

Requirements for the Bachelor of Science in Plant Biology
North Carolina State University
 (Effective Summer 2015)

COURSE	TITLE	CREDIT HOURS
<u>Orientation</u>		
LSC 101	Critical and Creative Thinking in the Life Sciences ¹	2
PB 103	Perspectives on Botany OR	
LSC 103	Exploring Life Science Disciplines OR	
ALS 303	Transfer Transitions & Diversity in Ag. & Life Sciences	1
<u>Communication</u>		
	Advanced Communication in the Major ²	3
<u>Mathematics and Natural Sciences (22 hours)</u>		
MA 121	Elements of Calculus OR	
MA 131	Calculus for Life and Management Sciences A OR	
MA 141	Calculus I ³	3
ST 101	Statistics by Example OR	
ST 311	Introduction to Statistics ⁴	3
CH 101	Chemistry – A Molecular Science	3
CH 102	General Chemistry Lab	1
CH 220	Introductory Organic Chemistry OR	
CH 221/222	Organic Chemistry I / Organic Chemistry I Lab	4
PY 131	Conceptual Physics OR	
PY 211	College Physics I ⁵	4
GN 311	Principles of Genetics	4

Major Requirements (27 hours)

A minimum grade of C- is required in all major courses that are letter-graded. A minimum 2.00 GPA is required across all Plant Biology coursework.

Group I – Required Courses Take all of the following (15 hours).

BIO 181	Intro. Biology: Ecology, Evolution, & Biodiversity ⁶	4
BIO 183	Intro. Biology: Cellular & Molecular Biology	4
PB 250	Plant Biology	4
PB 492	External Learning Experience OR	
PB 493	Special Problems in Botany OR	
PB 495	Special Topics in Botany OR	
ALS 498	Honors Research or Teaching I	3

Group II – Plant Biology Electives Take 4 courses comprising at least 12 credit hours. At least two of these courses must be at the 300- or 400-level or higher and total at least 6 credit hours. At least one course must have a laboratory component or be a laboratory course (courses designated by asterisks).

PB 213	Plants and Civilization	3
PB 215	Medicinal Plants	3
PB 219	Plants in Folklore, Myth, and Religion	3
PB 220*	Local Flora	3
PP 222	Kingdom of Fungi	3
PB 321	Whole Plant Physiology ⁷	3
PB (BIO) 330	Evolutionary Biology	3
PB 345	Economic Botany	3
PB 346*	Economic Botany Lab	1
PB (BIO) 360*	Ecology	4
PB 4XX	Medical Ethnobotany	3
PB 4XX*	Medical Ethnobotany Lab	1
PB 400*	Plant Structure and Diversity	4
PB 403*	Systematic Botany	4
PB 413*	Plant Anatomy	2
PB (BIO) 414	Cell Biology	3
PB 421	Plant Physiology ⁷	3
PB 445*	Paleobotany	4
PB 464	Rare Plants of North Carolina	3
BIT 474*	Plant Genetic Engineering	2
PB 480	Introduction to Plant Biotechnology	3

Special topics (PB 295 or PB 495 with designated topic) or graduate (for advanced undergraduates only) Plant Biology courses may be used, as well as those dual-listed at the 500-level.

Electives (43 hours)

Applied Plant Science Elective ⁸	3
Restricted Electives ⁹	26
Free Electives	14

General Education Program Course Requirements (min. 24 hours)

Academic Writing and Research (ENG 101)	4
Humanities Electives (take 2 courses from two different disciplines)	6
Social Sciences Electives (take 2 courses from two different disciplines)	6
Physical Education and Healthy Living 100-level	1
Physical Education and Healthy Living 200-level	1
Additional Breadth Electives (take 1 course)	3
Interdisciplinary Perspectives (take 1 course)	3
Global Knowledge Co-requisite	Co-req
U.S. Diversity Co-requisite	Co-req
Foreign Language Proficiency	Co-req

MINIMUM HOURS REQUIRED FOR GRADUATION **122**

Major/Program Footnotes:

¹LSC 101 is on the GEP Interdisciplinary Perspectives List and partially meets the GEP Interdisciplinary Perspectives requirement. Students who do not enter the major through the Life Science First Year Program, in which LSC 101 is required, should take another GEP Interdisciplinary Perspectives course to meet this requirement.

²Choose one course from the following list: COM 110, COM 211, ENG 215, ENG 323, ENG 331, ENG 332, ENG 333. ENG 333 recommended.

³Credit is not allowed for more than one of MA 121, MA 131, and MA 141.

⁴Credit is not allowed for both ST 101 and ST 311. Students interested in research are strongly encouraged to take both ST 311 and ST 511 (Experimental Statistics for Biological Sciences I).

⁵Or PY 205 (PY 211 recommended). Students interested in pursuing graduate or professional training should take PY 211 to meet the requirement, followed by PY 212 as a Restricted Elective.

⁶BIO 105/106, PB 200, and a 4-hour PB course with a lab may be approved by the Plant Biology Undergraduate Coordinator as substitutes for BIO 181, BIO 183, and PB 250. Students who have not taken a general plant biology course before entering the major should plan to take PB 250.

⁷Plant Biology majors are strongly encouraged to take PB 421. Credit is not allowed for both PB 321 and PB 421.

⁸Choose at least one of the following courses: CS 312, CS 411, CS 413, CS 414, CS 415, CS 424, CS 430, FOR 303, FOR (PP) 318, FOR 339, FOR 411, HS 301, HS 411, HS 421, HS 422, HS 431, HS 432, HS 440, HS 451, HS 462, PP 315, PP 501, PP 540.

⁹Courses should be chosen from the CALS Elective Groups A (Biological Sciences and Physical Sciences), B (Economics and Business), and C (Applied Science and Technology) lists.

General Education Program (GEP) requirements and GEP Footnotes:

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

Mathematical Sciences (6 credit hours – one course with MA or ST prefix)

In Plant Biology, this GEP requirement is met through the Major course requirements.

Natural Sciences (7 credit hours – include one laboratory course or course with a lab)

In Plant Biology, this GEP requirement is met through the Major course requirements.

Humanities (6 credit hours selected from two different disciplines/course prefixes)

Choose from the University approved GEP Humanities course list.

Social Sciences (6 credit hours selected from two different disciplines/course prefixes)

Choose from the University approved GEP Social Sciences course list.

Physical Education/Healthy Living (2 credit hours – at least one 100-level Fitness and Wellness Course)

Choose from the University approved GEP Physical Education/Healthy Living course list.

Additional Breadth - (3 credit hours to be selected from the following checked University approved GEP course lists)

X Humanities/Social Sciences/Visual and Performing Arts or _____ Mathematical Sciences/Natural Sciences/Engineering

Interdisciplinary Perspectives (5-6 credit hours)

Choose from the University approved GEP Interdisciplinary Perspectives course list.

Introduction to Writing (4 credit hours satisfied by completing ENG 101 with a C- or better)

The following Co-Requisites must be satisfied to complete the General Education Program requirements:

U.S. Diversity (USD)

Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.

Global Knowledge (GK)

Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.

Foreign Language proficiency - Proficiency at the FL_102 level is required for graduation.