



University Courses & Curricula Committee 2018-2019

September 26, 2018
 Talley Student Union 5101
 12:45pm-2:45pm

Call to Order 12:45pm

- Welcome from Chair Marta Klesath
- Remarks and Updates from OUCAS/DASA
- Approval of UCCC September 12th 2018 Minutes
- Course and Curricular Business

New Business

Consent Agenda

Action	Type	Notes
ANS 292 Australian Animal Agriculture	Drop	Drop: Not taught in years
CSC 226 Discrete Mathematics for Computer Scientists	Minor	Revisions: requisites, description
CSC 230 C and Software Tools	Minor	Revisions: requisites
CSC 236 Computer Organization and Assembly Language for Computer Scientists	Minor	Revisions: requisites
CSC 246 Concepts and Facilities of Operating Systems for Computer Scientists	Minor	Revisions: requisites
CSC 302 Introduction to Numerical Methods	Minor	Revisions: requisites
CSC 326 Software Engineering	Minor	Revisions: requisites
CSC 333 Automata, Grammars, and Computability	Minor	Revisions: requisites, term offering
CSC 342 Applied Web-based Client-Server Computing	Minor	Revisions: requisites
CSC 379 Ethics in Computing	Minor	Revisions: requisites
CSC 401 Data and Computer Communications Networks	Minor	Revisions: Grading, Description
CSC 411 Introduction to Artificial Intelligence	Minor	Revisions: requisites
CSC 417 Theory of Programming Languages	Minor	Revisions: requisites
CSC 431 File Organization and Processing	Minor	Revisions: requisites
CSC 440 Database Management Systems	Minor	Revisions: requisites
CSC 450 Web Services	Minor	Revisions: requisites
CSC 454 Human-Computer Interaction	Minor	Revisions: requisites
CSC 461 Computer Graphics	Minor	Revisions: requisites
CSC 462 Advanced Computer Graphics Projects	Minor	Revisions: requisites
CSC 467 Multimedia Technology	Minor	Revisions: requisites
CSC 474 Network Security	Minor	Revisions: requisites
CSC 481 Game Engine Foundations	Minor	Revisions: requisites
CSC 492 Senior Design Project	Minor	Revisions: requisites
PB 405 Wetland Flora	Drop	Drop
Agricultural and Environmental Technology (11AGEVTBS)	Minor	Name and SIS change to Biological and Agricultural Engineering Technology (11BAETBS)
Certificate in Computer Programming (14CPCTU)	Minor	Admissions update
Minor in Computer Programming (14CPM)	Minor	Removing CSC 216 from required courses

College of Engineering

Presenter	Reviewers	Action	Type
Seracino	Hessling, Bruce, Despain	CSC 453 Introduction to Internet of Things (IoT) Systems	Revisions: Title, Component, Grading, Description, SLOs

College of Humanities and Social Sciences			
Presenter	Reviewers	Action	Type
Driscoll	Merrill, Seracino, Planchart	AFS 240 African Civilization	Revisions: Abbreviated title, SLOs, Eval Methods
Driscoll	Orphanides, Muse, Krause	PHI 330 Metaphysics	Revisions: SLOs, Eval Methods
Driscoll	Domingue, Roise, Bruce	PHI 331 Philosophy of Language	Revisions: SLOs, Eval Methods
Driscoll	Kilbourne, Merrill, Orphanides	PHI 333 Knowledge and Skepticism	Revisions: SLOs, Eval Methods
Driscoll	Roise, Bruce, Reynolds	PHI 375 Ethics	Revisions: SLOs, Eval Methods
Driscoll	Domingue, Kuzenski, Hergeth	PHI 376 History of Ethics	Revisions: SLOs, Eval Methods
Despain	Kilbourne, Kuzenski, Rieder	PS 305 The Justice System in the American Political Process	Revisions: SLOs, Eval Methods
Despain	Rieder, Seracino, Domigue	PS 335 International Law	Revisions: SLOs, Eval Methods
Despain	Griffin Hillis, Carlson Welch, Krause	PS 345 Governments and Politics in the Middle East	Revisions: SLOs, Abbreviated title, delivery/scheduling
Despain	Bruce, Planchart, Muse	PS/WGS 418 Gender Law and Policies	Revisions: SLOs, delivery/scheduling
Despain	Hessling, Seracino, Hergeth	REL 200 Introduction to the Study of Religion	Revisions: SLOs, Abbreviated title

College of Agriculture and Life Sciences			
Presenter	Reviewers	Action	Type
Bruce	Driscoll, Krause, Carlson Welch	BBS/FS 325 Introduction to Brewing Science and Technology	New Course
Bruce	Despain, Kuzenski, Muse	HS 491 Sustainable Agriculture Entrepreneurship Study Abroad	New Course
Bruce	Orphanides, Planchart, Roise	PB 277 Space Biology	Revisions: SLOs, Abbreviated title
Bruce	Planchart, Reynolds, Kilbourne	BS Agricultural and Environmental Technology: Agricultural Systems Management (11AGEVTBS-11AGEVTASM)	Revisions
Bruce	Driscoll, Hessling, Reynolds	BS Plant and Soil Sciences- Crop Biotechnology (11PSSBS-11PSSPCB)	Revisions
Merrill	Roise, Kuzenski, Hergeth	BS Plant and Soil Sciences- Crop Production (11PSSBS-11PSSPAC)	Revisions
Merrill	Orphanides, Griffin Hillis, Domigue	BS Plant and Soil Sciences-Soil Science (11PSSBS-11PSSSST)	Revisions
Merrill	Despain, Hergeth, Carlson Welch	BS Natural Resources- Soil and Water Systems(11NATRLBS-11NATRLNRW)	Revisions
Merrill	Driscoll, Rieder, Hessling	BS Turfgrass Science (11TFGBS)	Revisions

SLO= Student Learning Outcomes

Discussion:

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.

SLO = Student Learning Outcomes



Division of Academic and Student Affairs
Office of Undergraduate Courses & Curricula
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University Courses and Curricula Committee

September 12, 2018
Talley Student Union 5101
Call to Order: 12:46 pm

Members Present: Chair Marta Klesath, Past Chair Helmut Hergeth, Jackie Bruce, Melissa Merrill, Scott Despain, Catherine Driscoll, Kathleen Rieder, Peter Hessling, Rudi Seracino, Joseph Roise, Wendy Krause, Annie Carlson Welch, Peggy Domingue, Andreas Orphanides, Antonio, Planchart, Berkley Griffin Hillis

Members Absent: Kanton Reynolds, Jackie Bruce, John Kuzenski, Katy Kilbourne

Guests: Chester Miller, Carolyn Rauch,

Ex-Officio Members Present: Lexi Hergeth, Li Marcus, Bret Smith, Jordan Luzader, Tim Petty, Jason Duke, Kyle Pysler

WELCOME AND INTRODUCTIONS

- **Remarks from Chair** - Welcomed the committee members introduced guests.
- **Remarks from OUCCAS/DASA**- Li Marcus explained that Dr. Mullen is unable to attend as he is serving in the command center for the anticipated incoming storm and thanked the committee for their quick responses to the inquiring of attendance email sent yesterday.
- **Approval of the Minutes from August 29th 2018** – Approved Unanimously with one abstention from Joseph Roise
 - Discussion: Member Wendy Krause moved to approve.

NEW BUSINESS

- **Consent Agenda**(CS216,FLC201,FLE101,FS351,FS353,FS407,HS400,11ANSCBS,11BIOCHBS,16ITM,16SPM)- Approved Unanimously
Discussion: Member Catherine Driscoll moved to approve.
- **USC 116 Introduction to Sustainability for EcoVillage**- Approved Unanimously
Discussion: Member Annie Carlson Welch presented the course action. Member discussed the participation grade asking how active engagement in the assigned student learning happens, guest Carolyn Rauch explained the peer project has active engagement and the supervisors provide feedback on service learning.
- **ID 244 History of Industrial Design** - Approved Pending with Friendly Suggestions
Discussion: Member Kathleen Rieder presented the course action. Member stated the service learning outcomes are not measurable, friendly suggestion to tweak the student learning outcomes to make the general learning outcomes measurable. Member commented there are some inconsistencies with CIM and the syllabus such as the restrictive statement, working with instructor to make the restrictive statement codable. In the syllabus under course materials member brought attention to the materials section “Sketchbook/Notebook is at student’s discursion and removing this material is required. Members discussed that in the college of Design students both sketch and write to take notes. Motion from Scott Despain to change the motion form approved to approve pending consistency in the syllabus, SLO adjustment, materials clarification and the grading component. Members discussed the grading component, adjusting the midterm being 20 points in the syllabus and 25 in CIM and the final being 30 points in the syllabus and 25 points in CIM and specifying this in the rows in CIM. Member discussed the syllabus needing the academic integrity statement and academic honesty having “none” after the statement. Pending: making learning objectives measurable, clarifying the restrictive statement, clarifying required material, Friendly suggestion to clean up syllabus.
- **ALS 494 International Learning Experience in Agriculture and Life Sciences** - Approved Unanimously
Discussion: Member Melissa Merrill presented the course action.
- **CS 218 Southern Row Crop Production - Corn, Small Grains and Soybeans** - Approved Unanimously
Discussion: Member Melissa Merrill presented the course action.
- **CS218 Southern Row Crop Production - Corn, Small Grains and Soybeans** - Approved Pending
Discussion: Member Melissa Merrill presented the course action. Member asked about the internship grading component asking if the work the students do in their internship is graded, presenter indicated it is not for the most part to prevent the student from not having a grade because an internship partner doesn’t provide feedback when requested. Members discussed if this has ever been an issue and the presenter responded it has not. Member asked if “Other” is the Contract indicated in the syllabus, members confirmed. Member asked how short is a short paper,

member responded it seems to be about 8 pages.

- **CSSC 493 Research Experience in Crop and Soil Sciences - Approved Pending**
Discussion: Member Melissa Merrill presented the course action and explained multiple courses are coming through from CALS restructuring. Member and Li Marcus complimented the additional documentation provided.
- **CSSC 495 Special Topics in Crop and Soil Sciences - Approved Unanimously with Friendly Suggestion**
Discussion: Member Melissa Merrill presented the course action. Member stated the sample syllabus for the special topic could adjust the student learning outcomes to make them measurable.
- **HS 272 Landscape Design/Build - Approved Unanimously with Friendly Suggestions**
Discussion: Member Melissa Merrill presented the course action. Member indicated the wording of the student learning outcomes could be tweaked suggesting removing "operation" from the first student learning outcome. Members and XONV members discussed the motions and what each mean. Member brought attention to the grade component where it indicates there can be more than 1300 points in the grading table (1300+) suggesting removing the + sign.
- **HS 492 Horticulture Internship - Approved Pending**
Discussion: Member Melissa Merrill presented the course action.
- **HS 493 Research Experience in Horticultural Science - Approved Pending with Friendly Suggestion**
Discussion: Member Melissa Merrill presented the course action. Member commented that the contact hour indicate 45 hours of field experience of credit in the syllabus, in the syllabus it appears only one credit hour is shown but should potentially be three credit hours. Member commented that the contact hour indicate 45 hours of field experience of credit in the syllabus, in the syllabus it appears only one credit hour is shown but should potentially be three credit hours. Members and XONV members discussed the contact hours should be 3-9 instead of 1-3 per week with the credit hours remaining as 1-3. Member Andreas Orphenedis moved to amend the motion to approve pending clarification and calculation of the credit/contact hours. Member made the friendly suggestion could use clarification on the S grade requirements indicating the students "must earn at least 70% on the assignments" if this means each assignment must be 70% or if the average grade of assignments should be 70%. Member asked about due dates for the topic schedule, members discussed indicating materials are due by some landmark, such as "assignments are due by the date of the final exam".
Li Marcus provided clarification that the university standard is a C -
Members indicated the other courses had these grading and contact and credit hours similar to this HS 494.

Member moved to approve the changes mirroring the HS 494 course, including CSSC 492, CSSC 493, & HS 492 to make approve pending the calculations of the contact to credit hours. Members voted and approved the motion to revisit the motions for CSSC 492, 493, & HS 492. Member asked if the contact hour were truly contact hours, member asked if a research course should be considered field work, members discussed that research hours are different.

- **HS 494 Teaching Experience in Horticultural Science - Approved Pending**
Discussion: Member Melissa Merrill presented the course action. Member asked if the component type should be student teaching, presenter clarified that this is not a student teaching course. Li Marcus provided the definition of student teaching for clarification. Presenter explained this is for undergraduate teaching assistance and this is how many courses of this nature are titled. Members discussed if the title is misleading, members discussed that there is no rule at the university level about undergraduate TAs not being paid and paying tuition. Member proposed this is pending the contact hour changes and a friendly suggestion to the college that students maybe mislead by the title of the course. Presenter indicated they were asked to provide three separate courses for these experiences. Member asked if there should be classroom facetime with students, presenter clarified they teach review sessions and some instructors will allow the students to grade assignments. Motion to amend the motion from approved to approved pending. Members discussed that the committee for academic affairs. Li Marcus explained it is not in the purview of the committee to state that a title is incorrect after it has been approved by the college. Member indicated he does not see the benefit to the students, presenter and members indicated that students who will like to teach will have teaching experience, members compared this to research. Member indicated there are practicum courses which provide an experience for students to discover if this is the career path they would like to take. Member asked if the Ag Ed students will take this course, presenter responded, no they have separate courses for licensures.
- **Horticultural Science (11HSM) - Approved Unanimously**
Discussion: Member Melissa Merrill presented the curricula action. Member indicated this is a straightforward motion.
- **Plant Biology (11PBBS) - Approved Unanimously**
Discussion: Member Melissa Merrill presented the curricula action. Member complimented how they handled the LSC 101 course for transfer students.

- **Member Scott Despain** explained there have been changes to many of these courses from the GER>GEP review from CUE and we are seeing these with adjustments to the student learning outcomes. Li Marcus explained the discussion at CUE about the potential use of a short form for review. Members discussed this is just a notification that multiple courses are coming through.
- **ANT 251 Physical Anthropology - Approved Pending**
Discussion: Member Catherine Driscoll presented the course action. Member indicated the student learning outcomes in the syllabus and CIM did not match. Member indicated the SLOs for GEP were not listed for the SLOs for the general course in a batch of these courses coming forward for GER>GEP review. Members discussed that GEP student learning outcomes and general course student learning outcomes can be combined or separate. Member made the motion to amend the motion from approved to approve pending the inclusion of a participation rubric showing how a student will earn the 10% of the final grade.
- **ENG 326 History of the English Language- Approved Unanimously with Friendly Suggestion**
Discussion: Member Catherine Driscoll presented the course action. Member stated the syllabus indicated ENG 101 as a prerequisite is indicated in the syllabus and not in CIM. This could be ENG 101 or ENG 105, Li Marcus indicated she will adjust this in CIM for the faculty to match the syllabus.
- **Catherine Driscoll moved to combine the motions for FLF 302 and 315. Members vote 7 yay 6 nay, to combine.**
- **FLF 302 Survey of French Literature from Romanticism to the Contemporary Period - Approved Unanimously with Friendly Suggestion**
Discussion: Member Catherine Driscoll presented the course action. Member made the friendly suggestion in the attendance statement which discusses the electronic devices and suggests moving this to a separate section of the syllabus. Member made the friendly suggestion saying "subsequent absences will result in a grade of zero for those absences". Member indicated the course is missing an electronic hosting statement as the course.
- **FLF 315 French Civilization and Culture- Approved Unanimously**
Discussion: Member Catherine Driscoll presented the course action.
- **Member Catherine Driscoll moved to batch the PHI courses together for the revisions for the GER>GEP Review.** Members and XONV members discussed pulling actions from batch from vote before voting to combine the courses or after. Members discussed how to combine courses. Li Marcus explained if any reviewers found a course that would potentially be approved pending or tabled from the batch but the friendly suggestions can be discussed as a batch. Member moved to pull PHI 310 from the batch. Members voted to approve batch without PHI 310.
- **PHI 205 Introduction to Philosophy- Approved Unanimously with Friendly Suggestions**
Discussion: Member Catherine Driscoll presented the course action. Member asked if "become familiar with" is a measurable outcomes, members discussed adjusting this to "Identify a variety of the". Member asked if the quizzes are combined, presenter explained that there are short papers and a longer paper as the final, stating that the longer paper is the final.
- **PHI 214 Issues in Business Ethics - Approved Unanimously with Friendly Suggestions**
Discussion: Member Catherine Driscoll presented the course action. Member indicated page 5&6 of the syllabus has inconsistencies discussing the length of the paper. Member asked if the students should be submitting 2 copied, providing and email and hard copy of the final and made friendly suggestion to clarify this.
- **PHI 221 Contemporary Moral Issues - Approved Unanimously with Friendly Suggestion**
Discussion: Member Catherine Driscoll presented the course action. Member commented that class participation and attendance, stating "which you attend and in which you show an active interest", asking how active interest is measured.
- **PHI 300 Ancient Philosophy- Approved Unanimously**
Discussion: Member Catherine Driscoll presented the course action.
- **PHI 301 Early Modern Philosophy- Approved Unanimously**
Discussion: Member Scott Despain presented the course action.
- **PHI 302 19th Century Philosophy- Approved Unanimously**
Discussion: Member Scott Despain presented the course action.
- **PHI 305 Philosophy of Religion - Approved Unanimously**
- **PHI 310 Existentialism- Approved Unanimously with Friendly Suggestion**
Discussion: Member Catherin Driscoll presented the course action. Member indicated that the student learning outcomes in the syllabus and CIM do not match. Member asked if there is a maximum number of credits. Member

indicated the presentations would take a significant amount of time. Presenter commented that in practice, students rarely take up a significant portion of class time, this is just an opportunity for extra credit. Member asked if extra credit should be called out explicitly and asked if there is some quantification of the value of participation and extra credit, requesting clarification of how much extra credit is available in percentage terms to quantify it.

- **PS 312 Introduction to Public Administration- Approved Pending**
Discussion: Member Scott Despain presented the course action. Member indicated the student learning outcomes do not match and a participation rubric. Member moved to amend the motion from approved to approved pending. Member indicated an electronic hosting statement is needed. Members discussed the scheduling and made the friendly suggestion for the faculty to confirm the desired scheduling. Member asked if the range of participation, members discussed that each student needs to choose how the grading components are broken down. Members asked for clarification of when students will get to choose the distribution of the grading components, can this be down at the end of the semester or the beginning. Pending earning full credit for participation and discussion, inclusion of the electronic hosting statement. Friendly suggestions to clarify when students will select the grade distribution.
- **PS 320 U.S. Environmental Law and Politics- Approved Unanimously**
Discussion: Member Scott Despain presented the course action.
- **PS 341 European Politics- Approved Unanimously**
Discussion: Member Scott Despain presented the course action.
- **Teaching English as a Foreign Language Minor- Approved Unanimously with Friendly Suggestion**
Discussion: Member Scott Despain presented the new curricula action. Member asked if this is a minor in teaching English as a foreign language and made the friendly suggestion to correct the typo “minor studies plan: Jewish Studies Minor” (P. 43 pdf).

Discussion: Chair elect nominee Rudi Seracino. Member motioned to close nominations. Committee approved closing the nominations, motion to appoint chair-elect as Rudi Seracino, committee approved Rudi as chair-elect.

Meeting adjourned at 2:44 pm

Respectfully submitted by Lexi Hergeth

ENDORSED BY:

 8/9/2018


Head, Biological & Agricultural Engineering Department Date

APPROVED BY:

Provost Date

Chancellor Date

RECOMMENDED BY:

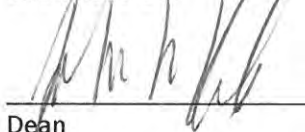
 8/24/18

Chair, Courses and Curricula Committee Date
College of Agriculture and Life Sciences

 30 Aug 18

Chair, Courses and Curricula Committee Date
College of Engineering

ENDORSED BY:

 8/24/2018

Dean Date
College of Agriculture and Life Sciences

 Jerome P. Favelle 8/30/18

Dean Date
College of Engineering

RECOMMENDED BY:

Chair, University Courses and Curricula Committee Date

APPROVED BY:

Dean Date
Division of Academic and Student Affairs

RECOMMENDED BY:

Dean's Council Date

MEMORANDUM

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

From: Dr. Garey Fox, P.E., Professor and Department Head
Department of Biological and Agricultural Engineering

Date: May 16, 2018

Subject: Change in Degree Program Title
Current Title: Agricultural and Environmental Technology
SIS Code: 11AGEVTBS
CIP Code: 01.0201

Proposed New Title: Biological and Agricultural Engineering Technology
Proposed New SIS Code: 11BAETBS
Proposed Effective Date: August 1, 2019

Reason for Title Change: With today's reliance on the tools of science and technology, the increasing need to produce a safe and abundant food supply, and increasing concerns about environmental sustainability, there is a significant need for graduates with the ability to use technology for the management of biological and agricultural systems. While this has always been the goal of the Agricultural and Environmental Technology program, the program (i) has not been able to attract the desired quality of students to meet the program's goals, (ii) fails to market the degree as a four-year degree program that interfaces with engineering to prospective students, and therefore, (iii) puts our graduates at a competitive disadvantage compared to other national institutions with similar degrees. Furthermore, students do not feel as connected to the department because of the variation of the program name from the department's name. Finally, this change allows the program to pursue accreditation through the Engineering Technology Accreditation Commission of ABET as the current program fits ABET's curricular and career thoughts on engineering technology. Therefore, the Department of Biological and Agricultural Engineering requests permission to change the Agricultural and Environmental Technology degree program name to the B.S. in Biological and Agricultural Engineering Technology. Changing the degree program name to Biological and Agricultural Engineering Technology is strongly supported by current students in the program, unanimously supported by the department's Advisory Board representing potential employers of the program's graduates, supported by alumni and employers based on an external survey, and unanimously supported by the faculty.

Impact to the Classification: The title change does not impact the classification of the CIP code.

Impact to Other Programs or Departments: The revision does not impact other programs or departments, as this is the only engineering technology program. The department has consulted with the Associate Dean of Academic Affairs in the College of Engineering, who is supportive of the request since the program fits ABET's curricular and career thoughts on engineering technology.

Impact on Current Students: Current students will not be impacted in completing their degrees.

Please do not hesitate to contact me (919-515-6700, gafox2@ncsu.edu) with any questions about this request.

**Routing for On-Campus Approval of
Change in Title for an Undergraduate Degree**

Current Degree Title Agricultural and Environmental Technology

Current Degree CIP Code 01.0201

Proposed New Title Biological and Agricultural Engineering Technology

CIP Code for New Title 01.0201
(If not changing, list current CIP)

Responsible College(s) CALS Responsible Department(s) BAE

Program Contact Name Garey Fox Contact email gafox2@ncsu.edu

Proposed SIS Curriculum Code 11BAETBS Proposed Effective Date August 1, 2019

Routing of Action: Indicate by date when the following occurs.

_____ Department Head *endorses* (signature required on action)

_____ College Undergraduate Curriculum Committee *recommends* (signature required on action)

_____ College Dean *endorses* (signature required on action)

Action moves to Office of Undergraduate Courses and Curricula for Routing:

_____ Substantive Change Review Committee (SCRT) *reviews*

_____ *Recommended* by Vice Provost, DELTA (if DE degree) (signature required on action)

_____ University Courses and Curricula Committee *recommends* (signature required on action)

_____ Dean, Division of Academic and Student Affairs (DASA) *approves* (signature required on action)

_____ Associate Dean's Council *informed*

Action moves to Provost's Office for Routing:

_____ Vice Provosts *informed*

_____ Dean's Council *recommends* (signature required on action)

_____ Provost *approves* (signature required on action)

_____ *Recommended* by Chancellor's Executive Officers (EOM)

_____ University Council *informed*

_____ *Presented* to Board of Trustees subcommittees (Academic & Personnel and Finance & Planning)

_____ Chancellor *approves* (signature required on action)

_____ Proposal submitted to UNC-GA by DASA Office of Undergraduate Courses and Curricula

_____ Action reviewed by UNC-GA for approval and routing to BOT

Notes:

NC STATE

Andy Hale <hale@ncsu.edu>

Curriculum Action

2 messages

Andy Hale <hale@ncsu.edu>

Tue, Aug 7, 2018 at 11:32 AM

To: Stacy Supak <stacy_supak@ncsu.edu>


Stacey,

I am in the process of preparing a curriculum action for the B.S. in Agricultural and Environmental Technology which includes dropping GIS 410 as an elective and replacing it with GIS 280. Is this acceptable for you? I do not anticipate more than 5 students a year would be taking GIS 280. A copy of the curriculum action has been attached for your review.

Thanks for your input,
Andy

--
S. Andrew Hale, Ph.D.
Professor, Undergraduate Coordinator and Associate Head
Department of Biological and Agricultural Engineering
108 D.S. Weaver Labs
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Phone: (919) 515-6760
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Andy_Hale@ncsu.edu
[Appointment Calendar](#)
<http://www.bae.ncsu.edu/people/faculty/hale/>

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 **AET Revision to 120 Credit Hours.pdf**
925K

Stacy Supak <sksupak@ncsu.edu>

Thu, Aug 9, 2018 at 1:07 PM

To: Andy Hale <hale@ncsu.edu>, Eric Money <esmoney@ncsu.edu>

Hi Andy,

Thank you for sharing the curriculum action form.
It looks good to me.

-Stacy

[Quoted text hidden]

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=====
Stacy Supak, PhD
Teaching Assistant Professor
[Center for Geospatial Analytics](#)
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College of Engineering
 Department of Computer Science
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MEMO

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

From: Dr. Sarah Heckman (sarah_heckman@ncsu.edu)
 Director of Undergraduate Programs, Department of Computer Science
 Phone: +1.919.515.2042

Date: August 28, 2018

Subject: Undergraduate Certificate in Computer Programming (14CPCTU)

The Certificate in Computer Programming or Computer Programming Certificate (CPC) provides core computer science course work for PBS who wish to retrain as computer scientists or consider graduate work in computer science. CPC admission requirements are updated to allow for enrollment in the CPC program prior to taking CSC116 if the student submits a transcript of a BS/BA degree that is not in computer science or computer engineering.

Attached is a justification with details.

Proposed effective date: 10/2018

Sarah Heckman

8/28/2018

Director of Undergraduate Programs, Computer Science

Date

James Williams

8/28/18

Head, Department of Computer Science

Date

Charles D. ...

30 Aug 18

Chair, COE Courses and Curriculum Committee

Date

Jerome P. Favelle

8/30/18

Dean, College of Engineering

Date

Chair, University Courses and Curricula Committee

Date

Office of the Provost

Date

Statement of Justification

Allowing admission to the CPC program by submitting a transcript of a degree in a non-computer science or non-computer engineering discipline will help students pay for the CPC program if their supporting agency require enrollment in a certificate program. Students will be admitted to the program before completing their first course.

Additionally, the CSC Director of Undergraduate Program has changed.

Statement of Program Objectives

By longstanding (1984) university policy, non-degree certificate programs have as their purpose the provision of educational opportunities for non-degree seeking adults interested in regular academic course offerings to meet their vocational, career, and other needs, and systematic guidance for lifelong education students by packaging courses in appropriate sequences in given subject areas.

Accordingly, the program objectives of the CPC are:

1. To teach the fundamentals of computer programming to students who have a Bachelor's degree.
2. To enable students to achieve a variety of professional goals.
3. To help students who have a Bachelor's degree change careers, enhance their professional credentials, or simply learn more about computer programming.

Proposed Revision(s) with Reasons

Allowing admission to the program by submitting a transcript of a non-computer science or non-computer engineering degree will allow students to enroll in the CPC and be supported by third-party funding that requires enrollment in a program.

The listed Certificate Director is updated due to a change in the Director of Undergraduate Programs for the Department of Computer Science.

Required Courses

MA 121 Introduction to Calculus (or any college calculus course)

Please note that students who intend to pursue graduate study after completion of the CPC need MA 141, *not* MA 121.

CSC 116 Introduction to Computing - Java (3 cr with a grade of C or better)

CSC 216 Programming Concepts (4 cr with a grade of C or better)

CSC 226 Discrete Mathematics (3 cr)

CSC 230 C and Software Tools (3 cr)

CSC 236 Computer Organization and Assembly Language (3 cr)

CSC 246 Concepts and Facilities of Operating Systems (3 cr)

CSC 316 Data Structures (3 cr)

Please note that the Department of Computer Science will waive the pre/co-requisites of E 115 and MA 121 or 131 or 141 so students interested in the CPC may begin taking CSC 116. However, a Calculus I class remains a requirement for the CPC program.

Catalog Description of Updated Curriculum

The catalog description of the CPC may be found at: <https://oucc.dasa.ncsu.edu/computer-programming-pbs-de-only/>. The section below includes the changes that will be made to the Catalog Description in red. The current Catalog Description follows.

Computer Programming (PBS) (DE only)

Proposed Effective Date: Spring 2019

Description

The Computer Science Department offers the Computer Programming Certificate (CPC) to post-baccalaureate students (PBS) to enable them to change careers, enhance their professional credentials, or simply learn more about computer programming. The focus of the required courses is the theory and practice of the basics of Computer Science and computer programming. Rather than teach applications and a single skill set, the program focuses on higher order analytical skills that are crucial to mastery of an ever-changing field. This certificate is offered via Distance Education.

Program Coordinators

Certificate Director

Dr. [Sarah Heckman](#)

North Carolina State University

Department of Computer Science-Engineering

Campus Box 8206

Raleigh, NC 27695

919-515-2042

sarah_heckman@ncsu.edu

Director of Engineering Online

Dr. Linda Krute

North Carolina State University

College of Engineering – Dean's Office

Campus Box 7547

Raleigh, NC 27695

919-515-5440

linda_krute@ncsu.edu

Curriculum

Required Courses:

- MA 121 Introduction to Calculus (or any college calculus course)
*Please note that students who intend to pursue graduate study after completion of the CPC need MA 141, not MA 121.
- CSC 116 Introduction to Computing – Java (3 cr)
- CSC 216 Programming Concepts (4 cr)
- CSC 226 Discrete Mathematics (3 cr)
- CSC 230 C and Software Tools (3 cr)
- CSC 236 Computer Organization and Assembly Language (3 cr)
- CSC 246 Concepts and Facilities of Operating Systems (3 cr)
- CSC 316 Data Structures (3 cr)

** The Department of Computer Science waives the pre/co-requisite of MA 121 or 131 or 141 so students interested in the CPC may begin by taking CSC 116. However, a Calculus I class remains a requirement for the CPC program. E 115 is waived as a prerequisite for CSC 116 since this is a DE program and E 115 material is not needed for student success.

Total Hours Required: 24

Admissions Requirements

Although anyone with the prerequisites can take CSC classes offered through the CPC Program, the CPC is a distance-only program for PBS students. **After students have been accepted as an NDS student at NC State, they may apply for the CPC program. Students must submit a BS/BA transcript from a degree other than computer science or computer engineering.** The certificate is awarded to students completing the required courses with a grade point average of 2.0 or above.

Engineering Online and the Department of Computer Science jointly maintain and distribute a written description for interested prospective students. The Director of Advising for the Department of Computer Science coordinates with Registration & Records in issuing of certificates.

All course descriptions are identical to [regular courses](#).

Students may enroll for classes through [Engineering Online](#).

Plan of Study

Contact the Program Coordinators.

Registration Information

Contact the Program Coordinators.

Academic Structure

Term Effective: 1/1979; 8/2011, **1/2019**

Plan Code: 14CPCTU, 32CPCTU

CIP Code: 14.0901

Description: Undergraduate Certificate in Computer Programming

Offered: Distance Education format only

Computer Programming (PBS) (DE only)

Current Description

Description

The Computer Science Department offers the Computer Programming Certificate (CPC) to post-baccalaureate students (PBS) to enable them to change careers, enhance their professional credentials, or simply learn more about computer programming. The focus of the required courses is the theory and practice of the basics of Computer Science and computer programming. Rather than teach applications and a single skill set, the program focuses on higher order analytical skills that are crucial to mastery of an ever-changing field. This certificate is offered via Distance Education.

Program Coordinators

Certificate Director

Dr. Dennis Bahler

North Carolina State University

Department of Computer Science-Engineering

Campus Box 8206

Raleigh, NC 27695

919-515-3369

bahler@ncsu.edu

Director of Engineering Online

Dr. Linda Krute

North Carolina State University

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919-515-5440

linda_krute@ncsu.edu

Curriculum

Required Courses:

- MA 121 Introduction to Calculus (or any college calculus course)
*Please note that students who intend to pursue graduate study after completion of the CPC need MA 141, not MA 121.
- CSC 116 Introduction to Computing – Java (3 cr)
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Total Hours Required: 24

Admissions Requirements

Although anyone with the prerequisites can take CSC classes offered through the CPC Program, the CPC is a distance-only program for PBS students. Students must complete CSC 116 before enrolling in the program. The certificate is awarded to students completing the required courses with a grade point average of 2.0 or above.

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Plan of Study

Contact the Program Coordinator.

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CIP Code: 14.0901

Description: Undergraduate Certificate in Computer Programming

Offered: [Distance Education](#) format only



College of Engineering
Department of Computer Science
www.csc.ncsu.edu

Campus Box 8206
890 Oval Drive
Raleigh, NC 27695-8206
P: 919.515.2042

MEMO

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

From: Dr. Sarah Heckman (sarah_heckman@ncsu.edu)
Director of Undergraduate Programs, Department of Computer Science
Phone: +1.919.515.2042

Date: August 28, 2018

Subject: Minor in Computer Programming (14CPM)

The Department of Computer Science requests that the description of the Minor in Computer Programming is updated to change the required courses for admissions (CSC 116 and CSC 216) to only CSC 116.

Attached are the proposed and existing descriptive documents.

Proposed effective date: 01/2019

Sarah Heckman

8/28/2018

Director of Undergraduate Programs, Computer Science

Date

James Williams

9/29/18

Head, Department of Computer Science

Date

Paul P. ...

30 Aug 18

Chair, COE Courses and Curriculum Committee

Date

Jerome P. Favelle

8/30/18

Dean, College of Engineering

Date

Chair, University Courses and Curricula Committee

Date

Office of the Provost

Date

Computer Programming (14CPM)

Proposed Effective Date: Spring 2019

Description

The Department of Computer Science offers a Minor in Computer Programming to undergraduate majors in any field except Computer Science, Electrical Engineering, and Computer Engineering. The objectives of this minor are to: 1) encourage students to combine computing with their own disciplines, 2) promote quality in programming techniques, and 3) give graduating seniors with a minor in computer programming an added advantage in the job market.

Requirements

Completion of 22 credit hours.

All courses in the minor must be completed with a grade point average of 2.0 or higher.

Required Courses

Corequisites for CSC 116 (may be taken prior to or in the same semester as CSC 116):

- E 115 (Intro. to Computing Environments) or COS 100 (Science of Change) (1 cr)
- MA 121 Intro. to Calculus (or any college calculus course) (3-4 cr)

CSC Courses:

- CSC 116 Introduction to Computing – Java (3 cr)
- CSC 216 Programming Concepts – Java (4 cr)
- CSC 226 Discrete Mathematics for Computer Scientists (3 cr)
- CSC 230 C and Software Tools (3 cr)
- CSC 236 Computer Organization and Assembly Language for Computer Scientists (3 cr)

- CSC 246 Concepts and Facilities of Operating Systems for Computer Scientists (3 cr)
- CSC 316 Data Structures for Computer Scientists (3 cr)

Elective Courses

None

Admissions

Undergraduates will be admitted to the Minor in Computer Programming only after they have completed **CSC 116 with a grade of C or higher**, and have an overall GPA of at least 2.25. Students should submit the application for the Minor in Computer Programming to the CSC Coordinator for Academic Minor, as listed below, who will be the minor advisor. This can be done via e-mail or in person. Students must have a posted grade in order to submit an application.

Certification

The contact person listed below will certify the minor prior to graduation. The minor must be completed no later than the semester in which the student expects to graduate from his or her degree program. Paperwork for certification should be completed no later than during the registration period for the student's final semester at NC State.

Contact Person

Dr. Barbara Jasmine Adams
1204 Engineering Bldg II (EB II)
919.513.7888
barbara_adams@ncsu.edu

SIS Code: 14CPM

Computer Programming (14CPM)

Description

The Department of Computer Science offers a Minor in Computer Programming to undergraduate majors in any field except Computer Science, Electrical Engineering, and Computer Engineering. The objectives of this minor are to: 1) encourage students to combine computing with their own disciplines, 2) promote quality in programming techniques, and 3) give graduating seniors with a minor in computer programming an added advantage in the job market.

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- CSC 246 Concepts and Facilities of Operating Systems for Computer Scientists (3 cr)

- CSC 316 Data Structures for Computer Scientists (3 cr)

Elective Courses

None

Admissions and Certification of Minor

Admissions

Undergraduates will be admitted to the Minor in Computer Programming only after they have completed CSC 116 and CSC 216 with a grade of C or higher, and have an overall GPA of at least 2.25. Students should submit the application for the Minor in Computer Programming to the CSC Coordinator for Academic Minor, as listed below, who will be the minor advisor. This can be done via e-mail or in person. Students must have a posted grade in order to submit an application.

Certification

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Contact Person

Dr. Barbara Jasmine Adams
1204 Engineering Bldg II (EB II)
919.513.7888
barbara_adams@ncsu.edu

SIS Code: 14CPM



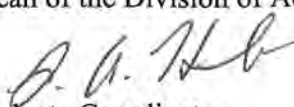
College of Agriculture and Life Sciences
Department of Biological & Agricultural Engineering
bae.ncsu.edu

Campus Box 7625
Raleigh, NC 27695-7625
P: 919.515.6760
E: Andy_Hale@ncsu.edu

July 27, 2018

MEMORANDUM

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

FROM: S. Andrew Hale, Ph.D. 
Professor and Undergraduate Coordinator,
Biological and Agricultural Engineering

SUBJECT: Minor Curriculum Revision to the B.S. in Agricultural and Environmental Technology:
Agricultural Systems Management (11AGEVTBS-11AGEVTASM, effective summer 1,
2011).

Effective immediately, the department of Biological and Agricultural Engineering requests the following changes to the B.S. in Agricultural and Environmental Technology: Agricultural Systems Management (11AGEVTBS-11AGEVTASM, effective summer 1, 2011).

1. Drop AES 333, Processing Agricultural Products from the spring semester of the junior year and replace it with BAE 325, Introductory Geomatics. AES 333 is no longer taught due to poor student demand for the course. It is typically replaced with BAE 325. This will reduce one credit hour from program.
2. Drop the free elective from the fall semester of the senior year, eliminating another credit hour.
3. Change GIS 410 on footnote 7 to GIS 280. GIS 410 is no longer offered and has been replaced by GIS 280.

These changes will reduce the total credit hour requirement for the degree program to 120 hours.

RECOMMENDED BY:

Jerry D. [Signature] 8/8/2018
Head, Biological & Agricultural Date
RECOMMENDED BY:

APPROVED BY:

[Signature] 8/24/18
Chair, Courses and Curricula Committee Date
College of Agriculture and Life Sciences

[Signature] 30 Aug 18
Chair, Courses and Curricula Committee Date
College of Engineering

[Signature] 8/24/2018

COE Dean:
Jerome P. Favelle
8/30/18

Chair, University Courses and Date
Curricula Committee

Dean, Date
Division of Academic and Student Affairs

APPROVED EFFECTIVE DATE: _____

GEP FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Current: Proposed: X Effective Semester: Spring, 2019

DEGREE TITLE: **B. S. in Agricultural and Environmental Technology**
 CONCENTRATION TITLE: **Agricultural Systems Management**
 CURRENT DEGREE KEY: **11AGEVTBS-SUM1-2011**

Freshman Year

<i>Fall Semester</i>	<i>Credits</i>	<i>Spring Semester</i>	<i>Credits</i>
ALS 103 Intro. Topics in ALS	1	CH 101 Chem - A Molecular Science ^B	3
BIO 181 Intro Biology I ^B	4	CH 102 General Chemistry I Lab ^B	1
CSC 200 Intro. To Computers & Uses or AEE 226 Comp. Apps in Ag and Ext. Ed. ¹	3	MA 131 Calc. for Life & Mgt. Sc. A ^A	3
ENG 101 Academic Writing & Research ^H	4	GEP Humanities Requirement ^C	3
MA 114 Intro. Finite Math ^A	3	GC 120 Found. of Graphics	3
	15	Phys Ed/ Healthy Living Elective ^E	1
		BAE 100 Intro to Bio Eng	1
			15

Sophomore Year

<i>Fall Semester</i>	<i>Credits</i>	<i>Spring Semester</i>	<i>Credits</i>
AES 201 Shop Processes & Mgmt.	3	GEP Interdisciplinary Persp. Elec. ^G	3
PY 211 College Physics I ^B	4	Physical Science Elective. ²	4
ARE 201 Intro. Agri. Res. Econ. ^D	3	Group A,B or C Elective ³	3
SSC 200 Soil Science ^B	3	GEP Social Science Elective ^D	3
SSC 201 Soil Science Lab	1	Phys Ed/ Healthy Living Elective ^E	1
	14		14

Junior Year

<i>Fall Semester</i>	<i>Credits</i>	<i>Spring Semester</i>	<i>Credits</i>
AES 323 Water Management	3	AES 332 Management of Animal Environments	4
AES 343 Electrical Systems	4	AES 333 Processing Agricultural Products	3
Communications Elective ⁵	3	BAE 325 Introductory Geomatics	3
Agri. and Resou. Econ. Elective ⁴	3	ST 350 Econ. & Bus. Stat. ^A	3
Group A,B or C Elective ³	3	Group A,B or C Elective ³	3
	16	Agri. and Resou. Econ. Elective ⁴	3
			16

Senior Year

<i>Fall Semester</i>	<i>Credits</i>	<i>Spring Semester</i>	<i>Credits</i>
AES 432 Agri. & Env. Safety & Health	3	BAE 435 Precision Agriculture	3
AEE 323 Leadership Development in ALS	3	AES 411 Agri. Mach. & Power Units	4
GEP Interdisciplinary Persp. Elec. ^G	2	Environmental Systems Elective ⁶	3
GEP Humanities Requirement ^C	3	Group A,B or C Elective ³	3
Group A,B or C Elective ³	3	GEP Additional Breadth Requirement ^F	3
Free Elective	1		16
	14		

Minimum Total Credit Hours Required for Graduation = 120^{1, J, K}

Major/Program requirements and footnotes:

¹Choose between CSC 200 and AEE 226.

³Choose between (CH 201 and 202) or PY 212.

⁴Group A, B and C electives can emphasize agricultural, environmental or business areas and effectively used for a minor.

⁶Choose from ARE 303, ARE 304, ARE 306, ARE 309, ARE 311, ARE 312, ARE 321 and ARE(EC 336).

⁶Choose from ENG 331, ENG 332 and ENG 333.

⁷Choose from AES 323, BAE 325 and GIS ~~440~~280.

*** General Education Program (GEP) requirements:**

To complete the requirements for graduation and the General Education Program, the following credit hours and co-requisites must be satisfied.

University approved GEP course lists for each category can be found at <http://www.ncsu.edu/uap/academic-standards/>.

PHYSICAL EDUCATION - 2 hours to be selected from the approved GEP Physical Education list.

a. One fitness and wellness course (any PE 100-level course).

b. One additional credit hour of PE activity courses.

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

Choose from the University approved GEP Humanities course list

SOCIAL SCIENCES - 3 credits to be selected from the approved GEP Social Sciences list. ARE 201 is taken as part of the Major requirements satisfies 3 credit hours of the 6 credit hours needed to fulfill the GEP Social Sciences requirement.

ADDITIONAL BREADTH - 3 credits to be selected from the approved GEP Humanities, Social Sciences or Visual and Performing Arts lists.

INTERDISCIPLINARY PERSPECTIVES - 5-6 credits to be selected from the approved GEP Interdisciplinary Perspectives list.

Co-requisites:

U.S. Diversity and Global Knowledge co-requisites must be satisfied to complete the General Education requirements. Choose course(s) that are identified on the approved GEP course lists as meeting the U.S. Diversity and Global Knowledge co-requisites.

Foreign Language proficiency at the FL_102 level will be required for graduation.

GEP FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Current: X Proposed: Effective Semester: Summer 1, 2011

DEGREE TITLE: **B. S. in Agricultural and Environmental Technology**
 CONCENTRATION TITLE: **Agricultural Systems Management**
 CURRENT DEGREE KEY: **11AGEVTBS-SUM1-2011**

Freshman Year			
<i>Fall Semester</i>	<i>Credits</i>	<i>Spring Semester</i>	<i>Credits</i>
ALS 103 Intro. Topics in ALS	1	CH 101 Chem - A Molecular Science ^B	3
BIO 181 Intro Biology I ^B	4	CH 102 General Chemistry I Lab ^B	1
CSC 200 Intro. To Computers & Uses or AEE 226 Comp. Apps in Ag and Ext. Ed. ¹	3	MA 131 Calc. for Life & Mgt. Sc. A ^A	3
ENG 101 Academic Writing & Research ^H	4	GEP Humanities Requirement ^C	3
MA 114 Intro. Finite Math ^A	4	GC 120 Found. of Graphics	3
	<u>3</u>	Phys Ed/ Healthy Living Elective ^B	1
	15	BAE 100 Intro to Bio Eng	<u>1</u>
			15

Sophomore Year			
<i>Fall Semester</i>	<i>Credits</i>	<i>Spring Semester</i>	<i>Credits</i>
AES 201 Shop Processes & Mgmt.	3	GEP Interdisciplinary Persp. Elec. ^G	3
PY 211 College Physics I ^B	4	Physical Science Elective. ²	4
ARE 201 Intro. Agri. Res. Econ. ^D	3	Group A,B or C Elective ³	3
SSC 200 Soil Science ^B	3	GEP Social Science Elective ^D	3
SSC 201 Soil Science Lab	1	Phys Ed/ Healthy Living Elective ^E	1
	<u>1</u>		<u>1</u>
	14		14

Junior Year			
<i>Fall Semester</i>	<i>Credits</i>	<i>Spring Semester</i>	<i>Credits</i>
AES 323 Water Management	3	AES 332 Management of Animal Environments	4
AES 343 Electrical Systems	4	AES 333 Processing Agricultural Products	4
Communications Elective ⁵	3	ST 350 Econ. & Bus. Stat. ^A	3
Agri. and Resou. Econ. Elective ⁴	3	Group A,B or C Elective ³	3
Group A,B or C Elective ³	3	Agri. and Resou. Econ. Elective ⁴	3
	<u>3</u>		<u>3</u>
	16		17

Senior Year			
<i>Fall Semester</i>	<i>Credits</i>	<i>Spring Semester</i>	<i>Credits</i>
AES 432 Agri. & Env. Safety & Health	3	BAE 435 Precision Agriculture	3
AEE 323 Leadership Development in ALS	3	AES 411 Agri. Mach. & Power Units	4
GEP Interdisciplinary Persp. Elec. ^G	2	Environmental Systems Elective ⁶	3
GEP Humanities Requirement ^C	3	Group A,B or C Elective ³	3
Group A,B or C Elective ³	3	GEP Additional Breadth Requirement ^F	3
Free Elective	1		<u>3</u>
	<u>1</u>		16
	15		

Minimum Total Credit Hours Required for Graduation = 122^{L,J,K}

Major/Program requirements and footnotes:

¹Choose between CSC 200 and AEE 226.

²Choose between (CH 201 and 202) or PY 212.

³Group A, B and C electives can emphasize agricultural, environmental or business areas and effectively used for a minor.

⁴Choose from ARE 303, ARE 304, ARE 306, ARE 309, ARE 311, ARE 312, ARE 321 and ARE(EC 336).

⁵Choose from ENG 331, ENG 332 and ENG 333.

⁷Choose from AES 323, BAE 325 and GIS 410.

*** General Education Program (GEP) requirements:**

To complete the requirements for graduation and the General Education Program, the following credit hours and co-requisites must be satisfied.

University approved GEP course lists for each category can be found at <http://www.ncsu.edu/uap/academic-standards/>.

PHYSICAL EDUCATION - 2 hours to be selected from the approved GEP Physical Education list.

a. One fitness and wellness course (any PE 100-level course).

b. One additional credit hour of PE activity courses.

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

Choose from the University approved GEP Humanities course list

SOCIAL SCIENCES - 3 credits to be selected from the approved GEP Social Sciences list. ARE 201 is taken as part of the Major requirements satisfies 3 credit hours of the 6 credit hours needed to fulfill the GEP Social Sciences requirement.

ADDITIONAL BREADTH - 3 credits to be selected from the approved GEP Humanities, Social Sciences or Visual and Performing Arts lists.

INTERDISCIPLINARY PERSPECTIVES - 5-6 credits to be selected from the approved GEP Interdisciplinary Perspectives list.

Co-requisites:

U.S. Diversity and Global Knowledge co-requisites must be satisfied to complete the General Education requirements. Choose course(s) that are identified on the approved GEP course lists as meeting the U.S. Diversity and Global Knowledge co-requisites.

Foreign Language proficiency at the FL_102 level will be required for graduation.

GEP FORMAT B – CURRICULUM REQUIREMENTS

Degree Title: Bachelor of Science in Agricultural and Environmental Systems Management – Agricultural Systems Management
Current Degree Key: 11AGEVTBS-11AGEVTASM
Effective Date of Revision: Spring, 2019

MAJOR FIELD OF STUDY REQUIREMENTS:	Credit Hours	GEP category, if applicable
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Math MA 131, MA 114, ST 350	9	Mathematics (6 hours)
Sciences CH 101, CH 102 PY 211 BIO 181 SSC 200	4 4 4 4	Natural Sciences (7 hours)
Physical Science Elective CH 201 and CH 202, or PY 212	4	
AES Major BAE 100 AES 201 AES 323 AES 332 AES 343 AES 432	1 3 3 4 4 3	
Environmental Systems Elective (Select 1) AES 443 GIS 410	3 3	
Other Major CSC 200 or AEE 226 GC 120 ARE 201 AEE 323	3 3 3 3	Social Sciences (3 hours)
Communications Elective COM 110, ENG 331, ENG 332 or ENG 333	3	Advanced Writing and Speaking (3 hours)
ARE Electives ARE 303, ARE 304, ARE 306. ARE 309, ARE 311, ARE 312 ARE 321, ARE(EC) 336	6	
CALS Group A, B or C Electives	15	

Concentration Courses/Groups/Electives: BAE 325 AES 411 AES 435	3 4 3	
Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i>	96 hours	
COLLEGE REQUIREMENTS:		
Orientation Course(s): ALS 103	1	
Other: (ex: Adv Communication courses)		
Total credit hours under College Requirements:	1 hour	

<u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u>		At least one of the following must be listed:
<i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i>		¹ Choose course(s) from the University Approved GEP course list for this category.
<i>Specific courses should not be listed in any of the fields below other than ENG 101.</i>		² Minimum requirements are satisfied by Major/College course requirements.
		³ Major/College course requirement satisfies X credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
		⁴ Co-requisite is satisfied by a Major/College course requirement.
		⁵ Choose course(s) from the University Approved GEP course lists for the Humanities, Social Sciences, or Visual & Performing Arts.
		⁶ Choose course(s) from the University Approved GEP course lists for the Natural and Mathematical Sciences.
General Education Program Requirements: <i>Minimum 39-40 hrs</i>	Credit hours	How will the GEP requirement be met? (choose applicable statement from 1-6 listed above)
Mathematical Sciences (minimum of 6 credits) (at least one with MA or ST prefix) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major course requirements</i>
Natural Sciences (minimum of 7 credits) (at least 1 laboratory) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	X	<i>Minimum requirements are satisfied by Major course requirements</i>
English 101	4	ENG 101
Humanities (minimum of 6 credits) (from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	6	<i>Choose course(s) from the University Approved GEP course list for this category.</i>
Social Sciences (minimum of 6 credits) (from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy both the Global Knowledge and Diversity co-requisites.</i>	3	<i>Required College course satisfies 3 credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.</i>
Additional Breadth (minimum of 3 credits) (Choose AB course list that is different from the approach of the Major) <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge and Diversity co-requisites.</i>	3	<i>Choose course(s) from the University Approved GEP course lists for the Humanities, Social Sciences or Visual and Performing Arts</i>
Interdisciplinary Perspective (minimum of 5-6 credits) <i>Only course(s) in the Major may double-count to satisfy this requirement.</i>	5	<i>Choose course(s) from the University Approved GEP course list for this category</i>

Physical Education/Healthy Living (Including one Fitness and Wellness course)	2	Choose course(s) from the University Approved GFP course list for this category
Total credit hours needed to complete GFP that are not satisfied as part of the Major/College requirements.	23 hours	* Required Departmental course in engineering ethics will satisfy 3 hours of Humanities, Additional Breadth, or Interdisciplinary Perspectives category
GFP Co-Requisites:		Courses taken in the Major, GFP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity* or Global Knowledge** co-requisite are marked on course lists with asterisks as indicated.
U.S. Diversity co-requisite*	n/a	Choose course(s) from the University Approved GFP course list for this category
Global Knowledge co-requisite**	n/a	Choose course(s) from the University Approved GFP course list for this category
Foreign Language Proficiency	n/a	FL_102 list for this category
The following requirements must be satisfied within the College/Program:		
Advanced Communication	X	Satisfied by College/Program Requirements
Technology Fluency	X	Satisfied by College/Program Requirements
Total credit hours required to complete Degree: Total must be within 120-128 credit hours.	120 Total hours	As applicable, indicate here the overall GPA requirement for degree completion including course completion.



MEMORANDUM

TO: Dr. Mike Mullen, Vice Chancellor and Dean
Division of Academic and Student Affairs

FROM: Dr. David Crouse, Undergraduate Teaching Coordinator
Crop and Soil Sciences

RE: Curriculum Action for B.S. in Plant and Soil Sciences – Crop Biotechnology

The Department of Crop and Soil Sciences requests the following changes in the Bachelor of Science in Plant and Soil Sciences (11PSSBS) – Crop Biotechnology (11PSSPCB) be made to the Format A Semester-by Semester Curriculum Display:

Freshman Year Fall Semester

- Replace CS 103 with ALS 103/303
- Delete GEP Requirement Elective [moved to another semester]
- Add CS 290 [moved from another semester]
- Add 3 credits from Foundation Electives

Freshman Year Spring Semester

- Rename HES_*** Health and Exercise Studies Courses to match GEP category title Physical Education/Healthy Living.
- Rename GEP Requirement Elective to GEP Humanities Elective.

Sophomore Year Fall Semester

- Delete ANT/SOC 261 requirement [ANT 261 is an option in another semester under the Foundation Elective requirement]
- Split CS 213 (4cr) into CS 213 (3c) + CS 214 (1cr).
- Delete CS 290 [moved to another semester]
- Delete GEP Requirement Elective
- Add 3 credits from ARE 201
- Add SSC 200 [moved from another semester]
- Add SSC 201 [moved from another semester]
- Add 1 credit from Physical Education/Healthy Living Elective [moved from another semester]

Sophomore Year Spring Semester

- Delete SSC 200 [moved to another semester]
- Delete SSC 201 [moved to another semester]

- Delete STS 302 or STS 303 or STST 304. [STS 302 is an option in another semester under the Foundation Elective requirement]
- Delete PY 131 or PY 212. [moved to another semester with a change to PY 131 only]
- Add BIT 400 [moved from another semester]
- Add COM 110 or COM 112 [moved from another semester]
- Add 3 credits from Restricted Electives
- Add 2 credits from GEP Interdisciplinary Perspectives Elective

Junior Year Fall Semester

- Delete BIT 410 [moved to another semester]
- Delete GN 311 [moved to another semester]
- Delete PB 480 [moved to another semester]
- Rename GEP Requirement Elective to GEP Social Sciences.
- Add PY 131 [moved from another semester]
- Add PB 421 [moved from another semester]
- Add ST 311 [moved from another semester]
- Add 3 credits from Restricted Electives

Junior Year Spring Semester

- Delete ENG 333 [moved to another semester with a change to ENG 331 or ENG 332 or ENG 333]
- Delete PB 421 [moved to another semester]
- Delete Plant Science or Free Electives
- Delete ST 311 [moved to another semester]
- Add 3 credits from GEP Humanities Requirement Elective
- Add 3 credits from CS 211 or 5 credits from GN 311 and GN 312
- Add 3 credits from Restricted Electives

Senior Year Fall Semester

- Rename BIT Laboratory Elective to Biotechnology Elective
- Delete CS 411 [moved to another semester as an option under the Restricted Elective requirement]
- Delete CS 492 or CS 493 requirement [covered in Experiential Learning requirement]
- Delete PP 315 [moved to another semester as an option under the Restricted Elective requirement]
- Delete Plant Science or Free Electives
- Add PB 480 [moved from another semester]
- Add GEP Additional Breadth Elective [moved from another semester]
- Add Experiential Learning Elective [replaces CS 492 or CS 493 requirement in this semester]

Senior Year Spring Semester

- Delete 9 credits from Plant Science or Free Electives
- Delete GN 412 [course changed to GN 312 and is an option in another semester]
- Delete GEP Requirement Elective [moved to another semester]
- Delete HES_ *** Health and Exercise Studies Courses [moved to another semester]

- Add CS 413
- Add ENG 331 or ENG 332 or ENG 333 [moved from another semester]
- Add 4 credits from Restricted Electives
- Add 4 or 6 credits from Free Electives

Major/Program Footnotes

- Create and populate Foundation Elective (see Format B for proposed list of courses)
- Create and populate Biotechnology Electives (see Format B for proposed list of courses)
- Create and populate Restricted Electives (see Format B for proposed list of courses)
- Create and populate Experiential Electives (see Format B for proposed list of courses)
- Remove all other footnotes.

The department also requests the following changes in Format B, which will require a new degree audit:

- Rename Restricted Electives group to Concentration Electives
- Rename Restricted Electives\BIT Laboratory to Concentration Electives\Biotechnology Elective. Requirement is 4 credits. Update list of courses to reflect those listed in the proposed Format B.
- Create Concentration Courses\Experiential Learning category
- Create Concentration Courses\Foundation Elective category. Requirement is 3 credits from: ANT 261, CS 224, or STS 302.
- Increase Concentration Courses\Restricted Electives requirement from 9 to 13 credits. Update list of courses to reflect those listed in the proposed Format B.
- Rename Writing and Speaking group to Communication and Advanced Writing
- Update Communication and Advanced Writing requirement to:
 - Choose one from ENG 331/332/333, and
 - Choose one from COM 110 or COM 112
- Create new Mathematics and Natural Sciences group by merging Mathematics and Natural Sciences groups
- Move appropriate courses into new Mathematics and Natural Sciences group.
- Change Physics Requirement (4cr) to PY 131 from PY 131 *or* PY 212.
- Rename Major Field of Study group to Required Courses within Major.
- Add CS 413 Plant Breeding to Required Courses within Major.
- Move Genetics Requirements from Natural Sciences to Required Courses within Major and change requirement to: CS 211 (3cr) *or* GN 311 (4cr) + GN 312 (1cr).
- Move the following courses from Major Field of Study into Concentration Elective\Restricted Electives
 - CS 411
 - PP 315
- Move STS 302 and STS 304 from Major Field of Study\STS Elective to Concentration Courses\Restricted Elective
- Remove ANT 261 from Major Field of Study as it is now an option within the Foundation Elective.

- Replace CS 103 with ALS 103/303
- Rename CS 492 (3cr) in Research or Internship Experience requirement to CSSC 492. Move CSSC 492 requirement into the new Required Courses with Major\Experiential Learning category
- Rename CS 493 (3cr) in Research or Internship Experience requirement to CSSC 493. Move CSSC 493 requirement into the new Required Courses with Major\Experiential Learning category
- Split the old 4 credit CS 213 into CS 213 (3cr) + CS 214 (1cr). Degree was not updated when CS 213 was split into lecture and lab.
- Split Soil Science requirement (4cr) to distinctly list SSC 200 (3cr) and SSC 201 (1cr) in Required Courses within Major group
- Change Free Electives from 6 credits to 4-6 credits.

Justification:

As a result of change in UNC System Policy to require a maximum of 120 credits, Crop and Soil Sciences faculty are taking a critical look at all of our undergraduate plans and subplans.

As part of our curricula revisions, we are taking the opportunity to add courses the Crop and Soil Sciences faculty consider important and remove courses considered lower priority. Some courses are being moved from degree requirements to the pool of restricted electives. Furthermore, some course are being replaced (CS 103 replaced by ALS 103/303) and others are being changed to reflect structural changes (e.g., CS 213 4cr has previously been changed by our department to CS 213 3cr plus CS 214 1cr). Other revisions reflect changes in course numbers and names that have occurred prior to this revision. Finally, concentration courses are being organized into three groups: Foundation Elective, Biotechnology Electives and Restricted Electives.

Currently enrolled students will not be affected by these revisions unless the student specifically requests in writing to be moved to the revised plan (proposed requirement term 2191).

Attached to this memorandum are the relevant supporting documents: Original Eight Semester Display; Revised Eight Semester Display; Original Curriculum Requirements and Revised Curriculum Requirements.

Current Display

 FORMAT A
 (SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

 Indicate display status: Current: X Proposed: Proposed Effective Semester: **7.2012**
Degree/Plan Title: **Plant and Soil Sciences**Concentration/Subplan Title: **Crop Biotechnology**Plan SIS Code: **11PSSSBS**Subplan SIS Code: **11PSSPCB**New Degree Audit required? (Y or N) **N**

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses, which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CS 103 Introduction to Crop Science (Fall Only)	1	BIO 183 Intro to Biology: Cellular and Molecular	4
BIO 181 Intro to Biology: Ecol, Evol, and Biodiversity	4	CH 101 Chemistry – A Molecular Science	3
ENG 101 Academic Writing and Research	4	CH 102 General Chemistry Lab	1
MA 131 Calculus for Life and Mgmt Sciences A	3	MA 231 Calculus for Life and Mgmt Sciences B	3
GEP Requirement Elective *	3	HES_*** Health & Exercise Studies Course	1
		GEP Requirement Elective *	3
Total:	15	Total:	15

SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANT/SOC 261 Technology in Soc & Culture ¹	3	CH 223 Organic Chemistry II	3
CH 221 Organic Chemistry I	3	CH 224 Organic Chemistry II Lab	1
CH 222 Organic Chemistry I Lab	1	SSC 200 Soil Science	3
CS 213 Crops – Adaptation and Production	4	SSC 201 Soil Science Laboratory	1
CS 290 Prof Develop in Plant & Soil Sci (Fall Only)	1	STS 302 Cont. Science, Tech & Human Values <i>or</i>	3
		STS 303 Humans and the Environment <i>or</i>	
		STS 304 Ethical Dimensions of	
GEP Requirement Elective *	3	PY 131 Conceptual Physics <i>or</i> PY 212 Coll Phys II ³	4
Total:	15	Total:	15

JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
BIT 410 Manipulation of Recom DNA	4	BCH 351 Gen Biochem <i>or</i> BCH 451 Princ Biochem	4
GN 311 Principles of Genetics	4	ENG 333 Comm for Science & Research	3
PB 480 Introduction to Plant Biotechnology	3	PB 421 Plant Physiology (Spring only)	3
GEP Requirement Elective *	5 to 6	Plant Science or Free Elective ²	3
		ST 311 Intro to Statistics	3
Total:	16 to 17	Total:	16

SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
BIT Laboratory Elective	4	Plant Science or Free Elective ²	9
CS 411 Crop Ecology (Fall only)	3	GN 412 Principles of Genetics Lab	1
CS 492 or 493 Internship or Research Exp	3	GEP Requirement Elective *	3
PP 315 Plant Pathology (Fall only)	4	HES_*** Health & Exercise Studies Course	1
Plant Science or Free Elective ²	3		
Total:	17	Total:	14

Minimum Credit Hours Required for Graduation * : **123**

Major/Program Footnotes:

¹ ANT/SOC 261 fulfills 3 hours of Social Science Requirements and the Global Knowledge co-requisite. ENG 333 fulfills 3 hours of the Humanities Requirement.

² 9 hours from Crop Science, Horticultural Science, Plant Pathology or Soil Science (courses must be 200, 300 or 400 level). One course must come from the following: CS 230, CS 312, CS 413, CS 415, CS 424, CS 462, HS 310, HS 411, HS 422, HS 431; at least 7 hours of free electives. (Several course selection options contained in the Concentration Requirements and Restricted Electives satisfy GEP requirements as well as major requirements. If students select a course that satisfies a GEP requirement, they should increase the number of Free Elective hours they take so that the minimum number of hours to graduate (123) has been satisfied.)

, PP 318); One course from (200, 300 or 400 level SSC)

³ If a student selects PY 212, they must take PY 211 as a free elective.

⁴ STS 302 or 304 will fulfill 3 hours of Interdisciplinary Perspectives requirements

*** General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional math.**
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional science.**
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **3 hours are met by the ARE 201 requirement; 3 hours are met by COM 112 if chosen**
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
 Humanities/Social Sciences/Visual and Performing Arts or _____ Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement. **3 hours may be met by STS 302 or STS 304. If students chose STS 303, they must select two other IP courses**
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- J. **Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement. **STS 302**
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

Current Display with Revisions

FORMAT A (SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: Proposed Effective Semester: **01.2019**

Degree/Plan Title: **Plant and Soil Sciences**

Concentration/Subplan Title: **Crop Biotechnology**

Plan SIS Code: **11PSSSBS**

Subplan SIS Code: **11PSSPCB**

New Degree Audit required? (Y or N) **Y**

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses, which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ALS 103 Freshman Transitions & Diversity OR ALS 303 Transfer Transitions & Diversity CS-103 Introduction to Crop Science (Fall Only)	1	BIO 183 Intro to Biology: Cellular and Molecular	4
BIO 181 Intro to Biology: Ecol, Evol, and Biodiversity	4	CH 101 Chemistry – A Molecular Science	3
ENG 101 Academic Writing and Research	4	CH 102 General Chemistry Lab	1
MA 131 Calculus for Life and Mgmt Sciences A	3	MA 231 Calculus for Life and Mgmt Sciences B	3
GEP Requirement Elective *	3	Physical Education/Healthy Living Elective ^EHES- *** Health & Exercise Studies Course	1
CS 290 Prof Develop in Plant & Soil Sci Foundation Elective ¹	1 3	GEP Humanities Requirement Elective ^{*C}	3
Total:	15 16	Total:	15
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ANT/SOC 261 Technology in Soc & Culture ³	3	CH 223 Organic Chemistry II	3
CH 221 Organic Chemistry I	3	CH 224 Organic Chemistry II Lab	1
CH 222 Organic Chemistry I Lab	1	SSC 200 Soil Science	3
CS 213 Crop Sciences – Adaptation and Production	4 3	SSC 201 Soil Science Laboratory	1
CS 290 Prof Develop in Plant & Soil Sci (Fall Only)	1	STS 302 Cont. Science, Tech & Human Values or STS 303 Humans and the Environment or STS 304 Ethical Dimensions of	3
GEP Requirement Elective *	3	PY 131 Conceptual Physics or PY 212 Coll Phys II ²	4
CS 214 Crop Science Laboratory	1	BIT 410 Manipulation of Recom DNA	4
SSC 200 Soil Science	3	COM 110 Public Speaking or COM 112 Interpersonal Communications	3
SSC 201 Soil Science Laboratory	1	Restricted Electives ³	3
Physical Education/Healthy Living Elective ^E	1	GEP Interdisciplinary Perspectives Elective ^G	2
ARE 201 Intro Agricultural & Resource Economics	3		
Total:	15 16	Total:	15

JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
BIT 410 Manipulation of Recomb DNA	4	BCH 351 Gen Biochem or BCH 451 Princ Biochem	4
GN 311 Principles of Genetics	4	ENG 333 Comm for Science & Research	3
PB 480 Introduction to Plant Biotechnology	3	PB 421 Plant Physiology (Spring only)	3
GEP Requirement Social Sciences Elective ^{*D}	5 to 6 ³	Plant Science or Free Elective ²	3
PY 131 Conceptual Physics	4	ST 311 Intro to Statistics	3
PB 421 Plant Physiology	3	GEP Humanities Requirement Elective ^C	3
ST 311 Intro to Statistics	3	CS 211 Plant Genetics or GN 311 Principles of Genetics and GN 312 Elementary Genetics Laboratory	3 or 5
Restricted Electives ³	3	Restrictive Electives ³	3
Total:	16 17	Total:	16 13 or 15

SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
BIT Laboratory Biotechnology Elective ²	4	Plant Science or Free Elective ²	9
CS 411 Crop Ecology (Fall only)	3	GN 412 Principles of Genetics Lab	1
CS 492 or 493 Internship or Research Exp	3	GEP Requirement Elective [*]	3
PP 315 Plant Pathology (Fall only)	4	HES ^{***} Health & Exercise Studies Course	1
Plant Science or Free Elective ²	3	CS 413 Plant Breeding	2
PB 480 Introduction to Plant Biotechnology	3	ENG 331 Comm for Engineering & Technology or ENG 332 Comm for Business & Management or ENG 333 Comm for Science & Research	3
GEP Additional Breadth Elective ^E	3	Restricted Electives ³	4
Experiential Learning Elective ⁴	3	Free Electives	4 or 6
Total:	17 13	Total:	14 13 or 15

Minimum Credit Hours Required for Graduation * : ~~123~~ 120

Major/Program Footnotes:

¹ ANT/SOC 261 fulfills 3 hours of Social Science Requirements and the Global Knowledge co-requisite. ENG 333 fulfills 3 hours of the Humanities Requirement.

² 9 hours from Crop Science, Horticultural Science, Plant Pathology or Soil Science (courses must be 200, 300 or 400 level). One course must come from the following: CS 230, CS 312, CS 413, CS 415, CS 424, CS 462, HS 310, HS 411, HS 422, HS 431; at least 7 hours of free electives. (Several course selection options contained in the Concentration Requirements and Restricted Electives satisfy GEP requirements as well as major requirements. If students select a course a course that satisfies a GEP requirement, they should increase the number of Free Elective hours they take so that the minimum number of hours to graduate (123) has been satisfied.)

, PP 318); One course from (200, 300 or 400 level SSC)

³ If a student selects PY 212, they must take PY 211 as a free elective.

⁴ STS 302 or 304 will fulfill 3 hours of Interdisciplinary Perspectives requirements

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

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

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

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

***General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional math.**
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional science.**
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **3 hours are met by the ARE 201 requirement; 3 hours are met by COM 112, if chosen**
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
X Humanities/Social Sciences/Visual and Performing Arts or _____ Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement. **3 hours are met by ANT 261, CS 224 or STS 302 in the Foundation Elective requirement or STS 304. If students chose STS 303, they must select two other IP courses**
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- J. **Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement. **STS 302**
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

Proposed Display

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: Proposed Effective Semester: 1.2019

Degree/Plan Title: Plant and Soil Sciences

Concentration/Subplan Title: Crop Biotechnology

Plan SIS Code: 11PSSSBS

Subplan SIS Code: 11PSSPCB

New Degree Audit required? (Y or N) Y

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses, which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ALS 103 Freshman Transitions & Diversity OR ALS 303 Transfer Transitions & Diversity	1	BIO 183 Intro to Biology: Cellular and Molecular	4
BIO 181 Intro to Biology: Ecol, Evol, and Biodiversity	4	CH 101 Chemistry – A Molecular Science	3
CS 290 Professional Development in Plant and Soil Sciences	1	CH 102 General Chemistry Lab	1
ENG 101 Academic Writing and Research	4	MA 231 Calculus for Life and Mgmt Sciences B	3
MA 131 Calculus for Life and Mgmt Sciences A	3	Physical Education/Healthy Living Elective ^E	1
Foundation Elective ¹	3	GEP Humanities Elective ^C	3
Total:	16	Total:	15
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CH 221 Organic Chemistry I	3	CH 223 Organic Chemistry II	3
CH 222 Organic Chemistry I Lab	1	CH 224 Organic Chemistry II Lab	1
CS 213 Crops Science	3	BIT 410 Manipulation of Recomb DNA	4
CS 214 Crop Science Laboratory	1	Restricted Electives ³	3
SSC 200 Soil Science	3	COM 110 Public Speaking or COM 112 Interpersonal Communications	3
SSC 201 Soil Science Laboratory	1	GEP Interdisciplinary Perspectives Elective ^G	2
Restricted Elective ³	3		
Physical Education/Healthy Living Elective ^E	1		
Total:	16	Total:	16
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
PB 421 Plant Physiology	3	BCH 351 Gen Biochem or BCH 451 Princ Biochem	4
PY 131 Conceptual Physics	4	Restricted Electives ³	3
ST 311 Intro to Statistics	3	GEP Humanities Elective ^C	3
ARE 201 Intro Agricultural & Resource Economics	3	CS 211 Plant Genetics or GN 311 Principles of Genetics and GN 312 Elementary Genetics Laboratory	3 or 5
GEP Social Sciences Elective ^D	3		
Total:	16	Total:	13 or 15

SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Biotechnology Elective ²	4	CS 413 Plant Breeding	2
Experiential Learning Elective ⁴	3	ENG 331 Comm for Engineering & Technology or ENG 332 Comm for Business & Management or ENG 333 Comm for Science & Research	3
PB 480 Introduction to Plant Biotechnology	3	Restricted Electives ³	4
GEP Additional Breadth Elective ^F	3	Free Electives	4 or 6
Total:	13	Total:	13 or 15

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

Major/Program Footnotes:

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

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

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

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

*General Education Program (GEP) requirements and GEP Footnotes:

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional math.**
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional science.**
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **3 hours are met by the ARE 201 requirement**
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
 Humanities/Social Sciences/Visual and Performing Arts or _____ Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement. **3 hours are met by ANT 261, CS 224 or STS 302 in the Foundation Elective requirement**
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- J. **Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement. **STS 302**
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

Current Requirements



Curricula Requirements Detail

Program	CALS	Agriculture & Life Sciences
Plan	11PSSBS	Plant and Soil Sciences-BS
Sub-Plan	11PSSPCB	Crop Biotechnology Concen
Req Term	Sum2 '12	

[Need Help?](#)

1 - Orientation

	Description	Detail	Units
10	Intro Topics In Crop	CS 103	1.000

2 - Mathematical Sciences

	Description	Detail	Units
10	Calc Life Manag A	MA 131	3.000
20	Calc Life Manag B	MA 231	3.000
30	Intro to Statistic	ST 311	3.000

3 - Natural Sciences

11PSSPCB 2127 Natural Sciences

	Description	Detail	Units
10	Intro Bio Ecol/Div	BIO 181	4.000
20	Intro Bio Cell/Mol	BIO 183	4.000
30	Chem Molecular Sci	CH 101	3.000
40	Gen Chem Lab	CH 102	1.000
50	Org Chem I	CH 221	3.000
60	Org CH I Lab	CH 222	1.000
70	Org Chem II	CH 223	3.000
80	Org Chem II Lab	CH 224	1.000
90	Physics	Requirements	4.000
93	Princ of Genetics	GN 311	4.000
96	Elem Genetics Lab	GN 312	1.000
100	Biochemistry	Requirements	4.000

4 - Writing and Speaking

	Description	Detail	Units
10	Advanced Communication	Requirements	3.000

5 - Major Field of Study

11PSSPCB 2127 Major Field of Study

	Description	Detail	Units
10	Crop Science	CS 213	4.000
20	Prof Plant Soil Sc	CS 290	1.000
30	Crop Ecology	CS 411	3.000
50	SSC 200 and 201	Requirements	4.000
60	Plant Physiology	PB 421	3.000
70	Intr Plant Biotech	PB 480	3.000
80	Princ Plant Pathol	PP 315	4.000
90	STS Elective	Requirements	3.000
100	Manip Recomb DNA	BIT 410	4.000
110	Research or Internship Exp	Requirements	3.000
120	Tech In Soc & Cult	ANT 261	3.000

6 - Restricted Electives

	Description	Detail	Units
10	Restricted Electives	Requirements	9.000
20	BIT Laboratory	Requirements	4.000

8 - GEP Courses

Description	Detail	Units	
10 ENG 101 Acad Writing Research	Requirements	4.000	C- or better required
20 Humanities Elective	Requirements	6.000	
30 Social Sciences Elective	Requirements	3.000	
40 Fitness & Wellness-HESF 100 Lv	Requirements	1.000	S Allowed
45 Health & Exercise Studies	Requirements	1.000	S Allowed
50 Additional Breadth HSS-VPA	Requirements	3.000	
60 Interdisc Perspectives	Requirements	5.000	
70 GEP US Diversity	Requirements	Verify Req	
80 GEP Global Knowledge	Requirements	Verify Req	
90 Foreign Language Proficiency	Requirements	Verify Req	

20 - Free Electives
 11PSSPCB 2127 Free Electives

Description	Detail	Units
10 Must Be Approved By Advisor	Requirements	6.000

Total Units Required 123.000

[Return to Plans](#)

Proposed Requirements CURRICULUM REQUIREMENTS

Format B

<u>Degree/Plan Title:</u> Plant and Soil Sciences	<u>Plan SIS Code:</u> 11PSSBS
<u>Concentration/Subplan Title:</u> Crop Biotechnology	<u>Subplan SIS Code:</u> 11PSSPCB
<u>Indicate requirements status:</u> Current: Proposed: <u> X </u>	<u>Proposed Effective Semester:</u> January 2019
<u>New Degree Audit required?</u> (Y or N) Y	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

MAJOR FIELD OF STUDY REQUIREMENTS:			
Required Courses/Groups/ Electives:	Credit Hours	GEP category, if applicable	
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement	
MA 131 (CP)	3	Mathematics and Natural Sciences (37 hours)	
MA 231	3		
ST 311	3		
BIO 181 (CP)	4		
BIO 183 (CP)	4		
CH 101 (CP)	3		
CH 102	1		
CH 221	3		
CH 222	1		
CH 223	3		
CH 224	1		
PY 131	4		
BCH 351 or BCH 451 – Biochemistry	4		
COM 110 or COM 112	3		Communication and Advanced Writing (6 hours)
ENG 331 or ENG 332 or ENG 333	3		
ARE 201	3		Required Courses within Major (27 or 29 hours)
BIT 410	4		
CS 213 (CP) [C- or better required]	3		
CS 214 [C- or better required]	1		
CS 413	2		
CS 290	1		
PB 421	3		
PB 480	3		
SSC 200 (CP) [C- or better required]	3		
SSC 201 [C- or better required]	1		
CS 211 or GN 311 and GN 312 - Genetics	3 or 5		
Concentration Courses/Groups/Electives:		See footnoted lists (23 hours)	
Foundation Elective	3		
Biotechnology Electives	4		
Experiential Learning	3		
Restricted Electives	13		
Free Electives:	4 or 6		

Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i>	96 hours	
COLLEGE REQUIREMENTS:		
Orientation Course(s): ALS 103 or 303	1	
Other:		
Total credit hours under College Requirements:	1 Hours	

<u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u>		At least one of the following must be listed:
<p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><i>Specific courses should not be listed in any of the fields below other than ENG 101.</i></p>		<ol style="list-style-type: none"> Choose course(s) from the University Approved GEP course list for this category. Minimum requirements are satisfied by Major/College course requirements. Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. Co-requisite is satisfied by a Major/College course requirement. Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts. Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
General Education Program Requirements: <i>Minimum 39-40 hrs</i>	Credit hours	How will the GEP requirement be met? (Choose applicable statement from 1-6 listed above)
Mathematical Sciences (6 credits) (At least 1 course with MA or ST prefix) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	0	(Choose statement 1, 2 or 3) 2
Natural Sciences (7 credits) (At least 1 lab course or course with a lab) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	0	(Choose statement 1, 2 or 3) 2
English 101 (C- or better required) (4 credits)	4	ENG 101
Humanities (6 credits) (Courses from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	6	(Choose statement 1, 2 or 3) 1
Social Sciences (6 credits) (Courses from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	3	(Choose statement 1, 2 or 3) 3, (Major course requirements satisfies 3 credits of this requirement. Additional 3 credits can come from COM 112, if chosen for the communications requirement).
Additional Breadth (3 credits) (Choose approach that is different from the approach of the Major) <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.</i>	3	(Choose statement 5 or 6) 5
Interdisciplinary Perspectives (5 credits) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	2	(Choose statement 1, 2 or 3) 3 (Major course requirement satisfies 3 credit hours of this requirement)
Health and Exercise Studies (2 credits) (Including one Fitness and Wellness course)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are not satisfied as part of the Major/College requirements.	20 hours	
GEP Co-Requisites:		<i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.</i>
U.S. Diversity co-requisite (USD)	n/a	(Choose statement 1 or 4) 4

Global Knowledge co-requisite (GK)	n/a	(Choose statement 1 or 4) 4
Foreign Language Proficiency	n/a	Proficiency at the FL_102 level required.
The following requirements must be satisfied within the College/Program:		Place an X in the credit hour box to indicate below that the requirement is "Satisfied by College/Program Requirements"
Communication in the Major (Advanced Communication)		Satisfied by College/Program Requirements
Technology Fluency		Satisfied by College/Program Requirements
Total credit hours required to complete Degree: Total must be within 120-128 credit hours.	120 Total hours	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

Concentration Electives:**Foundation Elective**

ANT 261 Technology in Society and Culture
 CS 224 Seeds, Biotechnology and Societies
 STS 302 Contemporary Science, Technology and Human Values

Biotechnology Elective

BEC 463 Fermentation of Recombinant Microorganisms
 BIO 572 Proteomics
 BIT 100 Current Topics in Biotechnology
 BIT 200 Early Research in Biotechnology
 BIT 210 Phage Hunters
 BIT 211 Phage Genomics
 BIT 295 Special Topics in Biotechnology
 BIT 462 Gene Expression Analysis: Microarrays
 BIT 463 Fermentation of Recombinant Microorganisms
 BIT 464 Protein Purification
 BIT 465 Real-time PCR Techniques
 BIT 466 Animal Cell Culture Techniques
 BIT 467 PCR and DNA Fingerprinting
 BIT 468 Genome Mapping
 BIT 471 RNA Interference and Model Organisms
 BIT 473 Protein Interactions
 BIT 474 Plant Genetic Engineering
 BIT 476 Applied Bioinformatics
 BIT 477 Metagenomics
 BIT 478 Mapping the Brain
 BIT 479 High-Throughput Discovery
 BIT 480 Yeast Metabolic Engineering
 BIT 481 Plant Tissue Culture and Transformation
 BIT 492 External Learning Experience
 BIT 493 Special Problems in Biotechnology
 BIT 495 Special Topics in Biotechnology
 BIT 501 Ethical Issues in Biotechnology
 BIT 502 Biotechnology Networking and Professional Development
 BIT 510 Core Technologies in Molecular and Cellular Biology
 BIT 562 Gene Expression Analysis: Microarrays
 BIT 563 Fermentation of Recombinant Microorganisms
 BIT 564 Protein Purification
 BIT 565 Real-time PCR Techniques
 BIT 566 Animal Cell Culture Techniques
 BIT 567 PCR and DNA Fingerprinting
 BIT 568 Genome Mapping
 BIT 569 RNA Purification and Analysis
 BIT 571 RNA Interference and Model Organisms

BIT 572 Proteomics
BIT 573 Protein Interactions
BIT 574 Plant Genetic Engineering
BIT 577 Metagenomics
BIT 578 Mapping the Brain
BIT 579 High-Throughput Discovery
BIT 580 Yeast Metabolic Engineering
BIT 581 Plant Transformation
BIT 590 Independent Study in Biotechnology
BIT 595 Special Topics
CH 572 Proteomics
CHE 463 Fermentation of Recombinant Microorganisms
CHE 563 Fermentation of Recombinant Microorganisms
MB 210 Phage Hunters
MB 211 Phage Genomics
PB 481 Plant Tissue Culture and Transformation
PO 466 Animal Cell Culture Techniques

Experiential Learning

CSSC 492 Professional Internship Experience in Crop and Soil Sciences
CSSC 493 Research Experience in Crop and Soil Sciences

Restricted Electives

AEC 360 Ecology
BIO 330 Evolutionary Biology
BIO 414 Cell Biology
BIT 476 Applied Bioinformatics
BIT 481 Plant Tissue Culture and Transformation
CS 211 Plant Genetics
CS 216 Southern Row Crop Production-Cotton, Peanuts, and Tobacco
CS 218 Southern Row Crop Production-Corn, Small Grains and Soybeans
CS 224 Seeds, Biotechnology and Societies
CS 230 Introduction to Agroecology
CS 312 Grassland Management for Natural Resources Conservation
CS 411 Crop Ecology
CS 414 Weed Science
CS 415 Integrated Pest Management
CS 418 Introduction to Regulatory Science in Agriculture
CS 424 Seed Physiology
CS 430 Advanced Agroecology
CS 480 Sustainable Food Production (capstone)
CS 490 Senior Seminar in Crop Science and Soil Science
CS 495 Special Topics in Crop Science
ENT 425 General Entomology
GN 311 Principles of Genetics
GN 312 Elementary Genetics Laboratory
GN 421 Molecular Genetics
GN 423 Population, Quantitative and Evolutionary Genetics
MB 200 Microbiology and World Affairs
MB 351 General Microbiology
PB 200 Plant Life
PB 250 Plant Biology
PB 295 Special Topics in Botany
PB 345 Economic Botany
PB 346 Economic Botany Lab
PB 400 Plant Diversity and Evolution
PB 403 Systematic Botany
PB 405 Wetland Flora
PB 413 Plant Anatomy
PB 414 Cell Biology

PB 495 Special Topics in Botany
PB 565 Plant Community Ecology
PB 570 Plant Functional Ecology
PB 575 Introduction to Mycology
PP 315 Principles of Plant Pathology
PP 495 Special Topics in Plant Pathology
SSC 185 Land and Life
SSC 332 Environmental Soil Microbiology
SSC 341 Soil Fertility and Nutrient Management
SSC 342 Soil and Plant Nutrient Analysis
SSC 421 Role of Soils in Environmental Management
SSC 427 Biological Approaches to Sustainable Soil Systems
SSC 428 Service-Learning in Urban Agriculture Systems
SSC 440 Geographic Information Systems (GIS) in Soil Science and Agriculture
SSC 442 Soil and Environmental Biogeochemistry
SSC 452 Soil Classification
SSC 455 Soils, Environmental Quality and Global Challenges
SSC 461 Soil Physical Properties and Plant Growth
SSC 462 Soil-Crop Management Systems
SSC 470 Wetland Soils
ST 371 Introduction to Probability and Distribution Theory
STS 302 Contemporary Science, Technology and Human Values
STS 304 Ethical Dimensions of Progress
STS 323 World Population and Food Prospects

Department Head Consultations

COM course changes in proposed Crop and Soil Sciences curriculum changes

Kenneth Zagacki <kszagack@ncsu.edu>

Wed, Sep 5, 2018 at 1:18 PM

To: David Crouse <crouse@ncsu.edu>

Hi David - these changes are acceptable.

Best,
Ken Zagacki

On Wed, Sep 5, 2018 at 1:00 PM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

The teaching faculty in the Department of Crop and Soil Sciences have re-worked the degree requirements for five of our degree options. We are both modernizing our degrees and bringing consistency among core courses.

With regards to changes affecting your department, we seek to change our Communications requirement to bring uniformity among all of our degrees. The only changes we are proposing is to our Plant & Soil Sciences - Crop Biotechnology and Turfgrass Science programs.

Below is a list of our current requirements and below that is our proposed revisions:

Current

- COM 110 or COM 112: Natural Resources - Soil and Water Systems
- COM 110 or COM 112: Plant and Soil Sciences - Crop Production
- No required COM course: Plant and Soil Sciences - Crop Biotechnology
- COM 110 or COM 112: Plant and Soil Sciences - Soil Science
- COM 110: Turfgrass Science

Proposed

- COM 110 or COM 112: Natural Resources - Soil and Water Systems
- COM 110 or COM 112: Plant and Soil Sciences - Crop Production
- COM 110 or COM 112: Plant and Soil Sciences - Crop Biotechnology
- COM 110 or COM 112: Plant and Soil Sciences - Soil Science
- COM 110 or COM 112: Turfgrass Science

As you can see, our goal is to standardize on COM 110 or COM 112 as our Communication requirement. The change will have minimal impact on enrollment in your department. Some Turfgrass students will opt for COM 112 vs COM 110. Crop Biotechnology students will pick up COM 110 or 112. In total, this change affects less than 15 students per year. We are not requesting changes to enrollment caps or existing enrollment restrictions (i.e., reserved seats for specific majors). Given past availability of the courses (Fall, Spring and Summer), students have ample opportunity in their schedule to make this improved option fit.

As part of the process, we need to consult with your department. Please take a few moments to consider the above changes. Then please send me a brief note stating whether these changes are acceptable to your department or not.

Thank you very much for your assistance. I need a response by end of business on Sep 7 so we can move forward next week, meeting a UNC System imposed deadline for curriculum revisions under UNC System Policy 400.1.5.

David

Dr. David Crouse

Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences

go.ncsu.edu/recruits

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9/5/2018

North Carolina State University Mail - COM course changes in proposed Crop and Soil Sciences curriculum changes

--
Ken S. Zagacki
Professor and Head
Department of Communication
NC State University

ENG course changes in proposed Crop and Soil Sciences curriculum changes

Laura Severin <Laura_Severin@ncsu.edu>

Wed, Sep 5, 2018 at 3:00 PM

To: Jason Swarts <jswarts@ncsu.edu>

Cc: David Crouse <crouse@ncsu.edu>

Thank you, Jason. You have our support, David.

Best,
Laura

On Wed, Sep 5, 2018 at 2:52 PM, Jason Swarts <jswarts@ncsu.edu> wrote:

I agree with Laura. I think this change looks good.

Jason

Jason Swarts
Professor
Associate Head
Director of Undergraduate Programs
NCSU Department of English

North Carolina State University
Raleigh, NC 27695-8105

919.515.4112
<http://www4.ncsu.edu/~jswarts>

On Sep 5, 2018, at 2:20 PM, Laura Severin <Laura_Severin@ncsu.edu> wrote:

Dear David,

I'm copying our Associate Head and Director of Undergraduate Studies, Jason Swarts, here, for the official response, but I don't think this will propose a problem. Giving the students more flexibility is probably a good development for us.

Best,
Laura

On Wed, Sep 5, 2018 at 1:00 PM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

The teaching faculty in the Department of Crop and Soil Sciences have re-worked the degree requirements for five of our degree options. We are both modernizing our degrees and bringing consistency among core courses.

With regards to changes affecting your department, we seek to change our Advance Writing requirement to provide an expanded experience to all our students and bring uniformity among all of our degrees. The classes that will be affected are:

- ENG 331: Communication for Engineering and Technology
- ENG 332: Communication for Business and Management
- ENG 333: Communication for Science and Research

Each of the above courses has a different focus and each are attractive to students graduating from our department. Due to varying post graduate interests, we send students across a wide range of professions. We have a group that are heading into environmental consulting or government agencies where ENG 331 is an appropriate course because of its focus on technical reports. Other students go

into research and development or graduate school, making ENG 333 the preferred course. And others go into a careers where an advanced writing course focused on management would be a benefit.

Below is a list of our current requirements and below that is our proposed revisions:

Current

- **ENG 332** or **ENG 333**: Natural Resources - Soil and Water Systems
- **ENG 332** or **ENG 333**: Plant and Soil Sciences - Crop Production
- **ENG 333**: Plant and Soil Sciences - Crop Biotechnology
- **ENG 332** or **ENG 333**: Plant and Soil Sciences - Soil Science
- **ENG 331** or **ENG 332** or **ENG 333**: Turfgrass Science

Proposed

- **ENG 331** or **ENG 332** or **ENG 333**: Natural Resources - Soil and Water Systems
- **ENG 331** or **ENG 332** or **ENG 333**: Plant and Soil Sciences - Crop Production
- **ENG 331** or **ENG 332** or **ENG 333**: Plant and Soil Sciences - Crop Biotechnology
- **ENG 331** or **ENG 332** or **ENG 333**: Plant and Soil Sciences - Soil Science
- **ENG 331** or **ENG 332** or **ENG 333**: Turfgrass Science

As you can see, our goal is to standardize on ENG 331 or ENG 332 or ENG 333 as our Advanced Writing requirement. The change will have minimal impact on enrollment in your department as we will not be adding students to the total enrollment, rather students will self sort as they redistribute among the three courses based on professional goals. We are not requesting changes to enrollment caps or existing enrollment restrictions (i.e., reserved seats for specific majors). Given past availability of the courses (Fall, Spring and Summer), students have ample opportunity in their schedule to make this improved option fit.

As part of the process, we need to consult with your department. Please take a few moments to consider the above changes. Then please send me a brief note stating whether these changes are acceptable to your department or not.

Thank you very much for your assistance. I need a response by end of business on Sep 7 so we can move forward next week, meeting a UNC System imposed deadline for curriculum revisions under UNC System Policy 400.1.5.

David

Dr. David Crouse
Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences
go.ncsu.edu/recruits

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—
Dr. Laura R. Severin
Professor and Head
Department of English
221A Tompkins Hall
Campus Box 8105
North Carolina State University
Raleigh, NC 27695-8105
919-515-4245
Laura_Severin@ncsu.edu

--

Dr. Laura R. Severin
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Raleigh, NC 27695-8105
919-515-4245
Laura_Severin@ncsu.edu

PY course changes in proposed Crop and Soil Sciences curriculum revision

2 messages

David Crouse <crouse@ncsu.edu>

Wed, Sep 5, 2018 at 1:00 PM

To: paul_huffman@ncsu.edu

Bcc: Brittany DesLauriers <bdeslau@ncsu.edu>, Robin Clements <renutt@ncsu.edu>, Melissa Merrill

<msashwel@ncsu.edu>

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

The teaching faculty in the Department of Crop and Soil Sciences have re-worked the degree requirements for five of our degree options. We are both modernizing our degrees and bringing consistency among core courses.

With regards to changes affecting your department, we seek to change our Physics requirement to bring uniformity among all of our degrees. The only changes we are proposing is to our Natural Resources - Soil & Water Systems and Plant & Soil Sciences - Crop Biotechnology programs.

Below is a list of our current requirements and below that is our proposed revisions:

Current

- **PY 211**: Natural Resources - Soil and Water Systems
- **PY 131**: Plant and Soil Sciences - Crop Production
- **PY 131** or **PY 212**: Plant and Soil Sciences - Crop Biotechnology
- **PY 131**: Plant and Soil Sciences - Soil Science
- **PY 131**: Turfgrass Science

Proposed

- **PY 131**: Natural Resources - Soil and Water Systems
- **PY 131**: Plant and Soil Sciences - Crop Production
- **PY 131**: Plant and Soil Sciences - Crop Biotechnology
- **PY 131**: Plant and Soil Sciences - Soil Science
- **PY 131**: Turfgrass Science

As you can see, our goal is to standardize on PY 131 as our required physics course. The change will not increase enrollment in your department, rather it will shift a small group of students in PY 211 and PY 212 to PY 131. The redistribution affects less than 15 students per year. We are not requesting changes to enrollment caps or existing enrollment restrictions (i.e., reserved seats for specific majors). Given past availability of the courses (Fall, Spring and Summer), students have ample opportunity in their schedule to make this improved option fit.

As part of the process, we need to consult with your department. Please take a few moments to consider the above changes. Then please send me a brief note stating whether these changes are acceptable to your department or not.

Thank you very much for your assistance. I need a response by end of business on Sep 7 so we can move forward next week, meeting a UNC System imposed deadline for curriculum revisions under UNC System Policy 400.1.5.

David

Dr. David Crouse

Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences

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Keith Warren <ckwarren@ncsu.edu>

Wed, Sep 5, 2018 at 2:45 PM

9/5/2018

North Carolina State University Mail - PY course changes in proposed Crop and Soil Sciences curriculum revision

To: Paul Huffman <paul_huffman@ncsu.edu>, David Crouse <crouse@ncsu.edu>
Cc: Keith Warren <keith_warren@ncsu.edu>

Hi David,

Paul and I just discussed your email and we have no objections to these changes.

Is there a particular semester that most of these students take Physics? Our spring section is in a smaller room and has filled to capacity the last two semesters. We usually have 10-15 available seats in the fall semester.

Obviously we monitor enrollments so if capacity becomes an issue we will just find a larger room.

Please let me know if you need any further information.

Best,
Keith

On Wed, Sep 5, 2018 at 1:22 PM Paul Huffman <paul_huffman@ncsu.edu> wrote:

[Quoted text hidden]

--

Paul Huffman
Professor and Head of Physics
NC State University
College of Sciences
P: [919-515-3314](tel:919-515-3314)
Campus Box 8202

NC STATE

--
Keith Warren, Assistant Head, Department of Physics

Tel: 919-513-2708 : 421 Riddick Hall, [2401 Stinson Dr.](#), NC State University, Box 8202, Raleigh, NC 27695-8202

Department Consultation RE: addition of restricted electives in CSSC

Kathy Krawczyk <krawczyk@ncsu.edu>

Wed, Sep 5, 2018 at 11:06 AM

To: crouse@ncsu.edu

David,

Thanks for sending this. ACC 200 has been eliminated effective Summer 2018, and ACC 280, Survey of Financial and Managerial Accounting, will take its place for Crop and Soil Science students. You can definitely add ACC 280 to your list of restricted electives - we would be happy for CSS students to enroll in the class!

If you need any other information - just let me know!

Kathy

Kathy Krawczyk
Dixon Hughes Goodman Professor of Accounting
Head, Department of Accounting
North Carolina State University
Campus Box 8113
Raleigh, NC 27695-8113
919-515-4439
919-515-4446 (fax)

[Quoted text hidden]

Department Consultation RE: addition of restricted electives in CSSC

Derek Aday <ddaday@ncsu.edu>

Wed, Sep 5, 2018 at 2:04 PM

To: David Crouse <crouse@ncsu.edu>

Dear Dr. Crouse,
I support these curriculum changes. Thanks for including us,
Derek

D. Derek Aday
Professor and Head
Department of Applied Ecology and
University Director, Southeast Climate Adaptation Science Center
North Carolina State University
127 David Clark Laboratory
Raleigh, NC 27695-7617
919-513-7568

Follow Applied Ecology on Twitter:

[@NCState_AEC](#)

[@ddadayNCSU](#)

On Wed, Sep 5, 2018 at 10:46 AM David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

In case you are not aware, UNC System Policy 400.1.5 has mandated a revision of degrees in excess of 120 credits, requiring the credit requirement be reduced to 120. As part of our revision process, the faculty in Crop and Soil Sciences have undertaken a comprehensive review of our restricted electives. To modernize the degree, we are requesting the addition to our pools of restricted electives courses in your department that previously existed but were not part of the degree or new courses created since the last degree revision. In many cases, we are simply seeking uniformity, adding a course already existing as a restrictive elective in one degree to other degrees in our department where the course isn't listed.

As part of the process, we need to consult with the affected departments. Please take a few moments to review the below linked spreadsheet of courses being added. Then please send me a brief note stating whether these changes are acceptable to your department or not.

 [Departmental Consultation - Restricted Elective...](#)

Should the proposed changes be approved by the University, we are not asking any department to add seats to existing course offerings or new sections to accommodate enrollment of our Crop and Soil Sciences students. Since these are courses under restricted electives, there are multiple alternative courses a student could select should your course(s) be at enrollment capacity. There are also multiple semesters a student could take the course(s) in your department, meaning, should the course be full one semester, they can always try to enroll in a later semester. We don't envision any impact on the departments as students would be back filling into vacant seats in your existing scheduled courses.

Thank you very much for your help with this. I need a response by end of business on Sep 7 so we can move forward next week, meeting the UNC System deadline.

David

Dr. David Crouse

9/5/2018

North Carolina State University Mail - Department Consultation RE: addition of restricted electives in CSSC

Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences
go.ncsu.edu/recruits

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Department Consultation RE: addition of restricted electives in CSSC

Garey Fox <gafox2@ncsu.edu>

Thu, Sep 6, 2018 at 10:04 AM

To: David Crouse <crouse@ncsu.edu>

David,

BAE has no issues with the proposed restricted electives.

Thanks!

Garey

Garey A. Fox, Ph.D., P.E., D.WRE
Professor and Department Head
Biological and Agricultural Engineering
North Carolina State University
102 Weaver Administration
Phone: 919-515-6700
Email: garey_fox@ncsu.edu
Twitter: [@GareyAFox](https://twitter.com/GareyAFox)

On Wed, Sep 5, 2018 at 10:45 AM, David Crouse <crouse@ncsu.edu> wrote:

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David

Dr. David Crouse
Undergraduate Teaching Coordinator and
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Department Consultation RE: addition of restricted electives in CSSC

Eric Davis <eric_davis@ncsu.edu>

Thu, Sep 6, 2018 at 4:20 PM

To: David Crouse <crouse@ncsu.edu>

Hi David:

Entomology & Plant Pathology approve of the modifications in restricted electives of CSS degree programs as proposed in the description below.

Rick Davis

On Wed, Sep 5, 2018 at 10:45 AM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

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 **Departmental Consultation - Restricted Elective...**

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David

Dr. David Crouse

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—
Eric L. Davis, Head &
William Neal Reynolds Distinguished Professor
Department of Entomology and Plant Pathology
Varsity Research Bldg. Module 6

9/6/2018

North Carolina State University Mail - Department Consultation RE: addition of restricted electives in CSSC

1575 Varsity Dr., Suite 1535
Campus Box 7616
North Carolina State University
Raleigh, NC 27695-7616

<https://cals.ncsu.edu/entomology-and-plant-pathology/people/rick>

Office: (919) 515-7984

Lab: (919) 515-6693

FAX: (919) 515-7716

email: eric_davis@ncsu.edu

Department Consultation RE: addition of restricted electives in CSSC

Betty Gardner <bgardner@ncsu.edu>

Wed, Sep 5, 2018 at 11:37 AM

To: David Crouse <crouse@ncsu.edu>

Hello David,

I reviewed the elective list that you sent for the Crop and Soil Sciences curriculum revision, and I am fine with your addition of the GN 421 and GN 423 courses to the electives list.

Sincerely,

Betty

[Quoted text hidden]

--

Betty Gardner, Ph. D.

Director, Undergraduate Genetics Program
Teaching Professor, Department of Biological Sciences
2532 Thomas Hall
Box 7614
North Carolina State University
Raleigh, NC 27695-7614

bgardner@ncsu.edu

Appointment Calendar: www.tinyurl.com/Gardnerappointment

Department Consultation RE: addition of restricted electives in CSSC

Ross Meentemeyer <rkmeente@ncsu.edu>

Fri, Sep 7, 2018 at 11:24 AM

To: crouse@ncsu.edu

Cc: Eric Money <esmoney@ncsu.edu>

Hi David - Everything looks fine from our perspective. Thanks for asking.

Best,

Ross

On Wed, Sep 5, 2018 at 10:46 AM David Crouse <crouse@ncsu.edu> wrote:

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David

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Department Consultation RE: addition of restricted electives in CSSC

Stith Gower <stgower@ncsu.edu>

Wed, Sep 5, 2018 at 2:00 PM

To: David Crouse <crouse@ncsu.edu>

Hi David,
We miss you this year in ENV.
I see no problem with the proposed additions and status.
Cheers,
Tom

Dr. Stith Tom Gower

Head, [Dept of Forestry and Environmental Resources](#)
College of Natural Resources
North Carolina State University
Campus Box 8008
Raleigh, NC 27695

Phone: (919) 515 3873

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On Wed, Sep 5, 2018 at 10:45 AM, David Crouse <crouse@ncsu.edu> wrote:

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 [Departmental Consultation - Restricted Elective...](#)

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SIGNATURE PAGE

COURSE ACTION for Revision to Undergraduate Major

Plant and Soil Sciences – Crop Biotechnology (11PSSPCB)

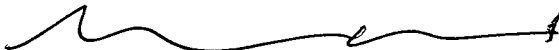
Recommended by:


Head, Department of Crop and Soil Sciences

8-16-18

Date

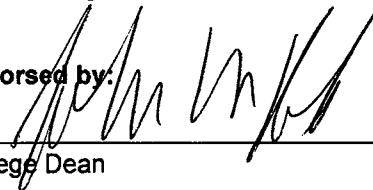
Recommended by:


Chair, College Curriculum Committee

8/31/18

Date

Endorsed by:


College Dean

9/5/18

Date

Approved by:

Chair, University Courses & Curricula Committee

Date

Chair, Council on Undergraduate Education

Date

Dean, Division of Academic and Student Affairs (DASA)

Date



MEMORANDUM

TO: Dr. Mike Mullen, Vice Chancellor and Dean
Division of Academic and Student Affairs

FROM: Dr. David Crouse, Undergraduate Teaching Coordinator
Crop and Soil Sciences

RE: Curriculum Action for B.S. in Plant and Soil Sciences – Crop Production

The Department of Crop and Soil Sciences requests the following changes in the Bachelor of Science in Plant and Soil Sciences (11PSSBS) – Crop Production (11PSSPAC) be made to the Format A Semester-by Semester Curriculum Display:

Freshman Year Fall Semester

- Replace CS 103 with ALS 103/303.
- Rename HES_*** Health and Exercise Studies Courses to match GEP category title Physical Education/Healthy Living and move to another semester
- Rename GEP Requirement Elective to GEP Social Sciences Elective and move to another semester
- Add CS 290 [moved from another semester]
- Add Foundation Elective (3cr).

Freshman Year Spring Semester

- Deleted ST 311 [moved to another semester]
- Change PB 200 requirement to PB 200 or BIO 183
- Delete GEP Interdisciplinary Elective
- Add 1 credit from Physical Education/Healthy Living [moved from another semester]

Sophomore Year Fall Semester

- Delete footnote for ARE 201
- Change CS 213 course name to “Crop Science” and split CS 213 (4cr) into CS 213 (3c) + CS 214 (1cr)
- Delete CS 290 [moved to another semester]
- Delete SSC 200 [moved to another semester]
- Delete SSC 201 [moved to another semester]
- Rename GEP Requirement Elective to GEP Humanities Elective
- Add ST 311 [moved from another semester]
- Add Physical Education/Healthy Living (1cr) [moved from another semester]

Sophomore Year Spring Semester

- Delete BIO 183 [became either/or requirement with PB 200]
- Split the old 4 credit CH 220 into CH 220 (3cr) + CH 222 (1cr)
- Delete Plant Science or Free electives [renamed and moved to another semester]
- Rename GEP Requirement Elective to GEP Humanities Elective
- Add SSC 200 [moved from another semester]
- Add SSC 201 [moved from another semester]
- Add PB 321 [moved from another semester]
- Add GEP Interdisciplinary Perspectives Elective (2cr) [moved from another semester]

Junior Year Fall Semester

- Delete ENT 425 [added into the Restricted Electives category, becoming an option in this semester or another]
- Update SSC 341 to current name *Soil Fertility and Nutrient Management*.
- Delete SSC 342 [renamed and moved to another semester]
- Delete HES_*** Health and Exercise Studies Courses [renamed to match GEP category title and moved to another semester]
- Add 3 credits from Crop Production Electives
- Add 6 credits from Restricted Electives

Junior Year Spring Semester

- Change ENG 332 or ENG 333 requirement to ENG 331 or ENG 332 or ENG 333
- Delete PB 321 [moved to another semester]
- Delete PY 131 [moved to another semester]
- Delete Plant Science or Free Electives (3cr)
- Add SSC 342 *Soil and Plant Nutrient Analysis* [move from another semester]
- Add 3 credits from Crop Production Electives
- Add 6 credits from Restricted Electives

Senior Year Fall Semester

- Delete CS 411 [moved into the Restricted Electives category, becoming an option in this semester or another]
- Delete PP 315 [moved into the Restricted Electives category, becoming an option in this semester or another]
- Delete CS 492 or CS 493 [replaced by Experiential Learning Elective]
- Rename GEP Requirement Elective (2-3cr) to GEP Social Sciences Elective (3cr)
- Delete Plant Science or Free Electives
- Add PY 131 [moved from another semester]
- Add 3 credits from Experiential Electives
- Add 2 credits from Restricted Electives
- Add 3 credits from Free Electives

Senior Year Spring Semester

- Replace CS 462 Soil-Crop Management Systems with the cross-listed course SSC 462 Soil-Crop Management Systems.
- Delete CS (SSC 490) Senior Seminar

- Delete Plant Science or Free Electives (9cr)
- Add 3 credits from Free Electives
- Add 3 credits from GEP Additional Breadth Elective

Major/Program Footnotes

- Create and populate Foundation Elective (see Format B for proposed list of courses)
- Create and populate Crop Production Electives (see Format B for proposed list of courses)
- Create and populate Restricted Electives (see Format B for proposed list of courses)
- Create and populate Experiential Learning Electives (see Format B for proposed list of courses)
- Remove all other footnotes.

The department also requests the following changes in Format B, which will require a new degree audit:

- Rename Restricted Electives group to Concentration Electives
- Rename Writing and Speaking group to Communication and Advanced Writing
- Rename Major Field of Study group to Required Courses within Major
- Create new Mathematics and Natural Sciences group by merging Mathematics and Natural Sciences groups
- Create Concentration Courses\Experiential Learning category
- Create Concentration Courses\Foundation Elective category. Requirement is 3 credits from: CS 224, CS 230, or SSC 185.
- Create Concentration Courses\Crop Production Electives category. Requirement is 6 credits from: CS 216, CS 218, and CS 312.
- Move appropriate courses into new Mathematics and Natural Sciences group.
- Move the following courses from Major Field of Study into Concentration Elective\Restricted Electives
 - CS 411
 - ENT 425
 - PP 315
- Increase Restricted Electives requirement from 12 to 14 credits
- Replace CS 103 with ALS 103/303
- Rename CS 492 (3cr) in Research or Internship Experience requirement to CSSC 492. Move CSSC 492 requirement into the new Concentration Courses\Experiential Learning category
- Rename CS 493 (3cr) in Research or Internship Experience requirement to CSSC 493. Move CSSC 493 requirement into the new Concentration Courses \Experiential Learning category
- Split CH 220 (4cr) into CH 220 (3cr) + CH 222 (1cr). Distinctly list CH 220 and CH 222 in Mathematics and Natural Sciences group.
- Split Soil Science requirement (4cr) to distinctly list SSC 200 (3cr) and SSC 201 (1cr) in Required Courses within Major group

- Update course names for SSC 341 and SSC 342 to reflect recent course revisions.
- Update Communication and Advanced Writing requirement to:
 - Choose one from ENG 331/332/333, and
 - Choose one from COM 110 or COM 112
- Split the old 4 credit CS 213 into CS 213 (3cr) + CS 214 (1cr). Degree was not updated when CS 213 was split into lecture and lab.
- Change the BIO 183 (3cr) plus PB 200 (3cr) requirement to be 3 credits from BIO 183 or PB 200.

Justification:

As a result of a merger of the departments of Crop Science and Soil Science into Crop and Soil Sciences, the departmental faculty have evaluated the considerable overlap of concentrations in the degree programs within the department. As part of a comprehensive undergraduate program revision, similar concentrations are proposed to be merged as we go through the curriculum changes necessary to reduce degree credit hours to a maximum of 120 (in accordance with UNC System Policy 400.1.5).

Plant and Soil Sciences – Agronomic Business (11PSSPAB) and Plant and Soil Sciences – Crop Production are being merged into a revised Plant and Soil Sciences – Crop Production, which will include a proposed name change at a later date. Plant and Soil Sciences – Agronomic Business will be discontinued at a later date after the proposed Crop Production changes become effective. Admission into Agronomic Business has already ended.

As part of the merger and revision, we are taking the opportunity to add courses the Crop and Soil Sciences faculty consider important and remove courses considered lower priority. Some courses are being moved from degree requirements to the pool of restricted electives. Furthermore, some course are being replaced (CS 103 replaced by ALS 103/303) and others are being changed to reflect structural changes (e.g., CH 220 4cr has been changed by the home department to CH 220 3cr plus CH 222 1cr). Other revisions reflect changes in course numbers and names that have occurred prior to this revision. Finally, concentration courses are being organized into three groups: Foundation Elective, Crop Production Electives and Restricted Electives.

Currently enrolled students will not be affected by these revisions unless the student specifically requests in writing to be moved to the revised plan (proposed requirement term 2191).

Attached to this memorandum are the relevant supporting documents: Original Eight Semester Display; Revised Eight Semester Display; Original Curriculum Requirements and Revised Curriculum Requirements.

Current Display

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: X Proposed: Proposed Effective Semester: **7.2012**

Degree/Plan Title: **Plant and Soil Sciences**

Concentration/Subplan Title: **Crop Production**

Plan SIS Code: **11PSSBS**

Subplan SIS Code: **11PSSPAC**

New Degree Audit required? (Y or N) **N**

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses, which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CS 103 Introduction to Crop Science (Fall Only)	1	CH 101 Chemistry – A Molecular Science	3
BIO 181 Intro to Biology: Ecol, Evol, and Biodiversity	4	CH 102 General Chemistry Lab	1
ENG 101 Academic Writing and Research	4	COM 110 Public Speaking or COM 112 Interpersonal Communications ¹	3
MA 121 Elements in Calculus	3	PB 200 Plant Life	4
HES_ *** Health & Exercise Studies Course	1	ST 311 Intro to Statistics	3
GEP Requirement Elective *	3	GEP Interdisciplinary Perspective Elective	3
Total:	16	Total:	17
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ARE 201 Intro to Agricultural and Resource Economics ²	3	BIO 183 Intro to Biology: Cellular and Molecular	4
CS 213 Crops – Adaptation and Production	4	CH 220 Organic Chemistry	4
CS 290 Prof Develop in Plant & Soil Sci (Fall Only)	1	Plant Science or Free Electives ³	4
SSC 200 Soil Science	3	GEP Requirement Elective *	3
SSC 201 Soil Science Laboratory	1		
GEP Requirement Elective *	3		
Total:	15	Total:	14
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CS 414 Weed Science	4	CS 211 Plant Genetics	3
ENT 425 General Entomology	3	ENG 332 Comm for Business & Management or ENG 333 Comm for Science & Research	3
SSC 341 Soil fertility & Fertilizers	3	PB 321 Intro Whole Plant Physiology	3
SSC 342 Soil Fertility Lab	1	PY 131 Conceptual Physics	4
GEP Requirement Elective *	3	Plant Science or Free Electives ³	3
HES_ *** Health & Exercise Studies Course	1		
Total:	15	Total:	16

SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CS 411 Crop Ecology (Fall only)	3	CS 415 Integrated Pest Management	3
CS 492 or 493 Internship or Research Exp	3	CS 462 Soil-Crop Management Systems (Spring only)	3
PP 315 Plant Pathology (Fall only)	4	CS (SSC) 490 Senior Seminar	1
Plant Science or Free Electives ³	3	Plant Science or Free Electives ³	9
GEP Requirement Elective *	2 to 3		
Total: 15 to 16		Total: 16	

Minimum Credit Hours Required for Graduation * : 123

Major/Program Footnotes:

¹ COM 112 fulfills 3 hours of Social Science Requirement if chosen.

² ARE 201 fulfills 3 hours of Social Science Requirements.

³ Select 12 hours of Plant or Soil Science Electives (CS 216, CS 218, CS 224, CS 230, CS 312, CS 413, CS 424, CS 430, HS 301, HS 411, HS 422, HS 431, PP 2**, SSC 2**); Students have at least 7 hours of free electives (Several course selection options contained in the Concentration Requirements and Restricted Electives satisfy GEP requirements as well as major requirements. If students select a course a course that satisfies a GEP requirement, they should increase the number of Free Elective hours they take so that the minimum number of hours to graduate (123) has been satisfied.

*General Education Program (GEP) requirements and GEP Footnotes:

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional math.**
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional science.**
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **3 hours are met by the ARE 201 requirement; 3 hours are met by COM 112 if chosen.**
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
X Humanities/Social Sciences/Visual and Performing Arts or _____ Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- J. **Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

Current Display with Revisions

FORMAT A (SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: Proposed Effective Semester: **1.2019**

Degree/Plan Title: **Plant and Soil Sciences**

Concentration/Subplan Title: **Crop Production**

Plan SIS Code: **11PSSBS**

Subplan SIS Code: **11PSSPAC**

New Degree Audit required? (Y or N) **Y**

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses, which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
<u>ALS 103 Freshman Transitions & Diversity OR ALS 303 Transfer Transitions & Diversity</u>	1	CH 101 Chemistry – A Molecular Science	3
Introduction to Crop Science (Fall Only)			
BIO 181 Intro to Biology: Ecol, Evol, and Biodiversity	4	CH 102 General Chemistry Lab	1
ENG 101 Academic Writing and Research	4	COM 110 Public Speaking or COM 112 Interpersonal Communications [†]	3
MA 121 Elements in Calculus	3	<u>BIO 183 Intro. Biol: Cell. & Molec. Biol. or PB 200 Plant Life</u>	4
HES *** Health & Exercise Studies Course	1	ST 311 Intro to Statistics	3
GEP Requirement Elective *	3	GEP Interdisciplinary Perspective Elective	3
<u>CS 290 Professional Development in Plant and Soil Sciences</u>	<u>1</u>	<u>Physical Education/Healthy Living Elective ^E</u>	<u>1</u>
<u>Foundation Elective ¹</u>	<u>3</u>	<u>Restricted Electives ³</u>	<u>3</u>
Total:	16	Total:	1715
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ARE 201 Intro to Agricultural and Resource Economics ²	3	BIO 183 Intro to Biology: Cellular and Molecular	4
CS 213 Crop Science – Adaptation and Production	4	CH 220 Organic Chemistry	<u>4</u>
CS 290 Prof Develop in Plant & Soil Sci (Fall Only)	1	Plant Science or Free Electives ³	4
SSC 200 Soil Science	3	GEP Humanities Requirement Elective ^{*C}	3
SSC 201 Soil Science Laboratory	1	<u>SSC 200 Soil Science</u>	<u>3</u>
GEP Humanities Requirement Elective ^{*C}	3	<u>SSC 201 Soil Science Laboratory</u>	<u>1</u>
<u>CS 214 Crop Science Laboratory</u>	<u>1</u>	<u>CH 222 Organic Chemistry I Lab</u>	<u>1</u>
<u>ST 311 Intro to Statistics</u>	<u>3</u>	<u>PB 321 Intro Whole Plant Physiology</u>	<u>3</u>
<u>Physical Education/Healthy Living Elective ^E</u>	<u>1</u>	<u>GEP Interdisciplinary Perspectives Elective ^E</u>	<u>2</u>
Total:	1514	Total:	1416

JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CS 414 Weed Science	4	CS 211 Plant Genetics	3
ENT 425 General Entomology	3	<u>ENG 331 Comm for Engineering & Technology or</u>	3
		ENG 332 Comm for Business & Management or	
		ENG 333 Comm for Science & Research	
SSC 341 Soil fertility <u>Fertility & Fertilizers</u> <u>Nutrient Management</u>	3	PB 321 Intro Whole Plant Physiology	3
SSC 342 Soil Fertility Lab	1	<u>PY 131 Conceptual Physics</u>	4
GEP Requirement Elective *	3	<u>Plant Science or Free Electives³</u>	3
HES *** Health & Exercise Studies Course	1	<u>SSC 342 Soil & Plant Nutrient Analysis Lab</u>	1
<u>Crop Production Elective²</u>	3	<u>Crop Production Elective²</u>	3
<u>Restricted Electives³</u>	6	<u>Restricted Electives³</u>	6
Total:	15 <u>16</u>	Total:	16

SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CS 411 Crop Ecology (Fall only)	3	CS 415 Integrated Pest Management	3
CS 492 or 493 Internship or Research Exp	3	CS-SSC 462 Soil-Crop Management Systems (Spring only)	3
PP 315 Plant Pathology (Fall only)	4	<u>CS (SSC) 490 Senior Seminar</u>	1
Plant Science or Free Electives³	3	<u>Plant Science or Free Electives³</u>	9
GEP Social Sciences Requirement Elective *^D	2 to 3	<u>GEP Additional Breadth Elective^E</u>	3
<u>PY 131 Conceptual Physics</u>	4	<u>Free Electives</u>	3
<u>Experiential Learning Elective⁴</u>	3		
<u>Restricted Electives³</u>	2		
<u>Free Electives</u>	3		
Total:	15 <u>16</u>	Total:	16 <u>12</u>

Minimum Credit Hours Required for Graduation * : ~~123~~120

Major/Program Footnotes:

¹ COM 112 fulfills 3 hours of Social Science Requirement if chosen.

² ARE 201 fulfills 3 hours of Social Science Requirements.

³ Select 12 hours of Plant or Soil Science Electives (CS 216, CS 218, CS 224, CS 230, CS 312, CS 413, CS 424, CS 430, HS 301, HS 411, HS 422, HS 431, PP 2**, SSC 2**); Students have at least 7 hours of free electives (Several course selection options contained in the Concentration Requirements and Restricted Electives satisfy GEP requirements as well as major requirements. If students select a course a course that satisfies a GEP requirement, they should increase the number of Free Elective hours they take so that the minimum number of hours to graduate (123) has been satisfied.

¹ Foundation Elective: Select from CS 224 or SSC 185.

² Crop Production Electives: Select from CS 216, CS 218 and CS 312.

³ Restricted Electives: Select from ACC 280, AES 323, ARE 215, ARE 303, ARE 304, ARE 306, ARE 309, ARE 311, ARE 312, ARE 323, ARE 332, ARE 336, BAE 325, BAE 435, CS 216, CS 218, CS 224, CS 230, CS 312, CS 411, CS 413, CS 418, CS 424, ET 425, GIS 280, PP 315, SSC 185, SSC 332, SSC 410, SSC 442, SSC 452, SSC 461, SSC 427, and SSC 440.

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

* General Education Program (GEP) requirements and GEP Footnotes:

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional math.**
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional science.**
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **3 hours are met by the ARE 201 requirement, 3 hours are met by COM 112 if chosen.**
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.

E. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
X Humanities/Social Sciences/Visual and Performing Arts or _____ Mathematical Sciences/Natural Sciences/Engineering

G. **Interdisciplinary Perspectives** (5-6 credit hours)

Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement. [3 hours are met by CS 224 or SSC 185 in the Foundation Elective requirement.](#)

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

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

H. **U.S. Diversity (USD)**

Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.

I. **Global Knowledge (GK)**

Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.

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

Proposed Display

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: Proposed Effective Semester: **1.2019**

Degree/Plan Title: **Plant and Soil Sciences**

Concentration/Subplan Title: **Crop Production**

Plan SIS Code: **11PSSBS**

Subplan SIS Code: **11PSSPAC**

New Degree Audit required? (Y or N) **Y**

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses, which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ALS 103 Freshman Transitions & Diversity OR ALS 303 Transfer Transitions & Diversity	1	BIO 183 Intro. Biol: Cell. & Molec. Biol. <u>or</u> PB 200 Plant Life	4
BIO 181 Intro to Biology: Ecol, Evol, and Biodiversity	4	CH 101 Chemistry – A Molecular Science	3
CS 290 Professional Development in Plant and Soil Sciences	1	CH 102 General Chemistry Lab	1
ENG 101 Academic Writing and Research	4	COM 110 Public Speaking <u>or</u> COM 112 Interpersonal Communications	3
MA 121 Elements in Calculus	3	Physical Education/Healthy Living Elective ^E	1
Foundation Elective ¹	3	Restricted Elective ³	3
Total:	16	Total:	15
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ARE 201 Intro to Agricultural and Resource Economics	3	SSC 200 Soil Science	3
CS 213 Crops Science	3	SSC 201 Soil Science Laboratory	1
CS 214 Crop Science Laboratory	1	CH 220 Organic Chemistry	3
ST 311 Intro to Statistics	3	CH 222 Organic Chemistry I Lab	1
GEP Humanities Elective ^C	3	PB 321 Intro Whole Plant Physiology	3
Physical Education/Healthy Living Elective ^E	1	GEP Humanities Elective ^C	3
		GEP Interdisciplinary Perspectives Elective ^G	2
Total:	14	Total:	16
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CS 414 Weed Science	4	CS 211 Plant Genetics	3
SSC 341 Soil Fertility & Nutrient Management	3	ENG 331 Comm for Engineering & Technology or ENG 332 Comm for Business & Management or ENG 333 Comm for Science & Research	3
Crop Production Elective ²	3	SSC 342 Soil & Plant Nutrient Analysis	1
Restricted Electives ³	6	Crop Production Elective ²	3
		Restricted Electives ³	6
Total:	16	Total:	16

SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Experiential Learning Elective ⁴	3	CS 415 Integrated Pest Management	3
PY 131 Conceptual Physics	4	SSC 462 Soil-Crop Management Systems	3
Restricted Electives ³	2	GEP Additional Breadth Elective ^F	3
GEP Social Sciences Elective ^D	3	Free Electives	3
Free Electives	3		
	Total: 15		Total: 12

Minimum Credit Hours Required for Graduation * : 120

Major/Program Footnotes:

¹ **Foundation Elective:** Select from CS 224 or SSC 185.

² **Crop Production Electives:** Select from CS 216, CS 218 and CS 312.

³ **Restricted Electives:** Select from ACC 280, AES 323, ARE 215, ARE 303, ARE 304, ARE 306, ARE 309, ARE 311, ARE 312, ARE 323, ARE 332, ARE 336, BAE 325, BAE 435, CS 216, CS 218, CS 224, CS 230, CS 312, CS 411, CS 413, CS 418, CS 424, ET 425, GIS 280, PP 315, SSC 185, SSC 332, SSC 410, SSC 442, SSC 452, SSC 461, SSC 427, and SSC 440.

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

*General Education Program (GEP) requirements and GEP Footnotes:

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: These requirements are met through required courses. Students do not need to take additional math.
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: These requirements are met through required courses. Students do not need to take additional science.
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: 3 hours are met by the ARE 201 requirement; 3 hours are met by COM 112, if chosen.
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
 Humanities/Social Sciences/Visual and Performing Arts or _____ Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement. 3 hours are met by CS 224 or SSC 185 in the Foundation Elective requirement.
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- J. **Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

Current Requirements



Curricula Requirements Detail

Program	CALS	Agriculture & Life Sciences
Plan	11PSSBS	Plant and Soil Sciences-BS
Sub-Plan	11PSSPAC	Crop Production Concentration
Req Term	Sum2 '12	

[Need Help?](#)

1 - Orientation

	Description	Detail	Units
10	Intro Topics in Crop	CS 103	1.000

2 - Mathematical Sciences

	Description	Detail	Units
10	Elements of Calc	MA 121	3.000
20	Intro to Statistic	ST 311	3.000

3 - Natural Sciences

	Description	Detail	Units
10	Intro Bio Eco/Div	BIO 181	4.000
20	Intro Bio Cell/Mol	BIO 183	4.000
30	Chem Molecular Sci	CH 101	3.000
40	Gen Chem Lab	CH 102	1.000
50	Intro Organic Chem	CH 220	4.000
60	Plant Life	PB 200	4.000
70	Whole Plant Phys	PB 321	3.000
80	Conceptual Physics	PY 131	4.000

4 - Writing and Speaking

	Description	Detail	Units
10	COM 110 or COM 112	Requirements	3.000
20	Advanced Communication	Requirements	3.000

5 - Major Field of Study

11PSSPAC 2127 Major Field of Study

	Description	Detail	Units
10	Plant Genetics	CS 211	3.000
20	Crop Science	CS 213	4.000
30	Prof Plant Soil Sc	CS 290	1.000
40	Crop Ecology	CS 411	3.000
50	Weed Science	CS 414	4.000
60	Integratd Pest Mgt	CS 415	3.000
70	Soil-Crop Mgmt Sys	CS 462	3.000
90	General Entomology	ENT 425	3.000
100	Princ Plant Pathol	PP 315	4.000
110	Soil Science	Requirements	4.000
120	Soil Fert	SSC 341	3.000
130	Soil & Plant Nutrient Analysis	SSC 342	1.000
140	Research or Internship Exp	Requirements	3.000
150	Intro AG Res Econ	ARE 201	3.000

6 - Restricted Electives

	Description	Detail	Units
10	Restricted Electives	Requirements	12.000

8 - GEP Courses

	Description	Detail	Units
10	ENG 101 Acad Writing Research	Requirements	4.000

C- or better required

20	Humanities Elective	Requirements	6.000	
30	Social Sciences Elective	Requirements	3.000	
40	Fitness & Wellness-HESF 100 Lv	Requirements	1.000	S Allowed
45	Health & Exercise Studies	Requirements	1.000	S Allowed
50	Additional Breadth HSS-VPA	Requirements	3.000	
60	Interdisc Perspectives	Requirements	5.000	
70	GEP US Diversity	Requirements	Verify Req	
80	GEP Global Knowledge	Requirements	Verify Req	
90	Foreign Language Proficiency	Requirements	Verify Req	

20 - Free Electives
 11PSSPAC 2127 Free Electives

	Description	Detail	Units
10	Must Be Approved By Advisor	Requirements	6.000

Total Units Required 123.000

[Return to Plans](#)

Proposed Requirements

CURRICULUM REQUIREMENTS

Format B

<u>Degree/Plan Title:</u> Plant and Soil Sciences	<u>Plan SIS Code:</u> 11PSSBS
<u>Concentration/Subplan Title:</u> Crop Production	<u>Subplan SIS Code:</u> 11PSSPAC
<u>Indicate requirements status:</u> Current: Proposed: X	<u>Proposed Effective Semester:</u> January 2019
<u>New Degree Audit required?</u> (Y or N) Y	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

MAJOR FIELD OF STUDY REQUIREMENTS:			
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>	
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement	
MA 121 (CP)	3	Mathematics and Natural Sciences (29 hours)	
ST 311	3		
BIO 181 (CP)	4		
CH 101 (CP)	3		
CH 102	1		
CH 220	3		
CH 222	1		
PB 321	3		
PY 131	4		
BIO 183 or PB 200 – Cell Biology / Plant Life	4		
COM 110 or COM 112	3		Communication and Advanced Writing (6 hours)
ENG 331 or ENG 332 or ENG 333	3		
ARE 201	3		Required Courses within Major (29 hours)
CS 211	3		
CS 213 (CP) [C- or better required]	3		
CS 214 [C- or better required]	1		
CS 414	4		
CS 415	3		
CS 290	1		
SSC 200 (CP) [C- or better required]	3		
SSC 201 [C- or better required]	1		
SSC 341	3		
SSC 342	1		
SSC 462	3		
<u>Concentration Courses/Groups/Electives:</u>		See footnoted lists (29 hours)	
Foundation Elective	3		
Crop Production Electives	6		
Experiential Learning	3		
Restricted Electives	17		
<u>Free Electives:</u>	6		

Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i>	96 hours	
COLLEGE REQUIREMENTS:		
Orientation Course(s): ALS 103 or 303	1	
Other:		
Total credit hours under College Requirements:	1 Hours	

<u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u>		At least one of the following must be listed:
<i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i>		1 Choose course(s) from the University Approved GEP course list for this category.
<i>Specific courses should not be listed in any of the fields below other than ENG 101.</i>		2 Minimum requirements are satisfied by Major/College course requirements.
		3 Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
		4 Co-requisite is satisfied by a Major/College course requirement.
		5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts.
		6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
General Education Program Requirements: <i>Minimum 39-40 hrs</i>	Credit hours	How will the GEP requirement be met? (Choose applicable statement from 1-6 listed above)
Mathematical Sciences (6 credits) (At least 1 course with MA or ST prefix) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	0	(Choose statement 1, 2 or 3) 2
Natural Sciences (7 credits) (At least 1 lab course or course with a lab) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	0	(Choose statement 1, 2 or 3) 2
English 101 (C- or better required) (4 credits)	4	ENG 101
Humanities (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	6	(Choose statement 1, 2 or 3) 1
Social Sciences (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	3	(Choose statement 1, 2 or 3) 3, (Major course requirements satisfies 3 credits of this requirement. Additional 3 credits can come from COM 112, if chosen for the communications requirement).
Additional Breadth (3 credits) (Choose approach that is different from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	3	(Choose statement 5 or 6) 5
Interdisciplinary Perspectives (5 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	2	(Choose statement 1, 2 or 3) 3 (Major course requirement satisfies 3 credit hours of this requirement)
Health and Exercise Studies (2 credits) (Including one Fitness and Wellness course)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are not satisfied as part of the Major/College requirements.	20 hours	
GEP Co-Requisites:		Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.
U.S. Diversity co-requisite (USD)	n/a	(Choose statement 1 or 4) 4

Global Knowledge co-requisite	(GK)	n/a	(Choose statement 1 or 4) 4
Foreign Language Proficiency		n/a	Proficiency at the FL_102 level required.
The following requirements must be satisfied within the College/Program:			Place an X in the credit hour box to indicate below that the requirement is "Satisfied by College/Program Requirements"
Communication in the Major (Advanced Communication)			Satisfied by College/Program Requirements
Technology Fluency			Satisfied by College/Program Requirements
Total credit hours required to complete Degree: Total must be within 120-128 credit hours.		120 Total hours	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

Concentration Electives:Foundation Elective

CS 224 Seeds, Biotechnology and Societies
 CS 230 Introduction to Agroecology
 SSC 185 Land and Life

Crop Production Elective

CS 216 Southern Row Crop Production—Cotton, Peanuts and Tobacco
 CS 218 Southern Row Crop Production—Corn, Small Grains and Soybean
 CS 312 Grassland Management for Natural Resources Conservation

Experiential Learning

CSSC 492 Professional Internship Experience in Crop and Soil Sciences
 CSSC 493 Research Experience in Crop and Soil Sciences

Restricted Electives

ACC 280 Survey of Financial and Managerial Accounting
 AES 323 Water Management
 ARE 215 Small Business Accounting
 ARE 303 Farm Management
 ARE 304 Agribusiness Management
 ARE 306 Agricultural Law
 ARE 309 Environmental Law and Economic Policy
 ARE 311 Agricultural Markets
 ARE 312 Agribusiness Marketing
 ARE 323 Agribusiness Finance
 ARE 332 Human Resource Management for Agribusiness
 ARE 336 Introduction to Resource and Environmental Economics
 BAE 325 Introductory Geomatics
 BAE 435 Precision Agriculture Technology
 CS 216 Southern Row Crop Production—Cotton, Peanuts and Tobacco
 CS 218 Southern Row Crop Production—Corn, Small Grains and Soybean
 CS 224 Seeds, Biotechnology and Societies
 CS 230 Introduction to Agroecology
 CS 312 Grassland Management for Natural Resources Conservation
 CS 411 Crop Ecology
 CS 413 Plant Breeding
 CS 418 Intro to Regulatory Science in Agriculture
 CS 424 Seed Physiology
 ENT 425 General Entomology
 GIS 280 Introduction to GIS
 PP 315 Principles of Plant Pathology
 SSC 185 Land and Life
 SSC 332 Environmental Soil Microbiology
 SSC 442 Soil and Environmental Biogeochemistry

SSC 452 Soil Classification

SSC 461 Soil Physical Properties and Plant Growth

SSC 427 Biological Approaches to Sustainable Soil Systems

SSC 440 Geographic Information Systems [GIS] in Soil Science and Agriculture

Department Head Consultations

COM course changes in proposed Crop and Soil Sciences curriculum changes

Kenneth Zagacki <kszagack@ncsu.edu>

Wed, Sep 5, 2018 at 1:18 PM

To: David Crouse <crouse@ncsu.edu>

Hi David - these changes are acceptable.

Best,
Ken Zagacki

On Wed, Sep 5, 2018 at 1:00 PM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

The teaching faculty in the Department of Crop and Soil Sciences have re-worked the degree requirements for five of our degree options. We are both modernizing our degrees and bringing consistency among core courses.

With regards to changes affecting your department, we seek to change our Communications requirement to bring uniformity among all of our degrees. The only changes we are proposing is to our Plant & Soil Sciences - Crop Biotechnology and Turfgrass Science programs.

Below is a list of our current requirements and below that is our proposed revisions:

Current

- COM 110 or COM 112: Natural Resources - Soil and Water Systems
- COM 110 or COM 112: Plant and Soil Sciences - Crop Production
- No required COM course: Plant and Soil Sciences - Crop Biotechnology
- COM 110 or COM 112: Plant and Soil Sciences - Soil Science
- COM 110: Turfgrass Science

Proposed

- COM 110 or COM 112: Natural Resources - Soil and Water Systems
- COM 110 or COM 112: Plant and Soil Sciences - Crop Production
- COM 110 or COM 112: Plant and Soil Sciences - Crop Biotechnology
- COM 110 or COM 112: Plant and Soil Sciences - Soil Science
- COM 110 or COM 112: Turfgrass Science

As you can see, our goal is to standardize on COM 110 or COM 112 as our Communication requirement. The change will have minimal impact on enrollment in your department. Some Turfgrass students will opt for COM 112 vs COM 110. Crop Biotechnology students will pick up COM 110 or 112. In total, this change affects less than 15 students per year. We are not requesting changes to enrollment caps or existing enrollment restrictions (i.e., reserved seats for specific majors). Given past availability of the courses (Fall, Spring and Summer), students have ample opportunity in their schedule to make this improved option fit.

As part of the process, we need to consult with your department. Please take a few moments to consider the above changes. Then please send me a brief note stating whether these changes are acceptable to your department or not.

Thank you very much for your assistance. I need a response by end of business on Sep 7 so we can move forward next week, meeting a UNC System imposed deadline for curriculum revisions under UNC System Policy 400.1.5.

David

Dr. David Crouse

Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences

go.ncsu.edu/recruits

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9/5/2018

North Carolina State University Mail - COM course changes in proposed Crop and Soil Sciences curriculum changes

—
Ken S. Zagacki
Professor and Head
Department of Communication
NC State University

ENG course changes in proposed Crop and Soil Sciences curriculum changes

Laura Severin <Laura_Severin@ncsu.edu>

Wed, Sep 5, 2018 at 3:00 PM

To: Jason Swarts <jswarts@ncsu.edu>

Cc: David Crouse <crouse@ncsu.edu>

Thank you, Jason. You have our support, David.

Best,
Laura

On Wed, Sep 5, 2018 at 2:52 PM, Jason Swarts <jswarts@ncsu.edu> wrote:

I agree with Laura. I think this change looks good.

Jason

Jason Swarts
Professor
Associate Head
Director of Undergraduate Programs
NCSU Department of English

North Carolina State University
Raleigh, NC 27695-8105

919.515.4112
<http://www4.ncsu.edu/~jswarts>

On Sep 5, 2018, at 2:20 PM, Laura Severin <Laura_Severin@ncsu.edu> wrote:

Dear David,

I'm copying our Associate Head and Director of Undergraduate Studies, Jason Swarts, here, for the official response, but I don't think this will propose a problem. Giving the students more flexibility is probably a good development for us.

Best,
Laura

On Wed, Sep 5, 2018 at 1:00 PM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

The teaching faculty in the Department of Crop and Soil Sciences have re-worked the degree requirements for five of our degree options. We are both modernizing our degrees and bringing consistency among core courses.

With regards to changes affecting your department, we seek to change our Advance Writing requirement to provide an expanded experience to all our students and bring uniformity among all of our degrees. The classes that will be affected are:

- ENG 331: Communication for Engineering and Technology
- ENG 332: Communication for Business and Management
- ENG 333: Communication for Science and Research

Each of the above courses has a different focus and each are attractive to students graduating from our department. Due to varying post graduate interests, we send students across a wide range of professions. We have a group that are heading into environmental consulting or government agencies where ENG 331 is an appropriate course because of its focus on technical reports. Other students go

into research and development or graduate school, making ENG 333 the preferred course. And others go into a careers where an advanced writing course focused on management would be a benefit.

Below is a list of our current requirements and below that is our proposed revisions:

Current

- ENG 332 or ENG 333: Natural Resources - Soil and Water Systems
- ENG 332 or ENG 333: Plant and Soil Sciences - Crop Production
- ENG 333: Plant and Soil Sciences - Crop Biotechnology
- ENG 332 or ENG 333: Plant and Soil Sciences - Soil Science
- ENG 331 or ENG 332 or ENG 333: Turfgrass Science

Proposed

- ENG 331 or ENG 332 or ENG 333: Natural Resources - Soil and Water Systems
- ENG 331 or ENG 332 or ENG 333: Plant and Soil Sciences - Crop Production
- ENG 331 or ENG 332 or ENG 333: Plant and Soil Sciences - Crop Biotechnology
- ENG 331 or ENG 332 or ENG 333: Plant and Soil Sciences - Soil Science
- ENG 331 or ENG 332 or ENG 333: Turfgrass Science

As you can see, our goal is to standardize on ENG 331 or ENG 332 or ENG 333 as our Advanced Writing requirement. The change will have minimal impact on enrollment in your department as we will not be adding students to the total enrollment, rather students will self sort as they redistribute among the three courses based on professional goals. We are not requesting changes to enrollment caps or existing enrollment restrictions (i.e., reserved seats for specific majors). Given past availability of the courses (Fall, Spring and Summer), students have ample opportunity in their schedule to make this improved option fit.

As part of the process, we need to consult with your department. Please take a few moments to consider the above changes. Then please send me a brief note stating whether these changes are acceptable to your department or not.

Thank you very much for your assistance. I need a response by end of business on Sep 7 so we can move forward next week, meeting a UNC System imposed deadline for curriculum revisions under UNC System Policy 400.1.5.

David

Dr. David Crouse

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Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences

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—
Dr. Laura R. Severin
Professor and Head
Department of English
221A Tompkins Hall
Campus Box 8105
North Carolina State University
Raleigh, NC 27695-8105
919-515-4245
Laura_Severin@ncsu.edu

--

Dr. Laura R. Severin
Professor and Head
Department of English
221A Tompkins Hall
Campus Box 8105
North Carolina State University
Raleigh, NC 27695-8105
919-515-4245
Laura_Severin@ncsu.edu

PY course changes in proposed Crop and Soil Sciences curriculum revision

2 messages

David Crouse <crouse@ncsu.edu>

Wed, Sep 5, 2018 at 1:00 PM

To: paul_huffman@ncsu.edu

Bcc: Brittany DesLauriers <bdeslau@ncsu.edu>, Robin Clements <renutt@ncsu.edu>, Melissa Merrill <msashwel@ncsu.edu>

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

The teaching faculty in the Department of Crop and Soil Sciences have re-worked the degree requirements for five of our degree options. We are both modernizing our degrees and bringing consistency among core courses.

With regards to changes affecting your department, we seek to change our Physics requirement to bring uniformity among all of our degrees. The only changes we are proposing is to our Natural Resources - Soil & Water Systems and Plant & Soil Sciences - Crop Biotechnology programs.

Below is a list of our current requirements and below that is our proposed revisions:

Current

- PY 211: Natural Resources - Soil and Water Systems
- PY 131: Plant and Soil Sciences - Crop Production
- PY 131 or PY 212: Plant and Soil Sciences - Crop Biotechnology
- PY 131: Plant and Soil Sciences - Soil Science
- PY 131: Turfgrass Science

Proposed

- PY 131: Natural Resources - Soil and Water Systems
- PY 131: Plant and Soil Sciences - Crop Production
- PY 131: Plant and Soil Sciences - Crop Biotechnology
- PY 131: Plant and Soil Sciences - Soil Science
- PY 131: Turfgrass Science

As you can see, our goal is to standardize on PY 131 as our required physics course. The change will not increase enrollment in your department, rather it will shift a small group of students in PY 211 and PY 212 to PY 131. The redistribution affects less than 15 students per year. We are not requesting changes to enrollment caps or existing enrollment restrictions (i.e., reserved seats for specific majors). Given past availability of the courses (Fall, Spring and Summer), students have ample opportunity in their schedule to make this improved option fit.

As part of the process, we need to consult with your department. Please take a few moments to consider the above changes. Then please send me a brief note stating whether these changes are acceptable to your department or not.

Thank you very much for your assistance. I need a response by end of business on Sep 7 so we can move forward next week, meeting a UNC System imposed deadline for curriculum revisions under UNC System Policy 400.1.5.

David

Dr. David Crouse

Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences

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Keith Warren <ckwarren@ncsu.edu>

Wed, Sep 5, 2018 at 2:45 PM

<https://mail.google.com/mail/u/0?ik=f20085a24e&view=pt&search=all&permthid=thread-a%3Ar-4540564531216280104&simpl=msg-a%3Ar-39924896...> 1/2

9/5/2018

North Carolina State University Mail - PY course changes in proposed Crop and Soil Sciences curriculum revision

To: Paul Huffman <paul_huffman@ncsu.edu>, David Crouse <crouse@ncsu.edu>
Cc: Keith Warren <keith_warren@ncsu.edu>

Hi David,

Paul and I just discussed your email and we have no objections to these changes.

Is there a particular semester that most of these students take Physics? Our spring section is in a smaller room and has filled to capacity the last two semesters. We usually have 10-15 available seats in the fall semester.

Obviously we monitor enrollments so if capacity becomes an issue we will just find a larger room.

Please let me know if you need any further information.

Best,
Keith

On Wed, Sep 5, 2018 at 1:22 PM Paul Huffman <paul_huffman@ncsu.edu> wrote:

[Quoted text hidden]

--

Paul Huffman
Professor and Head of Physics
NC State University
College of Sciences
P: [919-515-3314](tel:919-515-3314)
Campus Box 8202

NC STATE

--

Keith Warren, Assistant Head, Department of Physics
Tel: 919-513-2708 : 421 Riddick Hall, [2401 Stinson Dr.](#), [NC State University](#), Box 8202, Raleigh, NC 27695-8202

Department Consultation RE: addition of restricted electives in CSSC

Kathy Krawczyk <krawczyk@ncsu.edu>
To: crouse@ncsu.edu

Wed, Sep 5, 2018 at 11:06 AM

David,

Thanks for sending this. ACC 200 has been eliminated effective Summer 2018, and ACC 280, Survey of Financial and Managerial Accounting, will take its place for Crop and Soil Science students. You can definitely add ACC 280 to your list of restricted electives - we would be happy for CSS students to enroll in the class!

If you need any other information - just let me know!

Kathy

Kathy Krawczyk
Dixon Hughes Goodman Professor of Accounting
Head, Department of Accounting
North Carolina State University
Campus Box 8113
Raleigh, NC 27695-8113
919-515-4439
919-515-4446 (fax)

[Quoted text hidden]

Department Consultation RE: addition of restricted electives in CSSC

Derek Aday <ddaday@ncsu.edu>

Wed, Sep 5, 2018 at 2:04 PM

To: David Crouse <crouse@ncsu.edu>

Dear Dr. Crouse,
I support these curriculum changes. Thanks for including us,
Derek

D. Derek Aday
Professor and Head
Department of Applied Ecology and
University Director, Southeast Climate Adaptation Science Center
North Carolina State University
127 David Clark Laboratory
Raleigh, NC 27695-7617
919-513-7568

Follow Applied Ecology on Twitter:

[@NCState_AEC](#)

[@ddadayNCSU](#)

On Wed, Sep 5, 2018 at 10:46 AM David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

In case you are not aware, UNC System Policy 400.1.5 has mandated a revision of degrees in excess of 120 credits, requiring the credit requirement be reduced to 120. As part of our revision process, the faculty in Crop and Soil Sciences have undertaken a comprehensive review of our restricted electives. To modernize the degree, we are requesting the addition to our pools of restricted electives courses in your department that previously existed but were not part of the degree or new courses created since the last degree revision. In many cases, we are simply seeking uniformity, adding a course already existing as a restrictive elective in one degree to other degrees in our department where the course isn't listed.

As part of the process, we need to consult with the affected departments. Please take a few moments to review the below linked spreadsheet of courses being added. Then please send me a brief note stating whether these changes are acceptable to your department or not.

 **Departmental Consultation - Restricted Elective...**

Should the proposed changes be approved by the University, we are not asking any department to add seats to existing course offerings or new sections to accommodate enrollment of our Crop and Soil Sciences students. Since these are courses under restricted electives, there are multiple alternative courses a student could select should your course(s) be at enrollment capacity. There are also multiple semesters a student could take the course(s) in your department, meaning, should the course be full one semester, they can always try to enroll in a later semester. We don't envision any impact on the departments as students would be back filling into vacant seats in your existing scheduled courses.

Thank you very much for your help with this. I need a response by end of business on Sep 7 so we can move forward next week, meeting the UNC System deadline.

David

Dr. David Crouse

9/5/2018

North Carolina State University Mail - Department Consultation RE: addition of restricted electives in CSSC

Undergraduate Teaching Coordinator and
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Crop and Soil Sciences

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Department Consultation RE: addition of restricted electives in CSSC

Garey Fox <gafox2@ncsu.edu>

Thu, Sep 6, 2018 at 10:04 AM

To: David Crouse <crouse@ncsu.edu>

David,

BAE has no issues with the proposed restricted electives.

Thanks!

Garey

Garey A. Fox, Ph.D., P.E., D.WRE
Professor and Department Head
Biological and Agricultural Engineering
North Carolina State University
102 Weaver Administration
Phone: 919-515-6700
Email: garey_fox@ncsu.edu
Twitter: [@GareyAFox](https://twitter.com/GareyAFox)

On Wed, Sep 5, 2018 at 10:45 AM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

In case you are not aware, UNC System Policy 400.1.5 has mandated a revision of degrees in excess of 120 credits, requiring the credit requirement be reduced to 120. As part of our revision process, the faculty in Crop and Soil Sciences have undertaken a comprehensive review of our restricted electives. To modernize the degree, we are requesting the addition to our pools of restricted electives courses in your department that previously existed but were not part of the degree or new courses created since the last degree revision. In many cases, we are simply seeking uniformity, adding a course already existing as a restrictive elective in one degree to other degrees in our department where the course isn't listed.

As part of the process, we need to consult with the affected departments. Please take a few moments to review the below linked spreadsheet of courses being added. Then please send me a brief note stating whether these changes are acceptable to your department or not.

 **Departmental Consultation - Restricted Elective...**

Should the proposed changes be approved by the University, we are not asking any department to add seats to existing course offerings or new sections to accommodate enrollment of our Crop and Soil Sciences students. Since these are courses under restricted electives, there are multiple alternative courses a student could select should your course(s) be at enrollment capacity. There are also multiple semesters a student could take the course(s) in your department, meaning, should the course be full one semester, they can always try to enroll in a later semester. We don't envision any impact on the departments as students would be back filling into vacant seats in your existing scheduled courses.

Thank you very much for your help with this. I need a response by end of business on Sep 7 so we can move forward next week, meeting the UNC System deadline.

David

Dr. David Crouse
Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences
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Department Consultation RE: addition of restricted electives in CSSC

Eric Davis <eric_davis@ncsu.edu>

Thu, Sep 6, 2018 at 4:20 PM

To: David Crouse <crouse@ncsu.edu>

Hi David:

Entomology & Plant Pathology approve of the modifications in restricted electives of CSS degree programs as proposed in the description below.

Rick Davis

On Wed, Sep 5, 2018 at 10:45 AM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

In case you are not aware, UNC System Policy 400.1.5 has mandated a revision of degrees in excess of 120 credits, requiring the credit requirement be reduced to 120. As part of our revision process, the faculty in Crop and Soil Sciences have undertaken a comprehensive review of our restricted electives. To modernize the degree, we are requesting the addition to our pools of restricted electives courses in your department that previously existed but were not part of the degree or new courses created since the last degree revision. In many cases, we are simply seeking uniformity, adding a course already existing as a restrictive elective in one degree to other degrees in our department where the course isn't listed.

As part of the process, we need to consult with the affected departments. Please take a few moments to review the below linked spreadsheet of courses being added. Then please send me a brief note stating whether these changes are acceptable to your department or not.

 **Departmental Consultation - Restricted Elective...**

Should the proposed changes be approved by the University, we are not asking any department to add seats to existing course offerings or new sections to accommodate enrollment of our Crop and Soil Sciences students. Since these are courses under restricted electives, there are multiple alternative courses a student could select should your course(s) be at enrollment capacity. There are also multiple semesters a student could take the course(s) in your department, meaning, should the course be full one semester, they can always try to enroll in a later semester. We don't envision any impact on the departments as students would be back filling into vacant seats in your existing scheduled courses.

Thank you very much for your help with this. I need a response by end of business on Sep 7 so we can move forward next week, meeting the UNC System deadline.

David

Dr. David Crouse

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—
Eric L. Davis, Head &
William Neal Reynolds Distinguished Professor
Department of Entomology and Plant Pathology
Varsity Research Bldg. Module 6

9/6/2018

North Carolina State University Mail - Department Consultation RE: addition of restricted electives in CSSC

[1575 Varsity Dr., Suite 1535](#)
Campus Box 7616
North Carolina State University
Raleigh, NC 27695-7616

<https://cals.ncsu.edu/entomology-and-plant-pathology/people/rick>
Office: (919) 515-7984
Lab: (919) 515-6693
FAX: (919) 515-7716
email: eric_davis@ncsu.edu

Department Consultation RE: addition of restricted electives in CSSC

Betty Gardner <bgardner@ncsu.edu>

Wed, Sep 5, 2018 at 11:37 AM

To: David Crouse <crouse@ncsu.edu>

Hello David,

I reviewed the elective list that you sent for the Crop and Soil Sciences curriculum revision, and I am fine with your addition of the GN 421 and GN 423 courses to the electives list.

Sincerely,

Betty

[Quoted text hidden]

—

Betty Gardner, Ph. D.

Director, Undergraduate Genetics Program
Teaching Professor, Department of Biological Sciences
2532 Thomas Hall
Box 7614
North Carolina State University
Raleigh, NC 27695-7614

bgardner@ncsu.edu

Appointment Calendar: www.tinyurl.com/Gardnerappointment

Department Consultation RE: addition of restricted electives in CSSC**Ross Meentemeyer** <rkmeente@ncsu.edu>

Fri, Sep 7, 2018 at 11:24 AM

To: crouse@ncsu.edu

Cc: Eric Money <esmoney@ncsu.edu>

Hi David - Everything looks fine from our perspective. Thanks for asking.

Best,

Ross

On Wed, Sep 5, 2018 at 10:46 AM David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

In case you are not aware, UNC System Policy 400.1.5 has mandated a revision of degrees in excess of 120 credits, requiring the credit requirement be reduced to 120. As part of our revision process, the faculty in Crop and Soil Sciences have undertaken a comprehensive review of our restricted electives. To modernize the degree, we are requesting the addition to our pools of restricted electives courses in your department that previously existed but were not part of the degree or new courses created since the last degree revision. In many cases, we are simply seeking uniformity, adding a course already existing as a restrictive elective in one degree to other degrees in our department where the course isn't listed.

As part of the process, we need to consult with the affected departments. Please take a few moments to review the below linked spreadsheet of courses being added. Then please send me a brief note stating whether these changes are acceptable to your department or not.

 **Departmental Consultation - Restricted Elective...**

Should the proposed changes be approved by the University, we are not asking any department to add seats to existing course offerings or new sections to accommodate enrollment of our Crop and Soil Sciences students. Since these are courses under restricted electives, there are multiple alternative courses a student could select should your course(s) be at enrollment capacity. There are also multiple semesters a student could take the course(s) in your department, meaning, should the course be full one semester, they can always try to enroll in a later semester. We don't envision any impact on the departments as students would be back filling into vacant seats in your existing scheduled courses.

Thank you very much for your help with this. I need a response by end of business on Sep 7 so we can move forward next week, meeting the UNC System deadline.

David

Dr. David Crouse

Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences

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Department Consultation RE: addition of restricted electives in CSSC

Stith Gower <stgower@ncsu.edu>

Wed, Sep 5, 2018 at 2:00 PM

To: David Crouse <crouse@ncsu.edu>

Hi David,
We miss you this year in ENV.
I see no problem with the proposed additions and status.
Cheers,
Tom

Dr. Stith Tom Gower

Head, [Dept of Forestry and Environmental Resources](#)
College of Natural Resources
North Carolina State University
Campus Box 8008
Raleigh, NC 27695

Phone: (919) 515 3873

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On Wed, Sep 5, 2018 at 10:45 AM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

In case you are not aware, UNC System Policy 400.1.5 has mandated a revision of degrees in excess of 120 credits, requiring the credit requirement be reduced to 120. As part of our revision process, the faculty in Crop and Soil Sciences have undertaken a comprehensive review of our restricted electives. To modernize the degree, we are requesting the addition to our pools of restricted electives courses in your department that previously existed but were not part of the degree or new courses created since the last degree revision. In many cases, we are simply seeking uniformity, adding a course already existing as a restrictive elective in one degree to other degrees in our department where the course isn't listed.

As part of the process, we need to consult with the affected departments. Please take a few moments to review the below linked spreadsheet of courses being added. Then please send me a brief note stating whether these changes are acceptable to your department or not.

 [Departmental Consultation - Restricted Elective...](#)

Should the proposed changes be approved by the University, we are not asking any department to add seats to existing course offerings or new sections to accommodate enrollment of our Crop and Soil Sciences students. Since these are courses under restricted electives, there are multiple alternative courses a student could select should your course(s) be at enrollment capacity. There are also multiple semesters a student could take the course(s) in your department, meaning, should the course be full one semester, they can always try to enroll in a later semester. We don't envision any impact on the departments as students would be back filling into vacant seats in your existing scheduled courses.

Thank you very much for your help with this. I need a response by end of business on Sep 7 so we can move forward next week, meeting the UNC System deadline.

David

Dr. David Crouse
Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
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SIGNATURE PAGE

COURSE ACTION for Revision to Undergraduate Major

Plant and Soil Sciences – Crop Production (11PSSPAC)

Recommended by:

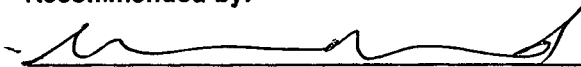


Head, Department of Crop and Soil Sciences

8-18-18

Date

Recommended by:

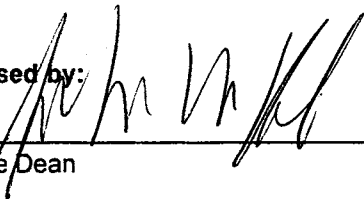


Chair, College Curriculum Committee

8/31/18

Date

Endorsed by:



College Dean

9/5/18

Date

Approved by:

Chair, University Courses & Curricula Committee

Date

Chair, Council on Undergraduate Education

Date

Dean, Division of Academic and Student Affairs (DASA)

Date

MEMORANDUM

TO: Dr. Mike Mullen, Vice Chancellor and Dean
Division of Academic and Student Affairs

FROM: Dr. David Crouse, Undergraduate Teaching Coordinator
Crop and Soil Sciences



RE: Curriculum Action for B.S. in Plant and Soil Sciences – Soil Science

The Department of Crop and Soil Sciences requests the following changes in the Bachelor of Science in Plant and Soil Sciences (11PSSBS) – Soil Science (11PSSSST) be made to the Format A Semester-by Semester Curriculum Display:

Freshman Year Fall Semester

- Replace CS 103 with ALS 103/303.
- Rename HES_*** Health and Exercise Studies Courses to match GEP category title Physical Education/Healthy Living and move to another semester
- Rename GEP Requirement Elective to GEP Social Sciences Elective and move to another semester
- Add CS 290 [moved from another semester]
- Add 3 credits from Foundation Electives

Freshman Year Spring Semester

- Change PB 200 requirement to PB 200 or BIO 183
- Delete ST 311 [moved to another semester]
- Add 1 credit from Physical Education/Healthy Living Electives [moved from another semester]
- Rename GEP Requirement Elective to GEP Humanities Elective
- Add MEA 101 [moved from another semester]
- Add MEA 110 [moved from another semester]

Sophomore Year Fall Semester

- Delete CH 201 and CH 202 [replaced by an alternate advanced chemistry class in another semester]
- Delete CS 290 [moved to another semester]
- Add ST 311 [moved from another semester]
- Add ARE 201 [moved from another semester]

- Add 1 credit from Physical Education/Healthy Living Electives [moved from another semester]
- Delete MEA 101 [moved to another semester]
- Delete MEA 110 [moved to another semester]

Sophomore Year Spring Semester

- Delete ARE 201 [moved to another semester]
- Delete CH 220
- Change CS 213 course name to “Crop Science” and split CS 213 (4cr) into CS 213 (3c) + CS 214 (1cr)
- Delete Career Path Elective
- Delete GEP Requirement Elective
- Add 3 credits from Restricted Electives
- Add SSC 332
- Add SSC 452 [moved from another semester]

Junior Year Fall Semester

- Delete CS 414 [moved into Restricted Electives, becoming an option in another semester]
- Delete SSC 341 [moved to another semester]
- Delete SSC 342 [renamed and moved to another semester]
- Rename Career Path Elective to Soil Science Elective
- Rename GEP Requirement Elective to GEP Additional Breadth Elective
- Add 3 credits from Economics, Management and Policy Electives
- Add ENG 331 or ENG 332 or ENG 333 [moved from another semester]

Junior Year Spring Semester

- Delete CS 211 [moved into Restricted Electives, becoming an option in this semester or another]
- Delete PB 321 [moved to another semester]
- Delete SSC 452 [moved to another semester]
- Delete ENG 332 or ENG 333 [moved to another semester]
- Add SSC 341 with current name *Soil Fertility and Nutrient Management* [moved from another semester]
- Add SSC 442 [replaces the advanced chemistry requirement from CH 201/202 deleted from an earlier semester]
- Add 3 credits from Economics, Management and Policy Electives
- Add 3 credits from Restricted Electives

Senior Year Fall Semester

- Delete BAE 323 [moved into Restricted Electives, becoming an option in this semester or another under the new course number AES 323]
- Delete CS 411 [moved into the Restricted Electives category, becoming an option in this semester or another]
- Delete CS 415 [moved into the Restricted Electives category, becoming an option in this semester or another]
- Change CS 492 (3cr) requirement to CSSC 492 (3cr) or CSSC 493 (3cr)

- Rename GEP Requirement Elective to GEP Humanities Elective
- Add SSC 342 *Soil and Plant Nutrient Analysis* [move from another semester]
- Add 3 credits from Soil Science Electives
- Add 3 credits from Restricted Electives
- Add 3 credits from GEP Social Science Electives

Senior Year Spring Semester

- Delete CS 462 [moved into Soil Science Electives, becoming an option in this semester or another under the cross listed course number SSC 462]
- Delete Career Path Elective (5cr)
- Add 3 credits of Restricted Elective
- Delete SSC 361 [moved into Soil Science Electives, becoming an option in this semester or another under the updated course number SSC 421]
- Delete GEP Requirement Elective [moved to another semester]
- Add PB 321 [moved to another semester]
- Add 2 credits from GEP Interdisciplinary Perspectives Electives [moved from another semester]
- Add 4 credits from Free Electives

Major/Program Footnotes

- Create and populate Foundation Elective (see Format B for proposed list of courses)
- Create and populate Soil Science Electives (see Format B for proposed list of courses)
- Create and populate Economics, Management and Policy Electives (see Format B for proposed list of courses)
- Create and populate Restricted Electives (see Format B for proposed list of courses)
- Create and populate Experiential Learning Electives (see Format B for proposed list of courses)
- Remove all other footnotes

The department also requests the following changes in Format B, which will require a new degree audit:

- Revise Orientation Requirement to remove CS 103 and SSC 103. New requirement is ALS 103 or ALS 303
- Rename Writing and Speaking group to Communication and Advanced Writing
- Rename Major Field of Study group to Required Courses within Major
- Create new Mathematics and Natural Sciences group by merging Mathematics and Natural Sciences groups.
- Move appropriate courses into new Mathematics and Natural Sciences group.
- Create Concentration Courses\Foundation Elective category. Requirement is 3 credits from: FW 221 or SSC 185.
- Create Concentration Courses\Economics, Management and Policy Electives category. Requirement is 6 credits from: ARE 215, ARE 306, ARE 309, ARE 312, ARE 332, ARE 336, CS 418, NR 460, PS 201, PS 202, and PS 320.

- Create Concentration Courses\Experiential Learning category. Requirement is 3 credits from CSSC 492 or CSSC 493.
- Create Concentration Courses\Restricted Elective category. Requirement is 9 credits from: AES 323, BAE 325, CS 200, CS 211, CS 216, CS 218, CS 224, CS 230, CS 312, CS 410, CS 411, CS 414, CS 415, CS 424, CS 430, ES 100, ES 150, ET 201, ET 202, ET 203, FOR 420, GIS 280, MEA 300, NR 300, NR 400, NR 421, SSC 410, and SSC 428.
- Create Concentration Courses\Soil Science Elective category. Requirement is 6 credits from: SSC 421, SSC 427, SSC 440, SSC 462, and SSC 470.
- Delete CH 201. Replaced by an alternate advanced chemistry class [SSC 442]
- Delete CH 202.
- Delete CH 220.
- Change Physics requirement to PY 131 [from PY 131 or 211]
- Update Communication and Advanced Writing requirement to:
 - Choose one from ENG 331/332/333, and
 - Choose one from COM 110 or COM 112
- Move the following courses from Major Field of Study into Concentration Elective\Restricted Electives
 - AES 323
 - CS 211
 - CS 411
 - CS 441
 - ENT 425
 - PP 315
- Rename SSC 492 (3cr) in Major Field of Study to CSSC 492. Move CSSC 492 requirement into the new Required Courses with Major\Experiential Learning category
- Rename SSC 493 (3cr) in Major Field of Study to CSSC 493. Move CSSC 493 requirement into the new Required Courses with Major\Experiential Learning category
- Split Soil Science requirement (4cr) to distinctly list SSC 200 (3cr) and SSC 201 (1cr) in Required Courses within Major group
- Update course names for SSC 341 and SSC 342 to reflect recent course revisions.
- Split the old 4 credit CS 213 into CS 213 (3cr) + CS 214 (1cr). Degree was not updated when CS 213 was split into lecture and lab.

Justification:

As a result of a merger of the departments of Crop Science and Soil Science into Crop and Soil Sciences, the departmental faculty have evaluated the considerable overlap of concentrations in the degree programs within the department. As part of a comprehensive undergraduate program revision, similar concentrations are proposed to be merged as we go through the curriculum changes necessary to reduce degree credit hours to a maximum of 120 (in accordance with UNC System Policy 400.1.5).

Plant and Soil Sciences – Soil Science (11PSSSST), Natural Resources – Soil Resources (11NATRLNRS), and Soil and Land Development – Soil Science (11SLDSSCI) are being merged into a revised Plant and Soil Sciences – Soil Science, which will include a proposed name change at a later date. Natural Resources – Soil Resources and Soil and Land Development – Soil Science will be discontinued at a later date after the proposed Soil Science changes become effective. Admission into Natural Resources – Soil Resources and Soil and Land Development – Soil Science has already ended.

As part of the merger and revision, we are taking the opportunity to add courses the Crop and Soil Sciences faculty consider important and remove courses considered lower priority. Some courses are being moved from degree requirements to the pool of restricted electives. Furthermore, some course are being replaced (CS(SSC) 103 is replaced by ALS 103/303) and others are being changed to reflect structural changes (e.g., CH 213 4cr has been changed to reflect a previous course revision splitting the four credit course in to CS 213 3cr plus CS 214 1cr). Other revisions reflect changes in course numbers and names that have occurred prior to this revision. Finally, concentration courses are being organized into four groups: Foundation Elective; Soil Science Electives; Economics, Management and Policy Electives; and Restricted Electives.

Currently enrolled students will not be affected by these revisions unless the student specifically requests in writing to be moved to the revised plan (proposed requirement term 2191).

Attached to this memorandum are the relevant supporting documents: Original Eight Semester Display; Revised Eight Semester Display; Original Curriculum Requirements and Revised Curriculum Requirements.

Current Display

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: X Proposed: Proposed Effective Semester: **7.2009**

Degree/Plan Title: **Plant and Soil Sciences**

Concentration/Subplan Title: **Soil Science**

Plan SIS Code: **11PSSBS**

Subplan SIS Code: **11PSSST**

New Degree Audit required? (Y or N) **N**

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses, which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CS 103 Introduction to Crop Science (Fall Only)	1	CH 101 Chemistry – A Molecular Science	3
BIO 181 Intro to Biology: Ecol, Evol, and Biodiv.	4	CH 102 General Chemistry Lab	1
ENG 101 Academic Writing and Research	4	PB 200 Plant Life	4
MA 121 Elements in Calculus	3	ST 311 Intro to Statistics	3
HES_ *** Health & Exercise Studies Course	1	HES_ *** Health & Exercise Studies Course	1
GEP Requirement Elective *	3	GEP Requirement Elective *	3
Total:	16	Total:	15
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CH 201 Chemistry – A Molecular Science	3	ARE 201 Intro to Agricultural and Resource Economics	3
CH 202 Quantitative Science Lab	1	CH 220 Organic Chemistry	4
COM 110 Public Speaking <i>or</i> COM 112 Interpersonal Communications	3	CS 213 Crops: Adaption & Production	4
CS 290 Prof Develop in Plant & Soil Sci (Fall Only)	1	Career Path Elective ¹	3
SSC 200 Soil Science	3	GEP Requirement Elective *	3
SSC 201 Soil Science Laboratory	1		
MEA 101 Geology I: Physical	3		
MEA 101 Geology I: Lab	1		
Total:	16	Total:	17
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CS 414 Weed Science (Fall only)	4	CS 211 Plant Genetics (Spring only)	3
SSC 341 Soil fertility & Fertilizers (Fall only)	3	PB 321 Intro Whole Plant Physiology (Spring only)	3
SSC 342 Soil Fertility Lab (Fall only)	1	SSC 452 Soil Classification	4
SSC 461 Soil Physical Properties & Plant Growth	3	PY 131 Conceptual Physics	4
Career Path Elective ¹	3	ENG 332 Comm for Business & Management <i>or</i> ENG 333 Comm for Science & Research	3
GEP Requirement Elective *	2 to 3		
Total:	16 to 17	Total:	17
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
BAE (SSC) 323 Water Management	3	CS 462 Soil-Crop Management Systems	3
CS 411 Crop Ecology (Fall only)	3	SSC 490 Senior Seminar	1
CS 415 Integrated Pest Management	3	Career Path Elective ¹	5
CS 492 or 493 Internship or Research Exp	3	SSC 361 Role of Soils in Environmental Mgmt	3
GEP Requirement Elective *	3	GEP Requirement Elective *	3
Total:	15	Total:	15

Minimum Credit Hours Required for Graduation * : **127**

Major/Program Footnotes:

¹ Three hours of approved Career Path Electives and 8 hours of CS, HS, PB, PP, SSC or MEA courses

Must receive a grade of C- or better in all SSC courses.

*** General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional math.**
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional science.**
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **3 hours are met by the ARE 201 requirement; 3 hours are met by COM 112 if chosen**
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
 Humanities/Social Sciences/Visual and Performing Arts or Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- J. **Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

Current Display with Revisions

FORMAT A (SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: Proposed: Proposed Effective Semester: **01.2019**

Degree/Plan Title: **Plant and Soil Sciences**

Concentration/Subplan Title: **Soil Science**

Plan SIS Code: **11PSSSBS**

Subplan SIS Code: **11PSSSST**

New Degree Audit required? (Y or N) Y

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses, which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ALS 103 Freshman Transitions & Diversity or ALS 303 Transfer Transitions & Diversity Introduction to Crop Science (Fall Only)	1	CH 101 Chemistry – A Molecular Science	3
BIO 181 Intro to Biology: Ecol, Evol, and Biodiv.	4	CH 102 General Chemistry Lab	1
ENG 101 Academic Writing and Research	4	BIO 183 Intro. Biol: Cell. & Molec. Biol. or PB 200 Plant Life	4
MA 121 Elements in Calculus	3	ST 311 Intro to Statistics	3
HES_*** Health & Exercise Studies Course	1	Physical Education/Healthy Living Elective HES_*** Health & Exercise Studies Course	1
GEP Requirement Elective *	3	GEP Requirement Humanities Elective * ^C	3
CS 290 Prof Develop in Plant & Soil Sci Foundation Elective	1	MEA 101 Geology I: Physical	3
	3	MEA 101 Geology I: Lab	1
Total:	16	Total:	15 16
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CH 201 Chemistry – A Molecular Science	3	ARE 201 Intro to Agricultural and Resource Economics	3
CH 202 Quantitative Science Lab	1	CH 220 Organic Chemistry	4
COM 110 Public Speaking <i>or</i> COM 112 Interpersonal Communications	3	CS 213 Crops: Adaption & Production Crop Science	4 ³
CS 290 Prof Develop in Plant & Soil Sci (Fall Only)	1	Career Path Elective ¹	3
SSC 200 Soil Science	3	GEP Requirement Elective *	3
SSC 201 Soil Science Laboratory	1	CS 214 Crop Science Laboratory	1
ST 311 Intro to Statistics	3	SSC 332 Environ. Soil Microbiology	3
ARE 201 Intro to Agricultural and Resource Economics	3	SSC 452 Soil Classification	4
Physical Education/Healthy Living Elective	1	Restricted Elective ⁴	3
MEA 101 Geology I: Physical	3		
MEA 101 Geology I: Lab	1		
Total:	16 14	Total:	17 14

JUNIOR YEAR

FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CS 414 Weed Science (Fall only)	4	CS 211 Plant Genetics (Spring only)	3
SSC 341 Soil fertility & Fertilizers (Fall only)	3	PB 321 Intro Whole Plant Physiology (Spring only)	3
SSC 342 Soil Fertility Lab (Fall only)	1	SSC 452 Soil Classification	4
SSC 461 Soil Physical Properties & Plant Growth	3	PY 131 Conceptual Physics	4
Career Path Elective ¹ Soil Science Elective ²	3	ENG 332 Comm for Business & Management or ENG 333 Comm for Science & Research	3
GEP Requirement-Additional Breadth Elective ^{* E}	2 to 3	SSC 341 Soil Fertility & Nutrient Management	3
Economics, Management and Policy Elective ³	3	SSC 442 Soil & Environmental Biogeochemistry	3
ENG 331 Comm for Engineering & Technology or ENG 332 Comm for Business & Management or ENG 333 Comm for Science & Research	3	Economics, Management and Policy Elective ³	3
		Restricted Elective ⁴	3
	Total: 16 to 17 15		Total: 17 16

SENIOR YEAR

FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
BAE (SSC) 323 Water Management	3	CS 462 Soil-Crop Management Systems	3
CS 411 Crop Ecology (Fall only)	3	SSC 490 Senior Seminar	1
CS 415 Integrated Pest Management	3	Restricted Elective ⁴ Career Path Elective ¹	3 ⁵
CS 492 or 493 Internship or Research Exp	3	SSC 361 Role of Soils in Environmental Mgmt	3
GEP Requirement-Humanities Elective ^{* C}	3	GEP Requirement Elective [*]	3
SSC 342 Soil & Plant Nutrient Analysis	1	PB 321 Intro Whole Plant Physiology (Spring only)	3
Soil Science Elective ²	3	GEP Interdisciplinary Perspectives Elective ⁶	2
Restricted Elective ⁴	3	Free Electives	4
GEP Social Sciences Elective ^D	3		
Experiential Learning Elective ⁵	3		
	Total: 15 16		Total: 15 13

Minimum Credit Hours Required for Graduation * : ~~127~~ 120**Major/Program Footnotes:**¹ Three hours of approved Career Path Electives and 8 hours of CS, HS, PB, PP, SSC or MEA courses

Must receive a grade of C- or better in all SSC courses.

¹ Foundation Elective: Select from FW 221 or SSC 185.² Soil Science Electives: Select from SSC 421, SSC 427, SSC 440, SSC 462, and SSC 470.³ Economics, Management and Policy Electives: Select from ACC 280, ARE 215, ARE 306, ARE 309, ARE 312, ARE 332, ARE 336, CS 418, NR 460, PS 201, PS 202, and PS 320.⁴ Restricted Electives: Select from AES 323, BAE 325, CS 200, CS 211, CS 216, CS 218, CS 224, CS 230, CS 312, CS 410, CS 411, CS 414, CS 415, CS 424, CS 430, ES 100, ES 150, ET 201, ET 202, ET 203, FOR 420, GIS 280, MEA 300, NR 300, NR 400, NR 421, SSC 410, and SSC 428.⁵ Experiential Learning Elective: Select from CSSC 492 or CSSC 493***General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: These requirements are met through required courses. Students do not need to take additional math.
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: These requirements are met through required courses. Students do not need to take additional science.
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: 3 hours are met by the ARE 201 requirement; 3 hours are met by COM 112 if chosen
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
X Humanities/Social Sciences/Visual and Performing Arts or _____ Mathematical Sciences/Natural Sciences/Engineering

G. Interdisciplinary Perspectives (5-6 credit hours)

Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement. [3 hours are met by FW 221 or SSC 185 in the Foundation Elective requirement.](#)

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

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

I. U.S. Diversity (USD)

Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.

J. Global Knowledge (GK)

Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.

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

Proposed Display

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: _____ Proposed: X Proposed Effective Semester: **1.2019**

Degree/Plan Title: **Plant and Soil Sciences**

Concentration/Subplan Title: **Soil Science**

Plan SIS Code: **11PSSBS**

Subplan SIS Code: **11PSSSST**

New Degree Audit required? (Y or N) **Y**

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses, which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ALS 103 Freshman Transitions & Diversity <u>or</u> ALS 303 Transfer Transitions & Diversity	1	BIO 183 Intro. Biol: Cell. & Molec. Biol. <u>or</u> PB 200 Plant Life	4
BIO 181 Intro to Biology: Ecol, Evol, and Biodiv.	4	CH 101 Chemistry – A Molecular Science	3
ENG 101 Academic Writing and Research	4	CH 102 General Chemistry Lab	1
MA 121 Elements of Calculus	3	MEA 101 Geology I: Physical	3
CS 290 Professional Development in Plant and Soil Sciences	1	MEA 110 Geology I: Lab	1
Foundation Elective ¹	3	Physical Education/Healthy Living Elective ^E	1
		GEP Humanities Elective ^C	3
Total:	16	Total:	16
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ARE 201 Intro to Agricultural and Resource Economics	3	CS 213 Crop Science	3
SSC 200 Soil Science	3	CS 214 Crop Science Laboratory	1
SSC 201 Soil Science Laboratory	1	SSC 332 Environ. Soil Microbiology	3
COM 110 Public Speaking <u>or</u> COM 112 Interpersonal Communications	3	SSC 452 Soil Classification	4
ST 311 Intro to Statistics	3	Restricted Elective ⁴	3
Physical Education/Healthy Living Elective ^E	1		
Total:	14	Total:	14
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
SSC 461 Soil Physical Properties & Plant Growth	3	SSC 341 Soil Fertility & Nutrient Management	3
Soil Science Elective ²	3	SSC 442 Soil & Environmental Biogeochemistry	3
Economics, Management and Policy Elective ³	3	PY 131 Conceptual Physics	4
GEP Additional Breadth Elective ^F	3	Economics, Management and Policy Elective ³	3
ENG 331 Comm for Engineering & Technology <u>or</u> ENG 332 Comm for Business & Management <u>or</u> ENG 333 Comm for Science & Research	3	Restricted Elective ¹	3
Total:	15	Total:	16

SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
SSC 342 Soil & Plant Nutrient Analysis	1	PB 321 Intro to Whole Plant Physiology	3
GEP Social Sciences Elective ^D	3	SSC 490 Senior Seminar	1
Soil Science Elective ²	3	Restricted Elective ⁴	3
GEP Humanities Elective ^C	3	GEP Interdisciplinary Perspectives Elective ^G	2
Restricted Elective ⁴	3	Free Elective	4
Experiential Learning Elective ⁵	3		
	Total: 16		Total: 13

Minimum Credit Hours Required for Graduation * : 120

Major/Program Footnotes:

¹ Foundation Elective: Select from FW 221 or SSC 185.

² Soil Science Electives: Select from SSC 421, SSC 427, SSC 440, SSC 462, and SSC 470.

³ Economics, Management and Policy Electives: Select from ACC 280, ARE 215, ARE 306, ARE 309, ARE 312, ARE 332, ARE 336, CS 418, NR 460, PS 201, PS 202, and PS 320.

⁴ Restricted Electives: Select from AES 323, BAE 325, CS 200, CS 211, CS 216, CS 218, CS 224, CS 230, CS 312, CS 410, CS 411, CS 414, CS 415, CS 424, CS 430, ES 100, ES 150, ET 201, ET 202, ET 203, FOR 420, GIS 280, MEA 300, NR 300, NR 400, NR 421, SSC 410, and SSC 428.

⁵ Experiential Learning Elective: Select from CSSC 492 or CSSC 493

*General Education Program (GEP) requirements and GEP Footnotes:

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional math.**
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional science.**
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **3 hours are met by the ARE 201 requirement; 3 hours are met by COM 112 if chosen**
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
 Humanities/Social Sciences/Visual and Performing Arts or _____ Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement. **3 hours are met by FW 221 or SSC 185 in the Foundation Elective requirement.**
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- J. **Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

Current Requirements

Curricula Requirements Detail

Program	CALS	Agriculture & Life Sciences
Plan	11PSSBS	Plant and Soil Sciences-BS
Sub-Plan	11PSSSST	Soil Science Concentration
Req Term	Sum2 '09	

[Need Help?](#)

▼ 1 - Orientation

	Description	Detail	Units
10	Orientation	Requirements	1.000

▼ 2 - Mathematical Sciences

	Description	Detail	Units
10	Elements of Calc	MA 121	3.000
20	Intro to Statistic	ST 311	3.000

▼ 3 - Natural Sciences

	Description	Detail	Units
10	Chem Molecular Sci	CH 101	3.000
20	Gen Chem Lab	CH 102	1.000
30	Chem-A Quantl Sci	CH 201	3.000
40	Quant Chem Lab	CH 202	1.000
50	Intro Organic Chem	CH 220	4.000
60	Intro Bio Ecol/Div	BIO 181	4.000
70	BIO 183 or PB 200	Requirements	4.000
80	Geology I Physical	MEA 101	3.000
90	Geology I Laborat	MEA 110	1.000
100	Whole Plant Phys	PB 321	3.000
110	Physics	Requirements	4.000
120	Intro AG Res Econ	ARE 201	3.000

▼ 4 - Writing and Speaking

	Description	Detail	Units	
10	ENG 101 Acad Writing Research	Requirements	4.000	C- or better required
20	ENG 332 or 333	Requirements	3.000	
30	COM 110 or 112	Requirements	3.000	

▼ 5 - Major Field of Study

	Description	Detail	Units	
10	Water Management	AES 323	3.000	
20	CS 211 or SSC 332	Requirements	3.000	
30	Crop Science	CS 213	4.000	
40	Prof Plant Soil Sc	CS 290	1.000	
50	Crop Ecology	CS 411	3.000	
60	Weed Science	CS 414	4.000	
70	Integratd Pest Mgt	CS 415	3.000	
80	Soil Science	Requirements	4.000	C- or better required
90	Soil Fert	SSC 341	3.000	C- or better required
100	Soil & Plant Nutrient Analysis	SSC 342	1.000	C- or better required
110	Soil & Environ Mgt	SSC 421	3.000	C- or better required
120	Soil Classificatio	SSC 452	4.000	C- or better required
130	Soil Phys Prop	SSC 461	3.000	C- or better required
140	Soil-Crop Mgmt Sys	SSC 462	3.000	C- or better required
150	Sr Sem in Cs & Ssc	SSC 490	1.000	S Allowed C- or better required
160	SSC 492 or 493	Requirements	3.000	C- or better required

▼ 6 - Major Electives

	Description	Detail	Units
10	Career Path Elective	Requirements	3.000

20 Restricted Elective [Requirements](#) 8.000

7 - GEP Courses

Description	Detail	Units	
10 Humanities Elective	Requirements	6.000	
20 Social Sciences Elective	Requirements	3.000	
30 Fitness & Wellness-HESF 100 Lv	Requirements	1.000	S Allowed
35 Health & Exercise Studies	Requirements	1.000	S Allowed
40 Additional Breadth HSS-VPA	Requirements	3.000	
50 Interdisc Perspectives	Requirements	5.000	
60 GEP US Diversity	Requirements	Verify Req	
70 GEP Global Knowledge	Requirements	Verify Req	
80 Foreign Language Proficiency	Requirements	Verify Req	

Total Units Required 127.000

[Return to Plans](#)

Proposed Requirements CURRICULUM REQUIREMENTS

Format B

<u>Degree/Plan Title:</u> Plant and Soil Sciences	<u>Plan SIS Code:</u> 11PSSSBS
<u>Concentration/Subplan Title:</u> Soil Science	<u>Subplan SIS Code:</u> 11PSSSST
<u>Indicate requirements status:</u> Current: Proposed: X	<u>Proposed Effective Semester:</u> January 2019
<u>New Degree Audit required?</u> (Y or N) Y	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

MAJOR FIELD OF STUDY REQUIREMENTS:		
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement
MA 121 (CP)	3	Mathematics & Natural Sciences (29 hours)
ST 311	3	
BIO 181 (CP)	4	
CH 101 (CP)	3	
CH 102	1	
MEA 101	3	
MEA 110	1	
PB 321	3	
PY 131	4	
BIO 183 or PB 200 – Cell Biology / Plant Life	4	
COM 110 or COM 112 – Communication	3	Communication and Advanced Writing (6 hours)
ENG 331 or ENG 332 or ENG 333 – Advanced Writing	3	
ARE 201	3	Required Courses within Major (30 hours)
CS 213 (CP) [C- or better required]	3	
CS 214 [C- or better required]	1	
CS 290	1	
SSC 200 (CP) [C- or better required]	3	
SSC 201 [C- or better required]	1	
SSC 332	3	
SSC 341	3	
SSC 342	1	
SSC 442	3	
SSC 452	4	
SSC 461	3	
SSC 490	1	
<u>Concentration Courses/Groups/Electives:</u>		
Foundation Elective	3	
Soil Science Electives	6	
Economics, Management and Policy Electives	6	
Experiential Learning	3	
Restricted Electives	12	
<u>Free Electives:</u>	4	

Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i>	96 hours	
COLLEGE REQUIREMENTS:		
Orientation Course(s): ALS 103 or 303	1	
Other:		
Total credit hours under College Requirements:	1 Hours	

<u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u>		At least one of the following must be listed:
<i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i>		1 Choose course(s) from the University Approved GEP course list for this category.
<i>Specific courses should not be listed in any of the fields below other than ENG 101.</i>		2 Minimum requirements are satisfied by Major/College course requirements.
		3 Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
		4 Co-requisite is satisfied by a Major/College course requirement.
		5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts.
		6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
General Education Program Requirements: <i>Minimum 39-40 hrs</i>	Credit hours	How will the GEP requirement be met? (Choose applicable statement from 1-6 listed above)
Mathematical Sciences (6 credits) (At least 1 course with MA or ST prefix) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	0	(Choose statement 1, 2 or 3) 2
Natural Sciences (7 credits) (At least 1 lab course or course with a lab) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	0	(Choose statement 1, 2 or 3) 2
English 101 (C- or better required) (4 credits)	4	ENG 101
Humanities (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	6	(Choose statement 1, 2 or 3) 1
Social Sciences (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	3	(Choose statement 1, 2 or 3) 3, (Major course requirements satisfies 3 credits of this requirement. Additional 3 credits can come from COM 112, if chosen for the communications requirement).
Additional Breadth (3 credits) (Choose approach that is different from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	3	(Choose statement 5 or 6) 5
Interdisciplinary Perspectives (5 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	2	(Choose statement 1, 2 or 3) 3 (Major course requirement satisfies 3 credit hours of this requirement)
Health and Exercise Studies (2 credits) (Including one Fitness and Wellness course)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are not satisfied as part of the Major/College requirements.	20 hours	
GEP Co-Requisites:		<i>Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.</i>
U.S. Diversity co-requisite (USD)	n/a	(Choose statement 1 or 4) 4

Global Knowledge co-requisite	(GK)	n/a	(Choose statement 1 or 4) 4
Foreign Language Proficiency		n/a	Proficiency at the FL_102 level required.
The following requirements must be satisfied within the College/Program:			Place an X in the credit hour box to indicate below that the requirement is "Satisfied by College/Program Requirements"
Communication in the Major (Advanced Communication)		X	Satisfied by College/Program Requirements
Technology Fluency		X	Satisfied by College/Program Requirements
Total credit hours required to complete Degree: Total must be within 120-128 credit hours.		120 Total hours	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

Concentration Electives:**Foundation Elective**

FW 221 Conservation of Natural Resources
SSC 185 Land and Life

Soil Science Electives

SSC 421 Role of Soils in Environmental Management
SSC 427 Biological Approaches to Sustainable Soil Systems
SSC 440 Geographic Information Systems [GIS] in Soil Science and Agriculture
SSC 462 Soil-Crop Management Systems
SSC 470 Wetland Soils

Economics, Management and Policy Electives

ACC 280 Survey of Financial and Managerial Accounting
ARE 215 Small Business Accounting
ARE 306 Agricultural Law
ARE 309 Environmental Law and Economic Policy
ARE 312 Agribusiness Marketing
ARE 332 Human Resource Management for Agribusiness
ARE 336 Introduction to Resource and Environmental Economics
CS 418 Intro to Regulatory Science in Agriculture
NR 460 Renewable Natural Resource Management and Policy
PS 201 American Politics and Government
PS 202 State and Local Government
PS 320 U.S. Environmental Law and Politics

Experiential Learning

CSSC 492 Professional Internship Experience in Crop and Soil Sciences
CSSC 493 Research Experience in Crop and Soil Sciences

Restricted Electives

AES 323 Water Management
BAE 325 Introductory Geomatics
CS 200 Introduction to Turfgrass Management
CS 211 Plant Genetics
CS 216 Southern Row Crop Production—Cotton, Peanuts and Tobacco
CS 218 Southern Row Crop Production—Corn, Small Grains and Soybean
CS 224 Seeds, Biotechnology and Societies
CS 230 Intro to Agroecology
CS 312 Grassland Management for Natural Resources Conservation
CS 410 Community Food Systems
CS 411 Crop Ecology
CS 414 Weed Science
CS 415 Integrated Pest Management
CS 424 Seed Physiology
CS 430 Advanced Agroecology

ES 100 Introduction to Environmental Sciences
ES 150 Water and the Environment
ET 201 Environmental Technology Laboratory I
ET 202 Environmental Technology Laboratory II
ET 203 Pollution Prevention
FOR 420 Watershed and Wetlands Hydrology
GIS 280 Introduction to GIS
MEA 300 Environmental Geology
NR 300 Natural Resource Measurements
NR 400 Natural Resource Management
NR 421 Wetland Assessment, Delineation and Regulation
SSC 410 Soil Judging for Land Evaluation
SSC 428 Service-Learning in Urban Agriculture Systems

Department Head Consultations

COM course changes in proposed Crop and Soil Sciences curriculum changes

Kenneth Zagacki <kszagack@ncsu.edu>

Wed, Sep 5, 2018 at 1:18 PM

To: David Crouse <crouse@ncsu.edu>

Hi David - these changes are acceptable.

Best,
Ken Zagacki

On Wed, Sep 5, 2018 at 1:00 PM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

The teaching faculty in the Department of Crop and Soil Sciences have re-worked the degree requirements for five of our degree options. We are both modernizing our degrees and bringing consistency among core courses.

With regards to changes affecting your department, we seek to change our Communications requirement to bring uniformity among all of our degrees. The only changes we are proposing is to our Plant & Soil Sciences - Crop Biotechnology and Turfgrass Science programs.

Below is a list of our current requirements and below that is our proposed revisions:

Current

- COM 110 or COM 112: Natural Resources - Soil and Water Systems
- COM 110 or COM 112: Plant and Soil Sciences - Crop Production
- No required COM course: Plant and Soil Sciences - Crop Biotechnology
- COM 110 or COM 112: Plant and Soil Sciences - Soil Science
- COM 110: Turfgrass Science

Proposed

- COM 110 or COM 112: Natural Resources - Soil and Water Systems
- COM 110 or COM 112: Plant and Soil Sciences - Crop Production
- COM 110 or COM 112: Plant and Soil Sciences - Crop Biotechnology
- COM 110 or COM 112: Plant and Soil Sciences - Soil Science
- COM 110 or COM 112: Turfgrass Science

As you can see, our goal is to standardize on COM 110 or COM 112 as our Communication requirement. The change will have minimal impact on enrollment in your department. Some Turfgrass students will opt for COM 112 vs COM 110. Crop Biotechnology students will pick up COM 110 or 112. In total, this change affects less than 15 students per year. We are not requesting changes to enrollment caps or existing enrollment restrictions (i.e., reserved seats for specific majors). Given past availability of the courses (Fall, Spring and Summer), students have ample opportunity in their schedule to make this improved option fit.

As part of the process, we need to consult with your department. Please take a few moments to consider the above changes. Then please send me a brief note stating whether these changes are acceptable to your department or not.

Thank you very much for your assistance. I need a response by end of business on Sep 7 so we can move forward next week, meeting a UNC System imposed deadline for curriculum revisions under UNC System Policy 400.1.5.

David

Dr. David Crouse

Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences

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9/5/2018

North Carolina State University Mail - COM course changes in proposed Crop and Soil Sciences curriculum changes

--
Ken S. Zagacki
Professor and Head
Department of Communication
NC State University

ENG course changes in proposed Crop and Soil Sciences curriculum changes

Laura Severin <Laura_Severin@ncsu.edu>

To: Jason Swarts <jswarts@ncsu.edu>

Cc: David Crouse <crouse@ncsu.edu>

Wed, Sep 5, 2018 at 3:00 PM

Thank you, Jason. You have our support, David.

Best,
Laura

On Wed, Sep 5, 2018 at 2:52 PM, Jason Swarts <jswarts@ncsu.edu> wrote:

I agree with Laura. I think this change looks good.

Jason

Jason Swarts
Professor
Associate Head
Director of Undergraduate Programs
NCSU Department of English

North Carolina State University
Raleigh, NC 27695-8105

919.515.4112
<http://www4.ncsu.edu/~jswarts>

On Sep 5, 2018, at 2:20 PM, Laura Severin <Laura_Severin@ncsu.edu> wrote:

Dear David,

I'm copying our Associate Head and Director of Undergraduate Studies, Jason Swarts, here, for the official response, but I don't think this will propose a problem. Giving the students more flexibility is probably a good development for us.

Best,
Laura

On Wed, Sep 5, 2018 at 1:00 PM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

The teaching faculty in the Department of Crop and Soil Sciences have re-worked the degree requirements for five of our degree options. We are both modernizing our degrees and bringing consistency among core courses.

With regards to changes affecting your department, we seek to change our Advance Writing requirement to provide an expanded experience to all our students and bring uniformity among all of our degrees. The classes that will be affected are:

- ENG 331: Communication for Engineering and Technology
- ENG 332: Communication for Business and Management
- ENG 333: Communication for Science and Research

Each of the above courses has a different focus and each are attractive to students graduating from our department. Due to varying post graduate interests, we send students across a wide range of professions. We have a group that are heading into environmental consulting or government agencies where ENG 331 is an appropriate course because of its focus on technical reports. Other students go

into research and development or graduate school, making ENG 333 the preferred course. And others go into a careers where an advanced writing course focused on management would be a benefit.

Below is a list of our current requirements and below that is our proposed revisions:

Current

- ENG 332 or ENG 333: Natural Resources - Soil and Water Systems
- ENG 332 or ENG 333: Plant and Soil Sciences - Crop Production
- ENG 333: Plant and Soil Sciences - Crop Biotechnology
- ENG 332 or ENG 333: Plant and Soil Sciences - Soil Science
- ENG 331 or ENG 332 or ENG 333: Turfgrass Science

Proposed

- ENG 331 or ENG 332 or ENG 333: Natural Resources - Soil and Water Systems
- ENG 331 or ENG 332 or ENG 333: Plant and Soil Sciences - Crop Production
- ENG 331 or ENG 332 or ENG 333: Plant and Soil Sciences - Crop Biotechnology
- ENG 331 or ENG 332 or ENG 333: Plant and Soil Sciences - Soil Science
- ENG 331 or ENG 332 or ENG 333: Turfgrass Science

As you can see, our goal is to standardize on ENG 331 or ENG 332 or ENG 333 as our Advanced Writing requirement. The change will have minimal impact on enrollment in your department as we will not be adding students to the total enrollment, rather students will self sort as they redistribute among the three courses based on professional goals. We are not requesting changes to enrollment caps or existing enrollment restrictions (i.e., reserved seats for specific majors). Given past availability of the courses (Fall, Spring and Summer), students have ample opportunity in their schedule to make this improved option fit.

As part of the process, we need to consult with your department. Please take a few moments to consider the above changes. Then please send me a brief note stating whether these changes are acceptable to your department or not.

Thank you very much for your assistance. I need a response by end of business on Sep 7 so we can move forward next week, meeting a UNC System imposed deadline for curriculum revisions under UNC System Policy 400.1.5.

David

Dr. David Crouse
Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences
go.ncsu.edu/recruits

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—
Dr. Laura R. Severin
Professor and Head
Department of English
221A Tompkins Hall
Campus Box 8105
North Carolina State University
Raleigh, NC 27695-8105
919-515-4245
Laura_Severin@ncsu.edu

9/5/2018

North Carolina State University Mail - ENG course changes in proposed Crop and Soil Sciences curriculum changes

--
Dr. Laura R. Severin
Professor and Head
Department of English
221A Tompkins Hall
Campus Box 8105
North Carolina State University
Raleigh, NC 27695-8105
919-515-4245
Laura_Severin@ncsu.edu

PY course changes in proposed Crop and Soil Sciences curriculum revision

2 messages

David Crouse <crouse@ncsu.edu>

Wed, Sep 5, 2018 at 1:00 PM

To: paul_huffman@ncsu.edu

Bcc: Brittany DesLauriers <bdeslau@ncsu.edu>, Robin Clements <renutt@ncsu.edu>, Melissa Merrill <msashwel@ncsu.edu>

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

The teaching faculty in the Department of Crop and Soil Sciences have re-worked the degree requirements for five of our degree options. We are both modernizing our degrees and bringing consistency among core courses.

With regards to changes affecting your department, we seek to change our Physics requirement to bring uniformity among all of our degrees. The only changes we are proposing is to our Natural Resources - Soil & Water Systems and Plant & Soil Sciences - Crop Biotechnology programs.

Below is a list of our current requirements and below that is our proposed revisions:

Current

- PY 211: Natural Resources - Soil and Water Systems
- PY 131: Plant and Soil Sciences - Crop Production
- PY 131 or PY 212: Plant and Soil Sciences - Crop Biotechnology
- PY 131: Plant and Soil Sciences - Soil Science
- PY 131: Turfgrass Science

Proposed

- PY 131: Natural Resources - Soil and Water Systems
- PY 131: Plant and Soil Sciences - Crop Production
- PY 131: Plant and Soil Sciences - Crop Biotechnology
- PY 131: Plant and Soil Sciences - Soil Science
- PY 131: Turfgrass Science

As you can see, our goal is to standardize on PY 131 as our required physics course. The change will not increase enrollment in your department, rather it will shift a small group of students in PY 211 and PY 212 to PY 131. The redistribution affects less than 15 students per year. We are not requesting changes to enrollment caps or existing enrollment restrictions (i.e., reserved seats for specific majors). Given past availability of the courses (Fall, Spring and Summer), students have ample opportunity in their schedule to make this improved option fit.

As part of the process, we need to consult with your department. Please take a few moments to consider the above changes. Then please send me a brief note stating whether these changes are acceptable to your department or not.

Thank you very much for your assistance. I need a response by end of business on Sep 7 so we can move forward next week, meeting a UNC System imposed deadline for curriculum revisions under UNC System Policy 400.1.5.

David

Dr. David Crouse

Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences

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Keith Warren <ckwarren@ncsu.edu>

Wed, Sep 5, 2018 at 2:45 PM

9/5/2018

North Carolina State University Mail - PY course changes in proposed Crop and Soil Sciences curriculum revision

To: Paul Huffman <paul_huffman@ncsu.edu>, David Crouse <crouse@ncsu.edu>
Cc: Keith Warren <keith_warren@ncsu.edu>

Hi David,

Paul and I just discussed your email and we have no objections to these changes.

Is there a particular semester that most of these students take Physics? Our spring section is in a smaller room and has filled to capacity the last two semesters. We usually have 10-15 available seats in the fall semester.

Obviously we monitor enrollments so if capacity becomes an issue we will just find a larger room.

Please let me know if you need any further information.

Best,
Keith

On Wed, Sep 5, 2018 at 1:22 PM Paul Huffman <paul_huffman@ncsu.edu> wrote:

[Quoted text hidden]

--

Paul Huffman
Professor and Head of Physics
NC State University
College of Sciences
P: 919-515-3314
Campus Box 8202

The logo for North Carolina State University, featuring the words "NC STATE" in white, bold, sans-serif capital letters on a red rectangular background.

--
Keith Warren, Assistant Head, Department of Physics
Tel: 919-513-2708 : 421 Riddick Hall, [2401 Stinson Dr.](#), NC State University, Box 8202, Raleigh, NC 27695-8202

Department Consultation RE: addition of restricted electives in CSSC

Kathy Krawczyk <krawczyk@ncsu.edu>
To: crouse@ncsu.edu

Wed, Sep 5, 2018 at 11:06 AM

David,

Thanks for sending this. ACC 200 has been eliminated effective Summer 2018, and ACC 280, Survey of Financial and Managerial Accounting, will take its place for Crop and Soil Science students. You can definitely add ACC 280 to your list of restricted electives - we would be happy for CSS students to enroll in the class!

If you need any other information - just let me know!

Kathy

Kathy Krawczyk
Dixon Hughes Goodman Professor of Accounting
Head, Department of Accounting
North Carolina State University
Campus Box 8113
Raleigh, NC 27695-8113
919-515-4439
919-515-4446 (fax)

[Quoted text hidden]

Department Consultation RE: addition of restricted electives in CSSC**Derek Aday** <ddaday@ncsu.edu>

Wed, Sep 5, 2018 at 2:04 PM

To: David Crouse <crouse@ncsu.edu>

Dear Dr. Crouse,
I support these curriculum changes. Thanks for including us,
Derek

D. Derek Aday
Professor and Head
Department of Applied Ecology and
University Director, Southeast Climate Adaptation Science Center
North Carolina State University
127 David Clark Laboratory
Raleigh, NC 27695-7617
919-513-7568

Follow Applied Ecology on Twitter:

[@NCState_AEC](#)

[@ddadayNCSU](#)

On Wed, Sep 5, 2018 at 10:46 AM David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

In case you are not aware, UNC System Policy 400.1.5 has mandated a revision of degrees in excess of 120 credits, requiring the credit requirement be reduced to 120. As part of our revision process, the faculty in Crop and Soil Sciences have undertaken a comprehensive review of our restricted electives. To modernize the degree, we are requesting the addition to our pools of restricted electives courses in your department that previously existed but were not part of the degree or new courses created since the last degree revision. In many cases, we are simply seeking uniformity, adding a course already existing as a restrictive elective in one degree to other degrees in our department where the course isn't listed.

As part of the process, we need to consult with the affected departments. Please take a few moments to review the below linked spreadsheet of courses being added. Then please send me a brief note stating whether these changes are acceptable to your department or not.

 [Departmental Consultation - Restricted Elective...](#)

Should the proposed changes be approved by the University, we are not asking any department to add seats to existing course offerings or new sections to accommodate enrollment of our Crop and Soil Sciences students. Since these are courses under restricted electives, there are multiple alternative courses a student could select should your course(s) be at enrollment capacity. There are also multiple semesters a student could take the course(s) in your department, meaning, should the course be full one semester, they can always try to enroll in a later semester. We don't envision any impact on the departments as students would be back filling into vacant seats in your existing scheduled courses.

Thank you very much for your help with this. I need a response by end of business on Sep 7 so we can move forward next week, meeting the UNC System deadline.

David

Dr. David Crouse

9/5/2018

North Carolina State University Mail - Department Consultation RE: addition of restricted electives in CSSC

Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences
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Department Consultation RE: addition of restricted electives in CSSC

Garey Fox <gafox2@ncsu.edu>

Thu, Sep 6, 2018 at 10:04 AM

To: David Crouse <crouse@ncsu.edu>

David,

BAE has no issues with the proposed restricted electives.

Thanks!

Garey

Garey A. Fox, Ph.D., P.E., D.WRE
Professor and Department Head
Biological and Agricultural Engineering
North Carolina State University
102 Weaver Administration
Phone: 919-515-6700
Email: garey_fox@ncsu.edu
Twitter: [@GareyAFox](https://twitter.com/GareyAFox)

On Wed, Sep 5, 2018 at 10:45 AM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

In case you are not aware, UNC System Policy 400.1.5 has mandated a revision of degrees in excess of 120 credits, requiring the credit requirement be reduced to 120. As part of our revision process, the faculty in Crop and Soil Sciences have undertaken a comprehensive review of our restricted electives. To modernize the degree, we are requesting the addition to our pools of restricted electives courses in your department that previously existed but were not part of the degree or new courses created since the last degree revision. In many cases, we are simply seeking uniformity, adding a course already existing as a restrictive elective in one degree to other degrees in our department where the course isn't listed.

As part of the process, we need to consult with the affected departments. Please take a few moments to review the below linked spreadsheet of courses being added. Then please send me a brief note stating whether these changes are acceptable to your department or not.

 **Departmental Consultation - Restricted Elective...**

Should the proposed changes be approved by the University, we are not asking any department to add seats to existing course offerings or new sections to accommodate enrollment of our Crop and Soil Sciences students. Since these are courses under restricted electives, there are multiple alternative courses a student could select should your course(s) be at enrollment capacity. There are also multiple semesters a student could take the course(s) in your department, meaning, should the course be full one semester, they can always try to enroll in a later semester. We don't envision any impact on the departments as students would be back filling into vacant seats in your existing scheduled courses.

Thank you very much for your help with this. I need a response by end of business on Sep 7 so we can move forward next week, meeting the UNC System deadline.

David

Dr. David Crouse
Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences
go.ncsu.edu/recruits

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Department Consultation RE: addition of restricted electives in CSSC

Eric Davis <eric_davis@ncsu.edu>

Thu, Sep 6, 2018 at 4:20 PM

To: David Crouse <crouse@ncsu.edu>

Hi David:

Entomology & Plant Pathology approve of the modifications in restricted electives of CSS degree programs as proposed in the description below.

Rick Davis

On Wed, Sep 5, 2018 at 10:45 AM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

In case you are not aware, UNC System Policy 400.1.5 has mandated a revision of degrees in excess of 120 credits, requiring the credit requirement be reduced to 120. As part of our revision process, the faculty in Crop and Soil Sciences have undertaken a comprehensive review of our restricted electives. To modernize the degree, we are requesting the addition to our pools of restricted electives courses in your department that previously existed but were not part of the degree or new courses created since the last degree revision. In many cases, we are simply seeking uniformity, adding a course already existing as a restrictive elective in one degree to other degrees in our department where the course isn't listed.

As part of the process, we need to consult with the affected departments. Please take a few moments to review the below linked spreadsheet of courses being added. Then please send me a brief note stating whether these changes are acceptable to your department or not.

 **Departmental Consultation - Restricted Elective...**

Should the proposed changes be approved by the University, we are not asking any department to add seats to existing course offerings or new sections to accommodate enrollment of our Crop and Soil Sciences students. Since these are courses under restricted electives, there are multiple alternative courses a student could select should your course(s) be at enrollment capacity. There are also multiple semesters a student could take the course(s) in your department, meaning, should the course be full one semester, they can always try to enroll in a later semester. We don't envision any impact on the departments as students would be back filling into vacant seats in your existing scheduled courses.

Thank you very much for your help with this. I need a response by end of business on Sep 7 so we can move forward next week, meeting the UNC System deadline.

David

Dr. David Crouse
Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences
go.ncsu.edu/recruits

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—
Eric L. Davis, Head &
William Neal Reynolds Distinguished Professor
Department of Entomology and Plant Pathology
Varsity Research Bldg, Module 6

9/6/2018

North Carolina State University Mail - Department Consultation RE: addition of restricted electives in CSSC

[1575 Varsity Dr., Suite 1535](#)
Campus Box 7616
North Carolina State University
Raleigh, NC 27695-7616

<https://cals.ncsu.edu/entomology-and-plant-pathology/people/rick>
Office: (919) 515-7984
Lab: (919) 515-6693
FAX: (919) 515-7716
email: eric_davis@ncsu.edu

Department Consultation RE: addition of restricted electives in CSSC

Betty Gardner <bgardner@ncsu.edu>
To: David Crouse <crouse@ncsu.edu>

Wed, Sep 5, 2018 at 11:37 AM

Hello David,

I reviewed the elective list that you sent for the Crop and Soil Sciences curriculum revision, and I am fine with your addition of the GN 421 and GN 423 courses to the electives list.

Sincerely,
Betty

[Quoted text hidden]

—
Betty Gardner, Ph. D.

Director, Undergraduate Genetics Program
Teaching Professor, Department of Biological Sciences
2532 Thomas Hall
Box 7614
North Carolina State University
Raleigh, NC 27695-7614

bgardner@ncsu.edu

Appointment Calendar: www.tinyurl.com/Gardnerappointment

Department Consultation RE: addition of restricted electives in CSSC**Ross Meentemeyer** <rkmeente@ncsu.edu>

Fri, Sep 7, 2018 at 11:24 AM

To: crouse@ncsu.edu

Cc: Eric Money <esmoney@ncsu.edu>

Hi David - Everything looks fine from our perspective. Thanks for asking.

Best,

Ross

On Wed, Sep 5, 2018 at 10:46 AM David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

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David

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Department Consultation RE: addition of restricted electives in CSSC

Stith Gower <stgower@ncsu.edu>

Wed, Sep 5, 2018 at 2:00 PM

To: David Crouse <crouse@ncsu.edu>

Hi David,
We miss you this year in ENV.
I see no problem with the proposed additions and status.
Cheers,
Tom

Dr. Stith Tom Gower

Head, [Dept of Forestry and Environmental Resources](#)
College of Natural Resources
North Carolina State University
Campus Box 8008
Raleigh, NC 27695

Phone: (919) 515 3873

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 [Departmental Consultation - Restricted Elective...](#)

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Thank you very much for your help with this. I need a response by end of business on Sep 7 so we can move forward next week, meeting the UNC System deadline.

David

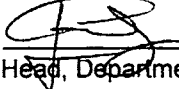
Dr. David Crouse
Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
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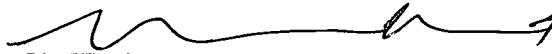
SIGNATURE PAGE

COURSE ACTION for Revision to Undergraduate Major
Plant and Soil Sciences – Soil Science (11PSSSST)

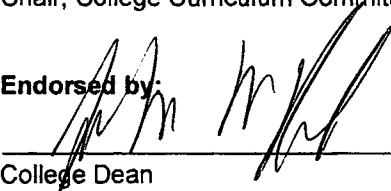
Recommended by:

 _____ 8-16-18
Head, Department of Crop and Soil Sciences Date

Recommended by:

 _____ 8/31/18
Chair, College Curriculum Committee Date

Endorsed by:

 _____ 9/5/18
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



MEMORANDUM

TO: Dr. Mike Mullen, Vice Chancellor and Dean
Division of Academic and Student Affairs

FROM: Dr. David Crouse, Undergraduate Teaching Coordinator
Crop and Soil Sciences

RE: Curriculum Action for B.S. in Natural Resources– Soil and Water Systems

The Department of Crop and Soil Sciences requests the following changes in the Bachelor of Science in Natural Resources (11NATRLBS) – Soil and Water Systems (11NATRLNRW) be made to the Format A Semester-by Semester Curriculum Display:

Freshman Year Fall Semester

- Replace ALS 103 with ALS 103 or ALS 303.
- Rename HES_ *** Health and Exercise Studies Courses to match GEP category title Physical Education/Healthy Living and move to another semester
- Delete NR 100 [course is no longer offered, replaced with Foundation Elective]
- Add Foundation Elective (3cr)
- Add CS 290 [moved from another semester]

Freshman Year Spring Semester

- Delete MA 132
- Delete PS 201 or PS 202 [moved into Economics, Management and Policy Electives, becoming an option in another semester]
- Add AEC 360 [moved from another semester, previously numbered PB 360]
- Add 1 credit from Physical Education/Healthy Living Electives [moved from another semester]

Sophomore Year Fall Semester

- Change ARE 201 or EC 201 elective to ARE 201 only
- Delete CH 201 and CH 202 [added to Advanced Chemistry Elective, becoming an option in another semester]
- Delete PB 200 [added to Plant Science Elective, becoming an option in this semester or another]
- Delete PB 365 [now part of the 4 credit AEC 360 in another semester]
- Rename HES_ *** Health and Exercise Studies Courses to match GEP category title Physical Education/Healthy Living

- Add SSC 200 [moved from another semester]
- Add SSC 201 [moved from another semester]
- Add ST 311 [moved from another semester]
- Add 3 credits from Plant Science Electives
- Add COM 110 or 112 [moved from another semester]

Sophomore Year Spring Semester

- Delete PY 211 [replaced by PY 131]
- Delete SSC 200 [moved to another semester]
- Delete SSC 201 [moved to another semester]
- Delete ST 311 [moved to another semester]
- Add PY 131 [replaces PY 211]
- Add SSC 341 with current name *Soil Fertility and Nutrient Management* [moved from another semester]
- Add 3 credits from Economics, Management and Policy Electives
- Add 2 credits from GEP Interdisciplinary Perspectives Electives [moved from another semester]

Junior Year Fall Semester

- Delete ARE 336 [moved into Economics, Management and Policy Electives, becoming an option in another semester]
- Delete BAE (SSC) 323 [moved into Water, Wetlands and Ecology Electives, becoming an option in another semester]
- Delete COM 110 or 112 [moved to another semester]
- Delete SSC 341 [moved to another semester]
- Update SSC 342 course name to *Soil and Plant Nutrient Analysis*
- Delete ZO 419 [moved into Water, Wetlands and Ecology Electives as AEC 419, becoming an option in another semester]
- Add SSC 461 [moved from another semester]
- Add 3 or 4 credits from Advanced Chemistry Electives
- Add 3 credits from Land Use Electives
- Add 3 credits from Economics, Management and Policy Electives

Junior Year Spring Semester

- Delete ENG 332 or ENG 333 [moved to another semester]

Senior Year Fall Semester

- Delete FOR 420 [moved into Water, Wetlands and Ecology Electives, becoming an option in another semester]
- Delete MEA 585 or SSC 470 [SSC 470 moved into Water, Wetlands and Ecology Electives, becoming an option in another semester]
- Delete SSC 461 [moved to another semester]
- Rename GEP Additional Breadth Requirement to GEP Additional Breadth Elective
- Delete Restricted Elective (3-4cr)
- Add 3 credits from Experiential Learning Electives
- Add 3 credits from GEP Humanities Electives

- Add 3 credits from GEP Social Sciences Electives

Senior Year Spring Semester

- Delete ARE 309 [moved into Economics, Management and Policy Electives, becoming an option in another semester]
- Delete NR 400 [moved into Land Use Electives, becoming an option in this semester or another]
- Delete SSC 361 [moved into Land Use Electives under a revised course number SSC 421, becoming an option in this semester or another]
- Delete SSC 440 [moved into Geospatial Technologies Electives Land Use Electives, becoming an option in another semester]
- Add 3 credits from Land Use Electives
- Add 3 credits from Water, Wetlands and Ecology Electives
- Add 3 credits from Plant Science Electives
- Add 3 or 4 credits of Free Electives

Major/Program Footnotes

- Create and populate Foundation Elective (see Format B for proposed list of courses)
- Create and populate Advanced Chemistry Elective (see Format B for proposed list of courses)
- Create and populate Economics, Management and Policy Electives (see Format B for proposed list of courses)
- Create and populate Geospatial Technologies Electives (see Format B for proposed list of courses)
- Create and populate Land Use Electives (see Format B for proposed list of courses)
- Create and populate Plant Science Electives (see Format B for proposed list of courses)
- Create and populate Water, Wetlands and Ecology Electives (see Format B for proposed list of courses)
- Create and populate Experiential Learning Elective (see Format B for proposed list of courses)
- Remove all other footnotes

The department also requests the following changes in Format B, which will require a new degree audit:

- Rename Major Field of Study group to Required Courses within Major
- Rename Communication to Communication and Advanced Writing
- Update Communication and Advanced Writing requirement to:
 - Choose one from ENG 331/332/333, and
 - Choose one from COM 110 or COM 112
- Create new Mathematics and Natural Sciences group by merging Mathematics and Natural Sciences groups.
- Move appropriate courses into new Mathematics and Natural Sciences group.
- Create Concentration Courses\Foundation Elective category. Requirement is 3 credits from: ES 150, FW 221, or SSC 185.

- Create Concentration Courses\Advanced Chemistry Elective category. Requirement is 3 or 4 credits from: CH 201 AND CH 202; CH 220 AND CH 222; or SSC 442.
- Create Concentration Courses\Economics, Management and Policy Electives category. Requirement is 3 credits from: ACC 280, ARE 215, ARE 306, ARE 309, ARE 312, ARE 332, ARE 336, CS 418, NR 460, PS 201, PS 202, or PS 320.
- Create Concentration Courses\Experiential Learning category. Requirement is 3 credits from CSSC 492 or CSSC 493.
- Create Concentration Courses\Geospatial Technologies Elective category. Requirement is 3 credits from: BAE 325, FOR 353, GIS 280, GIS 512, SSC 440, or SSC 545.
- Create Concentration\Land Use Electives category. Requirement is 6 credits from: MEA 300, MEA 481, NR 400, NR 484, NR 510, SSC 410, SSC 421, SSC 427, SSC 455, or SSC 462.
- Create Concentration Courses\Plant Science Electives category. Requirement is 6 credits from: CS 213, CS 230, CS 312, FOR 220, FOR 339, FOR 252, PB 200, PB 220, or PB 321.
- Create Concentration Courses\Water, Wetlands and Ecology Electives category. Requirement is 6 credits from: AEC 400, AEC 419, AES 323, FOR 260, NR 420, NR 42, SSC 332, or SSC 470.
- Delete CH 201 & CH 202 requirement [remains an option under Advanced Chemistry Electives].
- Delete PB 200 requirement [remains an option under Plant Science Electives].
- Change PB360/365 (4cr) to AEC 360 4cr.
- Change Physics from PY 211 to PY 131.
- Delete ARE 336 requirement [remains an option under Economics, Management and Policy Electives].
- Delete PS 201 or 202 requirement [remains an option under Economics, Management and Policy Electives].
- Delete NR 100 requirement [course no longer offered and has been replaced with the Foundation Electives].
- Delete NR 400 requirement [remains an option under the Land Use Electives].
- Split Soil Science requirement (4cr) to distinctly list SSC 200 (3cr) and SSC 201 (1cr) in Required Courses within Major group.
- Delete SSC 332 requirement [remains an option under the Water, Wetlands and Ecology Electives].
- Update course names for SSC 341 and SSC 342 to reflect recent course revisions.
- Delete SSC 421 requirement [remains an option under the Land Use Electives].
- Delete SSC 440 requirement [remains an option under the Geospatial Technologies Electives].
- Delete AES 323 requirement [remains an option under the Water, Wetlands and Ecology Electives].
- Delete FOR 420 requirement [remains an option under the Water, Wetlands and Ecology Electives as NR 420].

- Delete AEC 419 requirement [remains an option under the Water, Wetlands and Ecology Electives].
- Delete ARE 309 or FOR 460 requirement [remains an option under the Economics, Management, and Policy Electives (FOR 460 is now NR 460)].
- Delete MEA 585 or SSC 470 requirement [SSC 470 remains an option under the Water, Wetlands and Ecology Electives].
- Move ENG 332 or ENG 333 to Communication and Advanced Writing. Requirement is now ENG 331 or ENG 332 or ENG 333.
- Delete Restricted Elective as those Electives are now covered under other Elective categories

Justification:

As a result of a merger of the departments of Crop Science and Soil Science into Crop and Soil Sciences, the departmental faculty have evaluated the considerable overlap of concentrations in the degree programs within the department. As part of a comprehensive undergraduate program revision, similar concentrations are proposed to be merged as we go through the curriculum changes necessary to reduce degree credit hours to a maximum of 120 (in accordance with UNC System Policy 400.1.5).

Natural Resources – Soil and Water Systems (11NATRLNRW) is being merged with Soil and Land Development – Land Development (11SLDLDEV) into a revised Natural Resources – Soil and Water Systems, which will include a proposed name change at a later date. Soil and Land Development – Land Development will be discontinued at a later date after the proposed Natural Resources – Soil and Water Systems changes become effective. Admission into Soil and Land Development – Land Development has already ended.

As part of the merger and revision, we are taking the opportunity to add courses the Crop and Soil Sciences faculty consider important and remove courses considered lower priority. Some courses are being moved from degree requirements to various categories of electives. Furthermore, some course are being replaced (NR 100 is replaced with a Foundation Elective) and others are being changed to reflect structural changes (e.g., PB 360 and PB 365 have merged into AEC 360). Other revisions reflect changes in course numbers and names that have occurred prior to this revision. Finally, concentration courses are being organized into eight groups: Foundation Elective; Advanced Chemistry Electives; Economics, Management and Policy Elective; Experiential Learning Elective; Geospatial Technologies Elective; Land Use Electives; Plant Science Electives; and Water, Wetlands and Ecology Electives.

Currently enrolled students will not be affected by these revisions unless the student specifically requests in writing to be moved to the revised plan (proposed requirement term 2191).

Attached to this memorandum are the relevant supporting documents: Original Eight Semester Display, Revised Eight Semester Display, Original Curriculum Requirements and Revised Curriculum Requirements.

Current Display

 FORMAT A
 (SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

 Indicate display status: Current: X Proposed: Proposed Effective Semester: **7.2009**
Degree/Plan Title: **Natural Resources**Concentration/Subplan Title: **Soil and Water Systems**Plan SIS Code: **11NATRLBS**Subplan SIS Code: **11NATRLNRW**New Degree Audit required? (Y or N) **N**

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses, which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ALS 103 Freshman Transitions and Diversity in Agriculture and Life Sciences	1	CH 101 Chemistry – A Molecular Science	3
BIO 181 Intro to Biology: Ecol, Evol, and Biodiv.	4	CH 102 General Chemistry Lab	1
ENG 101 Academic Writing and Research	4	MA 132 Comp Math for Ligfe & Mgmt Sci	1
MA 131 Elements in Calculus	3	MA 231 Calculus for Life & Mgmt Sci	3
NR 100 Intro to Natural Resources	2	PS 201 Intro to American Govt <u>or</u> PS 202 State & Local Govt	3
HES_ *** Health & Exercise Studies Course	1	GEP Humanities Requirement *	3
Total:	15	Total:	14
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ARE 201 Intro to Agricultural and Resource Economics <u>or</u> EC 201 Principles of Macroeconomics	3	MEA 101 Geology I: Physical	3
CH 201 Chemistry – A Quantitative Science	3	MEA 101 Geology I: Lab	1
CH 202 Quantitative Science Lab	1	PY 211 College Physics I	4
PB 200 Plant Life	4	SSC 200 Soil Science	3
PB 360 Intro to Ecology	3	SSC 201 Soil Science Laboratory	1
PB 365 Ecology Lab	1	ST 311 Intro to Statistics	3
HES_ *** Health & Exercise Studies Course	1		
Total:	16	Total:	15
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ARE 336 Intro to Resource and Environmental Economics	3	ENG 332 Comm for Business & Management <u>or</u> ENG 333 Comm for Science & Research	3
BAE (SSC) 323 Water Management	3	NR 300 Natural Resources Measurements	4
COM 110 Public Speaking <u>or</u> COM 112 Interpersonal Communications	3	SSC 332 Environmental Soil Microbiology	3
SSC 341 Soil fertility & Fertilizers (Fall only)	3	SSC 452 Soil Classification	4
SSC 342 Soil Fertility Lab (Fall only)	1	GEP Humanities Requirement *	3
ZO 419 Limnology	4		
Total:	17	Total:	17

SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
FOR 420 Water & Wetlands Hydrology	4	ARE 309 Environmental Law & Economic Policy <u>or</u> FOR 460 Renewable Resource Policy & Management	3
MEA 585 Hydrology <u>or</u> SSC 470 Wetlands	3	NR 400 Natural Resource Management	4
SSC 461 Soil Physical Properties & Plant Growth	3	SSC 361 Role of Soils in Environmental Management	3
GEP Additional Breadth Requirement *	3	SSC 440 GIS in Agriculture and Environment	3
Restricted Elective ¹	3-4	SSC 490 Senior Seminar	1
		GEP Interdisciplinary Perspectives Requirement *	2-3
	Total: 16-17		Total: 16-17

Minimum Credit Hours Required for Graduation * : **126**

Major/Program Footnotes:

¹ Select from BAE 578, CH 220, FOR (NR) 484 or MB 351.

*General Education Program (GEP) requirements and GEP Footnotes:

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: These requirements are met through required courses. Students do not need to take additional math.
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: These requirements are met through required courses. Students do not need to take additional science.
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: 3 hours are met by the ARE 201 / EC 201 requirement; 3 hours are met by PS 201 or PS 202.
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
X Humanities/Social Sciences/Visual and Performing Arts or _____ Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement. ARE 336
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. **U.S. Diversity** (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- J. **Global Knowledge** (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

Current Display with Revisions

FORMAT A (SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: _____ Proposed: X Proposed Effective Semester: **01.2019**

Degree/Plan Title: **Natural Resources**

Concentration/Subplan Title: **Soil and Water Systems**

Plan SIS Code: **11NATRLBS**

Subplan SIS Code: **11NATRLNRW**

New Degree Audit required? (Y or N) **Y**

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses, which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ALS 103 Freshman Transitions and Diversity in Agriculture and Life Sciences or ALS 303 Transfer Transitions & Diversity	1	CH 101 Chemistry – A Molecular Science	3
BIO 181 Intro to Biology: Ecol, Evol, and Biodiv.	4	CH 102 General Chemistry Lab	1
ENG 101 Academic Writing and Research	4	MA 132 Comp Math for Ligfe & Mgmt Sci	1
MA 131 Elements in Calculus	3	MA 231 Calculus for Life & Mgmt Sci	3
NR 100 Intro to Natural Resources	2	PS 201 Intro to American Govt or PS 202 State & Local Govt	3
HES_*** Health & Exercise Studies Course	1	GEP Humanities Requirement ^{*C}	3
<u>Foundation Elective ¹</u>	<u>3</u>	<u>AEC 360 Intro to Ecology</u>	<u>4</u>
<u>CS 290 Professional Development in Plant and Soil Sciences</u>	<u>1</u>	<u>GEP Physical Education/Healthy Living Elective ^E</u>	<u>1</u>
Total:	15 16	Total:	14 15

SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ARE 201 Intro to Agricultural and Resource Economics or EC 201 Principles of Macroeconomics	3	MEA 101 Geology I: Physical	3
CH 201 Chemistry – A Quantitative Science	3	MEA 110 Geology I: Lab	1
CH 202 Quantitative Science Lab	1	PY 211 College Physics I	4
PB 200 Plant Life	4	SSC 200 Soil Science	3
PB 360 Intro to Ecology	3	SSC 201 Soil Science Laboratory	1
PB 365 Ecology Lab	1	ST 311 Intro to Statistics	3
HES_*** Health & Exercise Studies Course	1	<u>PY 131 Conceptual Physics</u>	<u>4</u>
<u>GEP Physical Education/Healthy Living Elective ^E</u>	<u>3</u>	<u>SSC 341 Soil Fertility & Nutrient Management</u>	<u>3</u>
<u>SSC 200 Soil Science</u>	<u>3</u>	<u>Economics, Management and Policy Elective ³</u>	<u>3</u>
<u>SSC 201 Soil Science Laboratory</u>	<u>1</u>	<u>GEP Interdisciplinary Perspectives Elective ^G</u>	<u>2</u>
<u>ST 311 Intro to Statistics</u>	<u>3</u>		
<u>Plant Science Elective ^E</u>	<u>3</u>		
<u>COM 110 Public Speaking or COM 112 Interpersonal Communications</u>	<u>3</u>		
Total:	16 17	Total:	16 15

JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ARE 336 Intro to Resource and Environmental Economics	3	ENG 332 Comm for Business & Management or ENG 333 Comm for Science & Research	3
BAE (SSC) 323 Water Management	3	NR 300 Natural Resources Measurements	4
COM 110 Public Speaking or COM 112 Interpersonal Communications	3	SSC 332 Environmental Soil Microbiology	3
SSC 341 Soil fertility & Fertilizers (Fall only)	3	SSC 452 Soil Classification	4
SSC 342 Soil <u>and Plant Nutrient Analysis Fertility Lab</u> (Fall only)	1	GEP Humanities Requirement *	3
ZO 419 Limnology	4	<u>Geospatial Technologies Elective</u> ⁴	3
SSC 461 Soil Physical Properties & Plant Growth <u>Advanced Chemistry Elective</u> ²	3 3 or 4	<u>Water, Wetlands, and Ecology Elective</u> ⁷	3
<u>Land Use Elective</u> ⁵	3		
<u>Economics, Management and Policy Elective</u> ³	3		
Total: 17 13-14		Total: 17 14	

SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
FOR 420 Water & Wetlands Hydrology	4	ARE 309 Environmental Law & Economic Policy or FOR 460 Renewable Resource Policy & Management	3
MEA 585 Hydrology or SSC 470 Wetlands	3	NR 400 Natural Resource Management	4
SSC 461 Soil Physical Properties & Plant Growth	3	SSC 361 Role of Soils in Environmental Management	3
GEP Additional Breadth <u>Elective Requirement</u> * ^F <u>Restricted Elective</u> ³	3 3-4	SSC 440 GIS in Agriculture and Environment	3
<u>Experiential Learning Elective</u> ⁸	3	SSC 490 Senior Seminar	1
<u>ENG 331 Comm for Engineering and Tech</u> or <u>ENG 332 Comm for Business & Management</u> or <u>ENG 333 Comm for Science & Research</u>	3	GEP Interdisciplinary Perspectives Requirement * <u>Land Use Elective</u> ⁵	2-3 3
<u>GEP Humanities Elective</u> ^C	3	<u>Water, Wetlands, and Ecology Elective</u> ⁷	3
<u>GEP Social Sciences Elective</u> ^D	3	<u>Plant Science Elective</u> ⁶	3
		<u>Free Elective</u>	3-4
Total: 16 17-15		Total: 16 17-13 or 14	

Minimum Credit Hours Required for Graduation * : ~~126~~120

Major/Program Footnotes:

[†]Select from BAE 578, CH 220, FOR (NR) 484 or MB 351.

¹ Foundation Elective: Select from ES 150, FW 221, or SSC 185.

² Advanced Chemistry Elective: Select from CH 201 AND CH 202; CH 220 AND CH 222; or SSC 442.

³ Economics, Management and Policy Electives: Select from ARE 215, ARE 306, ARE 309, ARE 312, ARE 332, ARE 336, CS 418, NR 460, PS 201, PS 202, or PS 320.

⁴ Geospatial Technologies Electives: Select from BAE 325, FOR 353, GIS 280, GIS 512, SSC 440, or SSC 545.

⁵ Land Use Electives: Select from MEA 300, MEA 481, NR 400, NR 484, NR 510, SSC 410, SSC 421, SSC 427, SSC 455, or SSC 462.

⁶ Plant Science Electives: Select from CS 213, CS 230, CS 312, FOR 220, FOR 339, FOR 252, PB 200, PB 220, or PB 321.

⁷ Water, Wetlands and Ecology Electives: Select from AEC 400, AEC 419, AES 323, FOR 260, NR 420, NR 420, SSC 332, or SSC 470.

⁸ Experiential Learning: Select from CSSC 492 or CSSC 493

*General Education Program (GEP) requirements and GEP Footnotes:

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

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

Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: These requirements are met through required courses. Students do not need to take additional math.

- B. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional science.**
- C. Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- D. Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **3 hours are met by the ARE 201, ~~EC 201 requirement~~; 3 hours are met by PS 201 or PS 202, if chosen. 3 hours are met by COM 112, if chosen.**
- E. Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
 Humanities/Social Sciences/Visual and Performing Arts or Mathematical Sciences/Natural Sciences/Engineering
- G. Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement. **3 hours are met by ES 150 or FW 221 or SSC 185 in the Foundation Elective requirement. ARE-336**
- H.G. Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I.H. U.S. Diversity** (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- J.I. Global Knowledge** (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- K.J. Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

Proposed Display

 FORMAT A
 (SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

 Indicate display status: Current: _____ Proposed: X Proposed Effective Semester: **1.2019**
Degree/Plan Title: **Natural Resources**Concentration/Subplan Title: **Soil and Water Systems**Plan SIS Code: **11NATRLBS**Subplan SIS Code: **11NATRLNRW**New Degree Audit required? (Y or N) **Y**

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses, which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ALS 103 Freshman Transitions & Diversity OR ALS 303 Transfer Transitions & Diversity	1	CH 101 Chemistry – A Molecular Science	3
BIO 181 Intro to Biology: Ecol, Evol, and Biodiv.	4	CH 102 General Chemistry Lab	1
ENG 101 Academic Writing and Research	4	MA 231 Calculus for Life & Management Science	3
MA 131 Elements in Calculus	3	AEC 360 Ecology	4
Foundation Elective ¹	3	GEP Humanities Elective ^C	3
CS 290 Professional Development in Plant and Soil Sciences	1	GEP Physical Education/Healthy Living Elective ^E	1
Total:	16	Total:	15
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ARE 201 Intro to Agricultural and Resource Economics	3	MEA 101 Geology I: Physical	3
COM 110 Public Speaking or COM 112 Interpersonal Communications	3	MEA 110 Geology I: Lab	1
SSC 200 Soil Science	3	PY 131 Conceptual Physics	4
SSC 201 Soil Science Laboratory	1	SSC 341 Soil Fertility & Nutrient Management	3
ST 311 Intro to Statistics	3	Economics, Management and Policy Elective ³	3
Plant Science Elective ⁶	3	GEP Interdisciplinary Perspectives Elective ⁶	2
GEP Physical Education/Healthy Living Elective ^E	1		
Total:	17	Total:	16
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
SSC 342 Soil and Plant Nutrient Analysis	1	NR 300 Natural Resources Measurements	4
SSC 461 Soil Physical Properties & Plant Growth	3	SSC 452 Soil Classification	4
Advanced Chemistry Elective ²	3 or 4	Geospatial Technologies Elective ⁴	3
Land Use Elective ⁵	3	Water, Wetlands, and Ecology Elective ⁷	3
Economics, Management and Policy Elective ³	3		
Total:	13 or 14	Total:	14

SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
Experiential Learning Elective	3	Free Elective	3-4
ENG 331 Comm for Engineering and Tech <u>or</u>	3	SSC 490 Senior Seminar	1
ENG 332 Comm for Business & Management <u>or</u>			
ENG 333 Comm for Science & Research			
GEP Humanities Elective ^C	3	Land Use Elective ⁵	3
GEP Additional Breadth Elective ^F	3	Water, Wetlands, and Ecology Elective ⁷	3
GEP Social Sciences Elective ^D	3	Plant Science Elective ⁶	3
Total:	15	Total:	13-14

Minimum Credit Hours Required for Graduation * : 120

Major/Program Footnotes:

¹ Foundation Elective: Select from ES 150, FW 221, or SSC 185.

² Advanced Chemistry Elective: Select from CH 201 AND CH 202; CH 220 AND CH 222; or SSC 442.

³ Economics, Management and Policy Electives: Select from ARE 215, ARE 306, ARE 309, ARE 312, ARE 332, ARE 336, CS 418, NR 460, PS 201, PS 202, or PS 320.

⁴ Geospatial Technologies Electives: Select from BAE 325, FOR 353, GIS 280, GIS 512, SSC 440, or SSC 545.

⁵ Land Use Electives: Select from MEA 300, MEA 481, NR 400, NR 484, NR 510, SSC 410, SSC 421, SSC 427, SSC 455, or SSC 462.

⁶ Plant Science Electives: Select from CS 213, CS 230, CS 312, FOR 220, FOR 339, FOR 252, PB 200, PB 220, or PB 321.

⁷ Water, Wetlands and Ecology Electives: Select from AEC 400, AEC 419, AES 323, FOR 260, NR 420, NR 420, SSC 332, or SSC 470.

⁸ Experiential Learning Elective: Select from CSSC 492 or CSSC 493

*General Education Program (GEP) requirements and GEP Footnotes:

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: These requirements are met through required courses. Students do not need to take additional math.
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: These requirements are met through required courses. Students do not need to take additional science.
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: 3 hours are met by the ARE 201. 3 hours are met by PS 201 or PS 202, if chosen. 3 hours are met by COM 112, if chosen.
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
 Humanities/Social Sciences/Visual and Performing Arts or _____ Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement. 3 hours are met by ES 150 or FW 221 or SSC 185 in the Foundation Elective requirement.
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- J. **Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

Current Requirements

Curricula Requirements Detail

Program CALS Agriculture & Life Sciences
Plan 11NATRLBS Natural Resources-BS
Sub-Plan 11NATRLNRW Soil & Water Systems concn
Req Term Sum2 '09

[Need Help?](#)

[Major Courses](#)

▼ 1 - Orientation

Description	Detail	Units
10 ALS 103 or ALS 303	Requirements	1.000

▼ 2 - Communication

Description	Detail	Units
10 Communication/Speech	Requirements	3.000

▼ 3 - Mathematical Sciences

Description	Detail	Units
10 Calc Life Manag A	MA 131	3.000
20 Comp Math Life Man	MA 132	1.000
30 Calc Life Manag B	MA 231	3.000
40 Intro to Statistic	ST 311	3.000

▼ 4 - Natural Sciences

Description	Detail	Units
10 Chem Molecular Sci	CH 101	3.000
20 Gen Chem Lab	CH 102	1.000
30 Chem-A Quanti Sci	CH 201	3.000
40 Quant Chem Lab	CH 202	1.000
50 Intro Bio Ecol/Div	BIO 181	4.000
60 Plant Life	PB 200	4.000
70 PB 360/365	Requirements	4.000
90 Geology I Physical	MEA 101	3.000
100 Geology I Laborat	MEA 110	1.000
110 College Physics I	PY 211	4.000
120 Intro AG Res Econ	ARE 201	3.000
130 Resource Envi Econ	ARE 336	3.000
140 PS 201 or PS 202	Requirements	3.000

▼ 5 - Major Requirements

Description	Detail	Units
10 Intro Nat Resour	NR 100	2.000
20 Nat Resour Measure	NR 300	4.000
30 Nat Resource Manag	NR 400	4.000
40 Soil Science	Requirements	4.000
50 Environ Soil Micro	SSC 332	3.000
60 Soil Fert	SSC 341	3.000
70 Soil & Plant Nutrient Analysis	SSC 342	1.000
80 Soil & Environ Mgt	SSC 421	3.000
90 GIS in Soil Science and Agric	SSC 440	3.000
100 Soil Classificatio	SSC 452	4.000
110 Soil Phys Prop	SSC 461	3.000
120 Sr Sem in Cs & Ssc	SSC 490	1.000
130 Water Management	AES 323	3.000
140 Wtrshed Wet Hydrol	FOR 420	4.000
150 Freshwater Ecology	AEC 419	4.000
160 ARE 309 or FOR 460	Requirements	3.000
170 MEA 585 or SSC 470	Requirements	3.000
180 ENG 332 or ENG 333	Requirements	3.000

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 S Allowed
 C- or better required

6 - Restricted Electives

Description	Detail	Units
10 Restricted Electives	Requirements	3.000

7 - GEP Courses

Description	Detail	Units	
10 ENG 101 Acad Writing Research	Requirements	4.000	C- or better required
20 Humanities Elective	Requirements	6.000	
30 Fitness & Wellness-HESF 100 Lv	Requirements	1.000	S Allowed
35 Health & Exercise Studies	Requirements	1.000	S Allowed
40 Additional Breadth HSS-VPA	Requirements	3.000	
50 Interdisc Perspectives	Requirements	2.000	
60 GEP US Diversity	Requirements	Verify Req	
70 GEP Global Knowledge	Requirements	Verify Req	
80 Foreign Language Proficiency	Requirements	Verify Req	

Total Units Required 126.000

[Return to Plans](#)

Proposed Requirements CURRICULUM REQUIREMENTS

Format B

<u>Degree/Plan Title:</u> Natural Resources	<u>Plan SIS Code:</u> 11NATRLBS
<u>Concentration/Subplan Title:</u> Soil and Water Systems	<u>Subplan SIS Code:</u> 11NATRLNRW
<u>Indicate requirements status:</u> Current: Proposed: X	<u>Proposed Effective Semester:</u> January 2019
<u>New Degree Audit required?</u> (Y or N) Y	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

MAJOR FIELD OF STUDY REQUIREMENTS:		
Required Courses/Groups/ Electives:	Credit Hours	GEP category, if applicable
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement
MA 131 (CP)	3	Mathematics & Natural Sciences (29 hours)
MA 231	3	
ST 311	3	
AEC 360	4	
BIO 181 (CP)	4	
CH 101 (CP)	3	
CH 102	1	
MEA 101	3	
MEA 110	1	
PY 131	4	
COM 110 or COM 112 – Communication	3	
ENG 331 or ENG 332 or ENG 333 – Advanced Writing	3	
ARE 201	3	Required Courses within Major (24 hours)
CS 290	1	
NR 300	4	
SSC 200 (CP) [C- or better required]	3	
SSC 201 [C- or better required]	1	
SSC 341	3	
SSC 342	1	
SSC 452	4	
SSC 461	3	
SSC 490	1	
Concentration Courses/Groups/Electives:		See footnoted lists (36 – 37 hours)
Foundation Elective	3	
Advanced Chemistry Electives	3 or 4	
Economics, Management and Policy Elective	6	
Experiential Learning Elective	3	
Geospatial Technologies Elective	3	
Land Use Electives	6	
Plant Science Electives	6	
Water, Wetlands and Ecology Electives	6	

Free Electives:	3 or 4	
Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i>	96 hours	
COLLEGE REQUIREMENTS:		
Orientation Course(s): ALS 103 or 303	1	
Other:		
Total credit hours under College Requirements:	1 Hours	

<u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u>		At least one of the following must be listed:
<p><i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i></p> <p><i>Specific courses should not be listed in any of the fields below other than ENG 101.</i></p>		<ol style="list-style-type: none"> 1 Choose course(s) from the University Approved GEP course list for this category. 2 Minimum requirements are satisfied by Major/College course requirements. 3 Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category. 4 Co-requisite is satisfied by a Major/College course requirement. 5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts. 6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
General Education Program Requirements: <i>Minimum 39-40 hrs</i>	Credit hours	How will the GEP requirement be met? (Choose applicable statement from 1-6 listed above)
Mathematical Sciences (6 credits) (At least 1 course with MA or ST prefix) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	0	(Choose statement 1, 2 or 3) 2
Natural Sciences (7 credits) (At least 1 lab course or course with a lab) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	0	(Choose statement 1, 2 or 3) 2
English 101 (C- or better required) (4 credits)	4	ENG 101
Humanities (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	6	(Choose statement 1, 2 or 3) 1
Social Sciences (6 credits) (Courses from two different disciplines) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	3	(Choose statement 1, 2 or 3) 3, (Major course requirements satisfies 3 credits of this requirement. Additional 3 credits can come from COM 112, if chosen for the communications requirement).
Additional Breadth (3 credits) (Choose approach that is different from the approach of the Major) Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.	3	(Choose statement 5 or 6) 5
Interdisciplinary Perspectives (5 credits) Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.	2	(Choose statement 1, 2 or 3) 3 (Major course requirement satisfies 3 credit hours of this requirement)
Health and Exercise Studies (2 credits) (Including one Fitness and Wellness course)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are not satisfied as part of the Major/College requirements.	20 hours	
GEP Co-Requisites:		Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.

U.S. Diversity co-requisite	(USD)	n/a	(Choose statement 1 or 4) 4
Global Knowledge co-requisite	(GK)	n/a	(Choose statement 1 or 4) 4
Foreign Language Proficiency		n/a	Proficiency at the FL_102 level required.
The following requirements must be satisfied within the College/Program:			Place an X in the credit hour box to indicate below that the requirement is "Satisfied by College/Program Requirements" .
Communication in the Major (Advanced Communication)		X	Satisfied by College/Program Requirements
Technology Fluency		X	Satisfied by College/Program Requirements
Total credit hours required to complete Degree: Total must be within 120-128 credit hours.		120 Total hours	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

Concentration Electives:**Foundation Electives**

ES 150 Water and the Environment
 FW 221 Conservation of Natural Resources
 SSC 185 Land and Life

Advanced Chemistry Electives

CH 201 Chemistry - A Quantitative Science AND CH 202 - Quantitative Chemistry Laboratory
 CH 220 Introductory Organic Chemistry AND CH 222 - Organic Chemistry I Lab
 SSC 442 Soil and Environmental Biogeochemistry

Economics, Management and Policy Electives

ARE 215 Small Business Accounting
 ARE 306 Agricultural Law
 ARE 309 Environmental Law and Economic Policy
 ARE 312 Agribusiness Marketing
 ARE 332 Human Resource Management for Agribusiness
 ARE 336 Introduction to Resource and Environmental Economics
 CS 418 Intro to Regulatory Science in Agriculture
 NR 460 Renewable Natural Resource Management and Policy
 PS 201 American Politics and Government
 PS 202 State and Local Government
 PS 320 U.S. Environmental Law and Politics

Experiential Learning

CSSC 492 Professional Internship Experience in Crop and Soil Sciences
 CSSC 493 Research Experience in Crop and Soil Sciences

Geospatial Technologies Electives

BAE 325 Introductory Geomatics
 FOR 353 Air Photo Interpretation and Photogrammetry
 GIS 280 Introduction to GIS
 GIS 512 Introduction to Environmental Remote Sensing
 SSC 440 Geographic Information Systems [GIS] in Soil Science and Agriculture
 SSC 545 Remote Sensing Applications in Soil Science and Agriculture

Land Use Electives

MEA 300 Environmental Geology
 MEA 481 Geomorphology: Earth's Dynamic Surface
 NR 400 Natural Resource Management
 NR 484 Environmental Impact Assessment
 NR 510 Military Land Sustainability
 SSC 410 Soil Judging for Land Evaluation

SSC 421 Role of Soils in Environmental Management
SSC 427 Biological Approaches to Sustainable Soil Systems
SSC 455 Soils, Environmental Quality and Global Challenges
SSC 462 Soil-Crop Management Systems

Plant Science Electives

CS 213 Crop Science
CS 230 Intro to Agroecology
CS 312 Grassland Management for Natural Resources Conservation
FOR 220 Urban and Community Forestry
FOR 339 Dendrology
FOR 252 Introduction to Forest Science
PB 200 Plant Life
PB 220 Local Flora
PB 321 Introduction to Whole Plant Physiology

Water, Wetlands and Ecology Electives

AEC 400 Applied Ecology
AEC 419 Freshwater Ecology
AES 323 Water Management
FOR 260 Forest Ecology
NR 420 Watershed and Wetlands Hydrology
NR 421 Wetland Assessment, Delineation and Regulation
SSC 332 Environmental Soil Microbiology
SSC 470 Wetland Soils

Department Head Consultations

COM course changes in proposed Crop and Soil Sciences curriculum changes

Kenneth Zagacki <kszagack@ncsu.edu>

Wed, Sep 5, 2018 at 1:18 PM

To: David Crouse <crouse@ncsu.edu>

Hi David - these changes are acceptable.

Best,
Ken Zagacki

On Wed, Sep 5, 2018 at 1:00 PM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

The teaching faculty in the Department of Crop and Soil Sciences have re-worked the degree requirements for five of our degree options. We are both modernizing our degrees and bringing consistency among core courses.

With regards to changes affecting your department, we seek to change our Communications requirement to bring uniformity among all of our degrees. The only changes we are proposing is to our Plant & Soil Sciences - Crop Biotechnology and Turfgrass Science programs.

Below is a list of our current requirements and below that is our proposed revisions:

Current

- COM 110 or COM 112: Natural Resources - Soil and Water Systems
- COM 110 or COM 112: Plant and Soil Sciences - Crop Production
- No required COM course: Plant and Soil Sciences - Crop Biotechnology
- COM 110 or COM 112: Plant and Soil Sciences - Soil Science
- COM 110: Turfgrass Science

Proposed

- COM 110 or COM 112: Natural Resources - Soil and Water Systems
- COM 110 or COM 112: Plant and Soil Sciences - Crop Production
- COM 110 or COM 112: Plant and Soil Sciences - Crop Biotechnology
- COM 110 or COM 112: Plant and Soil Sciences - Soil Science
- COM 110 or COM 112: Turfgrass Science

As you can see, our goal is to standardize on COM 110 or COM 112 as our Communication requirement. The change will have minimal impact on enrollment in your department. Some Turfgrass students will opt for COM 112 vs COM 110. Crop Biotechnology students will pick up COM 110 or 112. In total, this change affects less than 15 students per year. We are not requesting changes to enrollment caps or existing enrollment restrictions (i.e., reserved seats for specific majors). Given past availability of the courses (Fall, Spring and Summer), students have ample opportunity in their schedule to make this improved option fit.

As part of the process, we need to consult with your department. Please take a few moments to consider the above changes. Then please send me a brief note stating whether these changes are acceptable to your department or not.

Thank you very much for your assistance. I need a response by end of business on Sep 7 so we can move forward next week, meeting a UNC System imposed deadline for curriculum revisions under UNC System Policy 400.1.5.

David

Dr. David Crouse
Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences
go.ncsu.edu/recruits

"All electronic mail messages in connection with State business which are sent to or received by this account are subject to the NC Public Records Law and may be disclosed to third parties."

9/5/2018

North Carolina State University Mail - COM course changes in proposed Crop and Soil Sciences curriculum changes

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Ken S. Zagacki
Professor and Head
Department of Communication
NC State University

ENG course changes in proposed Crop and Soil Sciences curriculum changes

Laura Severin <Laura_Severin@ncsu.edu>

Wed, Sep 5, 2018 at 3:00 PM

To: Jason Swarts <jswarts@ncsu.edu>

Cc: David Crouse <crouse@ncsu.edu>

Thank you, Jason. You have our support, David.

Best,
Laura

On Wed, Sep 5, 2018 at 2:52 PM, Jason Swarts <jswarts@ncsu.edu> wrote:

I agree with Laura. I think this change looks good.

Jason

Jason Swarts
Professor
Associate Head
Director of Undergraduate Programs
NCSU Department of English

North Carolina State University
Raleigh, NC 27695-8105

919.515.4112
<http://www4.ncsu.edu/~jswarts>

On Sep 5, 2018, at 2:20 PM, Laura Severin <Laura_Severin@ncsu.edu> wrote:

Dear David,

I'm copying our Associate Head and Director of Undergraduate Studies, Jason Swarts, here, for the official response, but I don't think this will propose a problem. Giving the students more flexibility is probably a good development for us.

Best,
Laura

On Wed, Sep 5, 2018 at 1:00 PM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

The teaching faculty in the Department of Crop and Soil Sciences have re-worked the degree requirements for five of our degree options. We are both modernizing our degrees and bringing consistency among core courses.

With regards to changes affecting your department, we seek to change our Advance Writing requirement to provide an expanded experience to all our students and bring uniformity among all of our degrees. The classes that will be affected are:

- ENG 331: Communication for Engineering and Technology
- ENG 332: Communication for Business and Management
- ENG 333: Communication for Science and Research

Each of the above courses has a different focus and each are attractive to students graduating from our department. Due to varying post graduate interests, we send students across a wide range of professions. We have a group that are heading into environmental consulting or government agencies where ENG 331 is an appropriate course because of its focus on technical reports. Other students go

into research and development or graduate school, making ENG 333 the preferred course. And others go into a careers where an advanced writing course focused on management would be a benefit.

Below is a list of our current requirements and below that is our proposed revisions:

Current

- ENG 332 or ENG 333: Natural Resources - Soil and Water Systems
- ENG 332 or ENG 333: Plant and Soil Sciences - Crop Production
- ENG 333: Plant and Soil Sciences - Crop Biotechnology
- ENG 332 or ENG 333: Plant and Soil Sciences - Soil Science
- ENG 331 or ENG 332 or ENG 333: Turfgrass Science

Proposed

- ENG 331 or ENG 332 or ENG 333: Natural Resources - Soil and Water Systems
- ENG 331 or ENG 332 or ENG 333: Plant and Soil Sciences - Crop Production
- ENG 331 or ENG 332 or ENG 333: Plant and Soil Sciences - Crop Biotechnology
- ENG 331 or ENG 332 or ENG 333: Plant and Soil Sciences - Soil Science
- ENG 331 or ENG 332 or ENG 333: Turfgrass Science

As you can see, our goal is to standardize on ENG 331 or ENG 332 or ENG 333 as our Advanced Writing requirement. The change will have minimal impact on enrollment in your department as we will not be adding students to the total enrollment, rather students will self sort as they redistribute among the three courses based on professional goals. We are not requesting changes to enrollment caps or existing enrollment restrictions (i.e., reserved seats for specific majors). Given past availability of the courses (Fall, Spring and Summer), students have ample opportunity in their schedule to make this improved option fit.

As part of the process, we need to consult with your department. Please take a few moments to consider the above changes. Then please send me a brief note stating whether these changes are acceptable to your department or not.

Thank you very much for your assistance. I need a response by end of business on Sep 7 so we can move forward next week, meeting a UNC System imposed deadline for curriculum revisions under UNC System Policy 400.1.5.

David

Dr. David Crouse

Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences

go.ncsu.edu/recruits

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--
Dr. Laura R. Severin
Professor and Head
Department of English
221A Tompkins Hall
Campus Box 8105
North Carolina State University
Raleigh, NC 27695-8105
919-515-4245
Laura_Severin@ncsu.edu

9/5/2018

North Carolina State University Mail - ENG course changes in proposed Crop and Soil Sciences curriculum changes

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Dr. Laura R. Severin
Professor and Head
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Campus Box 8105
North Carolina State University
Raleigh, NC 27695-8105
919-515-4245
Laura_Severin@ncsu.edu

PY course changes in proposed Crop and Soil Sciences curriculum revision

2 messages

David Crouse <crouse@ncsu.edu>

Wed, Sep 5, 2018 at 1:00 PM

To: paul_huffman@ncsu.edu

Bcc: Brittany DesLauriers <bdeslau@ncsu.edu>, Robin Clements <renutt@ncsu.edu>, Melissa Merrill <msashwel@ncsu.edu>

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

The teaching faculty in the Department of Crop and Soil Sciences have re-worked the degree requirements for five of our degree options. We are both modernizing our degrees and bringing consistency among core courses.

With regards to changes affecting your department, we seek to change our Physics requirement to bring uniformity among all of our degrees. The only changes we are proposing is to our Natural Resources - Soil & Water Systems and Plant & Soil Sciences - Crop Biotechnology programs.

Below is a list of our current requirements and below that is our proposed revisions:

Current

- PY 211: Natural Resources - Soil and Water Systems
- PY 131: Plant and Soil Sciences - Crop Production
- PY 131 or PY 212: Plant and Soil Sciences - Crop Biotechnology
- PY 131: Plant and Soil Sciences - Soil Science
- PY 131: Turfgrass Science

Proposed

- PY 131: Natural Resources - Soil and Water Systems
- PY 131: Plant and Soil Sciences - Crop Production
- PY 131: Plant and Soil Sciences - Crop Biotechnology
- PY 131: Plant and Soil Sciences - Soil Science
- PY 131: Turfgrass Science

As you can see, our goal is to standardize on PY 131 as our required physics course. The change will not increase enrollment in your department, rather it will shift a small group of students in PY 211 and PY 212 to PY 131. The redistribution affects less than 15 students per year. We are not requesting changes to enrollment caps or existing enrollment restrictions (i.e., reserved seats for specific majors). Given past availability of the courses (Fall, Spring and Summer), students have ample opportunity in their schedule to make this improved option fit.

As part of the process, we need to consult with your department. Please take a few moments to consider the above changes. Then please send me a brief note stating whether these changes are acceptable to your department or not.

Thank you very much for your assistance. I need a response by end of business on Sep 7 so we can move forward next week, meeting a UNC System imposed deadline for curriculum revisions under UNC System Policy 400.1.5.

David

Dr. David Crouse

Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences

go.ncsu.edu/recruits

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Keith Warren <ckwarren@ncsu.edu>

Wed, Sep 5, 2018 at 2:45 PM

9/5/2018

North Carolina State University Mail - PY course changes in proposed Crop and Soil Sciences curriculum revision

To: Paul Huffman <paul_huffman@ncsu.edu>, David Crouse <crouse@ncsu.edu>
Cc: Keith Warren <keith_warren@ncsu.edu>

Hi David,

Paul and I just discussed your email and we have no objections to these changes.

Is there a particular semester that most of these students take Physics? Our spring section is in a smaller room and has filled to capacity the last two semesters. We usually have 10-15 available seats in the fall semester.

Obviously we monitor enrollments so if capacity becomes an issue we will just find a larger room.

Please let me know if you need any further information.

Best,
Keith

On Wed, Sep 5, 2018 at 1:22 PM Paul Huffman <paul_huffman@ncsu.edu> wrote:

[Quoted text hidden]

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Paul Huffman
Professor and Head of Physics
NC State University
College of Sciences
P: [919-515-3314](tel:919-515-3314)
Campus Box 8202

The logo consists of the words "NC STATE" in white, bold, sans-serif capital letters, centered within a solid red rectangular background.

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Keith Warren, Assistant Head, Department of Physics
Tel: 919-513-2708 : 421 Riddick Hall, [2401 Stinson Dr.](#), [NC State University](#), Box 8202, Raleigh, NC 27695-8202

Department Consultation RE: addition of restricted electives in CSSC

Kathy Krawczyk <krawczyk@ncsu.edu>

Wed, Sep 5, 2018 at 11:06 AM

To: crouse@ncsu.edu

David,

Thanks for sending this. ACC 200 has been eliminated effective Summer 2018, and ACC 280, Survey of Financial and Managerial Accounting, will take its place for Crop and Soil Science students. You can definitely add ACC 280 to your list of restricted electives - we would be happy for CSS students to enroll in the class!

If you need any other information - just let me know!

Kathy

Kathy Krawczyk
Dixon Hughes Goodman Professor of Accounting
Head, Department of Accounting
North Carolina State University
Campus Box 8113
Raleigh, NC 27695-8113
919-515-4439
919-515-4446 (fax)

[Quoted text hidden]

Department Consultation RE: addition of restricted electives in CSSC

Derek Aday <ddaday@ncsu.edu>

Wed, Sep 5, 2018 at 2:04 PM

To: David Crouse <crouse@ncsu.edu>

Dear Dr. Crouse,
I support these curriculum changes. Thanks for including us,
Derek

D. Derek Aday
Professor and Head
Department of Applied Ecology and
University Director, Southeast Climate Adaptation Science Center
North Carolina State University
127 David Clark Laboratory
Raleigh, NC 27695-7617
919-513-7568

Follow Applied Ecology on Twitter:

[@NCState_AEC](#)

[@ddadayNCU](#)

On Wed, Sep 5, 2018 at 10:46 AM David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

In case you are not aware, UNC System Policy 400.1.5 has mandated a revision of degrees in excess of 120 credits, requiring the credit requirement be reduced to 120. As part of our revision process, the faculty in Crop and Soil Sciences have undertaken a comprehensive review of our restricted electives. To modernize the degree, we are requesting the addition to our pools of restricted electives courses in your department that previously existed but were not part of the degree or new courses created since the last degree revision. In many cases, we are simply seeking uniformity, adding a course already existing as a restrictive elective in one degree to other degrees in our department where the course isn't listed.

As part of the process, we need to consult with the affected departments. Please take a few moments to review the below linked spreadsheet of courses being added. Then please send me a brief note stating whether these changes are acceptable to your department or not.

 [Departmental Consultation - Restricted Elective...](#)

Should the proposed changes be approved by the University, we are not asking any department to add seats to existing course offerings or new sections to accommodate enrollment of our Crop and Soil Sciences students. Since these are courses under restricted electives, there are multiple alternative courses a student could select should your course(s) be at enrollment capacity. There are also multiple semesters a student could take the course(s) in your department, meaning, should the course be full one semester, they can always try to enroll in a later semester. We don't envision any impact on the departments as students would be back filling into vacant seats in your existing scheduled courses.

Thank you very much for your help with this. I need a response by end of business on Sep 7 so we can move forward next week, meeting the UNC System deadline.

David

Dr. David Crouse

9/5/2018

North Carolina State University Mail - Department Consultation RE: addition of restricted electives in CSSC

Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences

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Department Consultation RE: addition of restricted electives in CSSC

Garey Fox <gafox2@ncsu.edu>

Thu, Sep 6, 2018 at 10:04 AM

To: David Crouse <crouse@ncsu.edu>

David,

BAE has no issues with the proposed restricted electives.

Thanks!

Garey

Garey A. Fox, Ph.D., P.E., D.WRE
Professor and Department Head
Biological and Agricultural Engineering
North Carolina State University
102 Weaver Administration
Phone: 919-515-6700
Email: garey_fox@ncsu.edu
Twitter: [@GareyAFox](https://twitter.com/GareyAFox)

On Wed, Sep 5, 2018 at 10:45 AM, David Crouse <crouse@ncsu.edu> wrote:

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Thank you very much for your help with this. I need a response by end of business on Sep 7 so we can move forward next week, meeting the UNC System deadline.

David

Dr. David Crouse
Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences
go.ncsu.edu/recruits

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9/6/2018

North Carolina State University Mail - Department Consultation RE: addition of restricted electives in CSSC

and may be disclosed to third parties."

Department Consultation RE: addition of restricted electives in CSSC

Eric Davis <eric_davis@ncsu.edu>

Thu, Sep 6, 2018 at 4:20 PM

To: David Crouse <crouse@ncsu.edu>

Hi David:

Entomology & Plant Pathology approve of the modifications in restricted electives of CSS degree programs as proposed in the description below.

Rick Davis

On Wed, Sep 5, 2018 at 10:45 AM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

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As part of the process, we need to consult with the affected departments. Please take a few moments to review the below linked spreadsheet of courses being added. Then please send me a brief note stating whether these changes are acceptable to your department or not.

 **Departmental Consultation - Restricted Elective...**

Should the proposed changes be approved by the University, we are not asking any department to add seats to existing course offerings or new sections to accommodate enrollment of our Crop and Soil Sciences students. Since these are courses under restricted electives, there are multiple alternative courses a student could select should your course(s) be at enrollment capacity. There are also multiple semesters a student could take the course(s) in your department, meaning, should the course be full one semester, they can always try to enroll in a later semester. We don't envision any impact on the departments as students would be back filling into vacant seats in your existing scheduled courses.

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David

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—
Eric L. Davis, Head &
William Neal Reynolds Distinguished Professor
Department of Entomology and Plant Pathology
Varsity Research Bldg. Module 6

9/6/2018

North Carolina State University Mail - Department Consultation RE: addition of restricted electives in CSSC

1575 Varsity Dr., Suite 1535
Campus Box 7616
North Carolina State University
Raleigh, NC 27695-7616

<https://cals.ncsu.edu/entomology-and-plant-pathology/people/rick>

Office: (919) 515-7984

Lab: (919) 515-6693

FAX: (919) 515-7716

email: eric_davis@ncsu.edu

Department Consultation RE: addition of restricted electives in CSSC

Betty Gardner <bgardner@ncsu.edu>

Wed, Sep 5, 2018 at 11:37 AM

To: David Crouse <crouse@ncsu.edu>

Hello David,

I reviewed the elective list that you sent for the Crop and Soil Sciences curriculum revision, and I am fine with your addition of the GN 421 and GN 423 courses to the electives list.

Sincerely,

Betty

[Quoted text hidden]

--

Betty Gardner, Ph. D.

Director, Undergraduate Genetics Program
Teaching Professor, Department of Biological Sciences
2532 Thomas Hall
Box 7614
North Carolina State University
Raleigh, NC 27695-7614

bgardner@ncsu.edu

Appointment Calendar: www.tinyurl.com/Gardnerappointment

Department Consultation RE: addition of restricted electives in CSSC**Ross Meentemeyer** <rkmeente@ncsu.edu>

Fri, Sep 7, 2018 at 11:24 AM

To: crouse@ncsu.edu

Cc: Eric Money <esmoney@ncsu.edu>

Hi David - Everything looks fine from our perspective. Thanks for asking.

Best,

Ross

On Wed, Sep 5, 2018 at 10:46 AM David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

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As part of the process, we need to consult with the affected departments. Please take a few moments to review the below linked spreadsheet of courses being added. Then please send me a brief note stating whether these changes are acceptable to your department or not.

 [Departmental Consultation - Restricted Elective...](#)

Should the proposed changes be approved by the University, we are not asking any department to add seats to existing course offerings or new sections to accommodate enrollment of our Crop and Soil Sciences students. Since these are courses under restricted electives, there are multiple alternative courses a student could select should your course(s) be at enrollment capacity. There are also multiple semesters a student could take the course(s) in your department, meaning, should the course be full one semester, they can always try to enroll in a later semester. We don't envision any impact on the departments as students would be back filling into vacant seats in your existing scheduled courses.

Thank you very much for your help with this. I need a response by end of business on Sep 7 so we can move forward next week, meeting the UNC System deadline.

David

Dr. David Crouse

Undergraduate Teaching Coordinator and
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Crop and Soil Sciences

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Department Consultation RE: addition of restricted electives in CSSC

Stith Gower <stgower@ncsu.edu>

Wed, Sep 5, 2018 at 2:00 PM

To: David Crouse <crouse@ncsu.edu>

Hi David,
We miss you this year in ENV.
I see no problem with the proposed additions and status.
Cheers,
Tom

Dr. Stith Tom Gower

Head, [Dept of Forestry and Environmental Resources](#)
College of Natural Resources
North Carolina State University
Campus Box 8008
Raleigh, NC 27695

Phone: (919) 515 3873

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On Wed, Sep 5, 2018 at 10:45 AM, David Crouse <crouse@ncsu.edu> wrote:

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As part of the process, we need to consult with the affected departments. Please take a few moments to review the below linked spreadsheet of courses being added. Then please send me a brief note stating whether these changes are acceptable to your department or not.

 [Departmental Consultation - Restricted Elective...](#)

Should the proposed changes be approved by the University, we are not asking any department to add seats to existing course offerings or new sections to accommodate enrollment of our Crop and Soil Sciences students. Since these are courses under restricted electives, there are multiple alternative courses a student could select should your course(s) be at enrollment capacity. There are also multiple semesters a student could take the course(s) in your department, meaning, should the course be full one semester, they can always try to enroll in a later semester. We don't envision any impact on the departments as students would be back filling into vacant seats in your existing scheduled courses.

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David

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MEMORANDUM

TO: Dr. Mike Mullen, Vice Chancellor and Dean
Division of Academic and Student Affairs

FROM: Dr. David Crouse, Undergraduate Teaching Coordinator
Crop and Soil Sciences



RE: Curriculum Action for Bachelor of Science in Turfgrass Science

The Department of Crop and Soil Sciences requests the following changes in the Bachelor of Science in Turfgrass Science (11TFGBS) be made to the Format A Semester-by Semester Curriculum Display:

Freshman Year Fall Semester

- Replace CS 103 with ALS 103/303
- Rename HES_ *** Health and Exercise Studies Courses to match GEP category title Physical Education/Healthy Living and move to another semester
- Add CS 290 [moved from another semester]

Freshman Year Spring Semester

- Delete MA 132 requirement
- Add Physical Education/Healthy Living [moved from another semester]

Sophomore Year Fall Semester

- Move ARE 215 into Economics, Management and Policy Electives, making ARE 215 an option, but not requirement, in another semester
- Delete CS 290 [moved to another semester]
- Add ARE 201 [moved from another semester]
- Add Physical Education/Healthy Living [moved from another semester]

Sophomore Year Spring Semester

- Delete ARE 201 / EC 201. [ARE 201 moved to another semester]
- Split the old 4 credit version of CH 220 into CH 220 (3cr) + CH 222 (1cr)
- Change COM 110 requirement to COM 110 or COM 112
- Delete HES_ *** Health and Exercise Studies Course [renamed and moved to another semester]
- Add 3 credits from Economics, Management and Policy electives

Junior Year Fall Semester

- Delete CS 492 [changed to Experiential Learning Elective in another semester]
- Update SSC 341 to current name *Soil Fertility and Nutrient Management*.
- Update SSC 342 to current name *Soil and Plant Nutrient Analysis*. Move SSC 342 to a subsequent semester as SSC 341 is now a pre-requisite, not a co-requisite
- Delete AE/BUS Elective [renamed to Economics, Management and Policy Elective and moved to another semester]
- Add ENG 331 or ENG 332 or ENG 333 [moved from another semester]
- Add 2 credits from GEP Interdisciplinary Perspective Electives [moved from another semester]

Junior Year Spring Semester

- Delete ENG 331/332/333 [moved to another semester]
- Add SSC 342 [moved from another semester]

Senior Year Fall Semester

- Delete ENT 425
- Update HS 471 to match current course name [Landscape Ecosystem Management]
- Add 3 credits from Experiential Learning Elective [replaces CS 492 from moved from another semester]

Senior Year Spring Semester

- Delete GEP Interdisciplinary Perspective Elective [moved to another semester]
- Increase Free Electives to 5 credits
- Remove (HUM/SS/VPA) note from GEP Additional Breadth Elective

Major/Program Footnotes

- Revise program footnote to update list of *C- or better* courses
- Create and populate Economics, Management and Policy Elective (see Format B for proposed list of courses)

The department also requests the following changes in Format B, which will require a new degree audit:

- Rename Intro to Agriculture & Life Sciences group to Orientation
- Rename Languages group to Communication and Advanced Writing
- Rename Concentration Courses group to Concentration Electives
- Remove Required Courses\Economics category
- Rename Required Courses group to Required Courses within Major
- Rename Concentration Courses\Restricted Elective category to Concentration Electives\Economic, Policy and Management Elective
- Create new Mathematics and Natural Sciences group by merging Mathematics and Natural Sciences groups
- Create Concentration Electives\Experiential Learning category
- Move appropriate courses into new Mathematics and Natural Sciences group.
- Move ARE 201 from Required Courses\Economics into Required Courses within Major
- Move ARE 215 into Concentration Courses\Economic, Policy and Management Elective

- Move CS 290 from Concentration Courses to Required Courses within Major
- Replace CS 103 with ALS 103/303
- Replace CS 492 (3cr) requirement with new requirement: CSSC 492 (3cr), or CSSC 493 (3cr). Move CSSC 492/493 requirement into the new Concentration Electives\Experiential Learning category
- Split CH 220 (4cr) into CH 220 (3cr) + CH 222 (1cr). Distinctly list CH 220 and CH 222 in Mathematics and Natural Sciences group.
- Split Soil Science requirement (4cr) to distinctly list SSC 200 (3cr) and SSC 201 (1cr) in Required Courses within Major group
- Update course names for SSC 341 and SSC 342 to reflect recent course revisions.
- Update Communication and Advanced Writing requirement to include:
 - Choose one from ENG 331/332/333, and
 - Choose one from COM 110 or COM 112
- Delete ENT 425s
- Delete MA 132
- Change Free Electives from 3cr to 5cr

Justification:

As a result of a change in UNC System policy, Bachelor degrees at NC State University cannot exceed 120 credit hours. The Turfgrass Science degree currently requires 125 credits. As part of the revision to reduce the credit hours, we are taking the opportunity to add courses the Crop and Soil Sciences faculty consider important and removing courses considered lower priority. Furthermore, some course are being replaced (CS 103 replaced by ALS 103/303) and others are being revised to reflect structural changes (e.g., CH 220 4cr has been changed by the home department to CH 220 3cr plus CH 222 1cr). In the process of revision, we are also proposing a new organization of the restrictive electives into groupings that will become consistent among all of our revised degrees.

Currently enrolled students will not be affected by these revisions unless the student specifically requests in writing to be moved to the revised plan (proposed requirement term 2191).

Attached to this memorandum are the relevant supporting documents: Original Eight Semester Display; Revised Eight Semester Display; Original Curriculum Requirements and Revised Curriculum Requirements.

Current Display

FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: X Proposed: Proposed Effective Semester:

Degree/Plan Title: **Turfgrass Science**

Concentration/Subplan Title:

Plan SIS Code: **11TFGBS**

Subplan SIS Code:

New Degree Audit required? (Y or N) N.A.

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses, which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CS 103 Introduction to Crop Science	1	CH 101 Chemistry – A Molecular Science	3
BIO 181 Intro Bio: Ecol, Evol, and Biodiversity	4	CH 102 General Chemistry Lab	1
ENG 101 Academic Writing and Research ^H	4	MA 132 Computational Math for Life & Mgmt. Sci	1
MA 121 Elements of Calculus	3	PB 200 Plant Life	4
HES_*** Health & Exercise Studies Course ^E	1	ST 311 Intro to Statistics	3
GEP Humanities Elective ^{C,J}	3	GEP Interdisciplinary Perspective Elective ^G	3
Total:	16	Total:	15
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ARE 215 Small Business Accounting	3	ARE 201 Intro to Agri Res Economics ^{2,D} <i>or</i> EC 201 Principles of Microeconomics ^{2,D}	3
BIO 183 Intro Biology: Cell and Molecular Bio	4	CH 220 Organic Chemistry	4
CS 200 Intro to Turfgrass ¹	4	COM 110 Pub Speaking	3
CS 290 Prof Development in Plant & Soil Sci	1	SSC 200 Soil Science	3
PB 360 Intro to Ecology	4	SSC 201 Soil Science Lab	1
		HES_***Health & Exercise Studies Course	1
Total:	16	Total:	15
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CS 492 Turf External Learning Experience	3	PB 321 Intro Whole Plant Physiology	3
PP 315 Principles of Plant Pathology	4	CS 211 Plant Genetics	3
SSC 341 Soil Fertility & Fertilizers	3	CS 400 Turf Cultural Systems	3
SSC 342 Soil Fertility Lab	1	ENG 331 Comm for Engineering and Tech <i>or</i> ENG 332 Comm for Business & Management <i>or</i> ENG 333 Comm for Science & Research	3
ARE/BUS Elective ³	3	PY 131 Conceptual Physics	4
GEP Humanities Elective ^{C,J}	3		
Total:	17	Total:	16
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CS 465 Env. Issues in Turf Management	3	CS 470 Adv. Turf Pest Management	2
ENT 425 General Entomology	3	GEP Interdisciplinary Perspective Elective ^G	2-3
HS 471 Trees & Grounds	4	Free Elective	3
SSC 461 Soil Physical Properties	3	GEP Social Sciences Elective ^D	3
CS 414 Weed Science	4	GEP Additional Breadth Elective (Hum/SS/VPA)	3
Total:	17	Total:	13-14

Major/Program Footnotes:

¹ Three hours of approved Career Path Electives and 8 hours of CS, HS, PB, PP, SSC or MEA courses
Must receive a grade of C- or better in all SSC courses.

***General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: These requirements are met through required courses. Students do not need to take additional math.
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: These requirements are met through required courses. Students do not need to take additional science.
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: 3 hours are met by the ARE 201 requirement; 3 hours are met by COM 112 if chosen
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
X Humanities/Social Sciences/Visual and Performing Arts or _____ Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. **U.S. Diversity (USD)**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- J. **Global Knowledge (GK)**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

Current Display with Revisions

FORMAT A (SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Indicate display status: Current: _____ Proposed: X Proposed Effective Semester: **01.2019**

Degree/Plan Title: **Turfgrass Science**

Concentration/Subplan Title:

Plan SIS Code: **11TFGBS**

Subplan SIS Code:

New Degree Audit required? (Y or N) Y

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses, which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ALS 103 - Freshman Transitions & Diversity in Ag & Life Sci or ALS 303 - Transfer Transitions & Diversity in Ag & Life Sci	1	CH 101 Chemistry – A Molecular Science	3
CS-103 Introduction to Crop Science			
BIO 181 Intro Bio: Ecol, Evol, and Biodiversity	4	CH 102 General Chemistry Lab	1
ENG 101 Academic Writing and Research ^H	4	MA 132 Computational Math for Life & Mgmt. Sci	1
MA 121 Elements of Calculus	3	PB 200 Plant Life	4
HES_*** Health & Exercise Studies Course ^F	1	ST 311 Intro to Statistics	3
GEP Humanities Elective ^{CJ}	3	GEP Interdisciplinary Perspective Elective ^G	3
CS 290 Prof Development in Plant & Soil Sci	<u>1</u>	GEP Physical Education/Healthy Living Elective ^E	<u>1</u>
Total:	16	Total:	15
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ARE 215 Small Business Accounting	3	ARE 201 Intro to Agri Res Economics ^{2D} or EC 201 Principles of Microeconomics ^{2D}	3
BIO 183 Intro Biology: Cell and Molecular Bio	4	CH 220 Organic Chemistry	4 <u>3</u>
CS 200 Intro to Turfgrass ¹	4	COM 110 Pub Speaking or COM 112 Interpersonal Communication	3
CS 290 Prof Development in Plant & Soil Sci	1	SSC 200 Soil Science	3
PB 360 Intro to Ecology	4	SSC 201 Soil Science Lab	1
ARE 201 Intro to Agri Res Economics ^D	<u>3</u>	HES_*** Health & Exercise Studies Course	1
GEP Physical Education/Healthy Living Elective ^E	<u>1</u>	CH 222 Organic Chemistry Lab Economics, Management and Policy Elective ^L	<u>3</u>
Total:	16	Total:	15 <u>14</u>
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CS 492 Turf External Learning Experience	3	PB 321 Intro Whole Plant Physiology	3
PP 315 Principles of Plant Pathology	4	CS 211 Plant Genetics	3
SSC 341 Soil Fertility & Nutrient Management Fertilizers	3	CS 400 Turf Cultural Systems	3
SSC 342 Soil Fertility Lab	1	ENG 331 Comm for Engineering and Tech or ENG 332 Comm for Business & Management or ENG 333 Comm for Science & Research	3
ARE/BUS Elective ³	3	PY 131 Conceptual Physics	4
GEP Humanities Elective ^{CJ}	3	SSC 342 Soil Fertility Lab	<u>1</u>
ENG 331 Comm for Engineering and Tech or ENG 332 Comm for Business & Management or ENG 333 Comm for Science & Research	<u>3</u>		
GEP Interdisciplinary Perspective Elective ^G	<u>2</u>		
Total:	17 <u>15</u>	Total:	16 <u>14</u>

SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CS 465 Env. Issues in Turf Management	3	CS 470 Adv. Turf Pest Management	2
ENT 425 General Entomology	3	GEP Interdisciplinary Perspective Elective⁶	2-3
HS 471 <u>Landscape Ecosystem Management Trees & Grounds</u>	4	Free Elective	<u>3</u>
SSC 461 Soil Physical Properties	3	GEP Social Sciences Elective ^D	3
CS 414 Weed Science	4	GEP Additional Breadth Elective ^E (Hum/SS/VPA)	3
<u>Experiential Learning Elective³</u>	<u>3</u>		
Total:		Total:	
17		13-14	

Minimum Credit Hours Required for Graduation ^{*I,J,K,4}: **125**120

Major/Program Footnotes:

¹ ~~Three hours of approved Career Path Electives and 8 hours of CS, HS, PB, PP, SSC or MEA courses~~

~~Must receive a grade of C- or better in all SSC courses.~~

² A grade of C- or better is required for CS 200, CS 400, and CS 465.

² Economics, Policy and Management Electives. Three credits from: ARE 215, ARE 301, ARE 304, ARE 306, ARE 309, ARE 312, ARE 332, BUS 225, BUS 320, BUS 340, BUS 420, CS 418, PS 320.

³ Experiential Learning Elective: Three credits from CSSC 492 or CSSC 493

*General Education Program (GEP) requirements and GEP Footnotes:

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional math.**
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional science.**
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **3 hours are met by the ARE 201 requirement; 3 hours are met by COM 112 if chosen**
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
X Humanities/Social Sciences/Visual and Performing Arts or _____ Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. **U.S. Diversity** (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- J. **Global Knowledge** (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

Proposed Display

 FORMAT A
 (SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

 Indicate display status: Current: _____ Proposed: X Proposed Effective Semester: **01.2019**

 Degree/Plan Title: **Turfgrass Science**

Concentration/Subplan Title:

 Plan SIS Code: **11TFGBS**

Subplan SIS Code:

New Degree Audit required? (Y or N) Y

Critical Path Courses - Identify using the code (CP) which courses are considered critical path courses, which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ALS 103 - Freshman Transitions & Diversity in Ag & Life Sci <u>or</u> ALS 303 - Transfer Transitions & Diversity in Ag & Life Sci	1	CH 101 Chemistry – A Molecular Science	3
BIO 181 Intro Bio: Ecol, Evol, and Biodiversity	4	CH 102 General Chemistry Lab	1
ENG 101 Academic Writing and Research ^H	4	PB 200 Plant Life	4
MA 121 Elements of Calculus	3	ST 311 Intro to Statistics	3
CS 290 Professional Development in Plant and Soil Sciences	1	GEP Physical Education/Healthy Living Elective ^E	1
GEP Humanities Elective ^C	3	GEP Interdisciplinary Perspective Elective ^G	3
Total:	16	Total:	15
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
ARE 201 Intro to Agri Res Economics ^D	3	Economics, Management and Policy Elective ²	3
BIO 183 Intro Biology: Cell and Molecular Bio	4	CH 220 Organic Chemistry	3
CS 200 Intro to Turfgrass ¹	4	CH 222 Organic Chemistry Lab	1
GEP Physical Education/Healthy Living Elective ^E	1	COM 110 Pub Speaking <u>or</u> COM 112 Interpersonal Communication	3
PB 360 Intro to Ecology	4	SSC 200 Soil Science ¹	3
		SSC 201 Soil Science Lab ¹	1
Total:	16	Total:	14
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
PP 315 Principles of Plant Pathology	4	PB 321 Intro Whole Plant Physiology	3
SSC 341 Soil Fertility & Nutrient Management	3	CS 211 Plant Genetics	3
ENG 331 Comm for Engineering and Tech <u>or</u>	3	CS 400 Turf Cultural Systems ¹	3
ENG 332 Comm for Business & Management <u>or</u>			
ENG 333 Comm for Science & Research			
GEP Interdisciplinary Perspective Elective ^G	2	PY 131 Conceptual Physics	4
GEP Humanities Elective ^C	3	SSC 342 Soil & Plant Nutrient Analysis	1
Total:	15	Total:	14

SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
CS 465 Env. Issues in Turf Management ¹	3	CS 470 Adv. Turf Pest Management	2
CS 414 Weed Science	4	GEP Social Sciences Elective ^D	3
HS 471 Landscape Ecosystem Management	4	GEP Additional Breadth Elective ^F	3
SSC 461 Soil Physical Properties	3	Free Electives	5
Experiential Learning Elective ³	3		
Total:	17	Total:	13

Minimum Credit Hours Required for Graduation *^{1, J, K, 4}: 120

Major/Program Footnotes:

¹ A grade of C- or better is required for CS 200, CS 400, and CS 465.

² Economics, Policy and Management Electives. Three credits from: ARE 215, ARE 301, ARE 304, ARE 306, ARE 309, ARE 312, ARE 332, BUS 225, BUS 320, BUS 340, BUS 420, CS 418, PS 320.

³ Experiential Learning Elective: Three credits from CSSC 492 or CSSC 493.

***General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html>.

- A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional math.**
- B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **These requirements are met through required courses. Students do not need to take additional science.**
- C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **3 hours are met by the ARE 201 requirement; 3 hours are met by COM 112 if chosen**
- E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.
- F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
 Humanities/Social Sciences/Visual and Performing Arts or Mathematical Sciences/Natural Sciences/Engineering
- G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement.
- H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

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

- I. **U.S. Diversity** (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- J. **Global Knowledge** (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement.
- K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.

Curricula Requirements Detail

Program CALS Agriculture & Life Sciences
 Plan 11TFGBS Turfgrass Science-BS
 Sub-Plan NOSUBPLAN
 Req Term Sum2 '12

[Need Help?](#)

[Major Courses](#)

▼ 1 - Intro to Agriculture & Life Sc

Description	Detail	Units
10 Intro Topics in Crop	CS 103	1.000

▼ 2 - Languages

Description	Detail	Units	
10 ENG 101 Acad Writing Research	Requirements	4.000	C- or better required
20 Writing and Speaking	Requirements	6.000	

▼ 3 - Mathematics

Description	Detail	Units
10 Elements of Calc	MA 121	3.000
20 Comp Math Life Man	MA 132	1.000
30 Intro to Statistic	ST 311	3.000

▼ 4 - Natural Sciences
 11TFGBS 2127 Natural Sciences

Description	Detail	Units
10 Intro Bio Ecol/Div	BIO 181	4.000
20 Intro Bio Cell/Mol	BIO 183	4.000
30 Chem Molecular Sci	CH 101	3.000
40 Gen Chem Lab	CH 102	1.000
50 Intro Organic Chem	CH 220	4.000
60 Plant Life	PB 200	4.000
70 Whole Plant Phys	PB 321	3.000
75 Ecology	PB 360	4.000
80 Conceptual Physics	PY 131	4.000

▼ 5 - Required Courses

Description	Detail	Units	
10 Economics	Requirements	3.000	
20 Small Bus Acct	ARE 215	3.000	
30 Intro Turf Mgmt	CS 200	4.000	C- or better required
40 Plant Genetics	CS 211	3.000	
50 Turf Cultural Syst	CS 400	3.000	
60 Weed Science	CS 414	4.000	
70 Turf Mgt Systems	CS 465	3.000	C- or better required
80 Adv Turf Pest Mana	CS 470	2.000	
90 General Entomology	ENT 425	3.000	
100 Tree Grnds Maint	HS 471	4.000	
110 Princ Plant Pathol	PP 315	4.000	
120 Soil Science	Requirements	4.000	
130 Soil Fert	SSC 341	3.000	
140 Soil & Plant Nutrient Analysis	SSC 342	1.000	
150 Soil Phys Prop	SSC 461	3.000	

▼ 6 - Concentration Courses
 11TFGBS 2127 Concentration Courses

Description	Detail	Units
10 Prof Plant Soil Sc	CS 290	1.000
30 CS 492 - Extnl Learning Exp	Requirements	3.000
40 Restricted Elective	Requirements	3.000

8 - GEP Courses

Description	Detail	Units	
10 Humanities Elective	Requirements	6.000	
20 Social Sciences Elective	Requirements	3.000	
30 Fitness & Wellness-HESF 100 Lv	Requirements	1.000	S Allowed
35 Health & Exercise Studies	Requirements	1.000	S Allowed
40 Additional Breadth HSS-VPA	Requirements	3.000	
50 Interdisc Perspectives	Requirements	5.000	
60 GEP US Diversity	Requirements	Verify Req	
70 GEP Global Knowledge	Requirements	Verify Req	
80 Foreign Language Proficiency	Requirements	Verify Req	

20 - Free Electives

Description	Detail	Units	
10 Free Electives (12 Hr S/U Lmt)	Requirements	3.000	S Allowed

Total Units Required 125.000

[Return to Plans](#)

Proposed Requirements

CURRICULUM REQUIREMENTS

Format B

<u>Degree/Plan Title:</u> Turfgrass Science	<u>Plan SIS Code:</u> 11TFGBS
<u>Concentration/Subplan Title:</u> :	<u>Subplan SIS Code:</u>
<u>Indicate requirements status:</u> Current: Proposed: X	<u>Proposed Effective Semester:</u> January 2019 (2191)
<u>New Degree Audit required?</u> (Y or N) Y	
<u>Critical Path Courses</u> - Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.	

MAJOR FIELD OF STUDY REQUIREMENTS:			
<i>Required Courses/Groups/ Electives:</i>	<i>Credit Hours</i>	<i>GEP category, if applicable</i>	
Indicate if course or course groupings have a C-wall or MGPA requirement and which are considered Critical Path courses – indicate with (CP) next to applic. course.		List GEP category and hours satisfied by a Major requirement	
MA 121 (CP)	3	Mathematics & Natural Sciences (37 hours)	
ST 311	3		
BIO 181 (CP)	4		
BIO 183	4		
CH 101 (CP)	3		
CH 102	1		
CH 220	3		
CH 222	1		
PB 200 (CP)	4		
PB 321	3		
PB 360	4		
PY 131	4		
COM 110 or COM 112 – Communication	3		Communication and Advanced Writing (6 hours)
ENG 331 or ENG 332 or ENG 333 – Advanced Writing	3		
ARE 201	3	Required Courses within Major (42 hours)	
CS 200 (CP) [C- or better required]	4		
CS 211	3		
CS 400 [C- or better required]	3		
CS 414	4		
CS 465 [C- or better required]	3		
CS 470	2		
CS 290	1		
HS 471	4		
PP 315	4		
SSC 200 (CP)	3		
SSC 201	1		
SSC 341	3		
SSC 342	1		
SSC 461	3		
Concentration Courses/Groups/Electives:			
Economic, Management and Policy Elective	3	See footnoted list	
Experiential Learning	3		
Free Electives:	5		

Total credit hours under Major Field of Study: <i>Minimum 27 hours required in program area.</i>	100 hours	
COLLEGE REQUIREMENTS:		
Orientation Course(s): ALS 103 or 303	1	
Other:		
Total credit hours under College Requirements:	1 Hours	

<u>NCSU GENERAL EDUCATION PROGRAM REQUIREMENTS</u>		At least one of the following must be listed:
<i>Courses in the Major and/or Minor may also fulfill a General Education requirement; however, a GEP category may not be subset to require a specific course from the category list. Required courses must be listed in the Major/College requirements.</i>		1 Choose course(s) from the University Approved GEP course list for this category.
<i>Specific courses should not be listed in any of the fields below other than ENG 101.</i>		2 Minimum requirements are satisfied by Major/College course requirements.
		3 Major/College course requirement satisfies <u>X</u> credit hrs of this requirement. Remaining hours required must be chosen from the University Approved GEP course list for the category.
		4 Co-requisite is satisfied by a Major/College course requirement.
		5 Choose course(s) from the University Approved GEP course lists for the Humanities/ Social Sciences/ Visual & Performing Arts.
		6 Choose course(s) from the University Approved GEP course lists for Natural Sciences/Mathematical Sciences.
General Education Program Requirements: <i>Minimum 39-40 hrs</i>	Credit hours	How will the GEP requirement be met? (Choose applicable statement from 1-6 listed above)
Mathematical Sciences (6 credits) (At least 1 course with MA or ST prefix) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	0	(Choose statement 1, 2 or 3) 2
Natural Sciences (7 credits) (At least 1 lab course or course with a lab) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	0	(Choose statement 1, 2 or 3) 2
English 101 (C- or better required) (4 credits)	4	ENG 101
Humanities (6 credits) (Courses from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	6	(Choose statement 1, 2 or 3) 1
Social Sciences (6 credits) (Courses from two different disciplines) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	3	(Choose statement 1, 2 or 3) 3, (Major course requirements satisfies 3 credits of this requirement. Additional 3 credits can come from COM 112, if chosen for the communications requirement).
Additional Breadth (3 credits) (Choose approach that is different from the approach of the Major) <i>Major/College requirements cannot satisfy this requirement and an AB course cannot be double-counted except in satisfying the Global Knowledge or U.S. Diversity co-requisites.</i>	3	(Choose statement 5 or 6) 5
Interdisciplinary Perspectives (5 credits) <i>Course(s) in the Major may double-count to satisfy this requirement and also satisfy either the Global Knowledge or U.S. Diversity co-requisites.</i>	5	(Choose statement 1, 2 or 3) 1
Health and Exercise Studies (2 credits) (Including one Fitness and Wellness course)	2	Choose course(s) from the University Approved GEP course list for this category.
Total credit hours needed to complete GEP that are <u>not</u> satisfied as part of the Major/College requirements.	23 hours	
GEP Co-Requisites:		Courses taken in the Major, GEP, or Minor may double-count to fulfill the co-requisites. Courses that satisfy the U.S. Diversity or Global Knowledge co-requisite are marked on course lists with a "USD" or "GK" indicator.
U.S. Diversity co-requisite (USD)	n/a	(Choose statement 1 or 4) 4

Global Knowledge co-requisite	(GK)	n/a	(Choose statement 1 or 4) 4
Foreign Language Proficiency		n/a	Proficiency at the FL_102 level required.
The following requirements must be satisfied within the College/Program:			Place an X in the credit hour box to indicate below that the requirement is "Satisfied by College/Program Requirements"
Communication in the Major (Advanced Communication)		X	Satisfied by College/Program Requirements
Technology Fluency		X	Satisfied by College/Program Requirements
Total credit hours required to complete Degree: Total must be within 120-128 credit hours.		120 Total hours	As applicable, indicate here the overall GPA requirement for degree completion including course completion.

Concentration Electives:**Economics, Management and Policy Elective**

ARE 215 Small Business Accounting
 ARE 301 Intermediate Microeconomics
 ARE 304 Agribusiness Management
 ARE 306 Agricultural Law
 ARE 309 Environmental Law & Economic Policy
 ARE 312 Agribusiness Marketing
 ARE 332 Human Resource Management for Agribusiness
 BUS 225 Personal Finance
 BUS 320 Financial Management
 BUS 340 Information Systems Management
 BUS 420 Financial Management of Corporations
 CS 418 Intro to Regulatory Science in Agriculture
 PS 320 U.S. Environmental Law and Politics

Experiential Learning

CSSC 492 Professional Internship Experience in Crop and Soil Sciences
 CSSC 493 Research Experience in Crop and Soil Sciences

Department Head Consultations

COM course changes in proposed Crop and Soil Sciences curriculum changes

Kenneth Zagacki <kszagack@ncsu.edu>

Wed, Sep 5, 2018 at 1:18 PM

To: David Crouse <crouse@ncsu.edu>

Hi David - these changes are acceptable.

Best,
Ken Zagacki

On Wed, Sep 5, 2018 at 1:00 PM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

The teaching faculty in the Department of Crop and Soil Sciences have re-worked the degree requirements for five of our degree options. We are both modernizing our degrees and bringing consistency among core courses.

With regards to changes affecting your department, we seek to change our Communications requirement to bring uniformity among all of our degrees. The only changes we are proposing is to our Plant & Soil Sciences - Crop Biotechnology and Turfgrass Science programs.

Below is a list of our current requirements and below that is our proposed revisions:

Current

- COM 110 or COM 112: Natural Resources - Soil and Water Systems
- COM 110 or COM 112: Plant and Soil Sciences - Crop Production
- No required COM course: Plant and Soil Sciences - Crop Biotechnology
- COM 110 or COM 112: Plant and Soil Sciences - Soil Science
- COM 110: Turfgrass Science

Proposed

- COM 110 or COM 112: Natural Resources - Soil and Water Systems
- COM 110 or COM 112: Plant and Soil Sciences - Crop Production
- COM 110 or COM 112: Plant and Soil Sciences - Crop Biotechnology
- COM 110 or COM 112: Plant and Soil Sciences - Soil Science
- COM 110 or COM 112: Turfgrass Science

As you can see, our goal is to standardize on COM 110 or COM 112 as our Communication requirement. The change will have minimal impact on enrollment in your department. Some Turfgrass students will opt for COM 112 vs COM 110. Crop Biotechnology students will pick up COM 110 or 112. In total, this change affects less than 15 students per year. We are not requesting changes to enrollment caps or existing enrollment restrictions (i.e., reserved seats for specific majors). Given past availability of the courses (Fall, Spring and Summer), students have ample opportunity in their schedule to make this improved option fit.

As part of the process, we need to consult with your department. Please take a few moments to consider the above changes. Then please send me a brief note stating whether these changes are acceptable to your department or not.

Thank you very much for your assistance. I need a response by end of business on Sep 7 so we can move forward next week, meeting a UNC System imposed deadline for curriculum revisions under UNC System Policy 400.1.5.

David

Dr. David Crouse

Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences

go.ncsu.edu/recruits

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9/5/2018

North Carolina State University Mail - COM course changes in proposed Crop and Soil Sciences curriculum changes

--
Ken S. Zagacki
Professor and Head
Department of Communication
NC State University

ENG course changes in proposed Crop and Soil Sciences curriculum changes

Laura Severin <Laura_Severin@ncsu.edu>

Wed, Sep 5, 2018 at 3:00 PM

To: Jason Swarts <jswarts@ncsu.edu>

Cc: David Crouse <crouse@ncsu.edu>

Thank you, Jason. You have our support, David.

Best,
Laura

On Wed, Sep 5, 2018 at 2:52 PM, Jason Swarts <jswarts@ncsu.edu> wrote:

I agree with Laura. I think this change looks good.

Jason

Jason Swarts
Professor
Associate Head
Director of Undergraduate Programs
NCSU Department of English

North Carolina State University
Raleigh, NC 27695-8105

919.515.4112
<http://www4.ncsu.edu/~jswarts>

On Sep 5, 2018, at 2:20 PM, Laura Severin <Laura_Severin@ncsu.edu> wrote:

Dear David,

I'm copying our Associate Head and Director of Undergraduate Studies, Jason Swarts, here, for the official response, but I don't think this will propose a problem. Giving the students more flexibility is probably a good development for us.

Best,
Laura

On Wed, Sep 5, 2018 at 1:00 PM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

The teaching faculty in the Department of Crop and Soil Sciences have re-worked the degree requirements for five of our degree options. We are both modernizing our degrees and bringing consistency among core courses.

With regards to changes affecting your department, we seek to change our Advance Writing requirement to provide an expanded experience to all our students and bring uniformity among all of our degrees. The classes that will be affected are:

- ENG 331: Communication for Engineering and Technology
- ENG 332: Communication for Business and Management
- ENG 333: Communication for Science and Research

Each of the above courses has a different focus and each are attractive to students graduating from our department. Due to varying post graduate interests, we send students across a wide range of professions. We have a group that are heading into environmental consulting or government agencies where ENG 331 is an appropriate course because of its focus on technical reports. Other students go

into research and development or graduate school, making ENG 333 the preferred course. And others go into a careers where an advanced writing course focused on management would be a benefit.

Below is a list of our current requirements and below that is our proposed revisions:

Current

- ENG 332 or ENG 333: Natural Resources - Soil and Water Systems
- ENG 332 or ENG 333: Plant and Soil Sciences - Crop Production
- ENG 333: Plant and Soil Sciences - Crop Biotechnology
- ENG 332 or ENG 333: Plant and Soil Sciences - Soil Science
- ENG 331 or ENG 332 or ENG 333: Turfgrass Science

Proposed

- ENG 331 or ENG 332 or ENG 333: Natural Resources - Soil and Water Systems
- ENG 331 or ENG 332 or ENG 333: Plant and Soil Sciences - Crop Production
- ENG 331 or ENG 332 or ENG 333: Plant and Soil Sciences - Crop Biotechnology
- ENG 331 or ENG 332 or ENG 333: Plant and Soil Sciences - Soil Science
- ENG 331 or ENG 332 or ENG 333: Turfgrass Science

As you can see, our goal is to standardize on ENG 331 or ENG 332 or ENG 333 as our Advanced Writing requirement. The change will have minimal impact on enrollment in your department as we will not be adding students to the total enrollment, rather students will self sort as they redistribute among the three courses based on professional goals. We are not requesting changes to enrollment caps or existing enrollment restrictions (i.e., reserved seats for specific majors). Given past availability of the courses (Fall, Spring and Summer), students have ample opportunity in their schedule to make this improved option fit.

As part of the process, we need to consult with your department. Please take a few moments to consider the above changes. Then please send me a brief note stating whether these changes are acceptable to your department or not.

Thank you very much for your assistance. I need a response by end of business on Sep 7 so we can move forward next week, meeting a UNC System imposed deadline for curriculum revisions under UNC System Policy 400.1.5.

David

Dr. David Crouse

Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences

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—
Dr. Laura R. Severin
Professor and Head
Department of English
221A Tompkins Hall
Campus Box 8105
North Carolina State University
Raleigh, NC 27695-8105
919-515-4245
Laura_Severin@ncsu.edu

--
Dr. Laura R. Severin
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Laura_Severin@ncsu.edu

PY course changes in proposed Crop and Soil Sciences curriculum revision

2 messages

David Crouse <crouse@ncsu.edu>

Wed, Sep 5, 2018 at 1:00 PM

To: paul_huffman@ncsu.edu

Bcc: Brittany DesLauriers <bdeslau@ncsu.edu>, Robin Clements <renutt@ncsu.edu>, Melissa Merrill <msashwel@ncsu.edu>

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

The teaching faculty in the Department of Crop and Soil Sciences have re-worked the degree requirements for five of our degree options. We are both modernizing our degrees and bringing consistency among core courses.

With regards to changes affecting your department, we seek to change our Physics requirement to bring uniformity among all of our degrees. The only changes we are proposing is to our Natural Resources - Soil & Water Systems and Plant & Soil Sciences - Crop Biotechnology programs.

Below is a list of our current requirements and below that is our proposed revisions:

Current

- PY 211: Natural Resources - Soil and Water Systems
- PY 131: Plant and Soil Sciences - Crop Production
- PY 131 or PY 212: Plant and Soil Sciences - Crop Biotechnology
- PY 131: Plant and Soil Sciences - Soil Science
- PY 131: Turfgrass Science

Proposed

- PY 131: Natural Resources - Soil and Water Systems
- PY 131: Plant and Soil Sciences - Crop Production
- PY 131: Plant and Soil Sciences - Crop Biotechnology
- PY 131: Plant and Soil Sciences - Soil Science
- PY 131: Turfgrass Science

As you can see, our goal is to standardize on PY 131 as our required physics course. The change will not increase enrollment in your department, rather it will shift a small group of students in PY 211 and PY 212 to PY 131. The redistribution affects less than 15 students per year. We are not requesting changes to enrollment caps or existing enrollment restrictions (i.e., reserved seats for specific majors). Given past availability of the courses (Fall, Spring and Summer), students have ample opportunity in their schedule to make this improved option fit.

As part of the process, we need to consult with your department. Please take a few moments to consider the above changes. Then please send me a brief note stating whether these changes are acceptable to your department or not.

Thank you very much for your assistance. I need a response by end of business on Sep 7 so we can move forward next week, meeting a UNC System imposed deadline for curriculum revisions under UNC System Policy 400.1.5.

David

Dr. David Crouse

Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences

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Keith Warren <ckwarren@ncsu.edu>

Wed, Sep 5, 2018 at 2:45 PM

9/5/2018

North Carolina State University Mail - PY course changes in proposed Crop and Soil Sciences curriculum revision

To: Paul Huffman <paul_huffman@ncsu.edu>, David Crouse <crouse@ncsu.edu>
Cc: Keith Warren <keith_warren@ncsu.edu>

Hi David,

Paul and I just discussed your email and we have no objections to these changes.

Is there a particular semester that most of these students take Physics? Our spring section is in a smaller room and has filled to capacity the last two semesters. We usually have 10-15 available seats in the fall semester.

Obviously we monitor enrollments so if capacity becomes an issue we will just find a larger room.

Please let me know if you need any further information.

Best,
Keith

On Wed, Sep 5, 2018 at 1:22 PM Paul Huffman <paul_huffman@ncsu.edu> wrote:

[Quoted text hidden]

--

Paul Huffman
Professor and Head of Physics
NC State University
College of Sciences
P: 919-515-3314
Campus Box 8202

The logo for North Carolina State University, featuring the words "NC STATE" in white, bold, sans-serif capital letters on a red rectangular background.

--
Keith Warren, Assistant Head, Department of Physics
Tel: 919-513-2708 : 421 Riddick Hall, [2401 Stinson Dr.](#), NC State University, Box 8202, Raleigh, NC 27695-8202

9/5/2018

North Carolina State University Mail - Department Consultation RE: addition of restricted electives in CSSC

Department Consultation RE: addition of restricted electives in CSSC

Kathy Krawczyk <krawczyk@ncsu.edu>

Wed, Sep 5, 2018 at 11:06 AM

To: crouse@ncsu.edu

David,

Thanks for sending this. ACC 200 has been eliminated effective Summer 2018, and ACC 280, Survey of Financial and Managerial Accounting, will take its place for Crop and Soil Science students. You can definitely add ACC 280 to your list of restricted electives - we would be happy for CSS students to enroll in the class!

If you need any other information - just let me know!

Kathy

Kathy Krawczyk
Dixon Hughes Goodman Professor of Accounting
Head, Department of Accounting
North Carolina State University
Campus Box 8113
Raleigh, NC 27695-8113
919-515-4439
919-515-4446 (fax)

[Quoted text hidden]

Department Consultation RE: addition of restricted electives in CSSC

Derek Aday <ddaday@ncsu.edu>

Wed, Sep 5, 2018 at 2:04 PM

To: David Crouse <crouse@ncsu.edu>

Dear Dr. Crouse,
I support these curriculum changes. Thanks for including us,
Derek

D. Derek Aday
Professor and Head
Department of Applied Ecology and
University Director, Southeast Climate Adaptation Science Center
North Carolina State University
127 David Clark Laboratory
Raleigh, NC 27695-7617
919-513-7568

Follow Applied Ecology on Twitter:

[@NCState_AEC](#)

[@ddadayNCSU](#)

On Wed, Sep 5, 2018 at 10:46 AM David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

In case you are not aware, UNC System Policy 400.1.5 has mandated a revision of degrees in excess of 120 credits, requiring the credit requirement be reduced to 120. As part of our revision process, the faculty in Crop and Soil Sciences have undertaken a comprehensive review of our restricted electives. To modernize the degree, we are requesting the addition to our pools of restricted electives courses in your department that previously existed but were not part of the degree or new courses created since the last degree revision. In many cases, we are simply seeking uniformity, adding a course already existing as a restrictive elective in one degree to other degrees in our department where the course isn't listed.

As part of the process, we need to consult with the affected departments. Please take a few moments to review the below linked spreadsheet of courses being added. Then please send me a brief note stating whether these changes are acceptable to your department or not.

 **Departmental Consultation - Restricted Elective...**

Should the proposed changes be approved by the University, we are not asking any department to add seats to existing course offerings or new sections to accommodate enrollment of our Crop and Soil Sciences students. Since these are courses under restricted electives, there are multiple alternative courses a student could select should your course(s) be at enrollment capacity. There are also multiple semesters a student could take the course(s) in your department, meaning, should the course be full one semester, they can always try to enroll in a later semester. We don't envision any impact on the departments as students would be back filling into vacant seats in your existing scheduled courses.

Thank you very much for your help with this. I need a response by end of business on Sep 7 so we can move forward next week, meeting the UNC System deadline.

David

Dr. David Crouse

9/5/2018

North Carolina State University Mail - Department Consultation RE: addition of restricted electives in CSSC

Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences
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Department Consultation RE: addition of restricted electives in CSSC

Garey Fox <gafox2@ncsu.edu>

Thu, Sep 6, 2018 at 10:04 AM

To: David Crouse <crouse@ncsu.edu>

David,

BAE has no issues with the proposed restricted electives.

Thanks!

Garey

Garey A. Fox, Ph.D., P.E., D.WRE
Professor and Department Head
Biological and Agricultural Engineering
North Carolina State University
102 Weaver Administration
Phone: 919-515-6700
Email: garey_fox@ncsu.edu
Twitter: [@GareyAFox](https://twitter.com/GareyAFox)

On Wed, Sep 5, 2018 at 10:45 AM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

In case you are not aware, UNC System Policy 400.1.5 has mandated a revision of degrees in excess of 120 credits, requiring the credit requirement be reduced to 120. As part of our revision process, the faculty in Crop and Soil Sciences have undertaken a comprehensive review of our restricted electives. To modernize the degree, we are requesting the addition to our pools of restricted electives courses in your department that previously existed but were not part of the degree or new courses created since the last degree revision. In many cases, we are simply seeking uniformity, adding a course already existing as a restrictive elective in one degree to other degrees in our department where the course isn't listed.

As part of the process, we need to consult with the affected departments. Please take a few moments to review the below linked spreadsheet of courses being added. Then please send me a brief note stating whether these changes are acceptable to your department or not.

 **Departmental Consultation - Restricted Elective...**

Should the proposed changes be approved by the University, we are not asking any department to add seats to existing course offerings or new sections to accommodate enrollment of our Crop and Soil Sciences students. Since these are courses under restricted electives, there are multiple alternative courses a student could select should your course(s) be at enrollment capacity. There are also multiple semesters a student could take the course(s) in your department, meaning, should the course be full one semester, they can always try to enroll in a later semester. We don't envision any impact on the departments as students would be back filling into vacant seats in your existing scheduled courses.

Thank you very much for your help with this. I need a response by end of business on Sep 7 so we can move forward next week, meeting the UNC System deadline.

David

Dr. David Crouse
Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences
go.ncsu.edu/recruits

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Department Consultation RE: addition of restricted electives in CSSC

Eric Davis <eric_davis@ncsu.edu>

Thu, Sep 6, 2018 at 4:20 PM

To: David Crouse <crouse@ncsu.edu>

Hi David:

Entomology & Plant Pathology approve of the modifications in restricted electives of CSS degree programs as proposed in the description below.

Rick Davis

On Wed, Sep 5, 2018 at 10:45 AM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

In case you are not aware, UNC System Policy 400.1.5 has mandated a revision of degrees in excess of 120 credits, requiring the credit requirement be reduced to 120. As part of our revision process, the faculty in Crop and Soil Sciences have undertaken a comprehensive review of our restricted electives. To modernize the degree, we are requesting the addition to our pools of restricted electives courses in your department that previously existed but were not part of the degree or new courses created since the last degree revision. In many cases, we are simply seeking uniformity, adding a course already existing as a restrictive elective in one degree to other degrees in our department where the course isn't listed.

As part of the process, we need to consult with the affected departments. Please take a few moments to review the below linked spreadsheet of courses being added. Then please send me a brief note stating whether these changes are acceptable to your department or not.

 **Departmental Consultation - Restricted Elective...**

Should the proposed changes be approved by the University, we are not asking any department to add seats to existing course offerings or new sections to accommodate enrollment of our Crop and Soil Sciences students. Since these are courses under restricted electives, there are multiple alternative courses a student could select should your course(s) be at enrollment capacity. There are also multiple semesters a student could take the course(s) in your department, meaning, should the course be full one semester, they can always try to enroll in a later semester. We don't envision any impact on the departments as students would be back filling into vacant seats in your existing scheduled courses.

Thank you very much for your help with this. I need a response by end of business on Sep 7 so we can move forward next week, meeting the UNC System deadline.

David

Dr. David Crouse
Undergraduate Teaching Coordinator and
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Crop and Soil Sciences
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—
Eric L. Davis, Head &
William Neal Reynolds Distinguished Professor
Department of Entomology and Plant Pathology
Varsity Research Bldg, Module 6

1575 Varsity Dr., Suite 1535
Campus Box 7616
North Carolina State University
Raleigh, NC 27695-7616

<https://cats.ncsu.edu/entomology-and-plant-pathology/people/rick>

Office: (919) 515-7984

Lab: (919) 515-6693

FAX: (919) 515-7716

email: eric_davis@ncsu.edu

Department Consultation RE: addition of restricted electives in CSSC

Betty Gardner <bgardner@ncsu.edu>

Wed, Sep 5, 2018 at 11:37 AM

To: David Crouse <crouse@ncsu.edu>

Hello David,

I reviewed the elective list that you sent for the Crop and Soil Sciences curriculum revision, and I am fine with your addition of the GN 421 and GN 423 courses to the electives list.

Sincerely,

Betty

[Quoted text hidden]

—

Betty Gardner, Ph. D.

Director, Undergraduate Genetics Program
Teaching Professor, Department of Biological Sciences
2532 Thomas Hall
Box 7614
North Carolina State University
Raleigh, NC 27695-7614

bgardner@ncsu.edu

Appointment Calendar: www.tinyurl.com/Gardnerappointment

Department Consultation RE: addition of restricted electives in CSSC**Ross Meentemeyer** <rkmeente@ncsu.edu>

Fri, Sep 7, 2018 at 11:24 AM

To: crouse@ncsu.edu

Cc: Eric Money <esmoney@ncsu.edu>

Hi David - Everything looks fine from our perspective. Thanks for asking.

Best,

Ross

On Wed, Sep 5, 2018 at 10:46 AM David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

In case you are not aware, UNC System Policy 400.1.5 has mandated a revision of degrees in excess of 120 credits, requiring the credit requirement be reduced to 120. As part of our revision process, the faculty in Crop and Soil Sciences have undertaken a comprehensive review of our restricted electives. To modernize the degree, we are requesting the addition to our pools of restricted electives courses in your department that previously existed but were not part of the degree or new courses created since the last degree revision. In many cases, we are simply seeking uniformity, adding a course already existing as a restrictive elective in one degree to other degrees in our department where the course isn't listed.

As part of the process, we need to consult with the affected departments. Please take a few moments to review the below linked spreadsheet of courses being added. Then please send me a brief note stating whether these changes are acceptable to your department or not.

 **Departmental Consultation - Restricted Elective...**

Should the proposed changes be approved by the University, we are not asking any department to add seats to existing course offerings or new sections to accommodate enrollment of our Crop and Soil Sciences students. Since these are courses under restricted electives, there are multiple alternative courses a student could select should your course(s) be at enrollment capacity. There are also multiple semesters a student could take the course(s) in your department, meaning, should the course be full one semester, they can always try to enroll in a later semester. We don't envision any impact on the departments as students would be back filling into vacant seats in your existing scheduled courses.

Thank you very much for your help with this. I need a response by end of business on Sep 7 so we can move forward next week, meeting the UNC System deadline.

David

Dr. David Crouse
Undergraduate Teaching Coordinator and
Alumni Distinguished Undergraduate Professor
Crop and Soil Sciences
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Department Consultation RE: addition of restricted electives in CSSC

Stith Gower <stgower@ncsu.edu>

Wed, Sep 5, 2018 at 2:00 PM

To: David Crouse <crouse@ncsu.edu>

Hi David,
We miss you this year in ENV.
I see no problem with the proposed additions and status.
Cheers,
Tom

Dr. Stith Tom Gower

Head, [Dept of Forestry and Environmental Resources](#)
College of Natural Resources
North Carolina State University
Campus Box 8008
Raleigh, NC 27695

Phone: (919) 515 3873

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On Wed, Sep 5, 2018 at 10:45 AM, David Crouse <crouse@ncsu.edu> wrote:

First let me thank you for taking the time to look over the following information. Second, let me apologize if I have sent this email to the wrong member of your department and ask that you pass it on to the correct member.

In case you are not aware, UNC System Policy 400.1.5 has mandated a revision of degrees in excess of 120 credits, requiring the credit requirement be reduced to 120. As part of our revision process, the faculty in Crop and Soil Sciences have undertaken a comprehensive review of our restricted electives. To modernize the degree, we are requesting the addition to our pools of restricted electives courses in your department that previously existed but were not part of the degree or new courses created since the last degree revision. In many cases, we are simply seeking uniformity, adding a course already existing as a restrictive elective in one degree to other degrees in our department where the course isn't listed.

As part of the process, we need to consult with the affected departments. Please take a few moments to review the below linked spreadsheet of courses being added. Then please send me a brief note stating whether these changes are acceptable to your department or not.

 [Departmental Consultation - Restricted Elective...](#)

Should the proposed changes be approved by the University, we are not asking any department to add seats to existing course offerings or new sections to accommodate enrollment of our Crop and Soil Sciences students. Since these are courses under restricted electives, there are multiple alternative courses a student could select should your course(s) be at enrollment capacity. There are also multiple semesters a student could take the course(s) in your department, meaning, should the course be full one semester, they can always try to enroll in a later semester. We don't envision any impact on the departments as students would be back filling into vacant seats in your existing scheduled courses.

Thank you very much for your help with this. I need a response by end of business on Sep 7 so we can move forward next week, meeting the UNC System deadline.

David

Dr. David Crouse
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