIREMENTS

Major: **BS BIOLOGY**
 Option: **PLANT SCIENCES**
 Major Field Requirements: **76 credits**

^NOTE: The following **REQUIRED RELATED** courses will be credited toward the Liberal Arts Core subject to normal distribution rules: CHEM 111, CHEM 112, MATH 151/161, PHYS 131 (16 credits total).

course	cr	grade	course	cr	grade
BIOLOGY CORE (25-26 credits)			RELATED CORE (24 credits)¹		
BIOL 101	4	—	CHEMISTRY: CHEM 111	4	—
BIOL 211	4	—	CHEM 112	4	—
BIOL 221	4	—	CHEM 235 (or 231 plus 232) ²	4	—
BIOL 343	4	—	Chem. COMPUTATIONAL: MATH 151 (or 161)	4	—
BIOL 362	4	—	PHYSICS: PHYS 131 (or PHYS 231) ²	4	—
BIOL 364	4	—	PHYS 132 (or PHYS 232) ²	4	—
BIOL 472	1-2	—			
PRACTICAL EXPERIENCE (1-3 credits)					
Choose 1-3 credits from the following in Botany, Horticulture, Plant Biotech/Molecular, or Plant Ecology/Environmental					
BIOL 300	3	—	Co-op/Internship		
BIOL 498	1	—	Independent Study		
BIOL 489	1	—	Honors Independent Study		
BIOL 499	1	—	Honors Thesis		

IN ADDITION TO THE ABOVE, COMPLETE ONE OF THE FOLLOWING COURSE SEQUENCES TO REACH 76 CREDITS

BOTANY	HORTICULTURAL SCIENCE
ADVANCED PLANT SCIENCE (9 credits)	ADVANCED PLANT SCIENCE (9 credits)
Choose three from: ³ BIOL 325 Plant Systematics (recommended)	Take this course: BIOL 327 Horticultural Science
BIOL 327 Horticultural Science	Choose two from: ³ BIOL 325 Plant Systematics
BIOL 329 Plant-Insect Interactions	BIOL 329 Plant-Insect Interactions
BIOL 424 Mycology	BIOL 424 Mycology
BIOL ELECTIVES (7-10 credits)	BIOL ELECTIVES (1-4 credits)
Courses ⁴ approved for BIOL majors: BIOL _____	Courses ⁴ approved for BIOL majors: BIOL _____
BIOL _____	BIOL _____
BIOL _____	Recommended: BIOL 375, 416, or 461
BIOL _____	
ADDITIONAL RELATED (7 credits)	ADDITIONAL RELATED (13 credits)
CHEMISTRY: ⁵ BIOL 324 or CHEM 326 (or CHEM 375)	CHEMISTRY: ⁵ BIOL 324 or CHEM 326
COMPUTATIONAL: BIOL 375 (or AENG 140, BUAD 231 ⁶ , CSCI 161, GEOG 295 ⁷ , MATH 235, or PSYC 211) ²	BIOTECH ENGINEERING: AENG 140
	MARKETING: ⁸ BUAD 231 ⁶
	MKTG 332 or MKTG 335
PLANT BIOTECH & MOLECULAR	PLANT ECOLOGY & THE ENVIRONMENT
ADVANCED PLANT SCIENCE (9 credits)	ADVANCED PLANT SCIENCE (9 credits)
Choose three from: ³ BIOL 325 Plant Systematics	Take this course: BIOL 325 Plant Systematics
BIOL 327 Horticultural Science	Choose two from: ³ BIOL 327 Horticultural Science
BIOL 329 Plant-Insect Interactions	BIOL 329 Plant-Insect Interactions
BIOL 424 Mycology	BIOL 424 Mycology
ADVANCED MOLECULAR BIOLOGY (4 credits)	
BIOL 462 Molecular Biology	
BIOL ELECTIVES (0-3 credits)	BIOL ELECTIVES (0-3 credits)
Courses ⁴ approved for BIOL majors: BIOL _____	Courses ⁴ approved for BIOL majors: BIOL _____
BIOL _____	BIOL _____
ADDITIONAL RELATED (10 credits)	ADDITIONAL RELATED (14 credits)
CHEMISTRY: ⁵ BIOL 324 or CHEM 326	CHEMISTRY: ⁹ BIOL 324 or CHEM 326 or CHEM 375
BIOTECH ENGINEERING: AENG 140	COMPUTATIONAL: CSCI 161
COMPUTATIONAL: BIOL 375 (or CSCI 161 or MATH 235 or PSYC 211) ²	BIOL 375 (or MATH 235 or PSYC 211) ²
	GEOGRAPHIC INFORMATION SYSTEMS: GEOG 295 ⁷

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¹ Completion of this Related Core will also satisfy your three G2 and your one Mathematics Foundations for Lifelong Learning Gen Ed requirements.

² Any courses listed in parentheses are pre-approved course substitutions for the preceding required course. However, any differences in credit number do not affect the minimum number of BIOL elective credits.

³ Other advanced plant-related credits may be chosen in consultation with one's academic advisor.

⁴ These are BIOL major electives in the true sense: any course approved for BIOL majors will count here, so long as it had not been used to fill requirements elsewhere in the Major. For example, if Mycology (BIOL 424) or Biometry (BIOL 375) will not be used to satisfy any of the ADVANCED PLANT SCIENCE or COMPUTATIONAL credits, respectively, then they or some other such course approved for BIOL majors could count here.

⁵ Students may obtain a CHEM minor with CHEM 326 and then also CHEM 265. BIOL 324 could then be taken as Advanced Plant Science if desired.

⁶ Pre-requisites are ECON 101 & 102, which will also count for two of your three General Education G3 courses.

⁷ Pre-requisite is GEOG 281, which will also count for one of three General Education G3 courses.

⁸ Students may obtain a Certificate in Marketing by taking BUAD 231, MKTG 332, MKTG 335 and 2 additional MKTG courses.

⁹ Students may obtain a CHEM minor with CHEM 326 or CHEM 375 and then also CHEM 265. BIOL 324 could then be taken as Advanced Plant Science if desired.