

Date Submitted: 08/14/18 7:27 pm

Viewing: **CPSCBS : Crop Science, Bachelor of Science in Agri Food & Life Sciences**

Last approved: 08/31/17 8:57 am

Last edit: 10/11/18 2:49 pm

Changes proposed by: msavin

Catalog Pages Using
this Program

[Crop Science \(CPSC\)](#)

Submitter: 575-6731 User ID: crsleaf1 Phone:

Program Status Active

Academic Level Undergraduate

Type of proposal Major/Field of Study

Select a reason for this modification

Revising Curriculum of an Existing Certificate or Degree Program--(LON 11C)

Are you adding a concentration?

No

Are you adding a track?

No

Are you adding a focused study?

No

Effective Catalog Year Fall 2019

College/School Code

Bumpers College of Agricultural, Food, and Life Sciences(AFLS)

Department Code

Department of Crop, Soil and Environmental Sciences(CSES)

In Workflow

1. **AFLS Dean Initial**
2. **Provost Initial**
3. **Director of Program Assessment and Review**
4. **Registrar Initial**
5. **Institutional Research**
6. **CSES Chair**
7. **CSES Curriculum Committee**
8. **AFLS Faculty**
9. **ARSC Dean**
10. **AFLS Dean**
11. **Global Campus**
12. **Provost Review**
13. **University Course and Program Committee**
14. **Faculty Senate**
15. **Provost Final**
16. **Provost's Office-- Documentation sent to System Office**
17. **Higher Learning Commission**
18. **Board of Trustees**
19. **ADHE Final**
20. **Provost's Office-- Notification of Approval**
21. **Registrar Final**
22. **Catalog Editor Final**

Approval Path

Program Code CPSCBS
 Degree Bachelor of Science in Agricultural, Food & Life Sciences
 CIP Code

1. 04/13/18 7:45 am
Lona Robertson
(ljrobert): Approved
for AFLS Dean Initial
2. 05/17/18 10:35 am
Alice Griffin
(agriffin): Rollback
to Initiator
3. 06/21/18 4:05 pm
Lona Robertson
(ljrobert): Approved
for AFLS Dean Initial
4. 06/27/18 3:26 pm
Alice Griffin
(agriffin): Approved
for Director of
Program
Assessment and
Review
5. 07/26/18 1:08 pm
Lisa Kulczak
(lkulcza): Rollback to
Initiator
6. 08/15/18 9:02 am
Lona Robertson
(ljrobert): Approved
for AFLS Dean Initial
7. 08/15/18 9:46 am
Terry Martin
(tmartin): Approved
for Provost Initial
8. 08/17/18 9:38 am
Alice Griffin
(agriffin): Approved
for Director of
Program
Assessment and
Review
9. 09/12/18 1:12 pm
Lisa Kulczak

- (lkulcza): Rollback to Director of Program Assessment and Review for Registrar Initial
10. 09/15/18 8:20 pm
Alice Griffin
(agriffin): Approved for Director of Program Assessment and Review
11. 09/17/18 1:30 pm
Lisa Kulczak
(lkulcza): Approved for Registrar Initial
12. 09/17/18 3:18 pm
Gary Gunderman
(ggunderm): Approved for Institutional Research
13. 09/18/18 8:21 am
Robert Bacon
(rbacon): Approved for CSES Chair
14. 09/20/18 1:43 pm
Jefferson Miller
(jdmiller): Approved for CSES Curriculum Committee
15. 09/24/18 11:50 am
Douglas Karcher
(karcher): Approved for AFLS Faculty
16. 09/24/18 1:23 pm
Jeannine Durdik
(jdurdik): Approved for ARSC Dean

- 17. 09/24/18 3:02 pm
Lona Robertson
(ljrobert): Approved
for AFLS Dean
- 18. 09/24/18 4:19 pm
Miran Kang (kang):
Approved for Global
Campus
- 19. 10/08/18 8:01 am
Terry Martin
(tmartin): Approved
for Provost Review
- 20. 10/29/18 10:42 am
Alice Griffin
(agriffin): Approved
for University
Course and Program
Committee

History

- 1. Aug 15, 2014 by
Leepfrog
Administrator
(clhelp)
- 2. Aug 31, 2017 by
Charlie Alison
(calison)

01.1102 - Agronomy and Crop Science.

Program Title

Crop Science, Bachelor of Science in Agri Food & Life Sciences

Program Delivery

Method

On Campus

Is this program interdisciplinary?

No

Does this proposal impact any courses from another College/School?

Yes ~~No~~

College(s)/School(s)

College/School Name

Fulbright College of Arts and Sciences(ARSC)

What are the total
hours needed to
complete the
program?

120

Program Requirements and Description

Requirements

Requirements for a Major in Crop Science (CPSC)

State minimum core and discipline specific general education requirements.

(Course work that meets state minimum core requirements is in bold.)

English/Communications

15

ENGL 1013**Composition I (ACTS Equivalency = ENGL 1013)****ENGL 1023****Composition II (ACTS Equivalency = ENGL 1023)**ENGL 2003

Advanced Composition

or ENGL 3053

Technical and Report Writing (ACTS Equivalency = ENGL 2023)

COMM 1313

Public Speaking (ACTS Equivalency = SPCH 1003)

CSES 3023

Crop, Soil, and Environmental Sciences Colloquium

~~U.S. History or Government~~

~~Select one U.S. History Core Course~~

~~3~~

~~Mathematics and Computer Science~~

~~Select from MATH Core courses~~

~~3~~

US History or Government

3

Select 3 hours U.S. History course from University Core.

Mathematics and Computer Science

6

MATH 1203**College Algebra (ACTS Equivalency = MATH 1103) (or higher level MATH)**

Select one of the following:

AGME 2903

Agricultural and Human Environmental Sciences Applications of Microcomputers
(Students minoring in Agricultural Business should choose AGME 2903.)

AGST 4023

Principles of Experimentation

STAT 2303

Principles of Statistics (ACTS Equivalency = MATH 2103)

Sciences

Physical and Biological Sciences

18-
23

<u>BIOL 1543</u>	Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture)	
& <u>BIOL 1541L</u>	and Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab)	
CSES 1203	Introduction to Plant Sciences	3-4
or BIOL 1613	Plant Biology (ACTS Equivalency = BIOL 1034 Lecture)	
& BIOL 1611L	and Plant Biology Laboratory (ACTS Equivalency = BIOL 1034 Lab)	
<u>BIOL 1613</u>	<u>Plant Biology (ACTS Equivalency = BIOL 1034 Lecture)</u>	
& <u>BIOL 1611L</u>	<u>and Plant Biology Laboratory (ACTS Equivalency = BIOL 1034 Lab)</u>	
or CSES 1203	Introduction to Plant Sciences	
<u>CHEM 2613</u>	Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture)	
& <u>CHEM 2611L</u>	and Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab)	
Select one CHEM group (4-8 hours)		
General Electives		14- 18
<u>CHEM 1073</u>	<u>Fundamentals of Chemistry (ACTS Equivalency = CHEM 1214 Lecture)</u>	
& <u>CHEM 1071L</u>	<u>and Fundamentals of Chemistry Laboratory (ACTS Equivalency = CHEM 1214 Lab)</u>	
<u>CHEM 1103</u>	University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture)	
& <u>CHEM 1101L</u>	and University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab)	
AND		
<u>CHEM 1123</u>	<u>University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture)</u>	
& <u>CHEM 1121L</u>	<u>and University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab)</u>	
Select one of the following:		
<u>BIOL 4303</u>	Plant Physiology	
<u>ANSC 3123</u>	Principles of Genetics	
<u>POSC 3123</u>	Principles of Genetics	
<u>BIOL 2323</u>	General Genetics	
Fine Arts and Humanities		6
Select one Fine Arts and one Humanities Core courses		6
Select one Fine Arts course and one Humanities course from University Core.		
Social Sciences		9
<u>AGEC 1103</u>	Principles of Agricultural Microeconomics	
Choose from Social Sciences Core courses (6 hours total, 3 hours must be outside AGEC/ECON discipline)		6
Students minoring in Agricultural Business should choose AGEC 2103.		
Select 6 hours from Social Sciences from University Core (3 hours must be outside AGEC/ECON discipline) Students minoring in Agricultural Business should choose <u>AGEC 2103*</u>.		
CPSC Requirements		26
General Agronomy		
<u>CSES 2103</u>	Crop Science	
& <u>CSES 2101L</u>	and Crop Science Laboratory	
<u>CSES 2203</u>	Soil Science	

& [CSES 2201L](#) and Soil Science Laboratory

[CSES 4013](#) Advanced Crop Science

[CSES 4224](#) Soil Fertility

Select one from the following (3 hours):**

[CSES 462V](#) Internship

Select 8 hours from the following two groups. At least 6 hours must be from Group A.

8

[CSES 400V](#) Special Problems

Select at least 8 hours from the following two groups. At least 6 hours must be from Group A.

Group A

[CSES 3112](#) Forage Management

[CSES 3312](#) Cotton Production

[CSES 3322](#) Soybean Production

[CSES 3332](#) Rice Production

[CSES 3342](#) Cereal Grain Production

Group B

[CSES 3214](#) Soil Resources and Nutrient Cycles

[CSES 355V](#) Soil Profile Description ((1-2 hours))

[CSES 400V](#) Special Problems ((1-6 hours))

[CSES 4103](#) Plant Breeding

[CSES 4303](#) Bioenergy Feedstock Production

[CSES 4253](#) Soil Classification and Genesis

[ENSC 3103](#) Plants and Environmental Restoration

[ENSC 3263](#) Soil and Water Conservation

[HORT 2303](#) Introduction to Turfgrass Management

[PLPA 4333](#) Biotechnology in Agriculture

Pest Management

10

[ENTO 3013](#) Introduction to Entomology

[PLPA 3004](#) Principles of Plant Pathology

[CSES 4133](#) Ecology and Morphology of Weedy and Invasive Plants

or [CSES 4143](#) Principles of Weed Control

Electives for a Minor (Students must declare minor with the Bumpers College Dean's Office)

CPSC Requirements

9-

12

Select one group (C-G) for CPSC Requirements (9-12 hours). Courses selected within major cannot be taken for duplicate credit. Students who wish to declare a minor must contact the Bumpers College Dean's Office.

Group C - Pest Management (9 hours)

[CSES 4133](#) Ecology and Morphology of Weedy and Invasive Plants

or [CSES 4143](#) Principles of Weed Control

[PLPA 4223](#) Plant Disease Control

[ENTO 4123](#) Insect Pest Management

Group D (Agricultural Business minor)

12

Group D - Agricultural Business (12 hours)AGEC 2303 Introduction to AgribusinessAGEC 3403 Farm Business Management

Select two of the following:

6

~~AGEC 3303 Food and Agricultural Marketing~~

Select 3 hours from the following:

Core elective hours from approved list in AGBS-Minor

Select 3 hours from the following:

Controlled elective hours from approved list in AGBS-minor (3 hours)

GROUP E - Crop Biotechnology (10 hours)PLPA 4333 Biotechnology in AgricultureCSES 400V Special Problems

(2 2-hr courses taken in two different semesters)

Choose 6 hours from the following:

BIOL 4303 Plant PhysiologyCHEM 3813 Elements of BiochemistryCSES 4103 Plant Breeding**GROUP F - Soil Science (9-10 hours)**CSES 3214 Soil Resources and Nutrient CyclesENSC 3263 Soil and Water ConservationCSES 355V Soil Profile Description ((1 hour, may take twice for credit))CSES 4253 Soil Classification and GenesisENSC 4263 Environmental Soil ScienceENSC 4401 Professional Certification PreparationCSES 4553 Wetland Soils**GROUP G - Natural Resources Management (9 hours)**ENSC 1003 Environmental Science& ENSC 1001L and Environmental Science Laboratory

Select at least 5 hours from the following:

ENSC 3003 Introduction to Water ScienceAGEC 3413 Principles of Environmental Economicsor ENSC 3413 Principles of Environmental Economics~~AGEC 3373 Futures and Options Markets~~~~AGEC 4313 Agricultural Business Management~~ENSC 3413 Principles of Environmental EconomicsAGEC 3503 Agricultural Law IAGEC 3523 Environmental and Natural Resources LawBIOL 3861L General Ecology LaboratoryBIOL 3863 General Ecology

CSES 4133	Ecology and Morphology of Weedy and Invasive Plants
CSES 4553	Wetland Soils
CSES 462V	Internship ((3 hours))
ENSC 3003	Introduction to Water Science
ENSC 3103	Plants and Environmental Restoration
ENSC 3223	Ecosystems Assessment
ENSC 3603	GIS for Environmental Science
ENSC 4021L	Water Quality Laboratory
ENSC 4023	Water Quality
ENSC 4034	Analysis of Environmental Contaminants
ENSC 4263	Environmental Soil Science
ENSC 4401	Professional Certification Preparation
GEOS 3043	Sustaining Earth
GEOS 3543	Geospatial Applications and Information Science

GENERAL ELECTIVES**10-
18**[UNIV 1001](#) University Perspectives (****)

Total Hours

120

*Students minoring in Agricultural Business should choose [AGEC 2103](#) in the Social Sciences block and will need to select another course in the list of AGBS-M Controlled Electives (as part of the General Electives for the CPSC major) to fulfill the requirements for the minor.

Group C (Pest Management Minor)**9**

~~CSES 4143 Principles of Weed Control select course not taken in pest management section above.~~
~~or CSES 4133 Ecology and Morphology of Weedy and Invasive Plants~~

****One 3-hr study abroad course, either Experiential Learning in Indian Agriculture (Jan) or Sustainability in the Eurozone Agro-Food Chain (May), which are both taken under [AFLS 401V/AFLS 401VH](#), or [CSES 462V](#) International Research Internship (SU) may be used in fulfilling the General Agronomy requirement.**

*****If students declare a minor, then no more than 9 credit hours of courses selected within major (including courses within the CPSC Requirements Groups C-G) can be taken for duplicate credit in applying toward a minor associated with CPSC Requirements Groups C-G.**

****** [UNIV 1001](#) required for new freshmen only.**

8-Semester Plan

Crop Science B.S.A.

Nine-Semester Degree Program

Because the Crop Science program requires an internship, it doesn't qualify for the Eight-Semester Program. See more about the [Eight-Semester Degree Policy](#) for university requirements of the program.

First Year	Units		
	Fall	Spring	Summer
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013)	3		
MATH 1203 College Algebra (ACTS Equivalency = MATH 1103)	3		
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture) & BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab)	4		
History University Core Elective	3		
CSES 1011 Introduction to Crop, Soil, and Environmental Science	1	-	-
UNIV 1001 University Perspectives	1		
CSES 2103 Crop Science & CSES 2101L Crop Science Laboratory	4		
CSES 1203 Introduction to Plant Sciences or BIOL 1613 and BIOL 1611L	3-4		
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023) (If exempt, see adviser for communication courses.)	3		
COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003)	3		
AGEC 1103 Principles of Agricultural Microeconomics	3		
Year Total:	14	16	
Second Year	Units		
	Fall	Spring	Summer
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture) & CHEM 1101L University Chemistry I Laboratory (ACTS Equivalency = CHEM 1414 Lab) or CHEM 1073 and CHEM 1071L	4		
ENGL 2003 Advanced Composition or ENGL 3053 Technical and Report Writing (ACTS Equivalency = ENGL 2023)	3		
Social Science University Core Elective	3		
Fine Arts/Humanities University Core Elective	3		
Select one (1) course from Group A or B on checksheet	2-3		
CHEM 2613 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) & CHEM 2611L Organic Physiological Chemistry Laboratory (ACTS Equivalency = CHEM 1224 Lab) or CHEM 1123 and CHEM 1121L	4		
AGME 2903 Agricultural and Human Environmental Sciences Applications of Microcomputers or AGST 4023 Principles of Experimentation or STAT 2303 Principles of Statistics (ACTS Equivalency = MATH 2103)	3		
Social Science University Core Elective	3		
Fine Arts/Humanities University Core Elective	3		
Select one (1) course from Group A or B on checksheet	2-3		
Year Total:	15	15	

Third Year	Units		
	Fall	Spring	Summer
PLPA 3004 Principles of Plant Pathology	4		
ENTO 3013 Introduction to Entomology	3		
Select one (1) course from Group A or B on checksheet	2-3		-
Select one (1) course from Group A on checksheet	2		
CSES 2203 Soil Science	4		
& CSES 2201L Soil Science Laboratory			
General Elective	3	-	-
General Elective or CHEM 2613/2611L	4		
Select one of the following:		3	
BIOL 2323 General Genetics			
BIOL 4303 Plant Physiology			
ANSC/POSC 3123 Principles of Genetics			
Select one (1) course from Group A or B on checksheet		2-3	
CPSC Requirement Elective		3	
General Elective		6	
Choose 3 hours from the following:			3
CSES 462V Internship			
CSES 400V Special Problems			
AFLS 401V Special Topics in AFLS			
Year Total:	17	14	3
 Fourth Year	 Units		
	Fall	Spring	Summer
CSES 3023 Crop, Soil, and Environmental Sciences Colloquium	3		
CSES 4133 Ecology and Morphology of Weedy and Invasive Plants	3		
CSES 4224 Soil Fertility	4		
CPSC Requirement Elective	3		
CSES 4013 Advanced Crop Science		3	
Select one (1) course from Group C or two courses from Group D for a minor	-	3-6	-
CPSC Requirement Elective		3	
General Electives		0-7	
Year Total:	13	13	
 Total Units in Sequence:	 120		

Are Similar Programs available in the area?

No

Estimated Student **50 NA**

Demand for Program

Scheduled Program **2019-2020 NA**

Review Date

Program Goals and

Objectives

Program Goals and Objectives

- 1. Graduates have the discipline-specific knowledge in crop sciences required to perform successfully in private, government, or academic entry-level positions.**
- 2. Graduates are able to critically analyze, synthesize, and evaluate new information to make informed decisions.**
- 3. Graduates have the ability to solve complex, multidisciplinary problems.**
- 4. Graduates are able to prepare and synthesize information to effectively communicate, both orally and in writing. NA**

Learning Outcomes

Learning Outcomes

- 1. Students will demonstrate the discipline specific knowledge required to function as crop science professionals.**
- 2. Students will demonstrate the ability to critically evaluate situations or scenarios to arrive at well thought out and supported decisions and outcomes.**
- 3. Students will demonstrate the ability to work through and solve complex, multidisciplinary problems.**
- 4. Communication skills**
 - a. Students will demonstrate the skills required to effectively communicate technical/scientific information in oral platforms.**
 - b. Students will demonstrate the ability to integrate, organize, and effectively present written reports of technical/scientific information.**

NA

Description and justification of the request

Description of specific change	Justification for this change
Adding study abroad options Program change to add other groups: Soil Science Natural Resource Management Crop Biotechnology	Giving the option of study abroad in the experiential learning options The other three groups are relevant for CPSC students and offered in the CSES Department

Upload attachments

[CPSCBS - Revision - Curriculum Plans.pdf](#)

[CPSCBS - Revision - Ltr of Notification.docx](#)

Reviewer Comments

Alice Griffin (agriffin) (05/17/18 8:55 am): Changed effective date from spring 2019 to fall 2019. Program changes can only be made effective at the beginning of a new catalog year.

Alice Griffin (agriffin) (05/17/18 8:58 am): Corrected typo in justification.

Alice Griffin (agriffin) (05/17/18 10:35 am): Rollback: Please review email correspondence from 5/17/2018 for recommended edits.

Alice Griffin (agriffin) (06/27/18 3:23 pm): testing

Alice Griffin (agriffin) (06/27/18 3:25 pm): Adding revised documents to program change.

Lisa Kulczak (lkulcza) (07/26/18 1:08 pm): Rollback: Mary, please adjust the reason for this change--it cannot be making minor changes if a LON is necessary. Thanks, Lisa

Alice Griffin (agriffin) (08/16/18 4:40 pm): Updated approval date in LON and uploaded revised copy. Changed CPSC Requirements from 36 to 26, in order for the 10 hours of Pest Management to be included in total hours.

Alice Griffin (agriffin) (08/16/18 4:42 pm): Updated scheduled program review date.

Lisa Kulczak (lkulcza) (09/12/18 1:12 pm): Rollback: Per discussion concerning use of "specialization".

Alice Griffin (agriffin) (09/15/18 8:06 pm): Changed specialization language to "requirements" in order to be consistent with allowed catalog language with approval from Terry Martin. Also updated LON.

Alice Griffin (agriffin) (09/15/18 8:16 pm): Uploaded revised curriculum plans.

Alice Griffin (agriffin) (10/11/18 2:48 pm): Updated approval dates in LON.

Key: 81