

Crop and Soil Sciences – Crop Biotechnology

Eight Semester Plan for Bachelor of Science degree in Crop and Soil Sciences
with a concentration in Crop Biotechnology (11CSSCBS-11CSSPCB)

Effective: August 2020

This plan outlines an ideal path for degree completion in four years. The plan assumes course availability as published in the NC State University Course Catalog. It does not reflect courses transferred to the university or credits earned through Advanced Placement. Questions related to this pathway can be directed to the cropsoil-undergraduate-office@ncsu.edu

FRESHMAN YEAR

FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ALS 103 Freshman Transitions & Diversity OR ALS 303 Transfer Transitions & Diversity	1	BIO 183 Intro to Biology: Cellular and Molecular	4
BIO 181 Intro to Biology: Ecol, Evol, and Biodiversity	4	CH 101 Chemistry – A Molecular Science	3
CS 290 Professional Development in Plant and Soil Sciences	1	CH 102 General Chemistry Lab	1
ENG 101 Academic Writing and Research	4	MA 231 Calculus for Life and Mgmt Sciences B	3
MA 131 Calculus for Life and Mgmt Sciences A	3	Physical Education/Healthy Living Elective ^E	1
Foundation Elective ¹	3	GEP Humanities Elective ^C	3
Total:	16	Total:	15

SOPHOMORE YEAR

FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CH 221 Organic Chemistry I	3	CH 223 Organic Chemistry II	3
CH 222 Organic Chemistry I Lab	1	CH 224 Organic Chemistry II Lab	1
CS 213 Crops Science	3	CS 211 Plant Genetics	3
CS 214 Crop Science Laboratory	1	Restricted Electives ³	3
SSC 200 Soil Science	3	COM 110 Public Speaking or COM 112 Interpersonal Communications	3
SSC 201 Soil Science Laboratory	1	GEP Interdisciplinary Perspectives Elective ^G	2
Restricted Elective ³	3		
Physical Education/Healthy Living Elective ^E	1		
Total:	16	Total:	15 or 17

JUNIOR YEAR

FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
PB 421 Plant Physiology	3	BCH 351 Gen Biochemistry	3
PY 131 Conceptual Physics	4	Restricted Electives ³	3
ST 311 Intro to Statistics	3	GEP Humanities Elective ^C	3
ARE 201 Intro Agricultural & Resource Economics	3	BIT 410 Manipulation of Recom DNA	4
GEP Social Sciences Elective ^D	3		
Total:	16	Total:	13

SENIOR YEAR

FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Biotechnology Elective ²	4	CS 413 Plant Breeding	2
Experiential Learning Elective ⁴	3	ENG 331 Comm for Engineering & Technology or ENG 332 Comm for Business & Management or ENG 333 Comm for Science & Research	3
PB 480 Introduction to Plant Biotechnology	3	Restricted Electives ³	4
GEP Additional Breadth Elective ^F	3	Free Electives	7
Total:	13	Total:	16

Minimum Credit Hours Required for Graduation * : **120**

Major/Program Footnotes:

¹ **Foundation Elective:** Select from ANT 261, CS 224, or STS 302.

² **Biotechnology Electives:** Select from BEC 463, BIO 572, BIT 100, BIT 200, BIT 210, BIT 211, BIT 295, BIT 462, BIT 463, BIT 464, BIT 465, BIT 466, BIT 467, BIT 468, BIT 471, BIT 473, BIT 474, BIT 476, BIT 477, BIT 478, BIT 479, BIT 480, BIT 481, BIT 492, BIT 493, BIT 495, BIT 501, BIT 502, BIT 510, BIT 562, BIT 563, BIT 564, BIT 565, BIT 566, BIT 567, BIT 568, BIT 569, BIT 571, BIT 572, BIT 573, BIT 574, BIT 577, BIT 578, BIT 579, BIT 580, BIT 581, BIT 590, BIT 595, CH 572, CHE 463, CHE 563, MB 210, MB 211, PB 481, and PO 466.

³ **Restricted Electives:** Select from AEC 360, BIO 330, BIO 414, BIT 476, BIT 481, CS 211, CS 216, CS 218, CS 224, CS 230, CS 312, CS 411, CS 414, CS 415, CS 418, CS 424, CS 430, CS 480, CS 490, CS 495, ENT 425, GN 311, GN 312, GN 421, GN 423, MB 200, MB 351, PB 200, PB 250, PB 295, PB 345, PB 346, PB 400, PB 403, PB 405, PB 413, PB 414, PB 495, PB 565, PB 570, PB 575, PP 315, PP 495, SSC 185, SSC 332, SSC 341, SSC 342, SSC 421, SSC 427, SSC 428, SSC 440, SSC 442, SSC 452, SSC 455, SSC 461, SSC 462, SSC 470, ST 371, STS 302, STS 304, and STS 323.

⁴ **Experiential Learning Elective:** Select from CSSC 492 or CSSC 493

*** 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>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)
*Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional math.***
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
*Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional science.***
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
*Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **3 hours are met by the ARE 201 requirement***
- E. **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.
- F. **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
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
*Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement. **3 hours are met by ANT 261, CS 224 or STS 302 in the Foundation Elective requirement***
- H. **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:

- I. **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. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- J. **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. The following course(s) completed as part of the Major requirements may fulfill this requirement. **STS 302***
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.