



University Courses & Curricula Committee 2016-2017

December 14th, 2016
 Talley Student Union 4140
 12:45pm-2:45pm

Call to Order 12:45pm

- **Food will be served beginning at 12:00 PM.**
- Welcome and Instructions, Chair Andy Nowel
- Remarks from Associate Vice Provost, Dr. Barbara Kirby
- Remarks from Vice Chancellor, Dr. Mike Mullen
- Approval of UCCC November 30th, 2016 Minutes
- Course and Curricular Business

New Business

Consent Agenda		
Action	Type	Notes
HESE 301 Advanced Emergency Medical Technician	Drop	Courses are being dropped due to limited resources within the department.
HESE 304 Psychosocial Aspects of Aging in Emergency Care	Drop	
HESE 351 EMS Clinical I	Drop	
HESE 352 EMS Clinical II	Drop	
HESE 363 Advanced Patient Assessment	Drop	
HESE 377 Pharmacology	Drop	
HESE 391 Emergency Pediatric Care	Drop	
HESE 428 Cardiology	Drop	
HESE 451 EMS Clinical III	Drop	
HESE 452 EMS Clinical IV	Drop	
HESE 461 Advanced ECG	Drop	
HESE 470 Medical Emergencies	Drop	
HESE 480 Trauma Emergencies	Drop	
HESS 254 Beginning Equitation	Drop	
HESS 260 Intermediate Equitation	Drop	
M 399 International Business Dual Degree Student Professional Internship in Management	Revisions	Minor revision to description, repeats, and hours
PSE 211 Pulp and Paper Internship	Revision	Minor revision to description
PSE 293 Independent Study in Paper Science & Engineering	Revision	Minor revision to description
PSE 294 Independent Study in Paper Science & Engineering	Revision	Minor revision to description
PSE 416 Process Design and Analysis	Revision	Revising prerequisite
PSE 465 Paper Physics and Product Design	Drop	No longer taught

College of Humanities and Social Sciences			
Presenter	Reviewers	Action	Type
Driscoll	Hergeth, Wu, Orphaniedes	FL /ECI 427/(FL 527) Methods and Materials in Teaching English as a Second Language	Revisions: Dual Level, Crosslisted: SLO, course number, requisites
Despain	Peretti, Podurgal, Trivedi	FLC 402 Advanced Chinese: Readings in Literature and Science	New Course.

University College			
Presenter	Reviewers	Action	Type
Fath	Young, Ferguson, Hergeth	Dance Minor (24DANM)	Revisions: Requesting C- wall for courses
Beller	Peretti, Podurgal, Driscoll	USC 107 College Success for the Pre-College Student	New Course.

College of Agricultural Life Sciences			
Presenter	Reviewers	Action	Type
Tarpy	Wu, Despain, Young	Crop Science Undergrad Minor (11CSM)	Revisions.
Tarpy	Driscoll, Lindsay, Beller	Turfgrass Undergrad Minor (11TFGM)	Revisions.
Tarpy	Fath, Klesath, Hergeth	Agroecology Undergrad Minor (11AGECM)	Revisions.
Trivedi	Hessling, Banks, Ferguson	Agronomic Crop Production Certificate (DE Only)	Revisions.
Trivedi	Klesath, Banks, Wu	Soil Science Undergrad Minor (11SSM)	Revisions
Trivedi	Young, Driscoll, Fath	Soil Science Certificate	Revisions.

College of Sciences			
Presenter	Reviewers	Action	Type
Banks	Despain, Hessling, Trivedi	Department of Biological Sciences Honors Program	New Honors Program.
Banks	Lindsay, Wu, Peretti	BSC 497 Biological Sciences Honors Project Part 1	New Course.
Banks	Hergeth, Driscoll, Rieder	BSC 498 Biological Sciences Honors Project Part 2	New Course.
Banks	Orphanides, Fath, Hessling	BSC 499 Honors Thesis in Biological Sciences	New Course.
Banks	Ferguson, Young, Podurgal	CH 452 Advanced Measurement Techniques I	Revising: SLO, requisites, grading method, abbreviated title
Klesath	Tarpy, Rieder, Driscoll	CH 454 Advanced Measurement Techniques II	Revising: SLO, requisites, description
Klesath	Beller, Hergeth, Podurgal	ST 405/ST 505 Applied Nonparametric Statistics	Revising: SLO, description, requisites, grading method, abbreviated title
Klesath	Despain, Trivedi, Wu	ST 434/ST 534 Applied Time Series	New Course.
Klesath	Orphanides, Beller, Tarpy	ST 437/ST 537 Applied Multivariate and Longitudinal Data Analysis	New Course.

SLO = Student Learning Outcomes

Discussion: Initial discussion of Syllabus Availability Bill.

Notes:

- All linked course actions are viewable in CIM.
- To view actions, please click on the hyperlink. You may need to use your Unity ID to log in.
- If you experience issues logging in, please go to <https://next-catalog.ncsu.edu/courseadmin/> and type the course prefix and number into the search bar.

University Courses and Curricula CommitteeNovember 30th 2016
Talley Student Union 4140
Call to Order: 12:46 pm

Members Present: Chair Andy Nowel, Alton Banks, Amanda Beller, Scott Despain, Catherine Driscoll, Helmut Hergeth, Marta Klesath, David Tarpy, Shweta Trivedi, Mian Wu, Elizabeth Fath, Andreas Orphanides, Kathleen Rieder, Greg Young, Steven Peretti, Richard Podurgal, Daniel Harper, Scott Ferguson, Allison McCulloch (Proxy)

Members Absent: Michael Robinson, Peter Hessling, Edwin Lindsay

Ex-Officio Members Present: Li Marcus, Lexi Hergeth, Barbara Kirby, Charles Clift, John Harrington, Rebecca Swanson, and Kevin Burge

Guests: Jeremy Feducia

WELCOME AND INTRODUCTIONS

- **Remarks from Chair**— Chair Andy Nowel
- **Dr. Barbara Kirby-** *Announced lunch will be served at the next meeting and the Board of Trustees approved the Agroecology and Sustainable Agriculture degree program. Dr. Kirby discussed the process of degree program approval.*
- **Approval of the Minutes from November 16th 2016 – Approved Unanimously**
 - Discussion: Member Alton Banks moved to approve. Minutes from the previous meeting were presented and approved without further discussion.

NEW BUSINESS

- **Consent Agenda—Approved Unanimously**
Discussion: Member Scott Despain moved to approve. The consent agenda was presented and approved with no further discussion.
- **Chemistry BS (17CHEMBS) Curricula - Approved Unanimously**
Discussion: Member Alton Banks presented.
- **ST 433/(533) Applied Spatial Statistics—Approved Pending**
Discussion: Member Alton Banks presented the course. Member asked why the prerequisites are different for the undergraduate and graduate level course. Members speculated that the prerequisites maybe different because of the expectations and final project. Members discussed the course schedule, made the friendly suggestion to edit the headers in the schedule. Presenter discussed the instructor's confusion when using the syllabus tool. Member pointed out that the syllabus claims that no electronic elements are used, however need this because there is an online component for the graduate level.
- **ST 440/(540) Applied Bayesian Analysis—Approved Unanimously**
Discussion: Member Marta Klesath presented the course. Members discussed that the syllabus schedule is broken into clumps, with multiple weeks dedicated to a topic.
- **ST/CSC 442 Introduction to Data Science—Approved Pending**
Discussion: Member Marta Klesath presented the course. Member pointed out the syllabus is missing the textbook price, an adjustment to the A- grading, requirements for S/U grading the deadline will change, suggested making the deadline the drop day. Member asked if listing the textbook price is necessary, members discussed the estimated price listing is a requirement and discussed varying price options through different sources.
- **ANT 428/(528) Human Paleopathology— Approved Unanimously**
Discussion: Member Catherine Driscoll presented. Member discussed the difference between the undergraduate and graduate level is the amount of reading. Members discussed if this would be sufficient and decided the graduate school will determine if the graduate level content is appropriate.

- **ENG 255 Beyond Britain: Literature from Colonies of the British empire– Approved Unanimously**
 Discussion: Member Catherine Driscoll presented. Member pointed out course expectations in participation in syllabus and suggested revising the expectations to be less vague. Members discussed some potential participation standards such as, if the student satisfies at least six of the standards of intellectual expectations they will receive x amount of credit. Members discuss the guidelines and expectations for participation stated in the syllabus for other courses. Member suggested the instructor should provide feedback to students throughout the course to clarify participation evaluation. Members pointed out the performance descriptors within the participation evaluation and discussed how instructors would measure these. Dr. Kirby asked if the college curriculum committee has had any issues with this participation rubric since it appears that it is being used in several courses. Members from the college answered that this is not been an issue in the past. Members discussed the general practice that there is generally a more in depth review of participation for courses allocating about 25% of the final grade, 10% participation may not be as much of a concern. Friendly recommendation to quantify how many points will make up the 10% participation grade.

- **ENG 339 Literature and Technology – Approved Unanimously**
 Discussion: Member Catherine Driscoll presented the course. Members discussed the inconsistency in the description of the papers that make up 55% of the total grade, “short papers” vs “significant papers”. Members concluded that the limited options in CIM have made this inconsistency and it should not cause further confusion.

- **ENG 340 Literature, Art, and Society– Approved Unanimously**
 Discussion: Member Catherine Driscoll presented the course.

- **ENG 342 Literature of Space and Place– Approved Pending**
 Discussion: Member Catherine Driscoll presented the course. Member discussed the inconsistency in CIM, restrictive statement not complete for certain sections in CIM. Member discussed the price of a book that is significantly more than the other required books, members concluded that it is not up to this committee to decide. However, the committee may communicate its concern if the book is costly compared to other versions, so students are able to search for the best-priced book. Members discussed the week schedule, confirmed there will be 15 weeks of content and the 16th week will. Instructional resource statement has “N/A”, for a new course the template statement will need to be added. Member brought attention to page 5 of syllabus states that if the course is being taken for GEP credit the course should not be taken as pass/fail, this was discussed and determined to be useful. Pending minor adjustment to CIM about the instructional resources and the restrictive statement.

- **ENG 464 British Literature and the Founding of Empire- Approved Unanimously**
 Discussion: Member Catherine Driscoll presented the course. Member pointed out that paper submissions are sent to the instructor’s personal email, not through an NCSU email, and questioned if this was a concern. While there is not a specific policy that says instructors may not use personal email accounts to receive student work, the faculty member must notify the students of the possibility of the possibility of privacy issues related to the student information. The Syllabus Regulation 02.20.07 and the Online Course Hosting Material Regulation 08.00.11 provide some guidance. A faculty member’s personal email, hosted on a server other than NCSU (email does not end in ncsu.edu) is considered an externally hosted, specifically “Externally hosted course component - A course component is "externally hosted" if the server which hosts the component resides outside of NC State's Internet address space. In general, the server's domain name will not end with "ncsu.edu." Student information includes:
 - 2.8 Student education records - "Student education records" are any personally identifiable records (1) about a student or former student, and (2) made, received or maintained by someone acting on behalf of NC State. Examples include:
 - a) student test scores or grades;
 - b) assignment submissions, class discussions or comments (where recorded), or other materials produced by students in which the student can be identified; and
 - c) names of students or other identifying information that is linked to non-directory information such as the course(s) the student is taking."

- Use of NCSU electronic components to host, receive or communicate student work is the best practice. A suggestion was made to send a message to the college that using a personal email to receive student work may become problematic. A member also mentioned potential situations when information is requested relating to subpoenas, educational records and the personal email would have to be accessed. NCSU email accounts and LMS are wrapped and processes are followed to minimize breaches in student information privacy. By October 2017, the university will require a two-factor authentication for all NCSU email accounts and NCSU Goggle applications in an effort to minimize phishing attacks resulting in compromised accounts. A member suggested the professor needs to use the NCSU accounts or LMS for student work.

- **ENG 466 Transatlantic Literatures – Approved Unanimously**
Discussion: Member Scott Despain presented the course. Member complimented the thoroughness of the syllabus.
- **ENG 470 American Literature, Twentieth Century and Beyond– Approved Pending**
Discussion: Member Scott Despain presented the course. Member pointed out that this is a completely new course, members confirmed this is a different course.
- **ENG 482 Reading in the Digital Age– Approved Unanimously**
Discussion: Member Scott Despain presented the course.
- **PHI 312 Philosophy of Law – Approved Unanimously**
Discussion: Member Scott Despain presented the course. Member complimented the syllabus bringing attention to Moodle. Member would like to suggest the instructor remind the students to sign the honor pledge for every exam to prevent students from losing points over this.
- **PSY/WGS 406 Psychology of Gender-Approved Unanimously**
Discussion: Member Scott Despain presented the course.
- **WGS 350 Emerging Issues in Women's and Gender Studies-Approved Unanimously**
Discussion: Member Scott Despain presented the course.
- **Mathematics Education: Computer Science (13MTHEDBS-13MTHEDCPS)**
- **Mathematics Education: Mathematics (13MTHEDBS-13MTHEDMS)**
- **Mathematics Education: Statistics (13MTHEDBS-13MTHEDST)**
Discussion: Curricula changes presented by proxy Allison McCulloch. All Approved Unanimously
- **HS 141 Greenhouse Crop Production- Approved Pending**
Discussion: Member David Tarpy presented the course. Member pointed out that the exams were confusing, presenter explained that the grading in CIM has made the grading more confusing. Presenter will bring the friendly suggestion to clarify the grading methods. Chair pointed out that the students will not see what is in CIM, the information in the syllabus better explains the grading methods. Members discussed the need for clarification on what assignments/quizzes can be replaced with the final exam. Members made the friendly suggestion to clarify the weekly schedule. Member suggested changing the syllabus wording from “Disabled students” to the language used in the syllabus regulation – Statement for students with disabilities. Member asked if it is unusual to request a doctor's note, members confirmed that documents of the appointment may be required, but not specifics to the health issues or condition. Pending clarity on the quizzes that can be dropped, the language of the disabilities statement. Friendly suggestion to adjust the headers in the schedule.

Discussion: Subcommittee meeting

Meeting adjourned at 1:59 pm

Respectfully submitted by Lexi Hergeth

**NORTH CAROLINA STATE UNIVERSITY
UNDERGRADUATE CURRICULUM ACTION FORM
Academic Minor**

DEPARTMENT(S):

Health & Exercise Studies

TITLE OF THE MINOR:

Dance (24DANM)

TYPE OF PROPOSAL:

New Minor: _____

Revision to Minor:

Discontinuation: _____

PROPOSED EFFECTIVE DATE: Fall 2016

APPROVED EFFECTIVE DATE: _____

ATTACHMENTS INCLUDED:

1. Statement of Justification

The Department of Health & Exercise Studies is requesting a C-wall be added to Dance minor courses for students enrolled in the Dance minor. This is to ensure the quality of student learning and success.

2. Statement of Academic Minor Program Objectives

Minor objectives

A primary goal of the minor is to educate the student to be articulate in the visual and physical spheres of dance and to be able to write and to speak clearly about dance. The student should develop an ability to see his or her own art work within the context of the larger field of dance, and then in relation to general art aesthetics.

The minor is designed to avoid the usual polarization of the creative and performance aspects of dance on the one hand and the historical and theoretical aspects on the other. All students interested in and passionate about dance are encouraged to apply to the minor. No audition is required.

3. List of Courses constituting the Minor

Catalog Required Courses (16 credit hours)

Theory (6 hours) (choose 2)

- HESM 322 Dance and Society (3cr.)
- HESM 324 Concert Dance History (3cr.)
- HESM 326 Current Trends in Dance (3cr.)

Creative (4-6 hours):

- Required: HESM 320 Movement Improvisation (1cr.)

Choose 2 additional courses:

- DAN 272 Dance Composition I (2cr.) (prereq. HESD 274)
- DAN 4981 Independent Study in Dance (1-3cr.) (prereq. DAN 272 or DAN 295)
- HESM 328 Dance Composition II (2cr.) (prereq. DAN 272)
- HESM 330 Introduction to Bartenieff Fundamentals and Laban Movement Analysis (2cr.)
- HESM 332 Dance and Technology (2cr.)

Practice (4-5 hours):

Choose 2 courses in practice/performance:

- HESD 227 African Dance (1cr.)
- HESD 230 Horton Dance Technique (1cr.)

- HESD 233 Clogging (1 cr.)
- HESD 234 Country Dance (1 cr.)
- HESD 240 Social Dance (1cr.)
- HESD 263 Tap Dance (1cr.)
- HESD 264 Ballet (1cr.)
- HESD 273 Jazz Dance (1cr.)
- HESD 274 Modern Dance I (1cr.)
- DAN 210 Current Trends in Afrocentric and World Dance (1cr.) (prereq. Audition)
- DAN 295 Problems of Dance Performance (2cr.) (prereq. Audition)

Choose 2 technique courses:

- HESD 241 Social Dance II (1cr.) (prereq. HESD 240)
- HESD 265 Ballet II (1cr.) (prereq. HESD 264)
- HESD 275 Modern Dance II (1cr.) (prereq. HESD 274)
- HESD 280 Jazz Dance II (1cr.) (prereq. HESD 273)

Capstone course (1 hour):

- HESM 304 Dance Practicum (1cr.)

4. **Catalog Description of Minor**

The Department of Health and Exercise Studies offers a 16 credit hour minor in Dance that is designed for students who wish to delve deeper into dance studies in an intellectual, creative, and practical capacity to propel them forward in career, service, and artistry. The coursework is balanced between theory courses, creative inquiry, and technical proficiency. The student has the opportunity to select the specific courses which best fulfill his/her needs while maintaining an overall balance. A student in the dance minor may be preparing for graduate study or for work as a performer, choreographer, educator, or dance therapist. The dance minor also enhances students' studies as they prepare for careers and service as Arts Entrepreneurs or administrators, physical therapists, physicians, or in disciplines such as Africana Studies, Design, Film, and Engineering.

5. **Administration of the Minor (Contact information for Administrator of the Minor)**

Beth Wright Fath

Teaching Assistant Professor

beth_fath@ncsu.edu

2020 Carmichael Gym

919-513-1545

6. **Requirements for Admission and Completion of the Minor**

Requirements for Completion of Minor

- Completion of a minimum of 16 required credit hours.
- A minimum overall GPA of 2.0 in the minor.
- Students may not take Minor coursework on a credit only (pass/fail) or S/U basis.
- The program coordinator will certify the minor prior to graduation.
- A minimum of 12 of the 16 required credit hours must be completed at NC State.

- The minor must be completed no later than the final semester in which the student expects to graduate from his or her degree program. Paperwork for certification must be completed no later than during the registration period for the student's final semester at NC
- Up to 4 transfer hours may be permitted and are subject to approval by the Program Coordinator and the University.
- A grade of a "C" or better must be earned in each course to count towards completion of the minor.

Admissions and Certification of Minor

Students are required to meet with the contact person for the minor to discuss the expectations established for the Dance Minor and to complete an application form.

7. Statement on Other Departments Likely to be Affected and Summary of Consultations with those Departments

None.

8. *Optional:* Projected Resources and Enrollment

None.

RECOMMENDED BY:

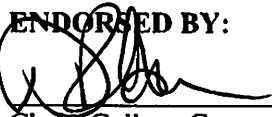


Head, Department/Program

11/15/16

Date

ENDORSED BY:



Chair, College Courses & Curricula Committee

11-28/16

Date



College Dean

11/29/16

Date

Chair, University Courses & Curricula Committee

Date

Chair, Council on Undergraduate Education

Date

APPROVED:

Provost's Office

Date

Dance (24DANM)

Description

The Department of Health and Exercise Studies offers a 16 credit hour minor in Dance that is designed for students who wish to delve deeper into dance studies in an intellectual, creative, and practical capacity to propel them forward in career, service, and artistry. The coursework is balanced between theory courses, creative inquiry, and technical proficiency. The student has the opportunity to select the specific courses which best fulfill his/her needs while maintaining an overall balance. A student in the dance minor may be preparing for graduate study or for work as a performer, choreographer, educator, or dance therapist. The dance minor also enhances students' studies as they prepare for careers and service as Arts Entrepreneurs or administrators, physical therapists, physicians, or in disciplines such as Africana Studies, Design, Film, and Engineering.

Requirements

- Completion of a minimum of 16 required credit hours.
- A minimum overall GPA of 2.0 in the minor.
- Students may not take Minor coursework on a credit only (pass/fail) or S/U basis.
- The program coordinator will certify the minor prior to graduation.
- A minimum of 12 of the 16 required credit hours must be completed at NC State.
- The minor must be completed no later than the final semester in which the student expects to graduate from his or her degree program. Paperwork for certification must be completed no later than during the registration period for the student's final semester at NC
- Up to 4 transfer hours may be permitted and are subject to approval by the Program Coordinator and the University.
- A grade of a "C "or better must be earned in each course to count towards completion of the minor.

Required Courses (16 credit hours)

Theory (6 hours):

Choose 2:

HESM 322 Dance and Society (3cr.)

HESM 324 Concert Dance History (3cr.)

HESM 326 Current Trends in Dance (3cr.)

Creative (4-6 hours):

Required:

HESM 320 Movement Improvisation (1cr.)

Choose 2 additional courses:

DAN 272 Dance Composition I (2cr.) (prereq. HESD 274)

DAN 4981 Independent Study in Dance (1-3cr.) (prereq. DAN 272 or DAN 295)

HESM 328 Dance Composition II (2cr.) (prereq. DAN 272)

HESM 330 Introduction to Bartenieff Fundamentals and Laban Movement Analysis (2cr.)

HESM 332 Dance and Technology (2cr.)

Practice (4-5 hours):

Choose 2 courses in practice/performance:

HESD 227 African Dance (1cr.)

HESD 230 Horton Dance Technique (1cr.)

HESD 233 Clogging (1 cr.)

HESD 234 Country Dance (1 cr.)

HESD 240 Social Dance (1cr.)

HESD 263 Tap Dance (1cr.)

HESD 264 Ballet (1cr.)

HESD 273 Jazz Dance (1cr.)

HESD 274 Modern Dance I (1cr.)

DAN 210 Current Trends in Afrocentric and World Dance (1cr.) (prereq. Audition)

DAN 295 Problems of Dance Performance (2cr.) (prereq. Audition)

Choose 2 technique courses:

HESD 241 Social Dance II (1cr.) (prereq. HESD 240)

HESD 265 Ballet II (1cr.) (prereq. HESD 264)

HESD 275 Modern Dance II (1cr.) (prereq. HESD 274)

HESD 280 Jazz Dance II (1cr.) (prereq. HESD 273)

Capstone course (1 hour):

HESM 304 Dance Practicum (1cr.)

Admissions and Certification of Minor

Students are required to meet with the contact person for the minor to discuss the expectations established for the Dance Minor and to complete an application form.

Contact Person

Beth Wright Fath,

Teaching Assistant Professor

beth_fath@ncsu.edu

2020 Carmichael Gym

919-513-1545

Effective Date: 08.2016

SIS Code: 24DANM

PRINTER FRIENDLY VERSION



College of Agriculture & Life Sciences
Department of Crop and Soil Sciences
go.ncsu.edu/cropandsoil

Campus Box 7620
Raleigh, NC 27695-7620
P: 919.515.2647

Undergraduate Minor Revision Memorandum

To: Dr. Michael Mullen
Vice Chancellor and Dean of the Division of Academic and Student Affairs

From: Dr. David A. Crouse
Undergraduate Teaching Coordinator

Date: 25 October 2016

Re: Revisions to the Crop Science Undergraduate Minor

The Department of Crop and Soil Sciences would like to propose several changes to the Crop Science Undergraduate Minor to update the description and clarify a change in the required courses. There also is a minor change in the contact information to reflect a new department name. The proposed changes are as follows:

Minor description

The first paragraph needs to be changed to read:

The Department of Crop and Soil Sciences offers a minor in Crop Science to baccalaureate degree students at NC State University, with the exception of those enrolled in the Plant & Soil Science major. This minor provides a basic understanding of the requirements for successful field crop production and the role crop species and management practices play in a broad spectrum of sustainable agricultural enterprises.

Required Courses

- CS 213 (4 cr) has been divided to CS 213 (3 cr) and CS 214 (1 cr)

Elective Courses

- CS 495 (variable credit) has been added

Contact Person

Undergraduate Programs Office
Department of Crop & Soil Sciences
2234 Williams Hall
Campus Box 7620
919-515-5820
cropsoil-undergraduate-office@ncsu.edu

The original minor, revised minor showing edits and revised minor with final language are attached to this memo.

Crop Science (11CSM)

Original Version

Description

The Department of Crop Science offers a minor in Crop Science to interested baccalaureate degree students at NC State University, with the exception of Plant & Soil Science majors. This minor provides a basic understanding of the requirements for successful field crop production and the role crop species and management practices play in a broad spectrum of sustainable agricultural enterprises.

A course selection option permits a student to focus on the particular aspect of Crop Science that most fully complements the student's major and career plans. The minor in Crop Science is designed to:

1. Provide a strong background in Crop Science to the variety of disciplines which interact in some way with field crop production;
2. Clarify the role crop species and rotational sequences play in agricultural enterprises both in the United States and globally to increase our quality of life; and
3. Identify strategies either in use or being researched to increase the compatibility of crop species with their environment to achieve yield stability, suitable quality of product, and sustainability of the production enterprise.

Requirements

A total of 16 hours of coursework is required, and students must receive a minimum grade of 'C' in each course selected. A course selection option permits a student to focus on the particular aspect of Crop Science, which most fully complements the student's interests or career goals.

Required Courses (4 hours)

- CS 213 Crops: Adaptation and Production (4cr)

Elective Courses (Minimum of 12 credit hours; at least two courses must be at the 300 or 400 level)

- CS 200 Introduction to Turf Management (4cr)
- CS 211 Plant Genetics* (3cr)
- CS 216 Oil Seed Crop Production (3 cr)
- CS 218 Cereal Grain Crop Production (2 cr)
- CS 224 Seeds, Biotechnology, & Societies (3 cr)
- CS 230 Introduction to Agroecology (3cr)
- CS 312 Grassland Management for Natural Resources Conservation (3cr)
- CS 411 Environmental Aspects of Crop Production (3cr)
- CS 413 Plant Breeding (2cr)
- CS 414 Weed Science (4cr)
- CS 415 Integrated Pest Management (3cr)
- CS 424 Seed Physiology (3cr)
- CS 430 Advanced Agroecology (4cr)
- CS 440 Geographic Information Systems for Production Agriculture (3cr)

*If you have successfully completed ANS (HS) 215 or GN 311 prior to enrolling in the Crop Science Minor, you may not receive credit for CS 211 towards the Crop Science Minor. You must select other courses from the elective list.

Admissions

Admission to the minor requires a cumulative grade point average of 2.0 or better. Students should contact the Undergraduate Programs Assistant, Joan Huertas, to inquire about adding the minor no later than the registration period for the student's final semester at NC State

Certification

The minor should be declared as soon as the student makes the decision to pursue a minor. Minor coursework must be completed no later than the semester in which the student expects to graduate from his or her degree program. Paperwork to declare the minor should be completed no later than the registration period for the student's final semester at NC State. Students should see Joan Huertas for certification of the minor.

Contact Person

Joan I. Huertas
Undergraduate Programs Assistant
Department of Crop Science
2415 Williams Hall
Campus Box 7620
919.515.5820
joan_huertas@ncsu.edu

SIS code: 11CSM

Crop Science (11CSM)

Proposed Edits

Description

The Department of Crop *and Soil Sciences* offers a minor in Crop Science to ~~interested~~ baccalaureate degree students at NC State University, with the exception of *those enrolled in the* Plant & Soil Science majors. This minor provides a basic understanding of the requirements for successful field crop production and the role crop species and management practices play in a broad spectrum of sustainable agricultural enterprises.

A course selection option permits a student to focus on the particular aspect of Crop Science that ~~most fully~~ complements the student's major and career plans. The minor in Crop Science is designed to:

1. Provide a strong background in Crop Science to the variety of disciplines which interact in some way with field crop production;
2. Clarify the role crop species and rotational sequences play in agricultural enterprises both in the United States and globally to increase our quality of life; and
3. Identify strategies either in use or being researched to increase the compatibility of crop species with their environment to achieve yield stability, suitable quality of product, and sustainability of the production enterprise.

Requirements

A total of 16 hours of coursework is required, and students must receive a minimum grade of 'C' in each course selected. A course selection option permits a student to focus on the particular aspect of Crop Science, which most fully complements the student's interests or career goals.

Required Courses (4 hours)

- CS 213 Crop *Sciences: Adaptation and Production* (3 cr)
- *CS 214 Crop Science Laboratory* (~~4cr~~1 cr)

Elective Courses

(Minimum of 12 credit hours; at least two courses must be at the 300 or 400 level)

- CS 200 Introduction to Turf Management (4cr)
- CS 211 Plant Genetics* (3cr)
- CS 216 Oil Seed Crop Production (3 cr)
- CS 218 Cereal Grain Crop Production (2 cr)
- CS 224 Seeds, Biotechnology, & Societies (3 cr)
- CS 230 Introduction to Agroecology (3cr)
- CS 312 Grassland Management for Natural Resources Conservation (3cr)
- CS 411 Environmental Aspects of Crop Production (3cr)
- CS 413 Plant Breeding (2cr)
- CS 414 Weed Science (4cr)
- CS 415 Integrated Pest Management (3cr)
- CS 424 Seed Physiology (3cr)
- CS 430 Advanced Agroecology (4cr)
- CS 440 Geographic Information Systems for Production Agriculture (3cr)
- *CS 495 (var cr)*

*If you have successfully completed ANS (HS) 215 or GN 311 prior to enrolling in the Crop Science Minor, you may not receive credit for CS 211 towards the Crop Science Minor. You must select other courses from the elective list.

Admissions

Admission to the minor requires a cumulative grade point average of 2.0 or better. Students should contact the Undergraduate Programs Assistant, Joan Huertas, to inquire about adding the minor no later than the registration period for the student's final semester at NC State

Certification

The minor should be declared as soon as the student makes the decision to pursue a minor. Minor coursework must be completed no later than the semester in which the student expects to graduate from his or her degree program. Paperwork to declare the minor should be completed no later than the registration period for the student's final semester at NC State. Students should see Joan Huertas for certification of the minor.

Contact Person

*Undergraduate Programs Office
Crop & Soil Sciences Department
2234 Williams Hall
Campus Box 7620
919-515-5820
cropsoil-undergraduate-office@ncsu.edu*

Jean I. Huertas
Undergraduate Programs Assistant
Department of Crop and Soil Sciences
2415-2234 Williams Hall
Campus Box 7620
919.515.5820
jean_huertas@ncsu.edu

SIS code: 11CSM

Crop Science (11CSM)

Final Version

Description

The Department of Crop and Soil Sciences offers a minor in Crop Science to baccalaureate degree students at NC State University, with the exception of those enrolled in the Plant & Soil Science major. This minor provides a basic understanding of the requirements for successful field crop production and the role crop species and management practices play in a broad spectrum of sustainable agricultural enterprises.

A course selection option permits a student to focus on the particular aspect of Crop Science that complements the student's major and career plans. The minor in Crop Science is designed to:

1. Provide a strong background in Crop Science to the variety of disciplines which interact in some way with field crop production;
2. Clarify the role crop species and rotational sequences play in agricultural enterprises both in the United States and globally to increase our quality of life; and
3. Identify strategies either in use or being researched to increase the compatibility of crop species with their environment to achieve yield stability, suitable quality of product, and sustainability of the production enterprise.

Requirements

A total of 16 hours of coursework is required, and students must receive a minimum grade of 'C' in each course selected. A course selection option permits a student to focus on the particular aspect of Crop Science, which most fully complements the student's interests or career goals.

Required Courses (4 hours)

- CS 213 Crop Science (3 cr)
- CS 214 Crop Science Laboratory (1 cr)

Elective Courses

(Minimum of 12 credit hours; at least two courses must be at the 300 or 400 level)

- CS 200 Introduction to Turf Management (4cr)
- CS 211 Plant Genetics* (3cr)
- CS 216 Oil Seed Crop Production (3 cr)
- CS 218 Cereal Grain Crop Production (2 cr)
- CS 224 Seeds, Biotechnology, & Societies (3 cr)
- CS 230 Introduction to Agroecology (3cr)
- CS 312 Grassland Management for Natural Resources Conservation (3cr)
- CS 411 Environmental Aspects of Crop Production (3cr)
- CS 413 Plant Breeding (2cr)
- CS 414 Weed Science (4cr)
- CS 415 Integrated Pest Management (3cr)
- CS 424 Seed Physiology (3cr)
- CS 430 Advanced Agroecology (4cr)
- CS 440 Geographic Information Systems for Production Agriculture (3cr)
- CS 495 (var cr)

*If you have successfully completed ANS (HS) 215 or GN 311 prior to enrolling in the Crop Science Minor, you may not receive credit for CS 211 towards the Crop Science Minor. You must select other courses from the elective list.

Admissions

Admission to the minor requires a cumulative grade point average of 2.0 or better. Students should contact the Undergraduate Programs Assistant, Joan Huertas, to inquire about adding the minor no later than the registration period for the student's final semester at NC State

Certification

The minor should be declared as soon as the student makes the decision to pursue a minor. Minor coursework must be completed no later than the semester in which the student expects to graduate from his or her degree program. Paperwork to declare the minor should be completed no later than the registration period for the student's final semester at NC State. Students should see Joan Huertas for certification of the minor.

Contact Person

Undergraduate Programs Office
Crop & Soil Sciences Department
2234 Williams Hall
Campus Box 7620
919-515-5820
cropsoil-undergraduate-office@ncsu.edu

SIS code: 11CSM

SIGNATURE PAGE

COURSE ACTION for Crop Science Undergraduate Minor

Recommended By:

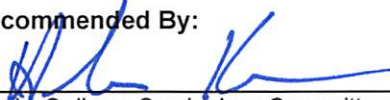


Head, Department/Program

10-25-16

Date

Recommended By:

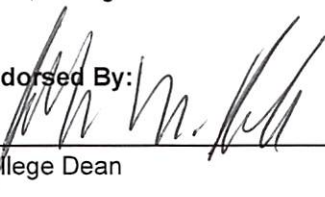


Chair, College Curriculum Committee

11/11/16

Date

Endorsed By:



College Dean

11/11/16

Date

Approved By:

Chair, University Courses & Curricula Committee

Date

Chair, Council on Undergraduate Education

Date

Dean, Division of Academic and Student Affairs (DASA)

Date

Undergraduate Minor Revision Memorandum

To: Dr. Michael Mullen
Vice Chancellor and Dean of the Division of Academic and Student Affairs

From: Dr. David A. Crouse
Undergraduate Teaching Coordinator

Date: 25 October 2016

Re: Revisions to the Turfgrass Undergraduate Minor

The Department of Crop and Soil Science would like to propose several changes to the Turfgrass Undergraduate Minor. The changes are to address a course revision in SSC200 that occurred in the past. SSC 200 Soil Science, previously a 4 credit course has been divided in the SSC 200 Soil Science (3 cr) and SSC 201 Soil Science Laboratory (1 cr). The final required courses should read:

Required Courses

- CS 200 Intro. Turfgrass Management (4 cr)
- CS 400 Turf Cultural Systems (3 cr)
- SSC 200 Soil Science (3 cr)
- SSC 201 Soil Science Laboratory (1 cr)

There also is a minor change in the contact information to reflect a new department name.

Contact Person

Dr. Richard J. Cooper
1207 Williams Hall
Department of Crop and Soil Sciences Department
919.515.7600
rich_cooper@ncsu.edu

The original minor, revised minor showing edits and revised minor with final language are attached to this memo.

Turfgrass (11TFGM) Current Version

Description

This minor is open to all undergraduate students except those with a major in Turfgrass Science. It is designed for students majoring in Plant and Soil Sciences, Biological Sciences, Horticultural Science, Parks & Recreation and related disciplines but will be of interest to a wide variety of students desiring expertise in establishing and maintaining turfgrass areas. Students will gain an understanding of the techniques required to successfully establish and manage turfgrasses commonly grown throughout the United States. This knowledge will improve the student's ability to provide high quality turfgrass cover for a variety of situations including home lawns, commercial grounds, parks and other areas.

Requirements

The Turfgrass Science minor requires a minimum of 16 hours. Students are required to complete 11 credits of required courses and enough elective courses to total at least 16 credit hours. A minimum grade of 'C-' or better is required in each course selected. No courses for the minor may be taken using the S/U option. The minor should be declared at the time the student accumulates 60-70 credit hours.

Required Courses (11 credit hours)

- CS 200 Intro. Turfgrass Management (4 cr)
- CS 400 Turf Cultural Systems (3 cr)
- SSC 200 Soil Science (4 cr)

Elective Courses (Choose two)

- CS 414 Weed Science (4 cr)
- CS 465 Environmental Issues in Turf Management (3 cr)
- CS 470 Turfgrass Pest Management (2 cr)
- ENT 425 General Entomology (3 cr)
- PP 315 Principles of Plant Pathology (4 cr)
- SSC 341/342 Soil Fertility & Fertilizers/ Soil Fertility Lab (4 cr)

Requirements for Admission & Completion

1. Students wishing to complete an academic minor in Turfgrass Science must complete the Application for Turfgrass Science Minor form available from the minor program administrator, 1207 Williams Hall, or a form can be e-mailed upon request.
2. An advisor, who will oversee admission to the minor program and certify completion of the minor, will be assigned by the program administrator. Students enrolled in the minor must consult with their minor advisors during each registration period.
3. Upon recommendation by the student's minor advisor, the program administrator will ascertain if the requirements of the minor have been fulfilled and recommend approval to the department head.
4. The signed minor application will be submitted to the Academic Programs office in the College of Agriculture and Life Sciences by the department head.

Contact Person

Richard J. Cooper
1207 Williams Hall

Crop Science Department

919.515.7600

rich_cooper@ncsu.edu

SIS Code: 11TFGM

Turfgrass (11TFGM)

Proposed Changes

Description

This minor is open to all undergraduate students except those with a major in Turfgrass Science. It is designed for students majoring in Plant and Soil Sciences, Biological Sciences, Horticultural Science, Parks & Recreation and related disciplines but will be of interest to a wide variety of students desiring expertise in establishing and maintaining turfgrass areas. Students will gain an understanding of the techniques required to successfully establish and manage turfgrasses commonly grown throughout the United States. This knowledge will improve the student's ability to provide high quality turfgrass cover for a variety of situations including home lawns, commercial grounds, parks and other areas.

Requirements

The Turfgrass Science minor requires a minimum of 16 hours. Students are required to complete 11 credits of required courses and enough elective courses to total at least 16 credit hours. A minimum grade of 'C-' or better is required in each course selected. No courses for the minor may be taken using the S/U option. The minor should be declared at the time the student accumulates 60-70 credit hours.

Required Courses (11 credit hours)

- CS 200 Intro. Turfgrass Management (4 cr)
- CS 400 Turf Cultural Systems (3 cr)
- SSC 200 Soil Science (3 cr)
- *SSC 201 Soil Science Laboratory* (4-1 cr)

Elective Courses (~~Choose two~~ 5 credit hours)

- CS 414 Weed Science (4 cr)
- CS 465 Environmental Issues in Turf Management (3 cr)
- CS 470 Turfgrass Pest Management (2 cr)
- ENT 425 General Entomology (3 cr)
- PP 315 Principles of Plant Pathology (4 cr)
- SSC 341 Soil Fertility & Fertilizers (3 cr) AND SSC 342 Soil Fertility Lab (1 cr)

Requirements for Admission & Completion

1. Students wishing to complete an academic minor in Turfgrass Science must complete the Application for Turfgrass Science Minor form available from the minor program administrator, 1207 Williams Hall, or a form can be e-mailed upon request.
2. An advisor, who will oversee admission to the minor program and certify completion of the minor, will be assigned by the program administrator. Students enrolled in the minor must consult with their minor advisors during each registration period.
3. Upon recommendation by the student's minor advisor, the program administrator will ascertain if the requirements of the minor have been fulfilled and recommend approval to the department head.
4. The signed minor application will be submitted to the Academic Programs office in the College of Agriculture and Life Sciences by the department head.

Contact Person

Dr. Richard J. Cooper
1207 Williams Hall

Department of Crop and Soil Sciences Department
919.515.7600

rich_cooper@ncsu.edu

SIS Code: 11TFGM

Turfgrass (11TFGM)

Final Version

Description

This minor is open to all undergraduate students except those with a major in Turfgrass Science. It is designed for students majoring in Plant and Soil Sciences, Biological Sciences, Horticultural Science, Parks & Recreation and related disciplines but will be of interest to a wide variety of students desiring expertise in establishing and maintaining turfgrass areas. Students will gain an understanding of the techniques required to successfully establish and manage turfgrasses commonly grown throughout the United States. This knowledge will improve the student's ability to provide high quality turfgrass cover for a variety of situations including home lawns, commercial grounds, parks and other areas.

Requirements

The Turfgrass Science minor requires a minimum of 16 hours. Students are required to complete 11 credits of required courses and enough elective courses to total at least 16 credit hours. A minimum grade of 'C-' or better is required in each course selected. No courses for the minor may be taken using the S/U option. The minor should be declared at the time the student accumulates 60-70 credit hours.

Required Courses (11 credit hours)

- CS 200 Intro. Turfgrass Management (4 cr)
- CS 400 Turf Cultural Systems (3 cr)
- SSC 200 Soil Science (3 cr)
- SSC 201 Soil Science Laboratory (1 cr)

Elective Courses (5 credit hours)

- CS 414 Weed Science (4 cr)
- CS 465 Environmental Issues in Turf Management (3 cr)
- CS 470 Turfgrass Pest Management (2 cr)
- ENT 425 General Entomology (3 cr)
- PP 315 Principles of Plant Pathology (4 cr)
- SSC 341 Soil Fertility & Fertilizers (3 cr) AND SSC 342 Soil Fertility Lab (1 cr)

Requirements for Admission & Completion

1. Students wishing to complete an academic minor in Turfgrass Science must complete the Application for Turfgrass Science Minor form available from the minor program administrator, 1207 Williams Hall, or a form can be e-mailed upon request.
2. An advisor, who will oversee admission to the minor program and certify completion of the minor, will be assigned by the program administrator. Students enrolled in the minor must consult with their minor advisors during each registration period.
3. Upon recommendation by the student's minor advisor, the program administrator will ascertain if the requirements of the minor have been fulfilled and recommend approval to the department head.
4. The signed minor application will be submitted to the Academic Programs office in the College of Agriculture and Life Sciences by the department head.

Contact Person

Dr. Richard J. Cooper
1207 Williams Hall
Department of Crop and Soil Sciences
919.515.7600
rich_cooper@ncsu.edu

SIS Code: 11TFGM

SIGNATURE PAGE

COURSE ACTION for Turfgrass Undergraduate Minor

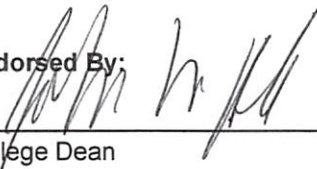
Recommended By:

 _____ 10-25-16
Head/Department/Program Date

Recommended By:

 _____ 11/11/16
Chair, College Curriculum Committee Date

Endorsed By:

 _____ 11/14/16
College Dean Date

Approved By:

Chair, University Courses & Curricula Committee Date

Chair, Council on Undergraduate Education Date

Dean, Division of Academic and Student Affairs (DASA) Date

Undergraduate Minor Revision Memorandum

To: Dr. Michael Mullen
Vice Chancellor and Dean of the Division of Academic and Student Affairs

From: Dr. David A. Crouse
Undergraduate Teaching Coordinator

Date: 25 October 2016

Re: Revisions to the Agroecology Undergraduate Minor

The Department of Crop and Soil Sciences would like to propose several changes to the Agroecology Undergraduate Minor to clarify changes that have occurred in course names and credits. There also is a minor change in the contact information to reflect a new department name. The proposed changes are as follows:

Required Courses

- BO 360 (3 cr) and BO 365 (1 cr) are now offered as PB/AEC 360. ZO 260 is no longer offered

Restricted Elective Courses

- BAE 323 (3 cr) is now offered as AES 323 (3 cr)
- BO 200 (4 cr) is now offered as PB 200 (4 cr)
- BO 213 (3 cr) is now offered as PB 213 (3 cr)
- BO 250 (4 cr) is now offered as PB 250 (4 cr)
- CS 213 (4 cr) has been divided to CS 213 (3 cr) and CS 214 (1 cr)
- ENT 201 (3 cr) has been removed
- ENT 212 (3 cr) has been added
- ENT 401 (3 cr) has been added
- FOR/ZO 221 (3 cr) have been removed
- SSC 200 (4 cr) has been divided to SSC 200 (3 cr) and SSC 201 (1 cr)

Contact Person

Undergraduate Programs Office

Department of Crop & Soil Sciences

2234 Williams Hall

Campus Box 7620

919-515-5820

cropsoil-undergraduate-office@ncsu.edu

The original minor, revised minor showing edits and revised minor with final language are attached to this memo.

Agroecology (11AGECM)

Description

Current Version

The Agroecology minor is open to all baccalaureate students. It is designed for students majoring in the biological sciences, agronomy, horticulture and animal sciences, but will be of interest to a wide array of students as agriculture has broad implications in the life sciences, economics, and sociology. Agroecology instruction provides students a fundamental understanding of agriculture and its interaction with natural and social systems. Students selecting the Agroecology minor will gain an understanding of modern production agriculture from an ecological and sociological perspective, obtain new skills in analyzing agricultural systems, and the knowledge to design a plan for change. This knowledge will improve a student's ability to work with agricultural professionals to implement a system that meets ecological and social needs while remaining profitable for farmers.

Requirements

- Completion of a minimum of 17 credit hours; 11 required credits and 6 elective credits.
- Must receive a minimum grade of "C-" in all courses counted for the minor..

Required Courses (11 credit hours)

- BO 360 Introduction to Ecology AND BO 365 Ecology Lab 3/1 OR ZO 260 Evolution, Behavior, and Ecology (4 cr)
- CS 230 Introduction to Agroecology (3 cr)
- CS 430 Advanced Agroecology (4 cr)

Elective Courses (6 credit hours)

Choose 1 course from at least two different groups

Group I: Ecology and Agricultural Production

- ANS 150 Introduction to Animal Science (4 cr)
- BAE 323 Water Management (3 cr)
- BAE 442 Systems Approach to Agricultural and Environmental Issues (3 cr)
- BO 200 Plant Life (4 cr)
- BO 213 Plants and Civilization (3 cr)
- BO 250 Plant Biology (4 cr)
- CS 213 Crops: Adaptation & Production (4 cr)
- CS 411 Crop Ecology (3 cr)
- CS 415 Integrated Pest Management (3 cr)
- ENT 201 Insects and People (3 cr)
- ENT 425 General Entomology (3 cr)
- FOR/FW/ZO 221 Conservation of Natural Resources (3 cr)
- FOR 260 Forest Ecology (3 cr)
- HS 432 Introduction to Permaculture (3 cr)
- NR 300 Natural Resource Measurements (4 cr)
- NR 406 Conservation of Biological Diversity (3 cr)
- SSC 200 Soil Science (4 cr)

Group 2: Social Science

- HI 340 Perspectives in Agricultural History (3 cr)

- IDS 201 Environmental Ethics (3 cr)
- STS 303 Humans and the Environment (3 cr)
- SOC 241 Sociology of Agriculture and Rural Societies (3 cr)
- SOC 450 Environmental Sociology (3 cr)

Group 3: Economics

- ARE 309 Environmental Law and Economic Policy (3 cr)
- ARE 336 Environmental Economics (3 cr)
- ARE 433 US Agricultural Policy (3 cr)

Admissions

Students wishing to complete an academic minor in Agroecology must complete the Application for Agroecology Minor form available from the minor program administrator listed below or a form can be emailed upon request. A minor advisor will be assigned to all students interested in completing the Agroecology minor. Students enrolled in the minor must consult with their minor advisors during each registration period.

Certification

As the student nears completion of the minor, the student's minor advisor will submit the student's minor coursework and a recommendation for certification of the minor to the program administrator as listed below. The program administrator will verify if the requirements of the minor have been fulfilled. The signed minor form will be submitted to the Academic Programs Office in the College of Agriculture and Life Sciences by the department head and recorded on the student's official transcript. Certification must be submitted no later than the registration period for the student's final semester at NC State. The minor must be completed no later than the semester in which the student expects to graduate from his or her degree program.

Contact Person

Michelle Schroeder-Moreno
2406 Williams Hall
919.513.0085
<http://www.cropsci.ncsu.edu/agroecology>
michelle_schroeder@ncsu.edu

SIS Code: 11AGECM

Agroecology (11AGECM)

Proposed Changes

Description

The Agroecology minor is open to all baccalaureate students. It is designed for students majoring in the biological sciences, agronomy, horticulture and animal sciences, but will be of interest to a wide array of students as agriculture has broad implications in the life sciences, economics, and sociology. Agroecology instruction provides students a fundamental understanding of agriculture and its interaction with natural and social systems. Students selecting the Agroecology minor will gain an understanding of modern production agriculture from an ecological and sociological perspective, obtain new skills in analyzing agricultural systems, and the knowledge to design a plan for change. This knowledge will improve a student's ability to work with agricultural professionals to implement a system that meets ecological and social needs while remaining profitable for farmers.

Requirements

- Completion of a minimum of 17 credit hours; 11 required credits and 6 elective credits.
- Must receive a minimum grade of "C-" in all courses counted for the minor.

Required Courses (11 credit hours)

- ~~BO-PB/AEC~~ 360 Introduction to Ecology ~~AND BO-365 Ecology Lab 3/1 OR ZO-260 Evolution, Behavior, and Ecology~~ (4 cr)
- CS 230 Introduction to Agroecology (3 cr)
- CS 430 Advanced Agroecology (4 cr)

Elective Courses (6 credit hours)

Choose 1 course from at least two different groups Group 1: Ecology and Agricultural Production

- ANS 150 Introduction to Animal Science (4 cr)
- ~~BAE-AES~~ 323 Water Management (3 cr)
- BAE 442 Systems Approach to Agricultural and Environmental Issues (3 cr)
- ~~BO-PB~~ 200 Plant Life (4 cr)
- ~~BO-PB~~ 213 Plants and Civilization (3 cr)
- ~~BO-PB~~ 250 Plant Biology (4 cr)
- ~~CS 213 Crops: Adaptation & Production Science /~~ CS 214 Crop Science Laboratory (4 cr)
- CS 411 Crop Ecology (3 cr)
- CS 415 Integrated Pest Management (3 cr)
- ~~ENT-201 Insects and People (3 cr)~~
- ENT 212 Basic Entomology (3 cr)
- ENT 401 Honey Bee Biology and Management (3 cr)
- ENT 425 General Entomology (3 cr)
- ~~FOR/FW/ZO-FW~~ 221 Conservation of Natural Resources (3 cr)
- FOR 260 Forest Ecology (3 cr)
- HS 432 Introduction to Permaculture (3 cr)
- NR 300 Natural Resource Measurements (4 cr)
- NR 406 Conservation of Biological Diversity (3 cr)
- ~~SSC 200 Soil Science (4-3 cr)~~
- SSC 201 Soil Science Laboratory (1 cr)

Group 2: Social Science

- HI 340 Perspectives in Agricultural History (3 cr)

- IDS 201 Environmental Ethics (3 cr)
- STS 303 Humans and the Environment (3 cr)
- SOC 241 Sociology of Agriculture and Rural Societies (3 cr)
- SOC 450 Environmental Sociology (3 cr)

Group 3: Economics

- ARE 309 Environmental Law and Economic Policy (3 cr)
- ARE 336 Environmental Economics (3 cr)
- ARE 433 US Agricultural Policy (3 cr)

Admissions

Students wishing to complete an academic minor in Agroecology must complete the Application for Agroecology Minor form available from the minor program administrator listed below or a form can be emailed upon request. A minor advisor will be assigned to all students interested in completing the Agroecology minor. Students enrolled in the minor must consult with their minor advisors during each registration period.

Certification

As the student nears completion of the minor, the student's minor advisor will submit the student's minor coursework and a recommendation for certification of the minor to the program administrator as listed below. The program administrator will verify if the requirements of the minor have been fulfilled. The signed minor form will be submitted to the Academic Programs Office in the College of Agriculture and Life Sciences by the department head and recorded on the student's official transcript. Certification must be submitted no later than the registration period for the student's final semester at NC State. The minor must be completed no later than the semester in which the student expects to graduate from his or her degree program.

Contact Person

Undergraduate Programs Office

Crop & Soil Sciences Department

2234 Williams Hall

Campus Box 7620

919-515-5820

cropsoil-undergraduate-office@ncsu.edu

Michelle Schroeder-Moreno 2406 Williams Hall

919.513.0085

http://www.cropsci.ncsu.edu/agroecology_michelle_schroeder@ncsu.edu

Joan Huertas

Undergraduate Programs Assistant

Department of Crop and Soil Sciences

2234 Williams Hall

Campus Box 7620

919.515.5820

joan_huertas@ncsu.edu

SIS Code: 11AGECM

Agroecology (11AGECM)

Description

The Agroecology minor is open to all baccalaureate students. It is designed for students majoring in the biological sciences, agronomy, horticulture and animal sciences, but will be of interest to a wide array of students as agriculture has broad implications in the life sciences, economics, and sociology. Agroecology instruction provides students a fundamental understanding of agriculture and its interaction with natural and social systems. Students selecting the Agroecology minor will gain an understanding of modern production agriculture from an ecological and sociological perspective, obtain new skills in analyzing agricultural systems, and the knowledge to design a plan for change. This knowledge will improve a student's ability to work with agricultural professionals to implement a system that meets ecological and social needs while remaining profitable for farmers.

Requirements

- Completion of a minimum of 17 credit hours; 11 required credits and 6 elective credits.
- Must receive a minimum grade of "C-" in all courses counted for the minor.

Required Courses (11 credit hours)

- PB/AEC 360 Introduction to Ecology (4 cr)
- CS 230 Introduction to Agroecology (3 cr)
- CS 430 Advanced Agroecology (4 cr)

Elective Courses (6 credit hours)

Choose 1 course from at least two different groups Group 1: Ecology and Agricultural Production

- ANS 150 Introduction to Animal Science (4 cr)
- AES 323 Water Management (3 cr)
- BAE 442 Systems Approach to Agricultural and Environmental Issues (3 cr)
- PB 200 Plant Life (4 cr)
- PB 345 Economic Botany (3 cr)
- PB 250 Plant Biology (4 cr)
- CS 213 Crop Science / CS 214 Crop Science Laboratory (4 cr)
- CS 411 Crop Ecology (3 cr)
- CS 415 Integrated Pest Management (3 cr)
- ENT 212 Basic Entomology (1 cr)
- ENT 401 Honey Bee Biology and Management (3 cr)
- ENT 425 General Entomology (3 cr)
- FW 221 Conservation of Natural Resources (3 cr)
- FOR 260 Forest Ecology (3 cr)
- HS 432 Introduction to Permaculture (3 cr)
- NR 300 Natural Resource Measurements (4 cr)
- NR 406 Conservation of Biological Diversity (3 cr)
- SSC 200 Soil Science (3 cr)
- SSC 201 Soil Science Laboratory (1 cr)

Group 2: Social Science

- HI 340 Perspectives in Agricultural History (3 cr)

- IDS 201 Environmental Ethics (3 cr)
- STS 303 Humans and the Environment (3 cr)
- SOC 241 Sociology of Agriculture and Rural Societies (3 cr)
- SOC 450 Environmental Sociology (3 cr)

Group 3: Economics

- ARE 309 Environmental Law and Economic Policy (3 cr)
- ARE 336 Environmental Economics (3 cr)
- ARE 433 US Agricultural Policy (3 cr)

Admissions

Students wishing to complete an academic minor in Agroecology must complete the Application for Agroecology Minor form available from the minor program administrator listed below or a form can be emailed upon request. A minor advisor will be assigned to all students interested in completing the Agroecology minor. Students enrolled in the minor must consult with their minor advisors during each registration period.

Certification

As the student nears completion of the minor, the student's minor advisor will submit the student's minor coursework and a recommendation for certification of the minor to the program administrator as listed below. The program administrator will verify if the requirements of the minor have been fulfilled. The signed minor form will be submitted to the Academic Programs Office in the College of Agriculture and Life Sciences by the department head and recorded on the student's official transcript. Certification must be submitted no later than the registration period for the student's final semester at NC State. The minor must be completed no later than the semester in which the student expects to graduate from his or her degree program.

Contact Person


Undergraduate Programs Office
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2234 Williams Hall
Campus Box 7620
919-515-5820
cropsoil-undergraduate-office@ncsu.edu

SIS Code: 11AGECM

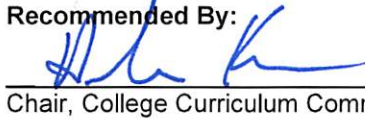
SIGNATURE PAGE

COURSE ACTION for Agroecology Undergraduate Minor

Recommended By:

 _____ 10/25/16
Head, Department/Program Date

Recommended By:

 _____ 11/11/16
Chair, College Curriculum Committee Date

Endorsed By:

 _____ 10/14/16
College Dean Date

Approved By:

Chair, University Courses & Curricula Committee Date

Chair, Council on Undergraduate Education Date

Dean, Division of Academic and Student Affairs (DASA) Date

Undergraduate Certificate Revision Memorandum

To: Dr. Michael Mullen
Vice Chancellor and Dean of the Division of Academic and Student Affairs

From: Dr. David A. Crouse
Undergraduate Teaching Coordinator

Date: 25 October 2016

Re: Revisions to the Agronomic Crop Production Certificate (DE Only)

The Department of Crop and Soil Sciences would like to propose several changes to the Undergraduate Certificate in Agronomic Crop Production, with the goal of increasing flexibility to an expanding group of interested students. There is also a minor change in the contact information to reflect a new department name. The proposed changes are as follows:

Name Change

Prior: Agronomic Crop Production

Proposed: Crop Science

Justification: The new name will reflect an expanded list of courses.

Certificate Description

The first sentence and part of the second sentence of the description needs to be changed to read:

The Undergraduate Certificate in Crop Science is a program that allows participants to explore the breadth of crop related courses offered in the Department of Crop and Soil Sciences. Participants in the program can customize their program to gain

Curriculum Change

- Total credit hours required increased to 15 from 12
- Removed the three-year time limit

Requirements Courses

- CS 213 (4 cr) has been divided to CS 213 (3 cr) and CS 214 (1 cr)
- CS 230 (3 cr) has been removed from required courses

Restricted Elective Courses

- CS 210 (3 cr) has been added
- CS 230 (3 cr) has been added
- CS 424 (3 cr) has been added
- CS 495 (variable cr) has been added
- CS 524 (3 cr) has been added
- CS 590 (variable cr) has been added
- SSC 200 (3 cr) has been removed

Contact Person

Undergraduate Programs Office
Department of Crop & Soil Sciences
2234 Williams Hall
Campus Box 7620
919-515-5820
cropsoil-undergraduate-office@ncsu.edu

The original certificate, revised certificate showing edits and revised certificate with final language are attached to this memo.

Agronomic Crop Production (DE Only)

Current Version

Description

The courses in this program provide an understanding of the importance of agronomic crops for our state and national economy; how agronomic growth, development, and yield interact with environmental factors during the production season; sustainable production systems for agronomic crops; and marketing and distribution issues of these crops that can be related to world hunger. Individual courses will vary in instruction style, exam methods and assignments, and will include an assortment of on-line instruction methodology, video and PowerPoint presentations, outside readings, and on-line discussion sessions.

Program Coordinator

Dr. Lori Unruh Snyder
Department of Crop Science

For additional information regarding [Distance Education \(click here\)](#) and please see the [departmental website](#) for more information.

Curriculum

- Total credit hours required: 12
- Students completing the Undergraduate Certificate in Agronomic Crop Production must complete a minimum of 12 credit hours with minimum of C- or better in each class.
- The program must be completed within three calendar years, beginning with the initial course enrollment date.
- The Certificate will be awarded upon successful completion of required and elective courses.
- Students who have graduated with or are currently enrolled in the Plant and Soil Sciences undergraduate baccalaureate degree program at N.C. State University are not eligible for this certificate.

Required Courses: (7 hours)

- CS 213 – Crops: Adaptation and Production (4 hours) (see footnote 1)
- CS 230 – Introduction to Agroecology (3 hours)

Elective Courses: (A minimum of 5 hours from the following course list)

- CS 216 – Oil Seed Crop Production (3 hours)
- CS 218 – Cereal Grain Crop Production (2 hours)
- CS 224 – Seeds, Biotechnology & Societies (3 hours)
- CS 312 – Grassland Management for Natural Resources Conservation (3 hours)
- SSC 200 – Soil Science (3 hours) (see footnote 2)

Footnotes:

¹ One semester of General Biology is required.

² This course has a General Chemistry pre-requisite.

Admissions Requirements

High school diploma is required. The successful completion of one college biology course or equivalent experience is required.

Plan of Study and Registration Information

Joan I. Huertas
Undergraduate Programs Assistant
Department of Crop Science
2415 Williams Hall
Campus Box 7620
919.515.5820
joan.huertas@ncsu.edu

Academic Structure

Term Effective: 8/2010
Plan Code: 11ACPCTU, 32ACPCTU
CIP Code: 01.1101
Description: Undergraduate Certificate in Agronomic Crop Production
Offered via [Distance Education](#) format only

Crop Science ~~Agronomic Crop Production~~ (DE Only)

Proposed Changes

Description

The *Undergraduate Certificate in Crop Science* is a ~~courses in this program~~ that allows participants to explore the breadth of crop related courses offered in the Department of Crop and Soil Sciences. Participants in the program can customize their program to gain ~~provide~~ an understanding of the importance of agronomic crops for our state and national economy; how agronomic growth, development, and yield interact with environmental factors during the production season; sustainable production systems for agronomic crops; and marketing and distribution issues of these crops that can be related to world hunger. Individual courses will vary in instruction style, exam methods and assignments, and will include an assortment of on-line instruction methodology, video and PowerPoint presentations, outside readings, and on-line discussion sessions.

Program Coordinator

Dr. ~~Lori Unruh Snyder~~ David Crouse

Undergraduate Teaching Coordinator and Director of Distance Education Programs

Department of Crop *and Soil Sciences*

For additional information regarding [Distance Education \(click here\)](#) and please see the [departmental website](#) for more information.

Curriculum

- Total credit hours required: ~~12~~15
- Students completing the Undergraduate Certificate in Agronomic Crop Production must complete a minimum of ~~12-15~~ credit hours with minimum of C- or better in each class.
- ~~The program must be completed within three calendar years, beginning with the initial course enrollment date.~~
- The Certificate will be awarded upon successful completion of required and elective courses.
- Students who have graduated with or are currently enrolled in the Plant and Soil Sciences undergraduate baccalaureate degree program at N.C. State University are not eligible for this certificate.

Required Courses: (3 ~~cr~~ hours)

- ~~CS 213 – Crops: Adaptation and Production (3 cr~~4 hours) (see footnote 1)
- CS 230 – Introduction to Agroecology (3 hours)

Elective Courses: (A minimum of 5 hours from the following course list)

- CS 210 – Lawn and Sports Turf (3 cr)
- CS 216 – Oil Seed Crop Production (3 ~~cr~~ hours)
- CS 218 – Cereal Grain Crop Production (2 ~~cr~~ hours)
- CS 224 – Seeds, Biotechnology & Societies (3 ~~cr~~ hours)
- CS 230 – Introduction to Agroecology (3 cr)
- CS 312 – Grassland Management for Natural Resources Conservation (3 ~~cr~~ hours)
- CS 424 – Seed Physiology (3 cr)
- CS 495 – Special Topics in Crop Science
- CS 524 – Seed Physiology
- CS 590 – Special Topics in Crop Science
- ~~SSC 200 – Soil Science (3 hours) (see footnote 2)~~

Footnotes:

¹One semester of General Biology is required.

²This course has a General Chemistry pre-requisite.

Admissions Requirements

High school diploma is required. The successful completion of one college biology course or equivalent experience is required.

Plan of Study and Registration Information

Undergraduate Programs Office

Department of Crop & Soil Sciences ~~Department~~

2234 Williams Hall

Campus Box 7620

919-515-5820

cropsoil-undergraduate-office@ncsu.edu

Joan I. Huertas

Undergraduate Programs Assistant

Department of Crop and Soil Sciences

2415-2234 Williams Hall

Campus Box 7620

919-515-5820

joan_huertas@ncsu.edu

Academic Structure

Term Effective: ~~8/2010~~ *1/2017*

Plan Code: 11ACPCTU, 32ACPCTU CIP Code: 01.1101

Description: Undergraduate Certificate in *Crop Science* ~~Agronomic Crop Production~~

Offered via [Distance Education](#) format only

Crop Science (DE Only)

Description

The Undergraduate Certificate in Crop Science is a program that allows participants to explore the breadth of crop related courses offered in the Department of Crop and Soil Sciences. Participants in the program can customize their program to gain an understanding of the importance of agronomic crops for our state and national economy; how agronomic growth, development, and yield interact with environmental factors during the production season; sustainable production systems for agronomic crops; and marketing and distribution issues of these crops that can be related to world hunger. Individual courses will vary in instruction style, exam methods and assignments, and will include an assortment of on-line instruction methodology, video and PowerPoint presentations, outside readings, and on-line discussion sessions.

Program Coordinator

Dr. David Crouse

Undergraduate Teaching Coordinator and Director of Distance Education Programs

Department of Crop and Soil Sciences

Curriculum

- Total credit hours required: 15
- Students completing the Undergraduate Certificate in Agronomic Crop Production must complete a minimum of 15 credit hours with minimum of C- or better in each class.
- The Certificate will be awarded upon successful completion of required and elective courses.
- Students who have graduated with or are currently enrolled in the Plant and Soil Sciences undergraduate baccalaureate degree program at N.C. State University are not eligible for this certificate.

Required Courses: (3 cr)

CS 213 – Crops: Adaptation and Production (3 cr)

Elective Courses: (A minimum of 5 hours from the following course list)

- CS 210 – Lawn and Sports Turf (3 cr)
- CS 216 – Oil Seed Crop Production (3 cr)
- CS 218 – Cereal Grain Crop Production (2 cr)
- CS 224 – Seeds, Biotechnology & Societies (3 cr)
- CS 230 – Introduction to Agroecology (3 cr)
- CS 312 – Grassland Management for Natural Resources Conservation (3 cr)
- CS 424 – Seed Physiology (3 cr)
- CS 495 – Special Topics in Crop Science
- CS 524 – Seed Physiology (3cr)
- CS 590 – Special Topics in Crop Science

Admissions Requirements

High school diploma is required. The successful completion of one college biology course or equivalent experience is required.

Plan of Study and Registration Information

Undergraduate Programs Office

Department of Crop & Soil Sciences

2234 Williams Hall

Campus Box 7620
919-515-5820
cropsoil-undergraduate-office@ncsu.edu

Academic Structure

Term Effective: 1/2017
Plan Code: 11ACPCTU, 32ACPCTU CIP Code: 01.1101
Description: Undergraduate Certificate in Crop Science
Offered via [Distance Education](#) format only

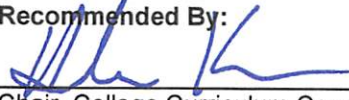
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COURSE ACTION for Crop Science Certificate

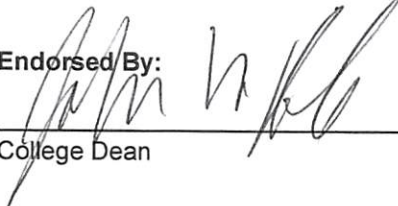
Recommended By:

 _____ 10-25-16
Head, Department/Program Date

Recommended By:

 _____ 11/11/16
Chair, College Curriculum Committee Date

Endorsed By:

 _____ 11/14/16
College Dean Date

Approved By:

Chair, University Courses & Curricula Committee Date

Chair, Council on Undergraduate Education Date

Dean, Division of Academic and Student Affairs (DASA) Date

Undergraduate Minor Revision Memorandum

To: Dr. Michael Mullen
Vice Chancellor and Dean of the Division of Academic and Student Affairs

From: Dr. David A. Crouse
Undergraduate Teaching Coordinator

Date: 25 October 2016

Re: Revisions to the Soil Science Undergraduate Minor

The Department of Crop and Soil Sciences would like to propose several changes to the Soil Science Undergraduate Minor to clarify changes that have occurred in course numbering and to add one course to the list of electives. There also is a minor change in the contact information to reflect a new department name. The proposed changes are as follows:

Restricted Elective Courses

- AES 323 Water Management (3 cr) – Remove “(formerly SSC/BAE 323)”
- CE 342 Engineering Behavior of Soils and Foundations (4 cr)
- SSC 361 is now offered as SSC 421 Role of Soils in Environmental Management (3 cr)
- SSC 495 (variable credit) has been added

Contact Person

Undergraduate Programs Office
Department of Crop & Soil Sciences
2234 Williams Hall
Campus Box 7620
919-515-5820
cropsoil-undergraduate-office@ncsu.edu

The original minor, revised minor showing edits and revised minor with final language are attached to this memo.

Soil Science Minor (11SSM)

Description

Original Version

The minor in Soil Science is offered to students desiring a strong knowledge of the principles of Soil Science to complement their major. It is intended to strengthen the understanding of basic physical, chemical, and microbiological soil properties that would be relevant to a student's particular land management interest. These interests may include (but are not limited to) Forestry, Geology, Natural Resources, Environmental Science, Plant and Soil Sciences, Landscape Architecture, Horticulture, Biological and Agricultural Engineering, Agricultural Business Management, or Agricultural Education. Four (4) hours of required courses and thirteen (13) hours of restricted electives are necessary to complete the minor.

Requirements

- A minimum of 17 hours is required for the minor in Soil Science.
- Students are required to complete 4 credits of required courses and 13 credits of restricted elective courses.
- Students must maintain a grade of "C-" or better in each course used toward the minor.

Required Courses

- SSC 200 Soil Science (3 cr)
- SSC 201 Soil Science Lab (1 cr)

Restricted Elective Courses

- AES 323 Water Management (3 cr) (*formerly SSC/BAE 323*)
- SSC 332 Environmental Soil Microbiology (3 cr)
- SSC 341 Soil Fertility and Fertilizers (3 cr)
- SSC 342 Soil Fertility Laboratory (1 cr)
- SSC 361 Role of Soils in Environmental Management (3 cr)
- SSC 427 Biological Approaches to Sustainable Soil Systems (3cr)
- SSC 428 Service-Learning in Urban Agriculture Systems (1cr)
- SSC 440 Geographic Information Systems
- SSC 442 Soil & Environmental Biogeochemistry (3 cr)
- SSC 452 Soil Classification (4 cr)

- SSC 455 Soils, Environmental Quality and Global Challenges (3cr)
- SSC 461 Soil Physical Properties and Plant Growth (3 cr)
- SSC 462 Soil-Crop Management Systems(3 cr)
- SSC 470 Wetland Soils (3 cr)

Admissions and Certification of Minor

For both admission and certification of the minor, students should contact David Crouse (course@ncsu.edu), 2224 Williams Hall, 919.515.7302. The minor must be completed no later than the semester in which the student expects to graduate in his/her degree program. Certification paperwork should be completed no later than during the registration period for the student's final semester at NC State.

Contact Person

David Crouse
2224 Williams Hall
919.515.7302
crouse@ncsu.edu

SIS Code: 11SSM

Effective Date: 8.2016

Soil Science Minor (11SSM)

Proposed Changes

Description

The minor in Soil Science is offered to students desiring a strong knowledge of the principles of Soil Science to complement their major. It is intended to strengthen the understanding of basic physical, chemical, and microbiological soil properties that would be relevant to a student's particular land management interest. These interests may include (but are not limited to) Forestry, Geology, Natural Resources, Environmental Science, Plant and Soil Sciences, Landscape Architecture, Horticulture, Biological and Agricultural Engineering, Agricultural Business Management, or Agricultural Education. Four (4) hours of required courses and thirteen (13) hours of restricted electives are necessary to complete the minor.

Requirements

- A minimum of 17 hours is required for the minor in Soil Science.
- Students are required to complete 4 credits of required courses and 13 credits of restricted elective courses.
- Students must maintain a grade of "C-" or better in each course used toward the minor.

Required Courses

- SSC 200 Soil Science (3 cr)
- SSC 201 Soil Science Lab (1 cr)

Restricted Elective Courses

- AES 323 Water Management (3 cr) *(formerly SSC/BAE 323)*
- *CE 342 Engineering Behavior of Soils and Foundations*
- SSC 332 Environmental Soil Microbiology (3 cr)
- SSC 341 Soil Fertility and Fertilizers (3 cr)
- SSC 342 Soil Fertility Laboratory (1 cr)
- ~~SSC 361~~ *421 Role of Soils in Environmental Management (3 cr)*
- SSC 427 Biological Approaches to Sustainable Soil Systems (3cr)
- SSC 428 Service-Learning in Urban Agriculture Systems (1cr)
- SSC 440 Geographic Information Systems
- SSC 442 Soil & Environmental Biogeochemistry (3 cr)
- SSC 452 Soil Classification (4 cr)
- SSC 455 Soils, Environmental Quality and Global Challenges (3cr)
- SSC 461 Soil Physical Properties and Plant Growth (3 cr)
- SSC 462 Soil-Crop Management Systems (3 cr)
- *SSC 470 Wetland Soils (3 cr)*
- *SSC 495 (var cr)*

Admissions and Certification of Minor

For both admission and certification of the minor, students should contact David Crouse (course@ncsu.edu), 2224-Williams Hall, 919.515.7302. The minor must be completed no later than the semester in which the student expects to graduate in his/her degree program. Certification paperwork should be completed no later than during the registration period for the student's final semester at NC State.

Admissions

Admission to the minor requires a cumulative grade point average of 2.0 or better. Students should contact the Undergraduate Programs Assistant, Joan Huertas, to inquire about adding the minor no later than the registration period for the student's final semester at NC State

Certification

The minor should be declared as soon as the student makes the decision to pursue a minor. Minor coursework must be completed no later than the semester in which the student expects to graduate from his or her degree program.

Paperwork to declare the minor should be completed no later than the registration period for the student's final semester at NC State. Students should see Joan Huertas for certification of the minor.

Contact Person

Undergraduate Programs Office

Crop & Soil Sciences Department

2234 Williams Hall

Campus Box 7620

919-515-5820

cropsoil-undergraduate-office@ncsu.edu

David Crouse Joan Huertas

Undergraduate Programs Assistant

Department of Crop and Soil Sciences

2224-2234 Williams Hall

Campus Box 7620

919.515.5820/7302

joan_huertas@ncsu.educrouse@ncsu.edu

SIS Code: 11SSM

Effective Date: 8.2016

Soil Science Minor (11SSM)

Final Version

Description

The minor in Soil Science is offered to students desiring a strong knowledge of the principles of Soil Science to complement their major. It is intended to strengthen the understanding of basic physical, chemical, and microbiological soil properties that would be relevant to a student's particular land management interest. These interests may include (but are not limited to) Forestry, Geology, Natural Resources, Environmental Science, Plant and Soil Sciences, Landscape Architecture, Horticulture, Biological and Agricultural Engineering, Agricultural Business Management, or Agricultural Education. Four (4) hours of required courses and thirteen (13) hours of restricted electives are necessary to complete the minor.

Requirements

- A minimum of 17 hours is required for the minor in Soil Science.
- Students are required to complete 4 credits of required courses and 13 credits of restricted elective courses.
- Students must maintain a grade of "C-" or better in each course used toward the minor.

Required Courses

- SSC 200 Soil Science (3 cr)
- SSC 201 Soil Science Lab (1 cr)

Restricted Elective Courses

- AES 323 Water Management (3 cr)-
- CE 342 Engineering Behavior of Soils and Foundations
- SSC 332 Environmental Soil Microbiology (3 cr)
- SSC 341 Soil Fertility and Fertilizers (3 cr)
- SSC 342 Soil Fertility Laboratory (1 cr)
- SSC 421 Role of Soils in Environmental Management (3 cr)
- SSC 427 Biological Approaches to Sustainable Soil Systems (3cr)
- SSC 428 Service-Learning in Urban Agriculture Systems (1cr)
- SSC 440 Geographic Information Systems
- SSC 442 Soil & Environmental Biogeochemistry (3 cr)
- SSC 452 Soil Classification (4 cr)
- SSC 455 Soils, Environmental Quality and Global Challenges (3cr)
- SSC 461 Soil Physical Properties and Plant Growth (3 cr)
- SSC 462 Soil-Crop Management Systems (3 cr)
- SSC 470 Wetland Soils (3 cr)
- SSC 495 (var cr)

Admissions

Admission to the minor requires a cumulative grade point average of 2.0 or better. Students should contact the Undergraduate Programs Assistant, Joan Huertas, to inquire about adding the minor no later than the registration period for the student's final semester at NC State

Certification

The minor should be declared as soon as the student makes the decision to pursue a minor. Minor coursework must be completed no later than the semester in which the student expects to graduate from his or her degree program. Paperwork to declare the minor should be completed no later than the registration period for the student's final semester at NC State. Students should see Joan Huertas for certification of the minor.

Contact Person


Undergraduate Programs Office
Crop & Soil Sciences Department
2234 Williams Hall
Campus Box 7620
919-515-5820

cropsoil-undergraduate-office@ncsu.edu


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COURSE ACTION for Soil Science Undergraduate Minor

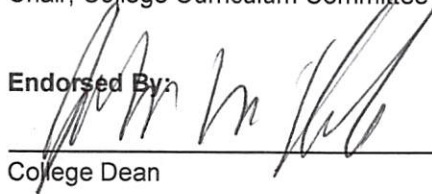
Recommended By:

 _____ 10-25-16
Head, Department/Program Date

Recommended By:

 _____ 11/11/16
Chair, College Curriculum Committee Date

Endorsed By:

 _____ 11/14/16
College Dean Date

Approved By:

Chair, University Courses & Curricula Committee Date

Chair, Council on Undergraduate Education Date

Dean, Division of Academic and Student Affairs (DASA) Date



College of Agriculture & Life Sciences
Department of Crop and Soil Sciences
go.ncsu.edu/cropandsoil

Campus Box 7620
Raleigh, NC 27695-7620
P: 919.515.2647

Undergraduate Certificate Revision Memorandum

To: Dr. Michael Mullen
Vice Chancellor and Dean of the Division of Academic and Student Affairs

From: David A. Crouse
Undergraduate Teaching Coordinator

Date: 25 October 2016

Re: Revisions to the Soil Science Certificate

The Department of Crop and Soil Sciences would like to propose several changes to the Undergraduate Certificate in Soil Science, with the goal of increasing flexibility to an expanding group of interested students. There also is a minor change in the contact information to reflect a new department name. The proposed changes are as follows:

Certificate Description

The description needs to be changed to read:

The Undergraduate Certificate in Soil Science enables students to obtain the course credit hours in soil science necessary for advancement in soil related careers. . To become a Soil Scientist in the U.S. Federal Government, the Office of Personnel Management requires 15 credit hours in subjects such as soil genesis, pedology, soil chemistry, soil physics, and soil fertility. In states like North Carolina and others with a soil scientist licensing program, 15 credit hours of soil science related coursework is required to qualify for the licensing exam. Nationally, to become a Professional Soil Scientist certified by the Soil Science Society of America, individuals must have completed 15 course credit hours in soil science or a related area. Those who complete this program will meet the coursework requirements for all three career advancement opportunities.

You can learn more about North Carolina's licensed soil scientist program at <http://ncblss.org>. To learn about the national certification program, visit <http://soils.org/certifications/become-certified>

This program may be completed totally online.

Required Courses

- SSC 341 (3 cr) has been removed
- SSC 470/570 (3 cr) has been removed

Elective Courses – Select *four* of the following

- SSC 341 (3 cr) has been added
- SSC 541 (3 cr) has been added
- SSC 470/570 (3 cr) has been added
- SSC 421 (3 cr) has been added
- SSC 440/540 (3 cr) has been added
- SSC 442 (3 cr) has been added
- SSC 455 (3 cr) has been added
- SSC 495 (variable cr) has been added
- SSC 511 (4 cr) has been added
- SSC 590 (variable cr) has been added

Admissions Requirements

This program will be open to undergraduate students and those pursuing continuing education credits. It will also be open to students outside of North Carolina State University. ***A Bachelor of Science is required for admission into this program.***

Plan of Study

The description needs to be changed to read:

While not a requirement of this certificate, a suggested plan of study that best prepares the student for licensing and certification exams includes the following courses in addition to SSC 200:

- SSC 341 or SSC541
- SSC 332 or SSC 532
- SSC 452 or SSC 551
- SSC 461 or SSC 511
- SSC 470 or SSC 570

Contact Person

Undergraduate Programs Office
Department of Crop & Soil Sciences
2234 Williams Hall
Campus Box 7620
919-515-5820
cropsoil-undergraduate-office@ncsu.edu

The original certificate, revised certificate showing edits and revised certificate with final language are attached to this memo.

Description

The Undergraduate Certificate in Soil Science offers a course of study that enables students to obtain the minimum 15 credit hours of soil science courses that are required to become licensed soil scientists in North Carolina, as well as 14 other states including Virginia, Indiana, Wisconsin, and Minnesota. Those who complete this program will be eligible to become licensed soil scientists.

Licensed soil scientists evaluate land quality, and thereby determine a property's suitability for residential developments that enhance economic growth and minimize environmental impacts.

Graduates of this program will identify lands where new residential developments are most appropriate to maintain a community's public health and environmental quality. This program is unique among those with environmental interests, because it trains students to identify how lands can best be used to benefit North Carolinians while also preserving wetlands and water quality. Our students will recognize that environmental sustainability does not always require preservation

This program may be completed totally online. For more information about [Distance Education \[Click here\]](#)

Program Coordinator

Dr. David Crouse
Director of Distance Education Programs
Department of Soil Science
2224 Williams Hall
NC State University
Campus Box 7619
Raleigh, NC 27695
919.515.7320

[Visit the department web site](#) for information about the certificate and licensing.

Curriculum

Prerequisites:

To pursue the certificate, students must have the following training in basic sciences:

- 2 semesters of chemistry
- 1 semester of physics
- 1 semester of biology
- mathematics through algebra and trigonometry

Required Courses: The required courses are available on-campus and via distance education. Prerequisites may be required in some courses. Students should contact instructors before enrolling to discuss eligibility as needed.

- SSC 200 Soil Science (3 hrs)
- SSC 341 Soil Fertility and Fertilizers (3 hrs)
- SSC 470/570 Wetland Soils (3 hrs)

Elective Courses*: (Select two of the following)

- SSC 332 Environmental Soil Microbiology, or SSC 532 Soil Microbiology
- SSC 452 Soil Classification, or SSC 551 Soil Morphology, Genesis, Classification

- SSC 461 Soil Physical Properties and Plant Growth, or SSC 562 Environmental Applications of Soil Science

A grade of C (2.0) or higher in each course is required.

*SSC 332, 452, 461 are not offered online (DE). SSC 532 and 551 are available only online (DE). SSC 562 are available on-campus and online. The 500-level courses are graduate level courses.

Total Credit Hours Required: 15

Admissions Requirements

This program will be open to undergraduate students and those pursuing continuing education credits. It will also be open to students outside of North Carolina State University.

Plan of Study and Registration Information

Contact the Program Coordinator.

Academic Structure

Term Effective: 8/2009

Plan Code: 11SSCTU, 32SSCTU

CIP Code: 01.1201

Description: Undergraduate Certificate in Soil Science

Offered via on-campus and [Distance Education](#) format

Soil Science

Proposed Changes

Description

The Undergraduate Certificate in Soil Science offers a course of study that enables students to obtain the course credit hours in soil science necessary for advancement in soil related careers. To become a Soil Scientist in the U.S. Federal Government, the Office of Personnel Management requires 15 credit hours in subjects such as soil genesis, pedology, soil chemistry, soil physics, and soil fertility. In states like North Carolina and others with a soil scientist licensing program, 15 credit hours of soil science related coursework is required to qualify for the licensing exam. Nationally, to become a Professional Soil Scientist certified by the Soil Science Society of America, individuals must have completed 15 course credit hours in soil science or a related area. Those who complete this program will meet the coursework requirements for all three career advancement opportunities. To become a Soil Scientist in the U.S. Federal Government, the Office of Personnel Management requires 15 credit hours in subjects such as soil genesis, pedology, soil chemistry, soil physics, and soil fertility. obtain the minimum 15 credit hours of soil science courses that are required to become a licensed soil scientists in North Carolina and 14 other states, 15 credit hours of soil science related coursework is required to qualify for the licensing exam., as well as 14 other states including Virginia, Indiana, Wisconsin, and Minnesota. To become a Professional Soil Scientist, certified by the Soil Science Society of America, individuals must have completed 15 course credit hours in soil science or a related area. Those who complete this program will meet the coursework requirements for all three career advancement opportunities. be eligible to become licensed soil scientists.

You can learn more about North Carolina's licensed soil scientist program at <http://ncblss.org>. To learn about the national certification program, visit <http://soils.org/certifications/become-certified>s evaluate land quality, and thereby determine a property's suitability for residential developments that enhance economic growth and minimize environmental impacts.

Graduates of this program will identify lands where new residential developments are most appropriate to maintain a community's public health and environmental quality. This program is unique among those with environmental interests, because it trains students to identify how lands can best be used to benefit North Carolinians while also preserving wetlands and water quality. Our students will recognize that environmental sustainability does not always require preservation

This program may be completed totally online. For more information about [Distance Education \[Click here\]](#)

Program Coordinator

Dr. David Crouse

Undergraduate Teaching Coordinator and Director of Distance Education Programs

Department of Soil Science

2224 Williams Hall

NC State University Campus

Box 7619

Raleigh, NC 27695

919.515.7320

[Visit the department web site](#) for information about the certificate and licensing.

Curriculum

Prerequisites: To pursue the certificate, students must have the following training in basic sciences:

- 2 semesters of chemistry
- 1 semester of physics
- 1 semester of biology
- mathematics through algebra and trigonometry

Required Courses: The required courses are available on-campus and via distance education. Prerequisites may be required in some courses. Students should contact instructors before enrolling to discuss eligibility as needed.

- SSC 200* Soil Science (3 crhrs)
- SSC 341 Soil Fertility and Fertilizers (3-hrs)

- ~~SSC 470/570 Wetland Soils (3 hrs)~~

Elective Courses*: (Select ~~four~~ *two* of the following)

- ~~SSC 341* Soil Fertility and Fertilizers (3 cr) or SSC 541* Soil Fertility (3 cr)~~
- ~~SSC 470*/570* Wetland Soils (3 cr)~~
- ~~SSC 332 Environmental Soil Microbiology (3 cr); or SSC 532* Soil Microbiology (4 cr)~~
- ~~SSC 421 Role of Soils in Environmental Management (3 cr)~~
- ~~SSC 440*/540* Geographic Information Systems [GIS] in Soil Science and Agriculture (3 cr)~~
- ~~SSC 442 Soil and Environmental Biogeochemistry (3 cr)~~
- ~~SSC 452 Soil Classification (4 cr); or SSC 551* Soil Morphology, Genesis, Classification (3 cr)~~
- ~~SSC 455 Soils, Environmental Quality and Global Challenges (3 cr)~~
- ~~SSC 461 Soil Physical Properties and Plant Growth (3 cr); or SSC 511* Soil Physics (4 cr)~~
- ~~SSC 495 Special Topics in Soil Science (var cr)~~
- ~~SSC 562* Environmental Applications of Soil Science (3 cr)~~
- ~~SSC 590 Special Topics in Soil Science (var cr)~~

A grade of C (2.0) or higher in each course is required.

~~* Available through Distance Education and on-campus. SSC 332, 452, 461 are not offered online (DE). SSC 532 and 551 are available only online (DE). SSC 562 are available on-campus and online. The 500-level courses are graduate level courses.~~

Total Credit Hours Required: 15

Admissions Requirements

This program will be open to undergraduate students and those pursuing continuing education credits. It will also be open to students outside of North Carolina State University. *A Bachelor of Science is required for admission into this program.*

Plan of Study and Registration Information

~~Contact the Program Coordinator.~~

While not a requirement of this certificate, a suggested plan of study that best prepares the student for licensing and certification exams includes the following courses in addition to SSC 200:

- ~~SSC 341 or SSC541~~
- ~~SSC 332 or SSC 532~~
- ~~SSC 452 or SSC 551~~
- ~~SSC 461 or SSC 511~~
- ~~SSC 470 or SSC 570~~

Registration Information

Undergraduate Programs Office
Crop & Soil Sciences Department
2234 Williams Hall
Campus Box 7620
919-515-5820
cropsoil-undergraduate-office@ncsu.edu

Joan Huertas
Undergraduate Programs Assistant
Department of Crop and Soil Sciences
2234 Williams Hall
Campus Box 7620
919-515-5820
joan_huertas@ncsu.edu

Academic Structure

Term Effective: 8/2009 ??????

Plan Code: 11SSCTU, 32SSCTU CIP Code: 01.1201

Description: Undergraduate Certificate in Soil Science Offered via on-campus and [Distance Education](#) format

Description

The Undergraduate Certificate in Soil Science enables students to obtain the course credit hours in soil science necessary for advancement in soil related careers. To become a Soil Scientist in the U.S. Federal Government, the Office of Personnel Management requires 15 credit hours in subjects such as soil genesis, pedology, soil chemistry, soil physics, and soil fertility. In states like North Carolina and others with a soil scientist licensing program, 15 credit hours of soil science related coursework is required to qualify for the licensing exam. Nationally, to become a Professional Soil Scientist certified by the Soil Science Society of America, individuals must have completed 15 course credit hours in soil science or a related area. Those who complete this program will meet the coursework requirements for all three career advancement opportunities.

You can learn more about North Carolina's licensed soil scientist program at <http://ncblss.org>. To learn about the national certification program, visit <http://soils.org/certifications/become-certified>

This program may be completed totally online.

Program Coordinator

Dr. David Crouse

Undergraduate Teaching Coordinator and Director of Distance Education Programs

Curriculum

Prerequisites: To pursue the certificate, students must have the following training in basic sciences:

- 2 semesters of chemistry
- 1 semester of physics
- 1 semester of biology
- mathematics through algebra and trigonometry

Required Courses: The required courses are available on-campus and via distance education. Prerequisites may be required in some courses. Students should contact instructors before enrolling to discuss eligibility as needed.

- SSC 200* Soil Science (3 cr)

Elective Courses: (Select four the following)

- SSC 341* Soil Fertility and Fertilizers (3 cr) or SSC 541* Soil Fertility (3 cr)
- SSC 470*/570* Wetland Soils (3 cr)
- SSC 332 Environmental Soil Microbiology (3 cr) or SSC 532* Soil Microbiology (4 cr)
- SSC 421 Role of Soils in Environmental Management (3 cr)
- SSC 440*/540* Geographic Information Systems [GIS] in Soil Science and Agriculture (3 cr)
- SSC 442 Soil and Environmental Biogeochemistry (3 cr)
- SSC 452 Soil Classification (4 cr) or SSC 551* Soil Morphology, Genesis, Classification (3 cr)
- SSC 455 Soils, Environmental Quality and Global Challenges (3 cr)
- SSC 461 Soil Physical Properties and Plant Growth (3 cr) or SSC 511* Soil Physics (4 cr)
- SSC 495 Special Topics in Soil Science (var cr)
- SSC 562* Environmental Applications of Soil Science (3 cr)
- SSC 590 Special Topics in Soil Science (var cr)

A grade of C (2.0) or higher in each course is required.

* Available through Distance Education and on-campus. The 500-level courses are graduate level courses.

Total Credit Hours Required: 15

Admissions Requirements

This program will be open to undergraduate students and those pursuing continuing education credits. It will also be open to students outside of North Carolina State University. A Bachelor of Science is required for admission into this program.

Plan of Study

While not a requirement of this certificate, a suggested plan of study that best prepares the student for licensing and certification exams includes the following courses in addition to SSC 200:

- SSC 341 or SSC541
- SSC 332 or SSC 532
- SSC 452 or SSC 551
- SSC 461 or SSC 511
- SSC 470 or SSC 570

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Academic Structure


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Description: Undergraduate Certificate in Soil Science Offered via on-campus and [Distance Education](#) format

SIGNATURE PAGE


COURSE ACTION for Soil Science Certificate

Recommended By:

 10-25-16

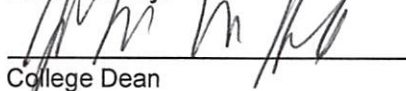
Head, Department/Program Date

Recommended By:

 11/11/16

Chair, College Curriculum Committee Date

Endorsed By:

 11/14/16

College Dean Date

Approved By:

Chair, University Courses & Curricula Committee Date

Chair, Council on Undergraduate Education Date

Dean, Division of Academic and Student Affairs (DASA) Date

NORTH CAROLINA STATE UNIVERSITY

HONORS PROGRAM ACTION FORM

DEPARTMENT/COLLEGE: Department of Biological Sciences (College of Sciences)

TITLE OF PROGRAM: Department of Biological Sciences Honors Program

TYPE OF PROPOSAL:

New Program X _____

Review _____

Revision in: _____

Admission Requirements _____

Graduation Requirements _____

Description _____

Discontinuation of Program _____

DATE OF LAST ACTION: _____

PROPOSED EFFECTIVE DATE: ***We would like this honors program to be effective for students who enter NC State as of Summer 2017. Students who began their studies at NC State before that time will be eligible for the existing departmental honors programs. Eventually, those programs will be discontinued as participants graduate.*

ATTACH DOCUMENTS AS APPROPRIATE:

_____ Current Admissions Requirements

_____ Current Graduation Requirements

_____ Current Catalog Description

X _____ Proposed Revision (s) New Program with Reasons

_____ Number of Participants for last five years

CATALOG DESCRIPTION (limit to 150 words):


The Department of Biological Sciences (DBS) Honors Program requires students to design a challenging program of advanced study, including 8 credits of honors coursework in biology and two semesters of research or teaching scholarship. Participants are required to present their scholarly work at a local, regional, or national meeting. A written honors thesis is also required. Invitations to join the DBS Honors Program are sent in the first 3 weeks of the Fall and Spring semesters. Students in any major offered by the Department of Biological Sciences who have earned an overall GPA of 3.60 after completing 30 (but fewer than 65) credit hours at NC State will receive an invitation. DBS transfer students who have earned an overall GPA of 3.60 after completing 15 credit hours at NC State (and a total of 30 credit hours of college coursework), will be eligible after their first semester at NC State.

NAME OF PROGRAM DIRECTOR:

Lisa Parks (Teaching Associate Professor, 2727 Bostian Hall, 919-515-3341)

(Rank, Address, Phone)

RECOMMENDED BY:

 _____
Date 11/9/16
Department Head
(if Departmental Program)

_____ Date _____
College Honors Program Director
(if College Program)

APPROVAL:

 _____
Date 11/18/16
Chair, College Courses & Curricula Committee
Or College Honors Program Committee

 _____
Date 11-18-2016
College Dean

_____ Date _____
Chair, University Courses & Curricula Committee

_____ Date _____
Dean, Division of Academic & Student Affairs
(DASA)

APPROVED EFFECTIVE DATE: _____

Department of Biological Sciences (DBS) Honors Program

Justification

When some 2200 of our undergraduate students were moved from CALS to the College of Sciences, we created an option for our CALS Honors students to move into an honors program in their discipline or to stay in CALS Honors. (Sciences did not have a college-level honors program.) To facilitate this transition, our departmental program requirements were based almost entirely on the CALS Honors Program. The understanding at the time was that we would eventually re-visit our departmental honors program requirements and structure (most likely after students who started in the CALS Honors Program had graduated).

At this time, we are proposing a new departmental honors program that will, eventually, replace the existing four transitional programs created during college restructuring. Our goals in creating this new program include increasing the rigor of the program (with a higher required GPA and a new honors thesis requirement), making it clearly distinct from the University Honors Program, and making more efficient our administration of the program. Three new course actions (BSC 497, BSC 498, and BSC 499) are linked to this curricular action.

We propose that this new Department of Biological Sciences (DBS) Honors Program be effective for those students who enter NC State as of Summer 2017. Students who began studies at NC State before that time will be eligible for the existing departmental honors programs, which will eventually be discontinued as participants graduate.

Proposed New Department of Biological Sciences Honors Program

Description

The Department of Biological Sciences (DBS) Honors Program requires students to design a challenging program of advanced study, including 8 credits of honors coursework in biology and at least two semesters of research or teaching scholarship. Participants are required to present their scholarly work at a local, regional, or national meeting. A written honors thesis is also required. Invitations to join the DBS Honors Program are sent in the first 3 weeks of the Fall and Spring semesters, based on GPA and number of credit hours completed at NC State, as described in the Admissions Requirements.

Admissions Requirements

Students in any major offered by the Department of Biological Sciences who have earned an overall GPA of 3.60 after completing 30 (but fewer than 65) credit hours at NC State will receive an invitation to join the DBS Honors Program.

Transfer students in any major offered by the Department of Biological Sciences who have earned an overall GPA of 3.60 after completing 15 credit hours at NC State (and a total of 30 credit hours of college coursework), will receive an invitation to join the DBS Honors Program.

Program Requirements

BSC 497 and BSC 498 (6 cr)

- two semesters of mentored research or teaching scholarship in biology
- includes written project proposal (497) and a draft of the honors thesis (498)
- includes completion of reflection prompts posted on Moodle
- enrollment requires a completed contract with the mentor, approved by the DBS Honors Program Committee

BSC 499 (1 cr)

- requires oral presentation of work completed in BSC 497 & 498
- requires final written honors thesis on the work completed in BSC 497 & 498
- the honors thesis will be submitted mid-way through the semester for evaluation and to allow time for revisions
- the honors thesis must be approved by the mentor and by the DBS Honors Program Committee

Honors Coursework (8 cr)

- courses must be completed with a B- or better
- courses must be numbered 300 or higher
- courses must focus on a topic in biology
- eligible courses include (1) any course designated as an honors course by the DBS Honors Program Committee, (2) any course for which an honors contract is approved by the DBS Honors Program Committee, and (3) any Study Abroad course approved by the DBS Honors Program Committee

Graduation Requirements

- complete the Program Requirements described above
- maintain an overall GPA of 3.40 or higher
- complete the graduation requirements for an undergraduate degree program offered by the Department of Biological Sciences