



Curriculum and Course Change System - Print Change/Delete Course Form

X Change a Course - Abbrev & Number: GEN- 470
 Corresponding Lab Course: --
 Corresponding Honors course: --
 .. **Add Honors course:** --
 Corresponding Graduate course: GEN- -670
 .. **Add Graduate course:** --
Course Title: HUMAN GENETICS

Brief Statement of Change:
 We updated the prereqs and coreqs on all of our courses to ensure that the students are properly prepared for the material that will be covered. Our curriculum states that our required science and math courses cannot be attempted until all prereqs have been passed with a grade of C or better. We are including a statement to this effect with the prereqs to make sure students understand that each course builds on the material in the prereq courses and that a sufficient understanding of the prereq courses is essential for success in the course. We are also allowing the nonmajors GEN 300 serve as a prereq to encourage nonmajors to enroll.

Last Term taught: 1101 Effective Term: 01/2012	.. Change Abbrev to: .. Change Number to:
.. Change Catalog Title: from: to:	.. Change Transcript Title: from: HUMAN GENETICS to:

.. Change of Credit:	From: Fixed Credit: 3 (3,) Variable Credit: - (-), (-)	To: Fixed Credit: (,) Variable Credit: - (-),(-)
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.. **Add cross-listing with the following child course(s):**
 .. **Delete cross-listing with the following child course(s):**
 .. **Reverse Parent/Child relationship with:**

.. Change Method of Instruction		.. Change Course Modifier		.. Change General Education Designation	
from:	to:	from:	to:	from:	to:
X A-Lecture Only Pass/Fail Only	..	.. English Composition	..
.. B-Lab (w/fee) X Graded	..	.. Oral Communication	..
.. D-Seminar Variable Title	..	.. Mathematics	..
.. E-Independent Study Creative Inquiry	..	.. Natural Science w/Lab	..
.. F-Tutorial (w/fee) Repeatable	..	.. Math or Science	..
.. G-Studio maximum credits	..	.. A&H (Literature)	..
.. H-Field course	..	from:	..	.. A&H (Non-Literature)	..
.. I-Study Abroad	..	to:	..	.. Social Science	..
.. L-Lab (no/fee) CCA	..
.. N/B-Lecture/Lab(w/fee) STS	..
.. N/L-Lecture/Lab(no fee)	..				

.. **Change Catalog Description:**
 from:
 to:

X Change Prerequisite(s):
 from: GEN 302 or consent of instructor
 to: GEN 302 or GEN 300 with C or better, or consent of instructor

Learning Objectives:

Topical Outline:

Evaluation:

Form Originator: CHERYLI, Cheryl Ingramsmith **Date Form Created:** 10/28/2011
Form Last Updated by: , **Date Form Last Updated:** 11/7/2011
Form Number: 4602

Approval

			12/2/11
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11/9/11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date

300086

<i>Robert J. Kosinski</i>	<i>11/11/11</i>	<i>David R. Helms</i>	<i>12/20/11</i>
Chair, College Curriculum Committee	Date	Provost	Date
<i>Deed Whitener</i>	<i>11/14/11</i>	<i>James J. [Signature]</i>	<i>12/21/11</i>
College Dean	Date	President	Date
Director, Calhoun Honors College	Date		

303087



Curriculum and Course Change System - Print Change/Delete Course Form

X Change a Course - Abbrev & Number: GEN- 491
 Corresponding Lab Course: --
 Corresponding Honors course: GEN-H-491
 .. Add Honors course: --
 Corresponding Graduate course: --
 .. Add Graduate course: --
Course Title: DIR RES IN GENETICS

Brief Statement of Change:
 We encourage students at any level to participate in undergraduate research under GEN 491. The previous prereqs suggest that only seniors would be allowed to take this course. This research is performed in a faculty member's lab and thus the student must have consent from the professor before signing up.

Last Term taught: 1108 Effective Term: 01/2012	.. Change Abbrev to: .. Change Number to:
.. Change Catalog Title: from: to:	.. Change Transcript Title: from: DIR RES IN GENETICS to:

.. Change of Credit:	From: Fixed Credit: (,) Variable Credit: 1-8 (-), (-)	To: Fixed Credit: (,) Variable Credit: - (-), (-)
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.. Add cross-listing with the following child course(s):
 .. Delete cross-listing with the following child course(s):
 .. Reverse Parent/Child relationship with:

.. Change Method of Instruction	.. Change Course Modifier	.. Change General Education Designation
from: .. A-Lecture Only .. B-Lab (w/fee) .. D-Seminar .. E-Independent Study .. F-Tutorial (w/fee) .. G-Studio .. H-Field course .. I-Study Abroad X L-Lab (no/fee) .. N/B-Lecture/Lab(w/fee) .. N/L-Lecture/Lab(no fee)	to: .. Pass/Fail Only .. X Graded .. Variable Title .. Creative Inquiry X Repeatable .. maximum credits from: to:	from: .. English Composition .. Oral Communication .. Mathematics .. Natural Science w/Lab .. Math or Science .. A&H (Literature) .. A&H (Non-Literature) .. Social Science .. CCA .. STS

.. Change Catalog Description:
 from:
 to:
X Change Prerequisite(s):
 from: GEN 410, 411, 420, 421 or consent of instructor
 to: By consent of instructor
Learning Objectives:
Topical Outline:
Evaluation:

Form Originator: CHERYLI, Cheryl Ingrasmith **Date Form Created:** 10/28/2011
Form Last Updated by: CHERYLI, Cheryl Ingrasmith **Date Form Last Updated:** 11/7/2011
Form Number: 4603

Approval

	11/10/11		12/2/11
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11/9/11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/11/11		12/20/11

PROVOST

12/20/11

Chair, College Curriculum Committee	Date	Provost	Date
<i>Ed Whitener</i>	11/1/11	<i>Chris [unclear]</i>	12/21/11
College Dean	Date	President	Date
Director, Calhoun Honors College	Date		

500089



Curriculum and Course Change System - Print Change/Delete Course Form

X Change a Course - Abbrev & Number: GEN- 493
 Corresponding Lab Course: --
 Corresponding Honors course: GEN-H-493
 .. **Add Honors course:** --
 Corresponding Graduate course: --
 .. **Add Graduate course:** --
Course Title: SENIOR SEMINAR

Brief Statement of Change:
 We updated the prereqs and coreqs on all of our courses to ensure that the students are properly prepared for the material that will be covered. Our curriculum states that our required science and math courses cannot be attempted until all prereqs have been passed with a grade of C or better. We are including a statement to this effect with the prereqs to make sure students understand that each course builds on the material in the prereq courses and that a sufficient understanding of the prereq courses is essential for success in the course.

Last Term taught: 1108 Effective Term: 01/2012	.. Change Abbrev to: .. Change Number to:
.. Change Catalog Title: from: to:	.. Change Transcript Title: from: SENIOR SEMINAR to:

.. Change of Credit:	From: Fixed Credit: 2 (2,) Variable Credit: - (-), (-)	To: Fixed Credit: (,) Variable Credit: - (-),(-)
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.. **Add cross-listing with the following child course(s):**
 .. **Delete cross-listing with the following child course(s):**
 .. **Reverse Parent/Child relationship with:**

.. Change Method of Instruction		.. Change Course Modifier		.. Change General Education Designation	
from:	to:	from:	to:	from:	to:
X A-Lecture Only	..	.. Pass/Fail Only	..	.. English Composition	..
.. B-Lab (w/fee)	..	X Graded	..	.. Oral Communication	..
.. D-Seminar	..	.. Variable Title	..	.. Mathematics	..
.. E-Independent Study	..	.. Creative Inquiry	..	.. Natural Science w/Lab	..
.. F-Tutorial (w/fee)	..	.. Repeatable	..	.. Math or Science	..
.. G-Studio	..	maximum credits	..	.. A&H (Literature)	..
.. H-Field course	..	from:	..	.. A&H (Non-Literature)	..
.. I-Study Abroad	..	to:	..	.. Social Science	..
.. L-Lab (no/fee)	..			.. CCA	..
.. N/B-Lecture/Lab(w/fee)	..			.. STS	..
.. N/L-Lecture/Lab(no fee)	..				

.. **Change Catalog Description:**
 from:
 to:

X **Change Prerequisite(s):**
 from: None
 to: BIOCH 301, GEN 302, and at least one 400-level GEN course with C or better

Learning Objectives:

Topical Outline:

Evaluation:

Form Originator: CHERYLI, Cheryl Ingramsmith **Date Form Created:** 10/28/2011
Form Last Updated by: , **Date Form Last Updated:** 11/7/2011
Form Number: 4604

Approval

	11/10/11		12/2/2011
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11/9/11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date

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<i>Robert J. Kosinski</i>	11/11/11	<i>Louis P. Helms</i>	12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
<i>Jed Whitwell</i>	11/11/11	<i>James T. Hill</i>	12/21/11
College Dean	Date	President	Date
Director, Calhoun Honors College	Date		

000091



Curriculum and Course Change System - Print Major Form

Change Major Name: Agricultural Mech and Business

Degree: BS

Effective Catalog Year: 2012

.. Change Major Name to:

.. Change Degree to: (CHE approval required)

X Change Curriculum Requirements

(Submit or upload Curriculum map in catalog format. CHE approval required for > 18 hours of changes)

X Change General Education Requirements

(Must also submit a General Education Checklist)

.. Add, Change or Delete Concentration(s)

(Submit or upload Curriculum map in catalog format. CHE approval required)

.. Add, Change or Delete Emphasis Area(s)

Explanation: Most changes reflect response to changes to existing courses within the curriculum. All changes are outlined below.

Changes in course offerings counting towards 18hr CHE tally:

3hrs - Change 3 hrs of elective to AP EC 309 or MKT 301 to strengthen business focus

Changes not counting to CHE 18hr tally (replacement within same field of study):

8hrs - Change CH 105 and CH 106 to CH 101 and CH 102 per suggestion from Chemistry Department

3hrs - Change AP EC 202 to "ECON 211 or AP EC 202" in anticipation that AP EC 202 may not continue to be offered

Addition of alternatives to current course requirements:

To AGM 472, add "or" AGM 419, inclusive of footnote (associated changes have been made to Gen. Ed. checklist)

To AP EC 302/319, add "or" MGT 201 to satisfy requirements for certain minors, inclusive of footnote

Changes to reflect rubric and course number changes/deletions:

Change 9 hrs "Agribusiness Requirement" to specific AP EC courses: AP EC 302, 308, 319

Drop (prior course deletions) from Plant/Crop and Soil Science lists: CSENV 407, 417, 425, 404

Change EG 209 to EG 208 or EG 210 to reflect changes to EG 209

Changes to reflect current blanket substitutions:

To EXST 301, add "or" MTHSC 203, inclusive of footnote (EXST 301 is a prerequisite for FIN 306 in the Business Administration minor)

Changes in order of course listings:

Add to footnote for Soc. Sci. and A&H Non-Lit. that 3 hours must also satisfy STS requirement (to reflect CH 105 removal)

Move ECON 211/APEC 202 to fresh yr. to satisfy pre-reqs earlier for some students

Move AGM 303 to 2nd sem. soph. to reflect removal of alternate year offerings

Move AGM 406 to fall sem. to reflect removal of alternate year offerings

Form Originator: KIRK2, Kendall Kirk **Date Form Created:** 10/11/2011

Form Last Updated by: , **Date Form Last Updated:** 11/11/2011

Form Number: 4493

Approval

	11/11/11		12/2/2011
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11/14/11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/15/11		12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
	11/15/11		12/21/11
College Dean	Date	President	Date

Agricultural Mechanization & Business Curriculum
Proposed for 2012-13 (last revised 11 Nov 2011 by krk)

Freshman Year

- | | |
|--|---|
| 3 - AGED 200 Ag. Appl. of Ed. Technology | 3 - BIOL 104 General Biology II |
| 1 - AGM 101 Intro. to Ag. Mech. and Business | 1 - BIOL 106 General Biology Lab. II |
| 3 - AGM 205 Principles of Fabrications | 3 - ECON 211 Principles of Microeconomics ¹ or |
| 3 - BIOL 103 General Biology I | 3 - AP EC 202 Agricultural Economics |
| 1 - BIOL 105 General Biology Lab. I | 3 - ENGL 103 Accelerated Composition |
| 3 - MTHSC 102 Intro. to Math. Analysis | 3 - EXST 301 Introductory Statistics ¹ or |
| | 3 - MTHSC 203 Elem. Statistical Inference |
| | 3 - Elective |
| <u>14</u> | <u>16</u> |

Sophomore Year

- | | |
|--|---|
| 3 - AGM 221 Surveying | 3 - AGM 206 Machinery Management |
| 3 - MKT 301 Principles of Marketing ¹ | 3 - AGM 303 Calcs. For Mechanized Ag. |
| 3 - AP EC 309 Econ. of Agricultural Marketing | 3 - Arts & Humanities (Lit.) Requirement ² |
| 4 - CH 101 General Chemistry | 4 - CH 102 General Chemistry |
| 2 - EG 210 Comp.-Aided Design/Engr. Apps. or | 3 - COMM 250 Public Speaking |
| 2 - EG 208 Engr. Graphics/Machine Design | <u>16</u> |
| 4 - PHYS 200 Introductory Physics or | |
| 3 - PHYS 207 General Physics I and | |
| 1 - PHYS 209 General Physics I Lab. | |
| <u>16</u> | |

Junior Year

- | | |
|---|--|
| 3 - AGM 301 Soil and Water Conservation | 3 - ACCT 201 Financial Accounting Concepts |
| 3 - AP EC 302 Econ. of Farm Management or | 3 - AGM 402 Drainage and Irrigation |
| 3 - MGT 201 Principles of Management ^{1,3} | 3 - AGM 452 Mobile Power |
| 3 - AP EC 308 Quantitative Applied Economics | 3 - Arts & Hum. (Non-Lit.) ² |
| 3 - AGM 405 Ag Structures & Envir. Control | 3 - Minor Requirement ⁴ |
| 4 - CSENV 202 Soils | <u>15</u> |
| <u>16</u> | |

Senior Year

- | | |
|---|--|
| 3 - AP EC 319 Agribusiness Management or | 3 - AGM 410 Precision Agriculture |
| 3 - MGT 201 Principles of Management ^{1,3} | 3 - AGM 472 Capstone or |
| 3 - AGM 406 Mech. and Hydraulic Systems | 3 - AGM 419 Agribus. Innov./Entrepren. ⁶ |
| 3 - AGM 460 Electrical Systems | 3 - Minor Requirement ⁴ |
| 3 - Minor Requirement ⁴ | 3 - Plant/Crop ⁵ or Soil Science ⁷ Requirement |
| 3 - Plant/Crop Science Requirement ⁵ | 3 - Social Science Requirement ² |
| <u>15</u> | <u>15</u> |

123 Total semester hours

¹Required for students minoring in Business Administration.

²See general education requirements. Three of these hours must also satisfy the Cross Cultural Awareness requirement and three of these hours must also satisfy the Science and Technology in Society requirement.

³MGT 201 can count for either the AGM 302 or 319 requirement but not for both.

⁴See CAFLS approved minors. If requirements for an approved minor have already been satisfied, this course may be any 300 level (or higher) course from an approved program. Any required course in the curriculum can also be used to count towards minor requirements.

⁵AGRIC 104, CSENV 405, 421, 422, 423, 426, HORT 212, 305, 433, 455, 456, PL PA 310, 406, 411, 459. If applicable, these courses may also be used to satisfy minor requirement.

⁶AGM 419 is a ~~Fall~~ ^{Spring} only course. Students electing to take AGM 419 must switch the course order with a Fall offering.

⁷CSENV 403, 446, 452, 485, 490. If applicable, these courses may also be used to satisfy minor requirement.

Rhonda Todd

From: Kendall Kirk
Sent: Tuesday, December 06, 2011 11:15 AM
To: Rhonda Todd
Cc: Lawrence Gering; Robert Kosinski
Subject: RE: Ag Mech & Business: EG209

Rhonda,

Thank you for catching the point below about E G 209 in the AGM curriculum; your point is something that we overlooked in planning the curriculum. I agree with your suggestion to include the requirement as any of E G 208, 209, or 210 and however that need be phrased is acceptable to me. This was our intention anyway (to allow E G 209) for students coming from 2 yr schools. Please let me know if you have any questions and thank you again!

-Kendall

-----Original Message-----

From: Lawrence Gering
Sent: Tuesday, December 06, 2011 11:09 AM
To: Lawrence Gering; Robert Kosinski; Kendall Kirk
Subject: RE: Ag Mech & Business: EG209

Bob - I've emailed Kendall (was cc'd to you, too) as I don't have ability to say yes or no to a change in their curriculum

Larry

Kendall -

this was one you worked on & form is under your userid

the concern was that transfer students bring in EG 209, not EG 210 so they suggested that the change in pre-req be :

change "EG 209" to "Eg 208 or EG 209 or EG 210"

looks like if you fix the form (if that is what y'all want to do) & upload it & email Rhonda, it'll be OK without walking around for signatures

Larry

Good morning,

I am going through items from Friday and have a question:

Page 91 - Agricultural Mech and Business - Did you want to leave in EG 209 as recommended by Mary Beth? This would help students transferring from TCTC. If you want to change it, please let me know when changes are made and I will print an edited copy over here. No additional signatures will be needed.

Thank you!

Best Regards,
Rhonda
Rhonda Todd
Administrative Coordinator
Vice Provost and Dean of Undergraduate Studies
E101 Martin Hall
Clemson, SC 29634
(864)656-3942
rtodd@clermson.edu<mailto:rtodd@clermson.edu>

000093



Curriculum and Course Change System - General Education Checklist

Major Name: Agricultural Mechanization & Business

Specific General Education Requirements

Requirement	Select from Gen Ed List	Select from Restricted Gen Ed List	Specific Course(s)	No Change
		Specify restrictions - e.g. PHIL courses only	Specify courses or cluster* of courses if appropriate	
English Composition			ENGL 103	
Oral Communication*	X
Academic & Professional Development			X AGM 472 or AGM 419	..
Mathematics	X
Natural Science with lab	X
Math or Natural Science	X
Arts & Humanities (Literature)	X
Arts & Humanities (Non-Literature)	X
Social Sciences	X
Cross-Cultural Awareness	X
Science and Tech. In Society	X

*Departments may specify a cluster of courses to meet the Oral communication competency but must include a plan for implementation and assessment in the following textbox:

Distributed Competencies

The faculties of each degree program will decide the most appropriate ways to integrate learning experiences in each of the areas below. Quantification in terms of credit hours is avoided in favor of the presumption that faculties will want to place a serious effort in each area and distribute this effort to a significant degree throughout their curricula.

Ethical Judgement Integration Plan - Address competencies, implementation, and assessment: Ethical judgment is integrated throughout the Agricultural Mechanization & Business curriculum. All students must take either AGM 472 or AGM 419. AGM 472 and 419 will be the primary courses where ethics competency is evaluated. In AGM 101, which is the freshman introductory course, the students are introduced to professionalism, ethical conduct and academic integrity. Case studies and role playing will be used to allow the students to develop their professional value system and to understand why ethics are important. AGM 472 and 419 serve as the capstone courses. In both AGM 472 and 419, students will prepare reports and presentations that will include ethics in the subject matter and also in the preparations of these reports and presentations. Case studies at an advanced level will be used to assess the student's comprehension of ethical judgment and professional responsibility.

There will be a 4-point rubric. Our goal is to have 75% of our graduates achieve scores of good or excellent on their capstone artifacts. If results do not meet this standard, the faculty will meet to consider revision of our curriculum.

Communication Integration Plan - Address competencies, implementation, and assessment: Agricultural Mechanization & Business is a broad-based curriculum with particular knowledge in applications of engineering technology and related business skills. The concept of a digital portfolio will be introduced in AGM 101 and finalized in AGM 472 and 419. All students must take either AGM 472 or AGM 419. Both written and oral communications are practiced in most courses in the form of reports or technical presentations. Several types of written correspondences such as letter, memo, and formal reports are covered in AGM 472 and AGM 419. Assessment of written and oral communication competencies will take place in the AGM capstone classes, AGM 472 and 419.



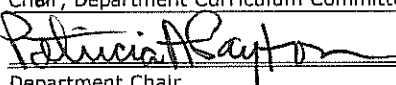
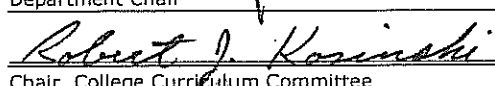
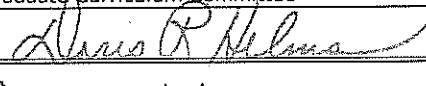
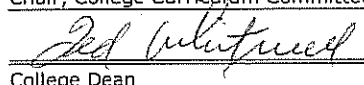

There will be a 4-point rubric. Our goal is to have 75% of our graduates achieve scores of good or excellent on their capstone artifacts. If results do not meet this standard, the faculty will meet to consider revision of our curriculum.

Critical Thinking Integration Plan - Address competencies, implementation, and assessment: The Agricultural Mechanization & Business curriculum has problem solving and critical thinking as a foundation in the curriculum. With most areas of technology, there is seldom one correct answer. Many variables must be considered in each situation. A sample assignment used for the development of students' critical thinking competencies is the final project for AGM 206, which involves the sizing of machinery systems versus the timeliness of operations and associated costs. All students must take either AGM 472 or AGM 419. AGM 472 and 419 serve as the capstone courses to allow the student to demonstrate the knowledge learned in the curriculum. Assessment of critical thinking will be performed through the students' oral and written technical presentations conducted for their project in AGM 472 or 419.

There will be a 4-point rubric. Our goal is to have 75% of our graduates achieve scores of good or excellent on their capstone artifacts. If results do not meet this standard, the faculty will meet to consider revision of our curriculum.

Form Originator: KIRK2, Kendall Kirk Date Form Created: 10/11/2011

Form Last Updated by: KIRK2, Kendall Kirk Date Form Last Updated: 10/25/2011 Form Number: 4492

Approval 	10/26/11		12/2/2011
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	10/26/11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/11/11		12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
	11/11/11		12/21/11
College Dean	Date	President	Date



Curriculum and Course Change System - Print Major Form

000094

Change Major Name: Enr (Conservation Biology)

Degree: BS

Effective Catalog Year: 2012

.. Change Major Name to:

.. Change Degree to: (CHE approval required)

X Change Curriculum Requirements

(Submit or upload Curriculum map in catalog format. CHE approval required for > 18 hours of changes)

.. Change General Education Requirements

(Must also submit a General Education Checklist)

.. Add, Change or Delete Concentration(s)

(Submit or upload Curriculum map in catalog format. CHE approval required)

.. Add, Change or Delete Emphasis Area(s)

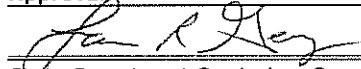
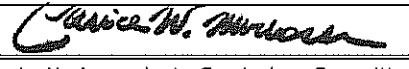
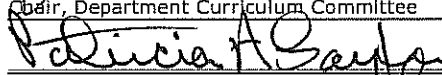
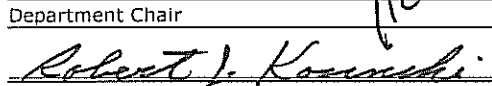

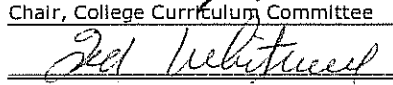

Explanation: In the past, students had to take AP EC 257; we are adding ECON 211 as an alternative option

Form Originator: ALANJ, Alan Johnson **Date Form Created:** 10/12/2011

Form Last Updated by: , **Date Form Last Updated:** 11/11/2011

Form Number: 4503

Approval

	11-11-11		12/2/11
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11-11-11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/11/11		12/24/11
Chair, College Curriculum Committee	Date	Provost	Date
	11/11/11		12/21/11
College Dean	Date	President	Date

PROPOSED Environmental and Natural Resources
Bachelor of Science
CONSERVATION BIOLOGY CONCENTRATION

FRESHMAN YEAR

First Semester

3 ~ BIOL 103 General Biology I
1 ~ BIOL 105 General Biology Lab. I
4 ~ CH 101 (Chemistry requirement)
3 ~ MTHSC 102 Intro. to Mathematical Analysis
1 ~ ENR 101 Intro. to Environment & Nat. Res.
3 ~ Oral Communication Requirement¹

15

Second Semester

3 ~ BIOL 104 General Biology II
1 ~ BIOL 106 General Biology Lab. II
4 ~ CH 102 (Chemistry requirement)
3 ~ EX ST 301 Introductory Statistics
3 ~ ENGL 103 Composition I
1 ~ FNR 102 FNR Freshman Portfolio

15

SOPHOMORE YEAR

3 ~ AP EC 257 Nat. Resources, Environment & Economics
or ECON 211 Principles of Microeconomics
4 ~ BIOSC 320 Field Botany and
1 ~ Elective OR
2 ~ FOR 205 Dendrology and
3 ~ FOR 221 Forest Biology
4 ~ FNR 204 Soil Information Systems or
~ CSENV 202 Soils
3 ~ CH 223 Organic Chemistry

15

3 ~ GEN 300 Fundamental Genetics
3 ~ WFB 313 Conservation Biology
3 ~ Physical Environment Requirement²
3 ~ Taxonomy/Habitat Requirement³
3 ~ Arts and Humanities (Literature) Requirement¹

15

JUNIOR YEAR

3 ~ BIOSC 335 Evolutionary Biology
3 ~ Arts and Humanities (non-literature) Requirement¹
3 ~ Ecology Requirement⁴
3 ~ Natural Resource Economics Requirement⁵
3 ~ Taxonomy/Habitat Requirement³

15

3 ~ ENGL 314 Technical Writing
3 ~ ENR 302 Natural Resources Measurements
3 ~ Ecology Requirement⁴
3 ~ Physiology Requirement⁵
3 ~ Taxonomy/Habitat Requirement³

15

SENIOR YEAR

3 ~ Social Science Requirement¹
3 ~ FOR 434 GIS for Landscape Planning
3 ~ Conservation Policy/Law Requirement⁷
3 ~ Internship, Creative Inquiry or Directed Research⁸
3 ~ Taxonomy/Habitat Requirement³

15

3 ~ ENR 413 Restoration Ecology
3 ~ ENR 450 Conservation Issues
1 ~ FOR 498 Senior Portfolio or
1 ~ WFB 498 Senior Portfolio
6 ~ Taxonomy/Habitat Requirement³
2 ~ Elective

15

TOTAL SEMESTER HOURS

¹ See General Education Requirements. Three of these credits must also satisfy the Cross-Cultural Awareness Requirement. (Note: Social Science Requirement must be in an area other than economics or applied economics)

² GEOG 106, GEOL 101, or PHYS 240

³ AG M 301, BIOSC 302/306, 303/307, 304/308, 305/309, 320, 406/407, 410/411, 417, 442, 464, 468, 472, 477, 486, CSENV 404, ENT(BIOSC)301, (BIOSC, W F B)469, FOR 251, 406, GEOL 112, 114, 210, 403, MICRO 403, WFB 300, 418, 440, 462 or 476. At least four of the courses must be laboratories or courses with a required laboratory component.

⁴ BIOSC 441, 442, 443, 446, 470, or FNR 466

⁵ AVS 301, BIOSC 401/402, 458, 475, or (AVS)480

⁶ AP EC 433, 475, C R D (AP EC)357, or FOR 304

⁷ E N R 429, FOR 400, 416 or W F B 430

⁸ Internship (FNR 490), Creative Inquiry (FNR 470), Directed Research (WFB 463) or FNR 491 Senior Honors Thesis

009095



Curriculum and Course Change System - Print Major Form

Change Major Name: Enr (Natural Resources Management)

Degree: BS

Effective Catalog Year: 2012

.. Change Major Name to:

.. Change Degree to: (CHE approval required)

X Change Curriculum Requirements

(Submit or upload Curriculum map in catalog format. CHE approval required for > 18 hours of changes)

.. Change General Education Requirements

(Must also submit a General Education Checklist)

.. Add, Change or Delete Concentration(s)

(Submit or upload Curriculum map in catalog format. CHE approval required)

.. Add, Change or Delete Emphasis Area(s)

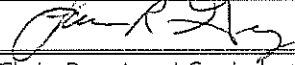
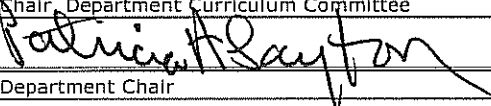

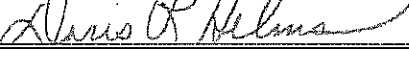
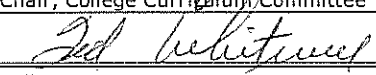
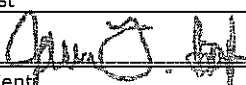
Explanation: In the past, students had to take AP EC 257; we are adding ECON 211 as an alternative option

Form Originator: ALANJ, Alan Johnson Date Form Created: 10/12/2011

Form Last Updated by: , Date Form Last Updated: 11/11/2011

Form Number: 4502

Approval

	11-11-11		
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11-11-11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/11/11		12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
	11/11/11		12/21/11
College Dean	Date	President	Date

PROPOSED Environmental and Natural Resources
 Bachelor of Science
NATURAL RESOURCES MANAGEMENT CONCENTRATION

FRESHMAN YEAR

First Semester

- 3 ~ BIOL 103 General Biology I
- 1 ~ BIOL 105 General Biology Lab. I
- 4 ~ CH 105 or CH 101 (Chemistry requirement)¹
- 3 ~ MTHSC 102 Intro. to Mathematical Analysis
- 1 ~ ENR 101 Intro. to Environment & Natural Res. I
- 3 ~ Oral Communication Requirement⁴

- 15

Second Semester

- 3 ~ BIOL 104 General Biology II
- 1 ~ BIOL 106 General Biology Lab. II
- 4 ~ CH 106 or CH 102 (Chemistry requirement)¹
- 3 ~ EX ST 301 Introductory Statistics
- 3 ~ ENGL 103 Composition I
- 1 ~ FNR 102 FNR Freshman Portfolio

- 15

SOPHOMORE YEAR

- 4 ~ FNR 204 Soil Information Systems or
 ~ CSENV 202 Soils
- 2 ~ FOR 205 Dendrology
- 3 ~ FOR 221 Forest Biology
- 3 ~ WFB 300 Wildlife Biology
- 3 ~ Arts and Humanities (Literature) Requirement²

- 15

- 3 ~ ENR 302 Natural Resources Measurements
- 3 ~ FOR 206 Forest Ecology
- 3 ~ WFB 350 Principles of Fish & Wildlife Biology
- 3 ~ Arts and Humanities (Non-Lit) Requirement²
- 3 ~ Social Science Requirement²

- 15

JUNIOR YEAR

- 3 ~ AP EC 257 Natural Resources, Environment, & Economics
 or ECON 211 Principles of Microeconomics
- 4 ~ BIOSC 320 Field Botany or
- 3 ~ BIOSC 406 Introductory Plant Taxonomy and
- 1 ~ BIOSC 407 Plant Taxonomy Laboratory
- 3 ~ ENR 429 Environmental Law and Policy or
- 3 ~ FOR 400 Public Relations in Natural Resources
- 3 ~ Elective
- 3 ~ Minor³

- 16

- 3 ~ CRD 357 Natural Resources Economics
- 3 ~ GEOL 101 Physical Geology
- 1 ~ GEOL 103 Physical Geology Laboratory
- 3 ~ WFB 313 Conservation Biology
- 6 ~ Minor³

- 16

SENIOR YEAR

- 3 FOR 416 Forest Policy and Admin
- 3 FOR 434 GIS Landscape Planning
- 3 Internship, Creative Inquiry or Directed Research⁴
- 3 Elective
- 3 Minor³

- 3 ~ ENGL 314 Technical Writin
- 3 ~ ENR 450 Conservation Issues
- 2 ~ FOR 406 Forested Watershed Management
- 1 ~ For 498 Senior Portfolio or
- 1 ~ WFB 498 Senior Portfolio
- 3 ~ WFB 462 Wetland Wildlife Biiology
- 3 ~ Minor³

- 15

15
TOTAL SEMESTER HOURS

¹ Conservation Biology Concentration or students planning on taking organic chemistry must take CH 101 and CH 102

² See General Education Requirements. Three of these credits must also satisfy the Cross-Cultural Awareness Requirement. (Note: Social Science Requirement must be in an area other than economics or applied economics.

³ Minor: A minor is req. & must be selected from the following: Biochem.; Biol. Sci.; Chem.; Comm. Rec., Sport, & Camp Mgmt.; Crop & Soil Env. Sci.; Env. Sci. & Pol.; For, Res. Mgmt.; Geol.; Hort.; Legal Studies; Microbiol.; Nat. Res. Econ.; Nonprofit Leadership; Park & Protected Area Mgmt.; Therapeutic Rec.; Travel & Tourism; Urban For.; Wildlife & Fisheries Biol.

⁴ Internship (FNR 490), Creative Inquiry (FNR 470), Directed Research (WFB 463) or FNR 491 Senior Honors Thesis



Curriculum and Course Change System - Print Major Form

000098

Change Major Name: Enr (Nat Resource and Econ Policy)

Degree: BS

Effective Catalog Year: 2012

.. Change Major Name to:

.. Change Degree to: (CHE approval required)

X Change Curriculum Requirements

(Submit or upload Curriculum map In catalog format. CHE approval required for > 18 hours of changes)

.. Change General Education Requirements

(Must also submit a General Education Checklist)

.. Add, Change or Delete Concentration(s)

(Submit or upload Curriculum map In catalog format. CHE approval required)

.. Add, Change or Delete Emphasis Area(s)

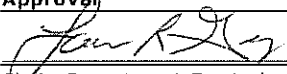

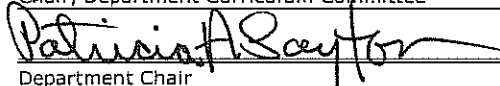

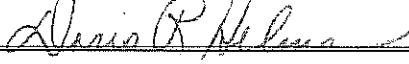
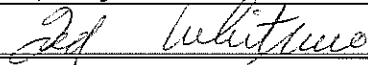

Explanation: In the past, students had to take AP EC 257; we are adding ECON 211 as an alternative option

Form Originator: ALANJ, Alan Johnson **Date Form Created:** 10/12/2011

Form Last Updated by: , **Date Form Last Updated:** 11/11/2011

Form Number: 4501

Approval

	11-11-11		12/2/2011
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11-11-11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/11/11		12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
	11/11/11		12/21/11
College Dean	Date	President	Date

PROPOSED Environmental and Natural Resources
 Bachelor of Science
NATURAL RESOURCE AND ECONOMIC POLICY CONCENTRATION

FRESHMAN YEAR

First Semester

3 ~ BIOL 103 General Biology I
 1 ~ BIOL 105 General Biology Lab. I
 4 ~ CH 105 or CH 101 (Chemistry requirement)¹
 3 ~ MTHSC 102 Intro. to Mathematical Analysis
 1 ~ ENR 101 Intro. to Environment & Nat. Resources
 3 ~ Oral Communication Requirement²

15

Second Semester

3 ~ BIOL 104 General Biology II
 1 ~ BIOL 106 General Biology Lab. II
 4 ~ CH 106 or CH 102 (Chemistry requirement)¹
 3 ~ EX ST 301 Introductory Statistics
 3 ~ ENGL 103 Composition I
 1 ~ FNR 102 FNR Freshman Portfolio

15

SOPHOMORE YEAR

3 ~ AP EC 257 Nat. Resources, Environment & Economics
or ECON 211 Principles of Microeconomics
 3 ~ Natural Science or Minor³
 3 ~ Geography Requirement⁴
 3 ~ PO SC 101 Amer. Nat. Gov or
 PO SC 102 Intro. to Internat. Relations
 3 ~ Elective

15

3 ~ AP EC (CRD) 357 Nat. Resources Economics
 3 ~ ECON 212 Principles of Macroeconomics
 3 ~ Arts and Humanities (Non-Lit) Requirement²
 3 ~ Literature Requirement²
 3 ~ Elective

15

JUNIOR YEAR

3 ~ ENR 429 Environmental Law and Policy
 3 ~ ECON 314 Intermediate Microeconomics
 3 ~ Natural Science or Minor³
 3 ~ Advanced Writing Requirement²
 3 ~ Applied Economics Requirement⁵

15

3 ~ AP EC 475 Wildlife Economics
 3 ~ Natural Science or Minor³
 3 ~ EX ST 462 Statistics Applied to Economics
 3 ~ ENSP 400 Studies in Environmental Science
 3 ~ Macroeconomics Requirement⁶

15

SENIOR YEAR

3 ~ APEC 457 Nat. Res. Econ. Theory & Policy
 3 ~ ECON 319 Environmental Economics
 3 ~ Internship, Creative Inquiry or Directed Research⁷
 6 ~ APEC Requirement⁵ or
 3 ~ AP EC Requirement⁵ and
 3 ~ Minor

15

3 ~ ENR 450 Conservation Issi
 3 ~ Community Development Requirement⁸
 6 ~ APEC Requirement⁵
 3 ~ Elective or Minor

15

TOTAL SEMESTER HOURS

¹ Conservation Biology Concentration or students planning on taking organic chemistry must take CH 101 and CH 102

² See General Education Requirements. Students must also select a course to satisfy the University's Cross-Cultural Awareness Requirement.

³ Choose from 300 or 400 level BIOSC, CSENV, ENR, EE&S, ENSP, ENTOX, FOR, GEOL, or WFB

⁴ GEOG 101, 103, or 106

⁵ Choose from 300 or 400 level AP EC

⁶ ECON 302, 310, or 315

⁷ Internship (AP EC 491), Creative Inquiry (AP EC 490), AGRIC H491 or H492 Senior Honors Thesis

⁸ CRD 335 or 336 or RS 401 or 459

305100



Curriculum and Course Change System - Print Major Form

Change Major Name: Forest Resource Management

Degree: BS

Effective Catalog Year: 2012

.. Change Major Name to:

.. Change Degree to: (CHE approval required)

X Change Curriculum Requirements

(Submit or upload Curriculum map in catalog format. CHE approval required for > 18 hours of changes)

.. Change General Education Requirements

(Must also submit a General Education Checklist)

.. Add, Change or Delete Concentration(s)

(Submit or upload Curriculum map in catalog format. CHE approval required)

.. Add, Change or Delete Emphasis Area(s)

Explanation: Freshman Year, First Semester

Replace CH 105 with CH 101 because CH 101 is better suited for a science-based curriculum and better addresses degree accreditation requirements.

Delete current footnote 1.

Freshman Year, Second Semester

Replace "Departmental Science Requirement" with "CH 102 or PHYS 200 or higher general physics" and delete footnote 3.

Renumber the footnotes after the deletion of old footnotes 1 and 3.

Form Originator: TSTRAKA, Thomas Straka Date Form Created: 10/6/2011

Form Last Updated by: , Date Form Last Updated: 11/10/2011

Form Number: 4462

Approval

	11-10-11		12/2/2011
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11-10-11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/11/11		12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
	11/11/11		12/21/11
College Dean	Date	President	Date

Forest Resources Management (Proposed)				Bachelor of Science			
Freshman Year							
First Semester				Second Semester			
BIOL 103	General Biology I	3		BIOL 104	General Biology II	3	
BIOL 105	General Biology Lab. I	1		BIOL 106	General Biology Lab. II	1	
CH 101	General Chemistry	4		ENGL 103	Accelerated Composition	3	
ENR 101	Intro to Environment & Natural Resources I	1		EX ST 301	Introductory Statistics	3	
MTHSC 102	Intro. to Mathematical Analysis	3		FNR 102	FNR Freshman Portfolio	1	
Oral Communication Requirement ¹			3	Departmental Science Requirement ²			4
Semester Hours: 15				Semester Hours: 15			
Sophomore Year							
First Semester				Second Semester			
FNR 204	Soil Information Systems	4		ENGL 314	Technical Writing	3	
FOR 205	Dendrology	2		FOR 206	Forest Ecology	3	
FOR 221	Forest Biology	3		Arts and Humanities (Non-Lit.) Requirement ¹			3
Arts and Humanities (Lit.) Requirement ¹			3	Social Science Requirement ¹			3
Economics Requirement ³			3	Minor Requirement ⁴			3
Semester Hours: 15				Semester Hours: 15			
Forestry Summer Camp							
FOR 251	Forest Communities	2		FOR 253	Forest Mensuration	4	
FOR 252	Forest Operations	1		FOR 254	Forest Products	1	
Semester Hours: 8							
Junior Year							
First Semester				Second Semester			
FOR 302	Forest Biometrics	2		FOR 308	Remote Sensing in Forestry	2	
FOR 304	Forest Resource Economics	3		FOR 408	Wood and Paper Products	3	
FOR 341	Wood Procurement Practices in Forest Indust.	3		FOR 418	Forest Resource Valuation	3	
FOR 413	Integrated Forest Pest Management	4		FOR 465	Silviculture	4	
FOR (ENR) 434	GIS for Landscape Planning	3		Minor Requirement ⁴			3
Internship, Creative Inquiry or Directed Research Requirement ⁵			1	Internship, Creative Inquiry or Directed Research Requirement ⁵			1
Semester Hours: 16				Semester Hours: 16			
Senior Year							
First Semester				Second Semester			
FOR 410	Harvesting Processes	4		FNR 499	Natural Resources Seminar	1	
FOR (ENR) 416	Forest Policy and Administration	3		FOR 406	Forested Watershed Management	2	
FOR 417	Forest Resource Management and Regulation	3		FOR 415	Forest Wildlife Management	3	
FOR 431	Recreation Resource Planning in For. Mgmt.	2		FOR 425	Forest Resource Management Plans	2	
Minor Requirement ⁴			3	FOR 498	Senior Portfolio	1	
Internship, Creative Inquiry or Directed Research Requirement ⁵			1	Minor Requirement ⁴			6
Semester Hours: 16				Semester Hours: 15			

131 Total Semester Hours

¹ See General Education Requirements. Three of these credits must also satisfy the Cross-Cultural Awareness Requirement. (Note: Social Science Requirement must be in the area other than economics and applied economics.)

² CH 102 or PHYS 200 or higher level general physics course.

³ APEC 257, ECON 200, 211 or 212.

⁴ To be selected by the middle of the sophomore year.

⁵ FNR 470, 490, or FOR 419.

CLEMSON
UNIVERSITY

Curriculum and Course Change System - Print Major Form

10J102

Change Major Name: Forest Resource Management

Degree: BS

Effective Catalog Year: 2012

.. Change Major Name to:

.. Change Degree to: (CHE approval required)

X Change Curriculum Requirements

(Submit or upload Curriculum map in catalog format. CHE approval required for > 18 hours of changes)

.. Change General Education Requirements

(Must also submit a General Education Checklist)

.. Add, Change or Delete Concentration(s)

(Submit or upload Curriculum map in catalog format. CHE approval required)

X Add, Change or Delete Emphasis Area(s)

Explanation: Freshman Year, First Semester, Land Surveying Emphasis Area.

Replace CH 105 with CH 101 because CH 101 is better suited for a science-based curriculum and better addresses degree accreditation requirements..

Land Surveying Emphasis Areas, Freshman Year, Second Semester

Change "Departmental Science Requirement" to "CH 102 or PHYS 200 or higher general physics"

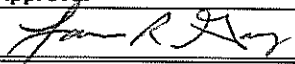

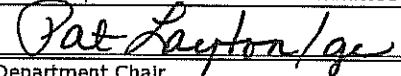
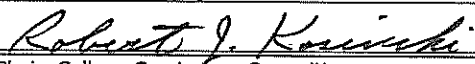
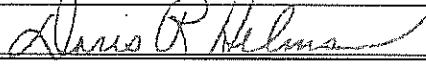


Change footnote 2 to that "or higher general physics" follows "PHYS 200"

Form Originator: TSTRAKA, Thomas Straka **Date Form Created:** 10/6/2011

Form Last Updated by: , **Date Form Last Updated:** 11/10/2011

Form Number: 4463

Approval

	11-10-11		12/2/2011
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11-10-11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/11/11		12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
	11/11/11		12/21/11
College Dean	Date	President	Date

FRM - Land Surveying Emphasis (Proposed)				Bachelor of Science			
Freshman Year							
First Semester				Second Semester			
BIOL 103	General Biology I	3		BIOL 104	General Biology II	3	
BIOL 105	General Biology Lab. I	1		BIOL 106	General Biology Lab. II	1	
CH 101	General Chemistry ¹	4		ENGL 103	Accelerated Composition	3	
ENR 101	Intro to Environment & Natural Resources I	1		EX ST 301	Introductory Statistics	3	
MTHSC 102	Intro. to Mathematical Analysis	3		FNR 102	FNR Freshman Portfolio	1	
Oral Communication Requirement ¹			3	GH 102 or PHYS 200 or higher general physics ²			4
Semester Hours: 15				Semester Hours: 15			
Sophomore Year							
First Semester				Second Semester			
FNR 204	Soil Information Systems	4		EG 210	Engineering Graphics for Civil Engr.	2	
FOR 205	Dendrology	2		ENGL 314	Technical Writing	3	
FOR 221	Forest Biology	3		FOR 206	Forest Ecology	3	
Arts and Humanities (Lit.) Requirement ¹			3	Arts and Humanities (Non-Lit.) Requirement ¹			3
Economics Requirement ³			3	Social Science Requirement ¹			3
Semester Hours: 15				Semester Hours: 14			
Forestry Summer Camp							
FOR 251	Forest Communities	2		FOR 253	Forest Mensuration	4	
FOR 252	Forest Operations	1		FOR 254	Forest Products	1	
Semester Hours: 8							
Junior Year							
First Semester				Second Semester			
FOR 302	Forest Biometrics	2		AG M 221	Surveying: Earthwork & Area Meas.	2	
FOR 304	Forest Resource Economics	3		FOR 308	Remote Sensing in Forestry	2	
FOR 341	Wood Procurement Practices in Forest Indust.	3		FOR 408	Wood and Paper Products	3	
FOR 413	Integrated Forest Pest Management	4		FOR 418	Forest Resource Valuation	3	
FOR (ENR) 434	GIS for Landscape Planning	3		FOR 465	Silviculture	4	
Semester Hours: 15				Semester Hours: 14			
Summer							
FNR 490	Field Training In Natural Resources ⁴	3					
Senior Year							
First Semester				Second Semester			
FOR 410	Harvesting Processes	4		BE 322	Small Watershed Hydrology & Sedimentology	3	
FOR (ENR) 416	Forest Policy and Administration	3		FNR 499	Natural Resources Seminar	1	
FOR 417	Forest Resource Management and Regulation	3		FOR 406	Forested Watershed Management	2	
FOR 431	Recreation Resource Planning in For. Mgmt.	2		FOR 415	Forest Wildlife Management	3	
FOR 433	GPS Applications	3		FOR 425	Forest Resource Management Plans	2	
				FOR 498	Senior Portfolio	1	
				LAW 333	Real Estate Law	3	
Semester Hours: 15				Semester Hours: 15			

129 Total Semester Hours

¹ See General Education Requirements. Three of these credit must also satisfy the Cross-Cultural Awareness Requirement. (Note: Social Science Requirement must be in the area other than economics or applied economics.)

² See Advisor. We highly recommend PHYS 200 or higher general physics so that you have the correct pre-requisites for subsequent courses.

³ APEC 257, ECON 200, 211 or 212

⁴ Summer internship must be in land surveying.

000104



Curriculum and Course Change System - Print Change/Delete Course Form

X Change a Course - Abbrev & Number: FOR- 427

Corresponding Lab Course: --

Corresponding Honors course: --

.. Add Honors course: --

Corresponding Graduate course: FOR- -627

.. Add Graduate course: --

Course Title: URBAN TREE CARE

Brief Statement of Change:

FOR 205 or HORT 303 are being added as prerequisite. Students need to be able to identify trees and woody plants before taking Urban Tree Care. "Junior standing or consent of instructor" is being dropped as prerequisite

Last Term taught: 1101

.. Change Abbrev to:

Effective Term: 01/2012

.. Change Number to:

.. Change Catalog Title:

.. Change Transcript Title:

from:

from: URBAN TREE CARE

to:

to:

.. From: Fixed Credit: 3 (3,) To: Fixed Credit: (,)

Change of Credit: Variable Credit: - (-), (-) Variable Credit: - (-),(-)

.. Add cross-listing with the following child course(s):

.. Delete cross-listing with the following child course(s):

.. Reverse Parent/Child relationship with:

.. Change Method of Instruction

.. Change Course Modifier

.. Change General Education Designation

from:

to:

from:

to:

from:

to:

X A-Lecture Only

..

.. Pass/Fail Only

..

.. English Composition

..

.. B-Lab (w/fee)

..

X Graded

..

.. Oral Communication

..

.. D-Seminar

..

.. Variable Title

..

.. Mathematics

..

.. E-Independent Study

..

.. Creative Inquiry

..

.. Natural Science w/Lab

..

.. F-Tutorial (w/fee)

..

.. Repeatable

..

.. Math or Science

..

.. G-Studio

..

.. maximum credits

..

.. A&H (Literature)

..

.. H-Field course

..

.. from:

..

.. A&H (Non-Literature)

..

.. I-Study Abroad

..

.. to:

..

.. Social Science

..

.. L-Lab (no/fee)

..

.. CCA

..

.. N/B-Lecture/Lab(w/fee)

..

.. STS

..

.. N/L-Lecture/Lab(no fee)

..

.. Change Catalog Description:

from:

to:

X Change Prerequisite(s):

from: Junior standing or consent of instructor

to: FOR 205 or HORT 303

Learning Objectives:

Topical Outline:

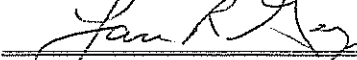
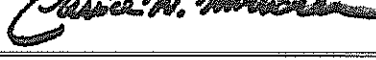
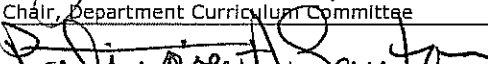
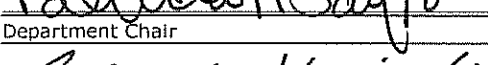
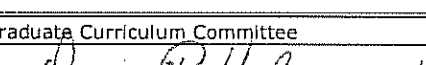

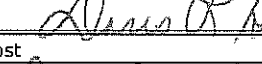
Evaluation:

Form Originator: BPLMSK, Robert Polomski Date Form Created: 12/17/2010

Form Last Updated by: , Date Form Last Updated: 11/11/2011

Form Number: 3694

Approval

	11-11-11		12/02/2011
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11-11-11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/11/11		12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
	11/11/11		12/21/11
College Dean	Date	President	Date
Director, Calhoun Honors College	Date		



Curriculum and Course Change System - Print New Course Form

00105

Course Abbreviation & Number:

X New Undergraduate Course: HORT- 210

.. New Honors Course: --

.. New Graduate Course: -

Effective Term: 08/2012**Catalog Title:** Growing Garden Plants in the Fall**Transcript Title:** Growing Fall Plants**Fixed Credit Course:** 3 (2,3)**Variable Credit Course:** - (-), (-)

Method of Instruction	Course Modifier	General Education Designation
.. A-Lecture Only	.. Pass/Fail Only	.. English Composition
.. B-Lab (w/fee)	X Graded	.. Oral Communication
.. D-Seminar	.. Variable Title	.. Mathematics
.. E-Independent Study	.. Creative Inquiry	.. Natural Science w/Lab
.. F-Tutorial (w/fee)	.. Repeatable	.. Math or Science
.. G-Studio	maximum credits:	.. A&H (Literature)
.. H-Field course		.. A&H (Non-Literature)
.. I-Study Abroad		.. Social Science
.. L-Lab (no/fee)		.. CCA
X N/B-Lecture/Lab(w/fee)		.. STS
.. N/L-Lecture/Lab(no fee)		

Add cross-listing with the following child course(s):

Catalog Description: Focuses on growing techniques for the production of ornamental and edible horticultural crops during the fall growing season. Lectures focus on scheduling, fertilization, irrigation, integrated pest management and marketing. Labs focus on providing hands-on opportunities to identify and grow flowering crops and vegetables in greenhouses and the field.

Prerequisite(s): HORT 101**Projected Enrollment:**

Year 1 - 24 Year 2 - 24 Year 3 - 24 Year 4 - 24

Required course for students in: Horticulture

Statement of need and justification based on assessment results of student learning outcomes: Exit interviews of graduating seniors indicate a need for more hands-on, practical plant growing experience. The plant identification and terminology topics that were the focus of HORT 304 will continue to be a priority and retention will be enhanced since the students will be actively growing the plants rather than just studying them from a lecture. Coupling this course with HORT 211 Growing Garden Plants in the Spring (proposed to replace HORT 310 Growing Landscape Plants) will provide students with nearly 10 months of continuous experience growing horticultural crops.

Two-year Horticulture programs usually have equivalent courses, so those transfer students will likely receive credit for this course at Clemson. Since we have no other functioning 200 level HORT courses, this will help to assist transfers in receiving credit towards their degree.

The proposed HORT 210 & 211 sophomore year sequence will nicely follow up the HORT 101,102 freshman year sequence.

Textbook(s): -New Encyclopedia of Gardening Techniques: The Indispensable Illustrated Practical Guide. American Horticultural Society. -Ball Redbook: Crop Production. Vol. 2. Debbie Hamrick, ed. Ball Publishing.

Learning Objectives: At the conclusion of this course, students should be able to:

1. Identify ~75 horticultural species grown in the southeastern United States by genus, species, family and common name.
2. Understand the underlying science behind horticultural crop production.
3. Schedule and implement the practical techniques required to successfully grow horticultural crops.
4. Develop an Integrated Pest Management program for horticultural crops.

Topical Outline: Lectures (28h)

Scheduling Ornamental Crops (1h)

Scheduling Vegetable Crops (1h)

Scheduling Fruit Crops (1h)

Seed Propagation (1h)

Vegetative Propagation (1h)

Fertilizers & Fertilization in the Field (1h)

Fertilizers & Fertilization in Greenhouses (1h)

Irrigation Strategies (2h)

Hydroponic Production (1h)

Horticultural Calculations (2h)

Botanical Terminology (2h)

Plant Families (1h)

Integrated Pest Management (1h)

Biological Pest Management (1h)

Disease Management (1h)

Weed Control (1h)

Cost Analysis (1h)

Marketing Horticultural Crops (1h)

Climate & Landscape Performance (1h)

Postharvest Handling (1h)

Postharvest Storage (1h)

Diagnosing Plant Problems (2h)

Evaluating Horticultural Crops (1h)

Preparing Edibles for Consumption (1h)

003196

- Labs (14 activities)
- Pesticide & Greenhouse Safety
- Propagation
- Field Preparation (2)
- Fertilizer & Chemical Mixing
- Hydroponic Installation
- Botanical Terminology
- Insect and Disease Scouting
- Soil Testing Procedure
- Cost Analysis
- Microclimates in the Landscape
- Postharvest Practices
- Field Trip
- Cooking with Harvested Plants

Evaluation: Written Exams:

- Test 1 15%
- Test 2 15%
- Test 3 15%
- Final Exam 20%

Lab:

- Crop Grades. 25%
- Plant Sale Project 10%

Grading Scale: (Grades will not be rounded or placed on a curve.)



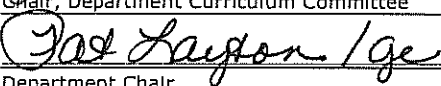
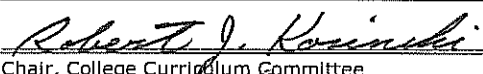
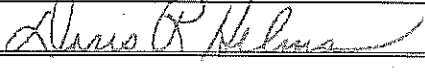
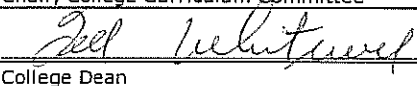
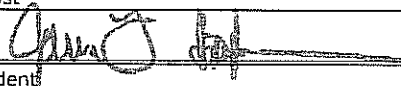
- A=90.0%+
- B=80.0 to 89.9%
- C=70.0 to 79.9%
- D=60.0 to 69.9%
- F=<60.0%

Form Originator: JFAUST, James Brownfaust **Date Form Created:** 9/26/2011

Form Last Updated by: , **Date Form Last Updated:** 11/10/2011

Form Number: 4415

Approval

	11-10-11		12/2/2011
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11.10.11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/11/11		12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
	11/11/11		12/21/11
College Dean	Date	President	Date
Director, Calhoun Honors College	Date		



Curriculum and Course Change System - Print New Course Form

Course Abbreviation & Number:

X New Undergraduate Course: HORT- 211

.. New Honors Course: --

.. New Graduate Course: -

Effective Term: 01/2013**Catalog Title:** Growing Garden Plants in the Spring**Transcript Title:** Growing Spring Plnts**Fixed Credit Course:** 3 (2,3)**Variable Credit Course:** - (-), (-)

Method of Instruction	Course Modifier	General Education Designation
.. A-Lecture Only	.. Pass/Fail Only	.. English Composition
.. B-Lab (w/fee)	X Graded	.. Oral Communication
.. D-Seminar	.. Variable Title	.. Mathematics
.. E-Independent Study	.. Creative Inquiry	.. Natural Science w/Lab
.. F-Tutorial (w/fee)	.. Repeatable	.. Math or Science
.. G-Studio	maximum credits:	.. A&H (Literature)
.. H-Field course		.. A&H (Non-Literature)
.. I-Study Abroad		.. Social Science
.. L-Lab (no/fee)		.. CCA
X N/B-Lecture/Lab(w/fee)		.. STS
.. N/L-Lecture/Lab(no fee)		

Add cross-listing with the following child course(s):

Catalog Description: Focuses on the growing techniques for the producing ornamental and edible horticultural crops during the spring growing season. Includes scheduling, manipulation of vegetative growth and flowering, nutritional management and plant growth regulation. Labs focus on providing hands-on opportunities to grow flowering crops and vegetables in the greenhouse and field.

Prerequisite(s): HORT 101, 210**Projected Enrollment:**

Year 1 - 24 Year 2 - 24 Year 3 - 24 Year 4 - 24

Required course for students in: Horticulture

Statement of need and justification based on assessment results of student learning outcomes: Exit interviews of graduating seniors indicate a need for more hands-on, practical plant growing experience. Previously, HORT 310 Growing Landscape Plants met this need; however, this course was only offered in the spring semester. One semester is insufficient for students to grow many horticultural crops and to experience different growing seasons. So, this course will be offered as HORT 211 which will serve as the second semester continuation of HORT 210. This will provide students with nearly 10 months of continuous growing experience during their sophomore year.

Two-year Horticulture programs usually have equivalent courses, so those transfer students will likely receive credit for this course at Clemson. Since we have no other functioning 200 level HORT courses, this will help to assist transfers in receiving credit towards their degree.

Textbook(s): -New Encyclopedia of Gardening Techniques: The Indispensable Illustrated Practical Guide. American Horticultural Society. -Ball Redbook: Crop Production. Vol. 2. Debbie Hamrick, ed. Ball Publishing.

Learning Objectives: Upon successful completion of this course, the student will be able to:

1. Walk into any commercial horticulture facility and have a meaningful and insightful discussion of crop production with the owner/grower.
2. Understand the factors involved in the manipulation of growth and flowering.
3. Diagnose plant problems.
4. Develop a fertilization program for horticultural crops.
5. Identify ~75 additional horticultural species grown in the southeastern United States by genus, species, family and common name.

Topical Outline: Lecture (28hr)

1. Scheduling Spring Ornamental Crops (1h)
2. Scheduling Spring Vegetable Crops (1h)
3. Scheduling Spring Fruit Crops (1h)
4. Plant Nutrition (2h)
5. Growing Media & Soil (1h)
6. Water Quality (1h)
7. Irrigation Systems (1h)
8. Nutritional Problem-Solving (2h)
9. Plant Height Management (1h)
10. Plant Growth Regulation (1h)
11. Flowering Mechanisms (2h)
12. Floral Arrangement & Design (1h)
13. Harvesting and Post-harvest of Horticultural Crops (1h)
14. Planting Mixed Containers (1h)
15. Greenhouse Environment: Temperature (1h)
16. Photosynthesis & Daily Light Integrals (1h)
17. Photomorphogenesis (1h)
18. Photoperiodism (1h)
19. Humidity (1h)
20. Diagnosing Plant Problems (2h)
21. Cost Accounting (2h)
22. How to be Successful in Horticulture (1h)
23. Preparing Edibles for Consumption (1h)

000108

- Lab (14 activities)
- Greenhouse Safety
- Propagation (2)
- Water Testing
- Garden Bed Preparation
- PGR Applications
- Conducting Greenhouse and Field Trials
- Floral Design
- Planting Mixed Containers
- Plant Sale Preparation (2)
- Cost Accounting
- Field Trip
- Cooking with Harvested Plants

Evaluation: Grading: (All tests and the final exam are cumulative)

Written Exams:

- Test 1 15%
- Test 2 15%
- Test 3 15%
- Final Exam 20%

Lab:

- Crop Grades. 25%
- Plant Sale Project 10%

Grading Scale:

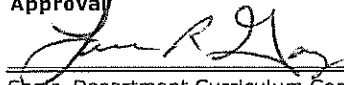

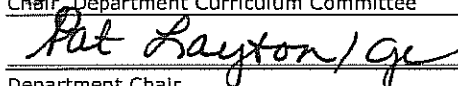
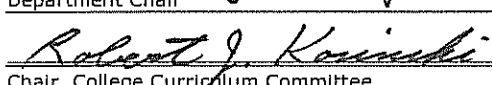
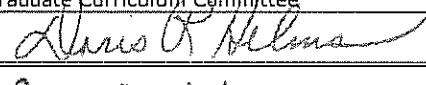
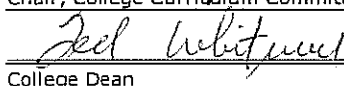

- A=90.0%+
- B=80.0 to 89.9%
- C=70.0 to 79.9%
- D=60.0 to 69.9%
- F=<60.0%

Form Originator: JFAUST, James Brownfaust **Date Form Created:** 9/26/2011

Form Last Updated by: , **Date Form Last Updated:** 11/10/2011

Form Number: 4416

Approval

	11-10-11		12/2/2011
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11-10-11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/11/11		12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
	11/10/11		12/21/11
College Dean	Date	President	Date
Director, Calhoun Honors College	Date		

003109



Curriculum and Course Change System - Print Change/Delete Course Form

X Change a Course - Abbrev & Number: HORT- 212

Corresponding Lab Course: --

Corresponding Honors course: --

.. Add Honors course: --

Corresponding Graduate course: --

.. Add Graduate course: --

Course Title: TURGRASS CULTURE

Brief Statement of Change:

BIOSC 205/206 are no longer going to be offered

Last Term taught: 1108

.. Change Abbrev to:

Effective Term: 01/2012

.. Change Number to:

.. Change Catalog Title:

.. Change Transcript Title:

from:

from: TURGRASS CULTURE

to:

to:

.. From: Fixed Credit: 3 (3,) To: Fixed Credit: (,)

Change of Credit Variable Credit: - (-), (-) Variable Credit: - (-),(-)

.. Add cross-listing with the following child course(s):

.. Delete cross-listing with the following child course(s):

.. Reverse Parent/Child relationship with:

.. Change Method of Instruction

.. Change Course Modifier

.. Change General Education Designation

from:

to:

from:

to:

from:

to:

X A-Lecture Only

.. Pass/Fail Only

..

.. English Composition

..

.. B-Lab (w/fee)

.. Graded

..

.. Oral Communication

..

.. D-Seminar

.. Variable Title

..

.. Mathematics

..

.. E-Independent Study

.. Creative Inquiry

..

.. Natural Science w/Lab

..

.. F-Tutorial (w/fee)

.. Repeatable

..

.. Math or Science

..

.. G-Studio

.. maximum credits

..

.. A&H (Literature)

..

.. H-Field course

.. from:

..

.. A&H (Non-Literature)

..

.. I-Study Abroad

.. to:

..

.. Social Science

..

.. L-Lab (no/fee)

..

..

.. CCA

..

.. N/B-Lecture/Lab(w/fee)

..

..

.. STS

..

.. N/L-Lecture/Lab(no fee)

..

..

..

..

.. Change Catalog Description:

from:

to:

X Change Prerequisite(s):

from: BIOSC 205, 206

to: BIOL 103, BIOL 104

Learning Objectives:

Topical Outline:

Evaluation:

Form Originator: DARAP, Dara Park Date Form Created: 10/12/2011

Form Last Updated by: , Date Form Last Updated: 11/11/2011

Form Number: 4494

Approval

	11-11-11		12/2/2011
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11-11-11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/15/11		12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
	11/15/11		12/21/11
College Dean	Date	President	Date
Director, Calhoun Honors College	Date		

000110



Curriculum and Course Change System - Print Change/Delete Course Form

X Change a Course - Abbrev & Number: HORT- 308

Corresponding Lab Course: HORT-L-308

Corresponding Honors course: --

.. **Add Honors course:** --

Corresponding Graduate course: --

.. **Add Graduate course:** --**Course Title: LANDSCAPE DESIGN****Brief Statement of Change:**

Change title to reflect change in course content and to distinguish class from landscape architecture classes by emphasizing "garden" design. Change credit to allow for separate lab and larger enrollment numbers in lecture.

Last Term taught: 1108

Effective Term: 01/2012

.. **Change Abbrev to:**.. **Change Number to:****X Change Catalog Title:**

from: Landscape Design

X Change Transcript Title:

from: LANDSCAPE DESIGN

to: Sustainable Landscape Garden Design

to: Sust Landscap Gar Des

X From: Fixed Credit: 4 (3,3) To: Fixed Credit: 3 (3,0)

Change of Credit Variable Credit: - (-), (-) Variable Credit: - (-),(-)

.. **Add cross-listing with the following child course(s):**.. **Delete cross-listing with the following child course(s):**.. **Reverse Parent/Child relationship with:**

X Change Method of Instruction	.. Change Course Modifier	.. Change General Education Designation
from:	to:	from: to:
.. A-Lecture Only	X .. Pass/Fail Only	.. English Composition ..
.. B-Lab (w/fee)	.. .. Graded	.. Oral Communication ..
.. D-Seminar	.. .. Variable Title	.. Mathematics ..
.. E-Independent Study	.. .. Creative Inquiry	.. Natural Science w/Lab ..
.. F-Tutorial (w/fee)	.. .. Repeatable	.. Math or Science ..
.. G-Studio	.. maximum credits	.. A&H (Literature) ..
.. H-Field course	.. from:	.. A&H (Non-Literature) ..
.. I-Study Abroad	.. to:	.. Social Science ..
.. L-Lab (no/fee)	..	.. CCA ..
X N/B-Lecture/Lab(w/fee)	..	.. STS ..
.. N/L-Lecture/Lab(no fee)	..	..

X Change Catalog Description:

from: Landscape planning of residential and public properties in order to achieve best use and most enjoyment from a given piece of ground. Offered fall semester only. Preq: HORT 208, 303, or consent of instructor.

to: Landscape planning of gardens using environmentally sensitive design, construction, and maintenance practices. Survey skills to obtain user perception and preference and environmental measurement skills are introduced. Offered fall semester only. Preq: HORT 101, 303, or consent of instructor.

X Change Prerequisite(s):**from:** HORT 208, 303, or consent of instructor.**to:** HORT 101, 303, or consent of instructor.**Learning Objectives:** Specific student outcomes:

- # Ability to define environmental sustainability.
- # Ability to identify appropriate plants for a sustainable site design.
- # Ability to measure an environmental aspect of an installation.
- # Ability to assess/measure human perception of a landscape using a survey instrument.
- # Ability to write and illustrate a reflective essay.
- # Ability to properly cite image sources.
- # Ability to deliver a professional viewpoint to an audience.
- # Ability to locate and use appropriate Internet resources related to plants and design.
- # Increased appreciation for how sustainable design inspires and influences personal and global life.

Topical Outline: Each of these is a 75-minute lecture

Week Topic

Part I: Introduction/sustainable landscape concepts

Lecture 1 Course overview; syllabus; Intro to sustainability

Lecture 2 Sustainable landscape design

Lecture 3 Sustainable teams: multidisciplinary and interdisciplinary; roles of team players

Lecture 4 Sustainable landscape construction

Lecture 5 Ecosystems and the landscape

Lecture 6 Ecology and native plants (Jean Wilder, MLA, ASLA)

Lecture 7 Rain gardens (Dr. Sarah White)

Class 8 Test 1

Part II: Design principles/landscape perception

Lecture 9 Principles of design

Lecture 10 Principles of design

Lecture 11 Landscape perception/client interviews

Lecture 12 Survey skills

Lecture 13 Surveying pre-installation: Measuring peoples' perception using

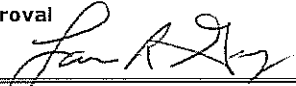

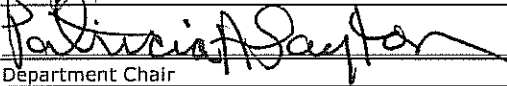
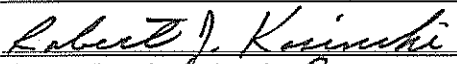

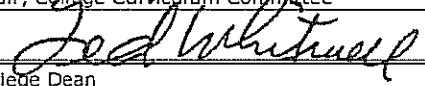
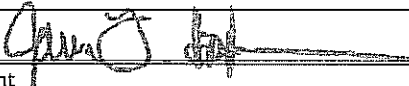
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surveys/observation
 Lecture 14 The Social Life of Small Urban Spaces: A Film by William H Whyte
 Class 15 Test 2
 Part III: Environmental issues and measurements

Lecture 16 Environmental issues
 Lecture 17 Sustainable management: Measuring environmental impacts
 Lecture 18 Sustainable landscape soils
 Lecture 19 Landscape maintenance
 Lecture 20 Sustainable lawns
 Lecture 21 Sustainable pest management
 Lecture 22 Lee Hall green roof project
 Part IV: Team project development
 Lecture 23 Presentation teams form; Review of team roles and assessment tools
 Lecture 24 Teams meet during class
 Class 25 Test 3
 Part V: Presentations/conclusions
 Class 26 Presentations
 Class 27 Presentations
 Class 28 Presentations
 Class 29 Presentations; Last day of class
 Final exam

Evaluation: Grading:
 Weekly essays (10 points each for a total of 100 points) 25%
 Three exams & final exam (100 points each for a total of 400 points) 50%
 Presentation/attendance/engagement (100 points) 25%
Form Originator: ELLENAV, Ellen Vincent **Date Form Created:** 9/28/2011
Form Last Updated by: , **Date Form Last Updated:** 11/11/2011
Form Number: 4426

Approval

	11-11-11		12/2/2011
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11-11-11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/15/11		12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
	11/15/11		12/21/11
College Dean	Date	President	Date
Director, Cathoun Honors College	Date		

600112



Curriculum and Course Change System - Print New Course Form

Course Abbreviation & Number:

X New Undergraduate Course: HORT- 309

.. New Honors Course: --

.. New Graduate Course: -

Effective Term: 01/2012**Catalog Title:** Sustainable Landscape Garden Design Laboratory**Transcript Title:** Sust Landsc Des Lab**Fixed Credit Course:** 1 (0,3)**Variable Credit Course:** - (-), (-)

Method of Instruction	Course Modifier	General Education Designation
.. A-Lecture Only	.. Pass/Fail Only	.. English Composition
X B-Lab (w/fee)	X Graded	.. Oral Communication
.. D-Seminar	.. Variable Title	.. Mathematics
.. E-Independent Study	.. Creative Inquiry	.. Natural Science w/Lab
.. F-Tutorial (w/fee)	.. Repeatable	.. Math or Science
.. G-Studio	maximum credits:	.. A&H (Literature)
.. H-Field course		.. A&H (Non-Literature)
.. I-Study Abroad		.. Social Science
.. L-Lab (no/fee)		.. CCA
.. N/B-Lecture/Lab(w/fee)		.. STS
.. N/L-Lecture/Lab(no fee)		

Add cross-listing with the following child course(s):

Catalog Description: Landscape garden design using sustainable environmentally sensitive concepts and practices. Techniques of sustainable landscape garden design including hand drawing, site assessment, client interview, user perception survey, plant selection, and professional presentation. Plant selection encourages establishing healthy ecosystems. Emphasis on interactions between design, installation, and maintenance phases.

Prerequisite(s): Prerequisite or Corequisite: HORT 308**Projected Enrollment:**

Year 1 - 15 Year 2 - 15 Year 3 - 15 Year 4 - 15

Required course for students in:

Statement of need and justification based on assessment results of student learning outcomes: This laboratory class accompanies HORT 308. The class has been offered as a combined lecture/lab. Now we wish to offer it as a separate class in order to enroll more students in HORT 308 lecture.

Textbook(s): (1) Landscape Graphics by Grant W. Reid FASLA (2002) College Bookstore Hendrix Center.(2) Sustainable Sites Initiative: The Case for Sustainable Landscapes (PDF download) by American Society of Landscape Architects, Lady Bird Johnson Wildflower Center at the University of Texas at Austin, and United States Botanical Garden http://www.sustainablesites.org/report/The%20Case%20for%20Sustainable%20Landscapes_2009.pdf

(3) The Sustainable Sites Initiative: Guidelines and Benchmarks 2009 (PDF download)

American Society of Landscape Architects, Lady Bird Johnson Wildflower Center at the University of Texas at Austin, and United States Botanical Garden

http://www.sustainablesites.org/report/Guidelines%20and%20Performance%20Benchmarks_2009.pdf**Learning Objectives:** # Ability to define environmental sustainability.

Ability to plan and design an educational display garden i.e. rain garden or native plant trial garden.

Ability to identify appropriate plants for the design site.

Ability to measure an environmental aspect of an installation.

Ability to assess/measure human perception of a landscape using a survey instrument.

Ability to write and illustrate a reflective essay.

Ability to properly cite image sources.

Ability to deliver a professional viewpoint to an audience.

Ability to locate and use appropriate Internet resources related to plants and design.

Increased appreciation for how sustainable design inspires and influences personal and global life.

Topical Outline: Week Topic

LAB 1 Overview of class, introduction to project, recommended materials

LAB 2 Native plant walk

LAB 3 Field trip to Cleveland Park rain gardens in Greenville, SC

LAB 4 Client interview

LAB 5 Plant selection

LAB 6 Preliminary concept & planting plan

LAB 7 Design review by multiple disciplines

LAB 8 Prepare concept & planting plan; supportive documents; PowerPoint print out

LAB 9 Final review-winner selected

LAB 10 Computer lab Introduction to In Design, Photoshop, and Illustrator

LAB 11 Finalize documentation

LAB 12 Intro to AutoCAD

LAB 13 Green wall/curtain concept diagram & plants

LAB 14 Project improvement

LAB 15 Final presentation

Evaluation: Grading:

Final drawing (100 points) 36%

Plant profile sheets (50 points) 16%

Installation and maintenance plan (50 points) 16%

LOG113

Justification (50 points) 16%

Presentation/attendance/engagement (50 points) 16%

Form Originator: ELLENAV, Ellen Vincent Date Form Created: 9/26/2011

Form Last Updated by: , Date Form Last Updated: 11/11/2011

Form Number: 4413

Approval

<i>Jan R. Day</i>	11-11-11	<i>Carice W. Anderson</i>	12/2/2011
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
<i>Patricia A. Sanford</i>	11-11-11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
<i>Robert J. Kasinski</i>	11/15/11	<i>David R. Nelson</i>	12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
<i>Bob Whitwell</i>	11/15/11	<i>Chris J. ...</i>	12/21/11
College Dean	Date	President	Date
Director, Calhoun Honors College	Date		

000114



Curriculum and Course Change System - Print Change/Delete Course Form

X Change a Course - Abbrev & Number: HORT- 461

Corresponding Lab Course: HORT-L-461

Corresponding Honors course: HORT-H-461

.. **Add Honors course:** --

Corresponding Graduate course: HORT- -661

.. **Add Graduate course:** --**Course Title: PROB LANDSCAPE DES****Brief Statement of Change:**

Requesting title change to correspond with changed content and to not duplicate what landscape architecture offers.

Last Term taught: 1101

Effective Term: 01/2013

.. **Change Abbrev to:**.. **Change Number to:****X Change Catalog Title:**

from: Problems in Landscape Design

to: Advanced Landscape Garden Design

.. From: Fixed Credit: 4 (3,3) To: Fixed Credit: (,)

.. Variable Credit: - (-), (-) Variable Credit: - (-),(-)

.. **Add cross-listing with the following child course(s):**.. **Delete cross-listing with the following child course(s):**.. **Reverse Parent/Child relationship with:****.. Change Method of Instruction****.. Change Course Modifier****.. Change General Education Designation**

from:	to:	from:	to:	from:	to:
.. A-Lecture Only	.. .. Pass/Fail Only	.. .. English Composition	..	.. English Composition	..
.. B-Lab (w/fee)	.. X Graded	.. .. Oral Communication	..	.. Oral Communication	..
.. D-Seminar	.. .. Variable Title	.. .. Mathematics	..	.. Mathematics	..
.. E-Independent Study	.. .. Creative Inquiry	.. .. Natural Science w/Lab	..	.. Natural Science w/Lab	..
.. F-Tutorial (w/fee)	.. .. Repeatable	.. .. Math or Science	..	.. Math or Science	..
.. G-Studio	.. maximum credits	.. A&H (Literature)	..	.. A&H (Literature)	..
.. H-Field course	.. from:	.. A&H (Non-Literature)	..	.. A&H (Non-Literature)	..
.. I-Study Abroad	.. to:	.. Social Science	..	.. Social Science	..
.. L-Lab (no/fee)	..	.. CCA	..	.. CCA	..
X N/B-Lecture/Lab(w/fee)	..	.. STS	..	.. STS	..
.. N/L-Lecture/Lab(no fee)	..				

X Change Catalog Description:

from: Landscape planning for larger residential properties, schools, industrial plants, real estate developments; detailed finished plans; further study of materials used; original problems; field study. Preq: HORT 308 or consent of instructor.

to: Garden design for urban or other highly visible locations. A specific specialty garden with environmental education potential will be designed. Finished plans include detailed planting, installation and maintenance, and communication. Emphasis is on establishing healthy plant communities, habitat linkages, and healthy water and soil.

X Change Prerequisite(s):**from:** HORT 308 or consent of instructor**to:** HORT 308 and 309, or consent of instructor**Learning Objectives:** Specific student outcomes:

1. Increased visual communications skills.
2. Ability to design an ecological urban garden.
3. Enhanced teamwork skills.
4. Increased knowledge of plants, plant placement, and plant relationships.
5. Understanding of connections between design, installation, and maintenance fields.

Topical Outline: Each of these is a 75-minute lecture

Lecture Schedule

Part I: Introduction/history/fundamentals

Lecture 1 Introduction: Overview, assignments, and syllabus

Lecture 2 Introduction to urban design

Lecture 3 History of specialty garden design

Lecture 4 Historical garden designers

Lecture 5 Modern landscape designers and gardens of distinction

Part II: Research tools/environmental and psychological

Lecture 6 Research surveys: Web, mail, and in person

Lecture 7 Observation research

Lecture 8 Environmental measurements: soil tests

Lecture 9 Environmental measurements: air and water tests

Lecture 10 Data analysis tools & Exam #1

Part III: Application/ installation and maintenance

Lecture 11 Design, user, client communications

Lecture 12 Site assessment

Lecture 13 Trees and shrubs selection and planting

Lecture 14 Annuals/perennials/grasses selection and planting

Lecture 15 Hardscape selection

Part IV: Critical thinking/ethics

Lecture 16 Human landscape perception Issues
 Lecture 17 Plant selection, native and exotic Issues
 Lecture 18 Hardscape Impacts
 Lecture 19 Measurements
 Lecture 20 Marketing & Exam #2

000115

Part V: Project/paper development

Lecture 21 Project/paper development
 Lecture 22 Project/paper development
 Lecture 23 Project/paper development
 Lecture 24 Project/paper development
 Lecture 25 Project/paper development

Part VI : Demonstrated knowledge/presentations

Lecture 26 Demonstrated knowledge/presentations
 Lecture 27 Demonstrated knowledge/presentations
 Lecture 28 Demonstrated knowledge/presentations
 Lecture 29 Demonstrated knowledge/presentations
 FINAL EXAM

LAB

Week Topic

LAB 1 Overview of class, introduction to project, recommended materials/drawing
 LAB 2 History/drawing
 LAB 3 History/drawing
 LAB 4 Field trip
 LAB 5 Plant preliminary selection
 LAB 6 Plant preliminary selection
 LAB 7 Design review by multiple disciplines
 LAB 8 Revise drawing
 LAB 9 Computer lab/drawing
 LAB 10 Computer lab/drawing
 LAB 11 Develop planting plan
 LAB 12 Develop plant profiles for installation and maintenance plans
 LAB 13 Finalize supporting paperwork
 LAB 14 Final presentation
 LAB 15 Final presentation

Evaluation: HORT 461 Assignments and Grading

Exams: There will be 3 in-semester exams and one cumulative final exam.

The instructor may offer an option that allows the average of the first three exams to be substituted for the final exam.

Lecture grading: 60% of final grade

Weekly essays (10 points each for a total of 100 points) 15%

Three exams combined 30%

Presentation/attendance/engagement (100 points) 15%

LAB grading: 40% of final grade

Final drawing (100 points) 16%

Plant profile sheets (50 points) 6%

Installation and maintenance plan (50 points) 6%

Justification (50 points) 6%

Presentation/attendance/engagement (50 points) 6%

Attendance is mandatory

Extra credit opportunities will be announced during the semester

HORT 661 Assignments and Grading

Exams: There will be 3 in-semester exams and one cumulative final exam.

The instructor may offer an option that allows the average of the first three exams to be substituted for the final exam.

Presentation: HORT 661 will develop and deliver a final project and presentation on how they intend to transfer lessons learned in the class to the work place.

Lecture grading: 40% of final grade

Weekly essays (10 points each for a total of 100 points) 10%

Three exams combined 20%

Presentation/attendance/engagement (100 points) 10%

LAB grading: 40% of final grade

Final drawing (100 points) 16%

Plant profile sheets (50 points) 6%

Installation and maintenance plan (50 points) 6%

Justification (50 points) 6%

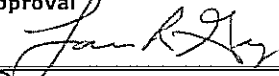

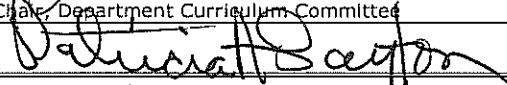
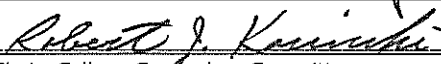
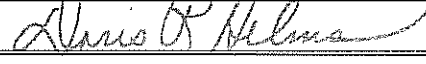
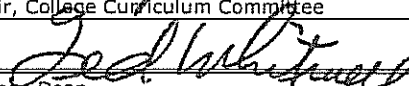
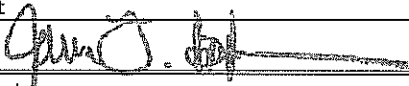
Presentation/attendance/engagement (50 points) 6%

Final presentation: 20% of the final grade
 Oral communications (50 points) 10%
 Group process skills (50 points) 10%
 (dialogue/engagement)

303115

Attendance is mandatory
 Extra credit opportunities will be announced during the semester
Form Originator: ELLEN AV, Ellen Vincent **Date Form Created:** 9/27/2011
Form Last Updated by: , **Date Form Last Updated:** 11/11/2011
Form Number: 4420

Approval

	11-11-11		12/2/2011
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11-11-11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/15/11		12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
	11/15/11		12/21/11
College Dean	Date	President	Date
Director, Calhoun Honors College	Date		

117



Curriculum and Course Change System - Print Major Form

Change Major Name: Horticulture

Degree: BS

Effective Catalog Year: 2012

.. Change Major Name to:

.. Change Degree to: (CHE approval required)

X Change Curriculum Requirements

(Submit or upload Curriculum map in catalog format. CHE approval required for > 18 hours of changes)

.. Change General Education Requirements

(Must also submit a General Education Checklist)

.. Add, Change or Delete Concentration(s)

(Submit or upload Curriculum map in catalog format. CHE approval required)

.. Add, Change or Delete Emphasis Area(s)

Explanation: -CH 101 and 102 are now required for all HORTICULTURE majors

-HORT 210 and HORT 211 are proposed new courses that will be part of the new curriculum, if approved. Then, 6 less hours of HORT Specialization will be required. HORT 303, 305 and 306 will be recommended to be taken during the Junior year and BIOSC 401 and BIOSC 402 will be recommended to be taken during the Senior year.

-HORT 308 has been requested to be separated into HORT 308/309 to separate the lab from the lecture, and a new title and course description has been given, pending approval.

-HORT 461 has a new title and course description, pending approval.

-Move 1 elective hour from senior year to junior year

Form Originator: JFAUST, James Brownfaust Date Form Created: 10/25/2011

Form Last Updated by: , Date Form Last Updated: 12/1/2011

Form Number: 4563

Approval

	12-1-2011		12/2/2011
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	12-1-2011		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	12/1/11		12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
	12/1/11		12/21/11
College Dean	Date	President	Date

Horticulture (Proposed)						
Freshman Year						
First Semester				Second Semester		
BIOL 103	General Biology I	3 hrs.		HORT 102	Experience Horticulture	1 hr.
BIOL 105	General Biology Lab I	1 hr.		MTHSC 102	Intro. to Math Analysis	3 hrs.
HORT 101	Horticulture	3 hrs.		ENGL 103	Accelerated Composition	3 hrs.
CH 101	General Chemistry	4 hrs.		CH 102	General Chemistry	4 hrs.
Spanish Language Requirement ²		4 hrs.		Related Science Requirement ²		4 hrs.
Semester Hours: 15				Semester Hours: 15		
Sophomore Year						
First Semester				Second Semester		
MTHSC 101	Essential Math	3 hrs.		Social Science Requirement ¹		3 hrs.
Plant Biology Requirement ²		4 hrs.		Arts and Humanities (Lit) Requirement ¹		3 hrs.
Business Requirement ²		3 hrs.		HORT 211	Growing Garden Plants in the Spring	3 hrs.
Arts & Humanities (Non-Lit) Requirement ¹		3 hrs.		CSENV 202	Soils	4 hrs.
HORT 210	Growing Garden Plants in the Fall	3 hrs.				
Semester Hours: 16				Semester Hours: 13		
Summer						
HORT 271	Internship	3 hrs.	or	HORT 471	Advanced Internship ³	3 hrs.
Junior Year						
First Semester				Second Semester		
Elective		3 hrs.		HORT 305	Plant Propagation	3 hrs.
HORT Specialization Requirement ²		3 hrs.		HORT 306	Plant Propagation Tech. Lab	1 hr.
Oral Communications Requirement ¹		3 hrs.		Related Science Requirement ²		3 hrs.
Social Science Requirement ¹		3 hrs.		Business Requirement ²		3 hrs.
HORT 303	Landscape Plants	3 hrs.		HORT 409	Seminar	1 hr.
				Elective		1 hr.
				HORT Specialization Requirement ²		3 hrs.
Semester Hours: 15				Semester Hours: 15		
Senior Year						
First Semester				Second Semester		
Related Science Requirement ²		6 hrs.		BIOSC 401	Plant Physiology	3 hrs.
Business Requirement ²		3 hrs.		BIOSC 402	Plant Physiology Lab	1 hrs.
HORT Specialization Requirement ²		6 hrs.		HORT Specialization Requirement ²		3 hrs.
				Related Science Requirement ²		6 hrs.
Semester Hours: 15				Semester Hours: 13		

Total – 120 hrs

¹ See General Education Requirements. One humanities or one social science requirement must be a Cross-Cultural Awareness Course.

² See advisor. Select from approved departmental list.

³ Internship must be completed in one or two semesters. Internship may be done fall or spring or summer after completing HORT 303. Prior approval is required for internships and a 2.0 is required for registration.

* Horticulture majors must make a C or better in all HORT designated courses.

Related Science Courses (choose at least 6 courses – 19 credits, at least one lecture and lab must be taken)

AGM 301	Soil and Water Conservation	2 credits (fall)	FOR 308	Remote Sensing & GIS in Forestry	3 credits
AGM 402	Drainage Irrigation & Waste Mgmt.	3 credits	FOR 315	Woodland Ecology	3 credits
BIOCH 305	Essential Elements of Biochemistry	3 credits	FOR 413	Integrated Forest Pest Mgmt.	4 credits
BIOSC 320	Field Botany	4 credits	FOR 433	GPS Applications	3 credits
BIOSC 406/407	Introductory Plant Taxonomy	4 credits	FOR 434	GIS Systems for Landscape Planning	3 credits
BIOSC 413	Restoration Ecology	3 credits	GEN 300/301	Fundamental Genetics	4 credits
BIOSC 441/445	Ecology	5 credits	GEOL 101/103	Physical Geology	4 credits
BIOSC 452/453	Plant Anatomy and Morphology	5 credits	GEOL 112/114	Earth Resources	4 credits
BIOSC 446/447	Plant Ecology	5 credits	GEOL 300	Environmental Geology	3 credits
CH 301	Survey of Organic Chemistry	4 credits	IPM 401	Principles of Integrated Pest Mgmt.	3 credits
CH 223/227	Organic Chemistry & Lab	4 credits	MICRO 305	General Microbiology	4 credits
CSENV 405	Plant Breeding	3 credits	PHYS 122/124	Physics with Calculus I	4 credits
CSENV 407	Introductory Weed Science	3 credits	PHYS 200	Introductory Physics	4 credits
CSENV 452/453	Soil Fertility and Management	3/1 credits	PHYS 207/209	General Physics I	4 credits
EN SP 200	Introduction to Environmental Science	3 credits	PLPA 310	Plant Diseases and People	3 credits
EN SP 472	Environmental Planning & Control	2 credits	PLPA 406/408	Diseases and Insects of Turfgrass	2/1 credits (Maymester)
ENT 300	Environmental Entomology	3 credits	PLPH 320	Plant Medicine and Magic	3 credits
ENT 301	Insect Biology and Diversity	4 credits	WFB 313	Conservation Biology	3 credits (every sem.)
ENT 308	Apiculture	3 credits	WFB 412	Wildlife Management	3 credits
			WFB 462	Wetland Wildlife Biology	3 credits

Business, Communication & Leadership Courses (choose at least 3 courses – 9 credits)

ACCT 201	Financial Accounting Concepts	3 credits	All COMM, ECON, FIN, LAW, MGT, MKT courses 300 and higher		
ACCT 202	Managerial Accounting Concepts	3 credits	All MGT courses 200 and higher		
All AP EC courses 300 and higher			ELE 301, 401, 499 Executive Leadership & Entrepreneurship I, II, III		

Horticulture Specialization Courses (choose at least 4 courses – 15 credits)

FOR 450	Woody Plant Stress Physiology	3 credits	HORT 406	Nursery Technology	3 credits
FOR 480	Selected Topics in Urban Forestry	1-3 credits	HORT 408	Horticulture Discovery and Inquiry	variable cr.
HORT 202	Selected Topics	3 credits	HORT 412	Advanced Turfgrass Management	3 credits
HORT 208	Landscape Appreciation	3 credits	HORT 420	Applied Turfgrass Physiology	3 credits
HORT 212	Introduction to Turfgrass Culture	3 credits	HORT 427	Urban Tree Care	3 credits
HORT 213	Turfgrass Culture Laboratory	1 credit	HORT 433	Landscape & Turf Weed Mgmt.	3 credits
HORT 308	Sustainable Landscape Garden Design	3 credits	HORT 455	Just Fruits	3 credits
HORT 309	Sustainable Landscape Design Lab	1 credits	HORT 456	Vegetable Crops	3 credits
HORT 400	Special Topics (maximum 3 credits)	1-3 credits	HORT 461	Advanced Landscape Garden Design	4 credits
			HORT 465	Plant Molecular Biology	3 credits

Spanish Courses (choose at least 1 course – 4 credits)

SPAN 101	Elementary Spanish	4 credits	SPAN 104	Basic Spanish	4 credits
SPAN 102	Elementary Spanish	4 credits	SPAN 202	Intermediate Spanish	4 credits

Plant Biology Requirement – 4 credits

BIOSC 304	Biology of Plants	3 credits	BIOSC 308	Biology of Plants Lab	1 credit
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603122



Curriculum and Course Change System - Print Major Form

Change Major Name: Sscs (Agricultural Biotechnology)

Degree: BS

Effective Catalog Year: 2012

..Change Major Name to:

..Change Degree to: (CHE approval required)

XChange Curriculum Requirements

(Submit or upload Curriculum map in catalog format. CHE approval required for > 18 hours of changes)

..Change General Education Requirements

(Must also submit a General Education Checklist)

..Add, Change or Delete Concentration(s)

(Submit or upload Curriculum map in catalog format. CHE approval required)

..Add, Change or Delete Emphasis Area(s)

Explanation: In order to give students options when some of the required courses are not offered, and considering that the following are courses for which we often fill out substitutions, please

Add:

COMM 150 as an alternative to COMM 250

ENGL 314 as an alternative to ENGL 315

Replace:

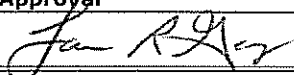
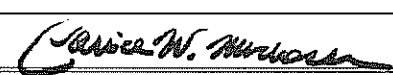

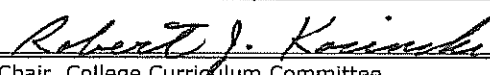

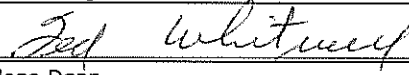

BIOCH 306 with BIOSC 434

Form Originator: PAGUDEL, Paula Agudelo **Date Form Created:** 10/12/2011

Form Last Updated by: , **Date Form Last Updated:** 10/24/2011

Form Number: 4505

Approval

	10/26/11		12/2/11
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	10/26/11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/11/11		12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
	11/11/11		12/21/11
College Dean	Date	President	Date

B. S. IN SOILS AND SUSTAINABLE CROP SYSTEMS

00123

Concentration: Agricultural Biotechnology

FRESHMAN YEAR

First Semester

BIOL 110 Prin. of Biol. I¹	5(4,3)
CH 101 General Chemistry	4(3,3)
Arts and Humanities (Non-Literature) Req.²	3(3,0)
MTHSC 102 Intro to Math Analysis¹	3(3,0)
or MTHSC 106 Calculus of One Var. I	4(4,0)
SSCS 101 SSCS Survey	1(1,0)

Semester Hours: 16-17

Second Semester

BIOL 111 Prin. of Biol. II ¹	5(4,3)
CH 102 Gen. Chemistry	4(3,3)
ENGL 103 Accelerated Composition	3(3,1)
EXST 301 Intro. Statistics	3(2,2)
or MTHSC 108 Calculus of One Var. II	4(4,0)
or MTHSC 207 Multivar. Calculus	4(4,0)
SSCS 102 Acad. & Prof. Dev. I	1(1,0)

Semester Hours: 16-17

SOPHOMORE YEAR

Arts and Humanities (Literature) Req²	3(3,0)
COMM 250 Public Speaking	3(3,1)
or COMM 150 Intro. to Human Comm.	3(2,2)
CH 223 Organic Chemistry	3(3,0)
CH 227 Organic Chemistry Lab	1(0,4)
SSCS 333 Agricultural Genetics	3(3,0)
ECON 200 Economic Concepts³	3(3,0)
or ECON 211 Principles of Microeconomics³	3(3,0)

Semester Hours: 16

GEN 300 Fundamental Genetics	3(3,0)
GEN 301 Fundamental Genetics Lab	1(0,3)
BIOSC 335 Evolutionary Biology	3(3,0)
CH 224 Organic Chemistry II	3(3,0)
CH 228 Organic Chemistry II Lab	1(0,4)
AP EC 205 Agri. & Society	3(3,0)

Semester Hours: 14

JUNIOR YEAR

CSENV 422 Major World Crops	3(3,0)
SSCS 335 Agricultural Biotechnology	3(2,2)
Social Science Requirement²	3(3,0)
BIOSC 304 Biology of Plants	3(3,0)
BIOCH 305 Essen. Elem. Biochemistry	3(3,0)
BIOSC 434 Biological Chem. Lab Tech.	2(1,3)

Semester Hours: 17

ENGL 315 Scientific Writing and Comm.	3(3,0)
or ENGL 314 Technical Writing	3(3,0)
SSCS 401 Acad. & Prof. Dev II	1(1,0)
CSENV 350 Practicum	1
PLPA 310 Plant Diseases and People	3(2,3)
PLPH 340 Plant, Medicine and Magic	3(3,0)
Emphasis Area ⁴	4

Semester Hours: 15

SENIOR YEAR

SSCS 445 Regulatory Issues and Policies	1(1,0)
SSCS 450 Agric. Biosystems and Risk Assess.	1(1,0)
CSENV(SSCS) 350 Practicum	3
Emphasis Area ⁴	3
ENT (BIOSC) 301 Insect Biology and Diversity	4(3,3)
BIOSC 401 Plant Physiology	3(3,0)
BIOSC 402 Plant Physiology Lab	1(0,3)

Semester Hours: 16

SSCS 451 Agric. Biotech. and Global Society	1(1,0)
CSENV 409 Biology of Invasive Plants	3(2,2)
Emphasis Area ⁴	9
CSENV 350 Practicum	2

Semester Hours: 15

Total Semester Hours = 125-127 (Classes in bold are General Education Requirements)

¹BIOL 110 and 111 are strongly recommended; however, BIOL 103 and 104 may substitute. MTHSC 106 is recommended.

²See General Education Requirements. PHIL 103 is recommended to satisfy the Arts & Humanities Non-lit. Requirement.

³ECON 200 is recommended for students in the Agricultural Biosystems and Technology Emphasis. ECON 211 is recommended for students in the Agricultural Biotechnology and Global Society Emphasis.

⁴ Selected from department-approved list. Courses to support proficiency in a foreign language also are encouraged.

000124



Curriculum and Course Change System - Print Major Form

Change Major Name: Sscs (Soil/Water Environmental Sci)

Degree: BS

Effective Catalog Year: 2012

..Change Major Name to:

..Change Degree to: (CHE approval required)

XChange Curriculum Requirements

(Submit or upload Curriculum map in catalog format. CHE approval required for > 18 hours of changes)

..Change General Education Requirements

(Must also submit a General Education Checklist)

..Add, Change or Delete Concentration(s)

(Submit or upload Curriculum map in catalog format. CHE approval required)

..Add, Change or Delete Emphasis Area(s)

Explanation: In order to give students options when some of the required courses are not offered, and considering that the following are courses for which we often fill out substitutions, please

Add:

COMM 150 as an alternative to COMM 250

ENGL 314 as an alternative to ENGL 315

Replace:

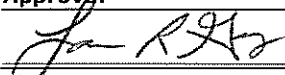

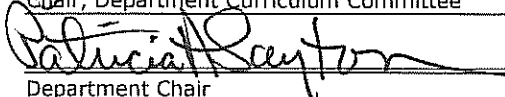
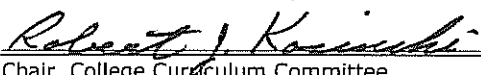
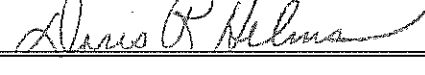
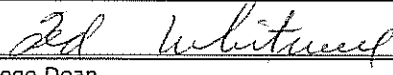

CSENV 475 with GEOL 408

Form Originator: PAGUDEL, Paula Agudelo **Date Form Created:** 10/12/2011

Form Last Updated by: , **Date Form Last Updated:** 10/24/2011

Form Number: 4507

Approval

	10/26/11		12/2/2011
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	10/26/11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/11/11		12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
	11/14/11		12/21/11
College Dean	Date	President	Date

B. S. IN SOILS AND SUSTAINABLE CROP SYSTEMS

000125

Concentration: Soil and Water Environmental Science

FRESHMAN YEAR

First Semester

BIOL 110 Prin. of Biol. I ¹	5(4,3)
CH 101 General Chemistry	4(3,3)
Arts and Humanities (Non-Literature) Req. ²	3(3,0)
MTHSC 102 Intro to Math Analysis	3(3,0)
or MTHSC 106 Calculus of One Var. I	4(4,0)
SSCS 101 Survey of SSCS	1(1,0)

Semester Hours: 16-17

Second Semester

BIOL 111 Prin. of Biol. II ¹	5(4,3)
CH 102 Gen. Chemistry	4(3,3)
ENGL 103 Accelerated Composition	3(3,1)
EXST 301 Intro. Statistics	3(2,2)
or MTHSC 108 Calculus of One Var. II	4(4,0)
or MTHSC 207 Multivar. Calculus	4(4,0)
SSCS 102 Acad. & Prof. Dev. I.	1(1,0)

Semester Hours: 16-17

SOPHOMORE YEAR

CH 223 Organic Chemistry	3(3,0)
and CH 227 Organic Chemistry Lab	1(0,3)
or CH 201 Survey of Organic Chemistry	4(3,3)
CSENV 202 Soils	4(3,2)
GEOL 101 Physical Geology	3(3,0)
GEOL 103 Physical Geology Lab	1(0,2)
PHYS 207 General Physics I	3(3,0)
PHYS 209 General Physics Lab	1(0,2)
or PHYS 122 Physics with Calculus I	3(3,0)
and PHYS 124 Physics Lab I	1(0,3)

Semester Hours: 16

Emphasis Area ³	4
Arts and Humanities (Literature) Req. ²	3
PHYS 208 General Physics II	3(3,0)
PHYS 210 General Physics II Lab	1(0,2)
or PHYS 221 Physics with Calculus II	3(3,0)
and PHYS 223 Physics Lab II	1(0,3)
Cross Cultural Awareness ²	3

Semester Hours: 14

JUNIOR YEAR

Emphasis Area ³	5
COMM 250 Public Speaking	3(3,0)
or COMM 150 Intro. to Human Comm.	3(2,2)
MICRO 305 General Microbiology	4(3,3)
Plant Science Requirement ⁴	3

Semester Hours: 15

Emphasis Area ³	3
GEOL 408 Geohydrology	3(3,0)
ENGL 315 Scientific Writing and Comm.	3(3,0)
or ENGL 314 Technical Writing	3(3,0)
CSENV 490 Beneficial Soil Org. in Plt. Growth	3(3,0)
SSCS 401 Acad & Prof. Dev. II	1
Social Science Requirement ²	3

Semester Hours: 16

SENIOR YEAR

CSENV 403 Soil Genesis and Classification	2(1,3)
CSENV 455 Seminar	1(1,0)
Field Scale Environ. Mgt. Requirement ⁵	3
Applied Spatial Technology Requirement ⁶	3
CSENV (SSCS) 350 Practicum	3
Emphasis Area ³	3

Semester Hours: 15

CSENV 408 Land Trt. of Wastewater & Sludge	3(3,0)
BIOSC 401 Plant Physiology	3(3,0)
and BIOSC 402 Plant Physiology Lab	1(0,2)
Social Science Requirement ²	3
AGRIC 315 Agric and Environ	3(3,0)
Emphasis Area ³	3

Semester Hours: 16

Total Semester Hours = 124-126

(Classes in bold are General Education Requirements)

¹ BIOL 110 and 111 are strongly recommended; however, BIOL 103 and 104 may substitute.

² See General Education Requirements.

³ Selected from department-approved list

⁴ Selected from CSENV 421, 422, 423, 426, HORT 456, or BIOSC 441.

⁵ Selected from AG M 402, ENTOX 421, or advisor-approved course

⁶ Selected from AG M 410, FOR 433, or advisor-approved course

CLEMSON

UNIVERSITY Curriculum and Course Change System - Print Major Form

305126

Change Major Name: Sscs (Sustainable Crop Production)**Degree:** BS**Effective Catalog Year:** 2012**..Change Major Name to:****..Change Degree to:** (CHE approval required)**XChange Curriculum Requirements**

(Submit or upload Curriculum map in catalog format. CHE approval required for > 18 hours of changes)

..Change General Education Requirements

(Must also submit a General Education Checklist)

..Add, Change or Delete Concentration(s)

(Submit or upload Curriculum map in catalog format. CHE approval required)

..Add, Change or Delete Emphasis Area(s)**Explanation:** In order to give students options when some of the required courses are not offered, and considering that the following are courses for which we often fill out substitutions, please

Add:

COMM 150 as an alternative to COMM 250


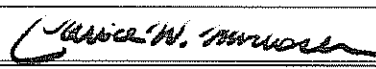

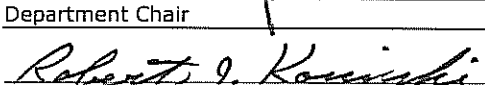

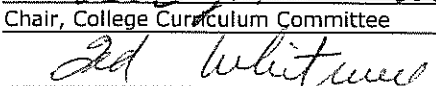
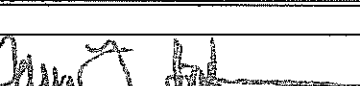
ENGL 314 as an alternative to ENGL 315

ECON 211 as an alternative to AP EC 202

Replace:

BIOCH 306 with BIOSC 434

Form Originator: PAGUDEL, Paula Agudelo **Date Form Created:** 10/12/2011**Form Last Updated by:** , **Date Form Last Updated:** 10/24/2011**Form Number:** 4508**Approval**

	10/26/11		12/2/2011
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	10/26/11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/11/11		12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
	11/11/11		12/21/11
College Dean	Date	President	Date

B. S. IN SOILS AND SUSTAINABLE CROP SYSTEMS

Concentration: Sustainable Crop Production

FRESHMAN YEAR

First Semester

BIOL 110 Prin. of Biol. I¹	5(4,3)
CH 101 General Chemistry	4(3,3)
Arts and Humanities (Non-Literature) Req.²	3(3,0)
MTHSC 102 Intro to Math Analysis	3(3,0)
or MTHSC 106 Calculus of One Var. I	4(4,0)
SSCS 101 Survey of SCS	1(1,0)

Semester Hours: 16-17

Second Semester

BIOL 111 Prin. of Biol. II¹	5(4,3)
CH 102 Gen. Chemistry	4(3,3)
ENGL 103 Accelerated Composition	3(3,1)
EXST 301 Intro. Statistics	3(2,2)
or MTHSC 108 Calculus of One Var. I	4(4,0)
or MTHSC 207 Multivar. Calculus	4(4,0)
SSCS 102 Acad. & Prof. Dev. I	1(1,0)

Semester Hours: 16-17

SOPHOMORE YEAR

CH 223/227 Organic Chemistry & Lab³	4(3,3)
or CH 201 Surv. Organic Chemistry	4(3,3)
CSENV 202 Soils	4(3,2)
PLPA 310 Plant Diseases & People	3(2,3)
APEC 202 Agricultural Economics	3(3,0)
or ECON 211 Principles of Microecon.	3(3,0)

Semester Hours: 14

Plant Science Req.⁴	3(3,0)
SSCS 333 Agricultural Genetics	3(3,0)
APEC 205 Agric. & Society	3(3,0)
COMM 250 Public Speaking	3(3,0)
or COMM 150 Intro. to Human Comm.	3(2,2)
CH 224/228 Organic Chemistry Lab³	4(3,3)
or BIOSC 434 Bio.Chem. Lab & Elective-2hrs	4(1,3)

Semester Hours: 16

JUNIOR YEAR

ENT 301 Insect Biology & Diversity	4(3,3)
Plant Science Req.⁴	3(3,0)
Social Science Requirement²	3(3,0)
IPM 401 Principles of IPM	3(3,0)
Emphasis Area⁵	3(3,0)

Semester Hours: 16

ENGL 315 Scientific Writing and Comm.	3(3,0)
or ENGL 314 Technical Writing	3(3,0)
SSCS 401 Acad. & Prof. Dev II	1(1,0)
PLPA 411 Plant Disease Diagnosis	2(1,2)
CSENV 405 Plant Breeding	3(2,2)
CSENV 409 Biology of Invasive Plants	3(2,2)
BIOSC 401/402 Plant Phys. & Lab	4(3,3)

Semester Hours: 16

SENIOR YEAR

CSENV 490 Beneficial Soil Org. in Plt. Growth	3(3,0)
ENT 407 Applied Agricultural Ent.⁶	4(3,3)
Emphasis Area⁵	6

Semester Hours: 13

CSENV 452/453 Soil Fertility & Lab	4(3,3)
CSENV (SSCS) 350 Practicum	3
Emphasis Area⁵	6
CSENV 455 Seminar	1(1,0)
Arts and Humanities (Literature) Req.²	3(3,0)

Semester Hours: 17

Total Semester Hours = 126-129

(Classes in bold are General Education Requirements)

¹ BIOL 110 and 111 are strongly recommended; however, BIOL 103 and 104 may substitute.

² See General Education Requirements.

³ CH 223, 224, 227, and 228 are strongly recommended.

⁴ Selected from BIOSC 304, CSENV 422, 423, HORT 310, 455, 456, or department-approved course

⁵ Selected from department-approved list.

⁶ Alternate course may be taken as an emphasis area requirement

009128



Curriculum and Course Change System - Print New Course Form

Course Abbreviation & Number:

X New Undergraduate Course: W F B- 415
 .. New Honors Course: --
 X New Graduate Course: W F B- 415

Effective Term: 01/2012

Catalog Title: Quality Deer Management

Transcript Title: Quality Deer Manage.

Fixed Credit Course: 3 (3,0)

Variable Credit Course: - (-), (-)

Method of Instruction	Course Modifier	General Education Designation
X A-Lecture Only	.. Pass/Fail Only	.. English Composition
.. B-Lab (w/fee)	X Graded	.. Oral Communication
.. D-Seminar	.. Variable Title	.. Mathematics
.. E-Independent Study	.. Creative Inquiry	.. Natural Science w/Lab
.. F-Tutorial (w/fee)	.. Repeatable	.. Math or Science
.. G-Studio	maximum credits:	.. A&H (Literature)
.. H-Field course		.. A&H (Non-Literature)
.. I-Study Abroad		.. Social Science
.. L-Lab (no/fee)		.. CCA
.. N/B-Lecture/Lab(w/fee)		.. STS
.. N/L-Lecture/Lab(no fee)		

Add cross-listing with the following child course(s):

Catalog Description: Quality Deer Management (QDM) is a stewardship philosophy that provides desirable hunting experiences by producing white-tailed deer herds with a natural age and sex structure and population size appropriate for habitat conditions. The course will emphasize herd management, habitat management, hunter management and herd monitoring. Online course.

Prerequisite(s): Junior or Graduate status or consent of Instructor

Projected Enrollment:

Year 1 - 25 Year 2 - 30 Year 3 - 35 Year 4 - 40

Required course for students in:

Statement of need and justification based on assessment results of student learning outcomes: Quality Deer Management is a management philosophy that is currently practiced on nearly four million acres of private lands in South Carolina. These management activities produce deer herds with natural age/sex structure and population densities appropriate for habitat conditions. Understanding QDM principles will allow natural resource managers to develop strategies for integrating recreational, ecological, social, and economic considerations into holistic deer herd and land management plans. WFB 415/615 will be a unique offering appropriate for students throughout the eastern states. The course will be assessed through student assessments, exit interviews and feedback from alumni and professionals and strengthened as appropriate. We will explore offering this course at other land-grant universities across the Southeast.

Textbook(s): Quality Whitetails- The How and Why of Quality Deer Management. 1995. Karl V. Miller and R. Larry Marchinton (eds.). Stackpole Books

- Learning Objectives:**
1. Students will achieve a comprehensive understanding of white-tailed deer biology, herd management and habitat management.
 2. Students will learn tools for integrating biological, economic, social, and ethical considerations in QDM.
 3. Students will gain experience in developing QDM strategies and plans.

Topical Outline: WFB 415/615 will be offered as an online course using recorded web-accessible lectures and weekly live webcasts. Major topics include: 1) History of QDM, biology & ecology of white-tailed deer (7.5 hrs); 2) Herd management (6.0 hrs); 3) Habitat management (7.0 hrs); 4) Herd monitoring (9.5 hrs); 5) Hunter management (2.0 hrs); 6) Sources of assistance (1.0 hrs); and 7) Weekly live-discussion sessions (12.0 hrs).

Evaluation: Undergraduate students will be evaluated based on weekly assignments or quizzes (30%), a mid-term exam (35%) and a final exam (35%). Graduate students will be evaluated based on weekly assignments or quizzes (20%), a mid-term exam (30%), and a term paper or management plan (20%) and a final exam (30%).

Duplication (if applicable): No other courses exist at Clemson University dealing specifically with white-tailed deer or white-tailed deer management.

Add course requirements for honors and/or 600-level courses (if applicable): Graduate students will be required to write a term paper. Development of a QDM plan for a real-world property is encouraged, but topics may include an in-depth synopsis of biological, management, or philosophic aspect of QDM. Graduate students may choose to mentor up to three undergraduate students in development of a QDM plan. Mentored undergraduates are encouraged to assume primary responsibility for writing a portion of the plan for inclusion in their e-portfolio.

Form Originator: DGUYNN, David Guynn **Date Form Created:** 10/27/2010

Form Last Updated by: LGERING, Lawrence Gering **Date Form Last Updated:** 11/10/2011

Form Number: 3594

Approval

	11-17-11		12/2/2011
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11-11-11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/11/11		12/20/11

Chair, College Curriculum Committee	Date	Provost	Date
<i>Jed Whitman</i>	<i>11/1/11</i>	<i>[Signature]</i>	<i>12/21/11</i>
College Dean	Date	President	Date
		<i>[Signature]</i>	
Director, Calhoun Honors College	Date		



Curriculum and Course Change System - Print Major Form

000110

Add Major Name: Wildlife and Fisheries Biology (WFB)

Degree: BS

Effective Catalog Year: 2012

Explanation: The option to take CH 105 and CH 106 was removed as they are not appropriate for science based curricula. In the Spring semester Sophomore year and Fall semester Junior year some courses were swapped to reflect when they are actually taught.

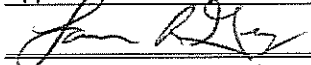
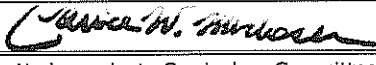
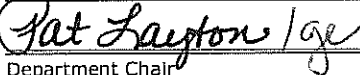
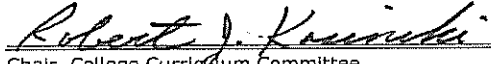
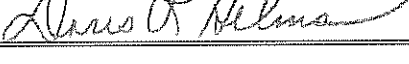
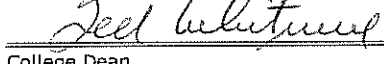

Footnote # 1 was deleted as it was part of the Chemistry course change. Therefore the remaining footnotes were renumbered.

Form Originator: GESTES, Gayle Estes **Date Form Created:** 11/10/2011

Form Last Updated by: , **Date Form Last Updated:** 11/10/2011

Form Number: 4680

Approval

	11-16-11		12/2/2011
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11-10-11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/11/11		12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
	11/11/11		12/21/11
College Dean	Date	President	Date

Wildlife and Fisheries Biology 2011-2012 (current)

Freshman Year					
First Semester			Second Semester		
BIOL 103	General Biology I	3	BIOL 104	General Biology II	3
BIOL 105	General Biology Lab. I	1	BIOL 106	General Biology Lab. II	1
CH 105	Chemistry in Context I ¹	4	CH 106 OR PHYS 200	Chemistry in Context II ¹ Introductory Physics	4 4
ENR 101	Intro to Environment & Natural Resources	1	ENGL 103	Accelerated Composition	3
MTHSC 102	Intro. to Mathematical Analysis	3	EX ST 301	Introductory Statistics	3
Oral Communication Requirement ²		3	FNR 102	FNR Freshman Portfolio	1
Semester Hours: 15			Semester Hours: 15		
Sophomore Year					
First Semester			Second Semester		
FNR 204	Soil Information Systems	4	FOR 206	Forestry Ecology	3
FOR 205	Dendrology	2	WFB (BIOSC) 313	Conservation Biology	3
FOR 221	Forest Biology	3	WFB 350	Principles of Fish & Wildlife Biology	3
WFB 300	Wildlife Biology	3	Social Science Requirement ²		3
WFB 301	Wildlife Biology Laboratory	1	Arts and Humanities (Non-Lit.) Requirement ²		3
Arts and Humanities (Non-Lit.) Requirement ²		3	Semester Hours: 15		
Semester Hours: 16			Semester Hours: 15		
Junior Year					
First Semester			Second Semester		
BIOSC 320	Field Botany	4	Approved Requirement ³		3
ENGL 314	Technical Writing	3	WFB 412	Wildlife Management	3
BIOSC 303	Vertebrate Biology	3	WFB 416	Fishery Biology	3
WFB 410	Wildlife Management Techniques	3	WFB 440	Non-Game Wildlife Management	3
GEN 300	Fundamental Genetics	3	WFB 462	Wetland Wildlife Biology	3
Semester Hours: 16			Semester Hours: 15		
Senior Year					
First Semester			Second Semester		
AP EC 257	Natural Resources, Environment & Economics	3	FNR 499	Natural Resources Seminar	1
AVS 301	Anat. & Phys. of Domestic Animals	4	WFB 430	Wildlife Conservation Policy	3
FOR (ENR) 434	GIS for Landscape Planning	3	Approved Requirement ³		8
WFB 498	Senior Portfolio	1	Policy and Law Requirement ³		3
Approved Requirement ³		4	Semester Hours: 12		
Semester Hours: 15			Semester Hours: 12		

122 Total Semester Hours

¹ Students planning to take organic chemistry should substitute CH 101 and CH 102

² See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement; and, if CH 105 is selected, three credits must also satisfy the Science and Technology in Society Requirement (Note: Social Science Requirement must be in an area other than economics or applied economics.)

³ Select from department-approved list.

Note: Any 300 or 400 level WFB course counts as an Approved Requirement if it is not used to meet another requirement in the curriculum.

Approved Requirements for Wildlife and Fisheries Biology						
APEC 475	Wildlife Economics & Policy	3(3,0)		BIOSC 472, 672	Ornithology	4(3,3)
AGM 301	Soil and Water Conservation	3(2,3)		BIOSC 477, 677	Ichthyology	3(2,3)
BIOSC 302, H302	Invertebrate Biology	3(3,0)		BIOSC 486	Natural History	3(3,0)
BIOSC 306	Invertebrate Biology Laboratory	1(0,3)		CRD 357	Natural Resources Economics	3(3,0)
BIOSC 307	Vertebrate Biology Laboratory	1(0,3)		ENR (BIOSC) 413	Restoration Ecology	3(3,0)
BIOSC 410, 610	Limnology	3(3,0)		ENR 429	Environmental Law	3(3,0)
BIOSC 411, H411, 611	Limnological Analyses	2(1,2)		ENR 450, 650	Conservation Issues	3(3,0)
BIOSC 417, 617	Marine Biology	3(3,0)		ENT 300	Environmental Entomology	3(3,0)
BIOSC 442, H442, 642	Biogeography	3(3,0)		ENT (WFB) 469, H469, 669	Aquatic Insects	3(1,6)
BIOSC 443, 643	Freshwater Ecology	3(3,0)		FNR 466, 666	Stream Ecology	3(2,3)
BIOSC 475, H475, 675	Comparative Physiology	3(3,0)		FOR 400, 600	Public Relations in Natural Resources	3(3,0)
BIOSC 476, H476, 676	Comparative Physiology Lab	2(1,2)		FOR 406	Forested Watershed Management	2(2,0)
BIOSC 464, 664	Mammalogy	3(2,3)		FOR 415, 615	Forest Wildlife Management	3(2,3)
BIOSC 468, 668	Herpetology	3(2,3)		FOR 416	Forest Policy and Administration	3(3,0)
BIOSC 470, H470, 670	Animal Behavior	3(3,0)		FOR 433, 633	GPS Applications	3(2,3)
BIOSC 471, 671	Animal Behavior Laboratory	1(0,3)				
For students considering "AFS" Certification which requires 15 hours of Physical Sciences:						
GEOL 101 AND GEOL 103	Physical Geology Physical Geology Lab	(3,0) 1(0,2)	OR	PHYSICS 200	Introductory Physics	4(3,2)
Approved Requirements for Policy and Law (PAL) ¹						
APEC 475	Wildlife Economics and Policy	3(3,0)		FOR 400, 600	Public Relations in Natural Resources	3(3,0)
CRD 357	Natural Resources Economics	3(3,0)		FOR (ENR) 416	Forest Policy and Administration	3(3,0)
ENR 42	Environmental Law	3(3,0)		WFB 430, 630	Wildlife Conservation Policy	3(3,0)
ENR 450, 650	Conservation Issues	3(3,0)				
¹ (as long as not used to fill another requirement in curriculum)						

Wildlife and Fisheries Biology 2012-2013 (proposed)

Freshman Year					
First Semester			Second Semester		
BIOL 103	General Biology I	3	BIOL 104	General Biology II	3
BIOL 105	General Biology Lab. I	1	BIOL 106	General Biology Lab. II	1
CH 101	General Chemistry	4	CH 102 OR PHYS 200	General Chemistry Introductory Physics	4 4
ENR 101	Intro to Environment & Natural Resources	1	ENGL 103	Accelerated Composition	3
MTHSC 102	Intro. to Mathematical Analysis	3	EX ST 301	Introductory Statistics	3
Oral Communication Requirement ²		3	FNR 102	FNR Freshman Portfolio	1
Semester Hours: 15			Semester Hours: 15		
Sophomore Year					
First Semester			Second Semester		
FNR 204	Soil Information Systems	4	GEN 300	Fundamental Genetics	3
FOR 205	Dendrology	2	ENGL 314	Technical Writing	3
FOR 221	Forest Biology	3	FOR 206	Forest Ecology	3
WFB 300	Wildlife Biology	3	WFB 350	Principles of Fish & Wildlife Biology	3
WFB 301	Wildlife Biology Laboratory	1	Social Science Requirement ¹		3
Arts and Humanities (Non-Lit.) Requirement ¹		3	Semester Hours: 15		
Semester Hours: 16			Semester Hours: 15		
Junior Year					
First Semester			Second Semester		
BIOSC 320	Field Botany	4	WFB (BIOSC) 313	Conservation Biology	3
Approved Requirement ²		3	WFB 412	Wildlife Management	3
BIOSC 303	Vertebrate Biology	3	WFB 416	Fishery Biology	3
WFB 410	Wildlife Management Techniques	3	WFB 440	Non-Game Wildlife Management	3
Arts and Humanities (Lit.) Requirement ¹		3	WFB 462	Wetland Wildlife Biology	3
Semester Hours: 16			Semester Hours: 15		
Senior Year					
First Semester			Second Semester		
AP EC 257	Natural Resources, Environment & Economics	3	FNR 499	Natural Resources Seminar	1
AVS 301	Anat. & Phys. of Domestic Animals	4	WFB 430	Wildlife Conservation Policy	3
FOR (ENR) 434	GIS for Landscape Planning	3	Approved Requirement ²		8
WFB 498	Senior Portfolio	1	Policy and Law Requirement ²		3
Approved Requirement ²		4	Semester Hours: 12		
Semester Hours: 15			Semester Hours: 12		

122 Total Semester Hours

¹ See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement; three credits must also satisfy the Science and Technology in Society Requirement.

(Note: Social Science Requirement must be in an area other than economics or applied economics.)

² Select from department-approved list.

Note: Any 300 or 400 level WFB course counts as an Approved Requirement if it is not used to meet another requirement in the curriculum.

Approved Requirements for Wildlife and Fisheries Biology						
APEC 475	Wildlife Economics & Policy	3(3,0)		BIOSC 472, 672	Ornithology	4(3,3)
AGM 301	Soil and Water Conservation	3(2,3)		BIOSC 477, 677	Ichthyology	3(2,3)
BIOSC 302, H302	Invertebrate Biology	3(3,0)		BIOSC 486	Natural History	3(3,0)
BIOSC 306	Invertebrate Biology Laboratory	1(0,3)		CRD 357	Natural Resources Economics	3(3,0)
BIOSC 307	Vertebrate Biology Laboratory	1(0,3)		ENR (BIOSC) 413	Restoration Ecology	3(3,0)
BIOSC 410, 610	Limnology	3(3,0)		ENR 429	Environmental Law	3(3,0)
BIOSC 411, H411, 611	Limnological Analyses	2(1,2)		ENR 450, 650	Conservation Issues	3(3,0)
BIOSC 417, 617	Marine Biology	3(3,0)		ENT 300	Environmental Entomology	3(3,0)
BIOSC 442, H442, 642	Biogeography	3(3,0)		ENT (WFB) 469, H469, 669	Aquatic Insects	3(1,6)
BIOSC 443, 643	Freshwater Ecology	3(3,0)		FNR 466, 666	Stream Ecology	3(2,3)
BIOSC 475, H475, 675	Comparative Physiology	3(3,0)		FOR 400, 600	Public Relations in Natural Resources	3(3,0)
BIOSC 476, H476, 676	Comparative Physiology Lab	2(1,2)		FOR 406	Forested Watershed Management	2(2,0)
BIOSC 464, 664	Mammalogy	3(2,3)		FOR 415, 615	Forest Wildlife Management	3(2,3)
BIOSC 468, 668	Herpetology	3(2,3)		FOR 416	Forest Policy and Administration	3(3,0)
BIOSC 470, H470, 670	Animal Behavior	3(3,0)		FOR 433, 633	GPS Applications	3(2,3)
BIOSC 471, 671	Animal Behavior Laboratory	1(0,3)				
For students considering "AFS" Certification which requires 15 hours of Physical Sciences:						
GEOL 101 AND GEOL 103	Physical Geology Physical Geology Lab	(3,0) 1(0,2)	OR	PHYSICS 200	Introductory Physics	4(3,2)
Approved Requirements for Policy and Law (PAL) ¹						
APEC 475	Wildlife Economics and Policy	3(3,0)		FOR 400, 600	Public Relations in Natural Resources	3(3,0)
CRD 357	Natural Resources Economics	3(3,0)		FOR (ENR) 416	Forest Policy and Administration	3(3,0)
ENR 42	Environmental Law	3(3,0)		WFB 430, 630	Wildlife Conservation Policy	3(3,0)
ENR 450, 650	Conservation Issues	3(3,0)				
¹ (as long as not used to fill another requirement in curriculum)						

New course map submitted as recommended by the committee. 12/5/2011



Curriculum and Course Change System - Print Major Form

000135

Change Major Name: Turfgrass

Degree: BS

Effective Catalog Year: 2012

.. Change Major Name to:

.. Change Degree to: (CHE approval required)

X Change Curriculum Requirements

(Submit or upload Curriculum map in catalog format. CHE approval required for > 18 hours of changes)

.. Change General Education Requirements

(Must also submit a General Education Checklist)

.. Add, Change or Delete Concentration(s)

(Submit or upload Curriculum map in catalog format. CHE approval required)

.. Add, Change or Delete Emphasis Area(s)

Explanation: Biology 103 & 105 replaced with Biology 104 & 106 as they are the appropriate prerequisite for subsequent classes in the degree. Therefore Mthsc 102 is moved to Freshman fall semester. CH 105 & 106 were removed as they are not appropriate for science based curricula. CSENV 202 moved from the 1st sem. junior to 2nd sem. sophomore yr. Therefore, the 1 credit Elective was moved from 2nd sem. sophomore to 1st sem. junior yr. BIOSC 452, ENT 401, CSENV 475, HORT 406 and HORT 465 were deleted from the departmental-approved list as they are no longer listed in the Undergraduate Announcements. In foot notes, the final note designated with an * was changed to clarify that "HORT designated courses" means ALL courses designated by the HORT rubric. Footnotes have been renumbered as footnote #1 was deleted as it was a part of the Chemistry course change. Part of the original footnote #1 was added to new footnote #2.

Form Originator: GESTES, Gayle Estes Date Form Created: 11/9/2011

Form Last Updated by: , Date Form Last Updated: 11/10/2011

Form Number: 4678

Approval

	10-10-11		12/2/2011
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11-10-11		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/11/11		12/20/11
Chair, College Curriculum Committee	Date	Provost	Date
	11/11/11		12/21/11
College Dean	Date	President	Date

TURFGRASS –2011-2012 (current)

Freshman

000136

First Semester

BIOL 103 - General Biology I	3 hrs
BIOL 105 – General Biology Lab I	1 hr
CH 101 General Chemistry ¹ <i>or</i> CH 105 Chemistry in Context I ¹	4 hrs
HORT 101 – Horticulture	3 hrs
Spanish Language Requirement ²	4 hrs
	15 hrs

Second Semester

CH 102 General Chemistry ¹ <i>or</i> CH 106 Chemistry in Context II ¹	4 hrs
ENGL103 Accelerated Composition	3 hrs
HORT 102 Experience Horticulture	1 hr
MTHSC 102 – Intro. to Math Analysis	3 hrs
Related Science Requirement ²	4 hrs
	15 hrs

Sophomore

First Semester

HORT 212 Introduction to Turfgrass Cult.	3 hrs
HORT 213 Turfgrass Culture Lab	1 hrs
HORT 303 – Landscape Plants	3 hrs
MTHSC 101 – Essential Math	3 hrs
Plant Biology Requirement ²	4 hrs
	14 hrs

Second Semester

Arts and Humanities (Lit) Requirement ³	3 hrs
Business Requirement ²	3 hrs
Related Science Requirement ²	3 hrs
Social Science Requirement ³	3 hrs
Elective	1 hrs
	13 hrs

Summer

HORT 271 Internship ⁴ <i>or</i> HORT 471 Advanced Internship ⁴	3 hrs
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Junior

First Semester

CSENV 202 Soils	4 hrs
Arts & Humanities (Non-Lit) Requirement ³	3 hrs
Business Requirement ²	3 hrs
Related Science Requirement ²	3 hrs
Social Science Requirement ³	3 hrs
	16 hrs

Second Semester

BIOSC 401 Plant Physiology	3 hrs
BIOSC 402 Plant Physiology Lab	1 hr
HORT 409 Seminar	1 hr
HORT 420 Applied Turfgrass Physiology	3 hrs
PL PA (ENT) 406 Diseases and Insects of Turfgrasses	2 hrs
HORT Specialization Requirement ²	3 hrs
Oral Communications Requirement ³	3 hrs
	16 hrs

Summer

PL PA (ENT) 408 Diseases and Insects of Turfgrasses Lab	1 hr		Related Science Requirement ²	3 hrs
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Senior

First Semester

HORT 412 Advanced Turfgrass Management	3 hrs
Business Requirement ²	3 hrs
HORT Specialization Requirement ²	3 hrs
Related Science Requirement ²	3 hrs
Soils Requirement ²	3 hrs
	15 hrs

Second Semester

HORT (CSENV) 433 Landscape and Turf Weed Management	3 hrs
HORT Specialization Requirement ²	3 hrs
Related Science Requirement ²	3 hrs
Soils Requirement ²	3 hrs
	12 hrs

Total – 120 semester hrs

¹ Students not taking the CH 105/106 sequence must satisfy the General Education Science and Technology in Society Requirement by selecting a qualifying course from the Related Science Requirement.

² See advisor. Select from departmental-approved list.

³ See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement.

⁴ Internship must be completed in one or two semesters. Internship may be done fall, spring, or summer after completing HORT 212/213. Prior approval is required for internships and a 2.0 grade point ratio is required for registration.

* Note: Turfgrass majors must make a C or better in all HORT designated courses. Courses may be repeated as often as necessary to achieve the minimum grade.

Related Science Courses (choose at least 5 courses for 16 credits, at least one lecture and lab must be taken)

000137

BIOCH 305 Essential Elements of Biochemistry – 3 credits
BIOSC 320 Field Botany – 4 credits
BIOSC 406/407 Introductory Plant Taxonomy – 4 credits
BIOSC 441/445 Ecology & Lab – 5 credits
BIOSC 452/453 Plant Anatomy and Morphology – 5 credits
BIOSC446/447 Plant Ecology – 5 credits
CH 201 Survey of Organic Chemistry – 4 credits
CH 223/227 Organic Chemistry – 4 credits
CSENV 405 Plant Breeding – 3 credits
CSENV 409 Biology of Invasive Plants – 3 credits
EN SP 200 Introduction to Environmental Science – 3 credits
EN SP 315 Environment and Agriculture – 3 credits
EN SP 472 Environmental Planning and Control – 2 credits
ENT 301 Insect Biology and Diversity – 4 credits
ENT 401 Insect Pests of Ornamental Plants and Shade Trees – 3 credits
FOR 315 Woodland Ecology – 3 credits
FOR 480 Selected Topics in Urban Forestry – 1-3 credits
GEN 300/301 Fundamental Genetics – 4 credits
GEOL 101/103 Physical Geology – 4 credits
GEOL 112/114 Earth Resources – 4 credits
GEOL 300 Environmental Geology – 3 credits
IPM 401 Principles of Integrated Pest Management – 3 credits
MICRO 305 General Microbiology – 4 credits
PHYS 122/124 – Physics with Calculus I – 4 credits
PHYS 200 Introductory Physics – 4 credits
PHYS 207/209 General Physics I – 4 credits
PLPA 310 Plant Diseases and People – 3 credits
PLPH 340 Plant Medicine and Magic – 3 credits
WFB 313 Conservation Biology – 3 credits (every semester)
WFB 412 Wildlife Management – 3 credits
WFB 462 Wetland Wildlife Biology – 3 credits

Business, Communication and Leadership Courses (choose at least 3 courses – 9 credits)

ACCT 201 Financial Accounting Concepts – 3 credits
ACCT 202 Managerial Accounting Concepts – 3 credits
AP EC 257 Natural Resources, Environment, and Economics – 3 credits
All AP EC courses 300 and higher
All ECON courses 300 and higher
All COMM courses 300 and higher
All FIN courses 300 and higher
All LAW courses 300 and higher
All MGT courses 200 and higher
All MKT courses 300 and higher
ELE 301, 401, 499 Executive Leadership and Entrepreneurship I, II, III

Soils (choose at least 2 courses – 6 credits)

AGM 301 Soil and Water Conservation – 2 credits
AGM 402 Drainage, Irrigation and Waste Management – 3 credits (fall)
CSENV 403 Soil Genesis and Classification – 2 credits
CSENV 408 Land Treatment of Wastewater and Sludges – 3 credits
CSENV 446 Soil Management – 3 credits
CSENV 452/453 Soil Fertility and Management with Lab – 3/1 credits
CSENV 475 Soil Physics and Chemistry – 3 credits
CSENV 490 Beneficial Soil Organisms in Plant Growth – 3 credits

Horticulture Specialization (choose at least 3 courses – 9 credits)

HORT 202 or HORT 400 – Selected Topics I-3 credits
HORT 208 Landscape Appreciation – 3 credits
HORT 304 Annuals and Perennials – 3 credits
HORT 305 Plant Propagation – 3 credits
HORT 306 Plant Propagation Techniques Laboratory – 1 credit
HORT 308 Landscape Design – 4 credits (Fall)
HORT 310 Growing Landscape Plants – 3 credits
HORT 406 Nursery Technology – 3 credits
HORT 408 Horticulture Discovery and Inquiry
HORT 427 Urban Tree Care – 3 credits
HORT 461 Problems in Landscape Design – 4 credits
HORT 465 Plant Molecular Biology – 3 credits
FOR 450 Woody Plant Stress Physiology – 3 credits

Spanish Courses (choose at least 1 course – 4 credits)

SPAN 101 Elementary Spanish – 4 credits
SPAN 102 Elementary Spanish – 4 credits
SPAN 104 Basic Spanish – 4 credits
SPAN 202 Intermediate Spanish – 4 credits

Plant Biology Requirement – 4 credits

BIOSC 304 Biology of Plants – 3 credits
BIOSC 308 Biology of Plants Lab – 1 credit

TURFGRASS – Proposed

Freshman

First Semester

MTHSC 102 – Intro. to Math Analysis	3 hrs
CH 101 General Chemistry ¹ or CH 105 Chemistry in Context I ¹	4 hrs
HORT 101 – Horticulture	3 hrs
Spanish Language Requirement ²	4 hrs

14 hrs

Second Semester

CH 102 General Chemistry ¹ or CH 106 Chemistry in Context II ¹	4 hrs
ENGL 103 Accelerated Composition	3 hrs
HORT 102 Experience Horticulture	1 hr
BIOL 104 – General Biology II	3 hrs
BIOL 106 – General Biology Lab II	1 hr
Related Science Requirement ¹	4 hrs

16 hrs

Sophomore

First Semester

HORT 212 Introduction to Turfgrass Cult.	3 hrs
HORT 213 Turfgrass Culture Lab	1 hr
HORT 303 – Landscape Plants	3 hrs
MTHSC 101 – Essential Math	3 hrs
Plant Biology Requirement ¹	4 hrs

14 hrs

Second Semester

Arts and Humanities (Lit) Requirement ²	3 hrs
Business Requirement ¹	3 hrs
Related Science Requirement ¹	3 hrs
Social Science Requirement ²	3 hrs
CSENV 202 Soils	4 hrs

16 hrs

Summer

HORT 271 Internship ³ <i>or</i> HORT 471 Advanced Internship ³	3 hrs
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Junior

First Semester

Elective	1 hrs
Arts & Humanities (Non-Lit) Requirement ²	3 hrs
Business Requirement ¹	3 hrs
Related Science Requirement ¹	6 hrs
Social Science Requirement ²	3 hrs

16 hrs

Second Semester

BIOSC 401 Plant Physiology	3 hrs
BIOSC 402 Plant Physiology Lab	1 hr
HORT 409 Seminar	1 hr
HORT 420 Applied Turfgrass Physiology	3 hrs
PL PA (ENT) 406 Diseases and Insects of Turfgrasses	2 hrs
HORT Specialization Requirement ¹	3 hrs
Oral Communications Requirement ²	3 hrs

16 hrs

Summer

PL PA (ENT) 408 Diseases and Insects of Turfgrasses Lab	1 hr
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Senior

First Semester

HORT 412 Advanced Turfgrass Management	3 hrs
Business Requirement ¹	3 hrs
HORT Specialization Requirement ¹	3 hrs
Related Science Requirement ¹	3 hrs
Soils Requirement ¹	3 hrs

15 hrs

Second Semester

HORT (CSENV) 433 Landscape and Turf Weed Management	3 hrs
HORT Specialization Requirement ¹	3 hrs
Related Science Requirement ¹	3 hrs
Soils Requirement ¹	3 hrs

12 hrs

Total – 123 semester hrs

¹ See advisor. Select from departmental-approved list.

² See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness Requirement and the Science and Technology in Society Requirement.

³ Internship must be completed in one or two semesters. Internship may be done fall, spring, or summer after completing HORT 212/213. Prior approval is required for internships and a 2.0 gradepoint ratio is required for registration.

* Note: Turfgrass majors must make a C or better in all HORT courses. Courses may be repeated as often as necessary to achieve the minimum grade.

Related Science Courses (choose at least 5 courses for 16 credits, at least one lecture and lab must be taken)

BIOSCH 305 Essential Elements of Biochemistry – 3 credits
BIOSC 320 Field Botany – 4 credits
BIOSC 406/407 Introductory Plant Taxonomy – 4 credits
BIOSC 441/445 Ecology & Lab – 5 credits
BIOSC ~~452~~/453 Plant Anatomy and Morphology – 2 credits
BIOSC446/447 Plant Ecology – 5 credits
CH 201 Survey of Organic Chemistry – 4 credits
CH 223/227 Organic Chemistry – 4 credits
CSENV 405 Plant Breeding – 3 credits
CSENV 409 Biology of Invasive Plants – 3 credits
EN SP 200 Introduction to Environmental Science – 3 credits
EN SP 315 Environment and Agriculture – 3 credits
EN SP 472 Environmental Planning and Control – 2 credits
ENT 301 Insect Biology and Diversity – 4 credits
~~ENT 401 Insect Pests of Ornamental Plants and Shade Trees – 3 credits~~
FOR 315 Woodland Ecology – 3 credits
FOR 480 Selected Topics in Urban Forestry – 1-3 credits
GEN 300/301 Fundamental Genetics – 4 credits
GEOL 101/103 Physical Geology – 4 credits
GEOL 112/114 Earth Resources – 4 credits
GEOL 300 Environmental Geology – 3 credits
IPM 401 Principles of Integrated Pest Management – 3 credits
MICRO 305 General Microbiology – 4 credits
PHYS 122/124 – Physics with Calculus I – 4 credits
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PLPH 340 Plant Medicine and Magic – 3 credits
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WFB 412 Wildlife Management – 3 credits
WFB 462 Wetland Wildlife Biology – 3 credits

Business, Communication and Leadership Courses (choose at least 3 courses – 9 credits)

ACCT 201 Financial Accounting Concepts – 3 credits
ACCT 202 Managerial Accounting Concepts – 3 credits
AP EC 257 Natural Resources, Environment, and Economics – 3 credits
All AP EC courses 300 and higher
All ECON courses 300 and higher
All COMM courses 300 and higher
All FIN courses 300 and higher
All LAW courses 300 and higher
All MGT courses 200 and higher
All MKT courses 300 and higher
ELE 301, 401, 499 Executive Leadership and Entrepreneurship I, II, III

Soils (choose at least 2 courses – 6 credits)

AGM 301 Soil and Water Conservation – 2 credits
AGM 402 Drainage, Irrigation and Waste Management – 3 credits (fall)
CSENV 403 Soil Genesis and Classification – 2 credits
CSENV 408 Land Treatment of Wastewater and Sludges – 3 credits
CSENV 446 Soil Management – 3 credits
CSENV 452/453 Soil Fertility and Management with Lab – 3/1 credits
~~CSENV 475 Soil Physics and Chemistry – 3 credits~~
CSENV 490 Beneficial Soil Organisms in Plant Growth – 3 credits

Horticulture Specialization (choose at least 3 courses – 9 credits)

HORT 202 or HORT 400 – Selected Topics 1-3 credits
HORT 208 Landscape Appreciation – 3 credits
HORT 304 Annuals and Perennials – 3 credits
HORT 305 Plant Propagation – 3 credits
HORT 306 Plant Propagation Techniques Laboratory – 1 credit
HORT 308 Landscape Design – 4 credits (Fall)
HORT 310 Growing Landscape Plants – 3 credits
~~HORT 406 Nursery Technology – 3 credits~~
HORT 408 Horticulture Discovery and Inquiry
HORT 427 Urban Tree Care – 3 credits
HORT 461 Problems in Landscape Design – 4 credits
~~HORT 465 Plant Molecular Biology – 3 credits~~
FOR 450 Woody Plant Stress Physiology – 3 credits

Spanish Courses (choose at least 1 course – 4 credits)

SPAN 101 Elementary Spanish – 4 credits
SPAN 102 Elementary Spanish – 4 credits
SPAN 104 Basic Spanish – 4 credits
SPAN 202 Intermediate Spanish – 4 credits

Plant Biology Requirement – 4 credits

BIOSC 304 Biology of Plants – 3 credits
BIOSC 308 Biology of Plants Lab – 1 credit

Rhonda Todd

From: Lawrence Gering
Sent: Monday, December 05, 2011 9:10 AM
To: Rhonda Todd
Cc: Lawrence Gering; rjksn@clemson.edu; Kendall Kirk
Subject: TURFGRASS Map - revised 12-05-2011
Attachments: Proposed Turfgrass Map revised 12-05-11.doc

Rhonda -

attached is the corrected Turfgrass Curriculum Map, requested at UCC Meeting on 12/2/2011

The one in the packet (page 138) required three corrections:

- Junior Fall - make science requirement 6 hours (not 3) & correct total semester hours to 16 (not 14)
- Junior Summer - delete science requirement 3 hours
- total hours - 123 (not 120)

These corrections have all been made on the attached curriculum map

Larry Gering

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