



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

000005

Change a Course - Abbrev & Number: PKGSC- 499

Corresponding Lab Course: --

Corresponding Honors course: --

Add Honors course: --

Corresponding Graduate course: --

Add Graduate course: --

Course Title:

Brief Statement of Change:

Currently the course is Pass/Fail, the change will involve switching to a grading scale of A, B, C, D or F. Students feel that the amount of work in this course warrants a grade. Based on this feedback, we wish to convert the course from pass-fail to graded. In addition, each project has involved some laboratory component therefore we also wish to change the course from lecture only to lecture-lab and have adjusted the course credit hours accordingly. The course will continue to be repeatable for up to 8 credit hours.

Last Term taught:

Change Abbrev to:

Effective Term: 08/2013

Change Number to:

Change Catalog Title:

Change Transcript Title:

from:

from:

to:

to:

Change of Credit: From: Fixed Credit: (,) To: Fixed Credit: (,)

Variable Credit: 1-4 (1-4), (-) Variable Credit: 2-4 (1-2),(3-6)

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:
<input type="checkbox"/> A-Lecture Only	<input checked="" type="checkbox"/> Pass/Fail Only	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> English Composition	<input type="checkbox"/>
<input type="checkbox"/> B-Lab (w/fee)	<input type="checkbox"/> Graded	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Oral Communication	<input type="checkbox"/>
<input checked="" type="checkbox"/> D-Seminar	<input type="checkbox"/> Variable Title	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Mathematics	<input type="checkbox"/>
<input type="checkbox"/> E-Independent Study	<input type="checkbox"/> Creative Inquiry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Natural Science w/Lab	<input type="checkbox"/>
<input type="checkbox"/> F-Tutorial (w/fee)	<input checked="" type="checkbox"/> Repeatable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Math or Science	<input type="checkbox"/>
<input type="checkbox"/> G-Studio	<input type="checkbox"/> maximum credits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A&H (Literature)	<input type="checkbox"/>
<input type="checkbox"/> H-Field course	<input type="checkbox"/> from:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A&H (Non-Literature)	<input type="checkbox"/>
<input type="checkbox"/> I-Study Abroad	<input type="checkbox"/> to:8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Social Science	<input type="checkbox"/>
<input type="checkbox"/> L-Lab (no/fee)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> CCA	<input type="checkbox"/>
<input type="checkbox"/> N/B-Lecture/Lab(w/fee)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> STS	<input type="checkbox"/>
<input type="checkbox"/> N/L-Lecture/Lab(no fee)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Change Catalog Description:

from:

to:

Change Prerequisite(s):

from:

to:

Learning Objectives: Students will:

- Participate in team-driven, practical laboratory research
- learn to work in a team environment
- develop and implement problem-solving skills
- learn how to plan, execute, analyze and present findings of a research project

Topical Outline: Activities, lab time and schedule are determined by the instructor as appropriate for the subject under inquiry. Team activities generally are accomplished by meeting as a team at designated times established by the class schedule or at times agreed upon by the faculty mentor and team members. To accomplish objectives the student will:

Practice the scientific method and apply it to the proposed research project.

Write a plan that identifies the project objective and describes all steps involved in the research process.

Prepare, set up, and conduct the plan, collecting experimental data necessary to accomplish the project research objective.

Practice safe operating procedures in all lab settings.

Document findings and analyze results by appropriate methods, including statistical methods.

Assess and interpret results, including consideration of ethical and societal issues in their development and use.

Summarize results, make conclusions and write scientific article(s), technical report(s) and/or develop research poster(s) to communicate results.

Prepare dissemination of research activities through a web-based reporting system (the University's e-Portfolio).

000006

Evaluation: Grading and Expectations:

As determined by the instructor and as appropriate for the subject under inquiry.

Example of evaluation for a faculty mentor: Students will actively participate in labs as outlined and scheduled (40%); individuals will keep an ePortfolio of the work to include reflective journal writing (20%); teams will collaboratively write a short article for submission to a student section of a professional organization (30%); and will participate in a poster session at the end of the semester (10%).
Grading Scale: A > 90; B>80; C>70; D>60; F<60.

Form Originator: KCOOKSE, Kay Cooksey **Date Form Created:** 5/1/2012

Form Last Updated by: , **Date Form Last Updated:** 11/25/2012

Form Number: 5016

Approval

<i>Kay Cooksey</i>	11/26/12	<i>Carice W. Hancock</i>	12/7/2012
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
<i>Orville R. Bunker</i>	11/26/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
<i>Robert J. Kasinski</i>	11/29/12	<i>David R. Nelson</i>	2/3/13
Chair, College Curriculum Committee	Date	Provost	Date
<i>Dee Whitwood</i>	11/29/12	<i>David R. Nelson</i>	2/3/13
College Dean	Date	President	Date
		<i>James O. ...</i>	
Director, Calhoun Honors College	Date		



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

000007

X Change a Course - Abbrev & Number: FD SC- 407

Corresponding Lab Course: FD SC-L-407

Corresponding Honors course: --

.. Add Honors course: --

Corresponding Graduate course: FD SC- -607

.. Add Graduate course: --

Course Title: QUANTITY FOOD PROD

Brief Statement of Change:

We wish to make FDSC 306 a pre-requisite for FDSC 407/607. FDSC 306 has been moved in the curriculum to spring junior year and will be a pre-requisite for FDSC 407 and 607. FDSC 407 and 607 is the application of concepts covered in FDSC 306, therefore FDSC 306 must be taught the semester prior to FDSC 407 or 607 rather than being taught together in the same semester. This became evident in a comprehensive review of the curriculum as the courses were mapped in relation to the course content in preparation for the program assessment report for the accrediting agency Accreditation Council for Education in Nutrition and Dietetics (ACEND).

Last Term taught: 1108

.. Change Abbrev to:

Effective Term: 08/2013

.. Change Number to:

.. Change Catalog Title:

.. Change Transcript Title:

from:

from: QUANTITY FOOD PROD

to:

to:

.. From: Fixed Credit: 2 (1,3) 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
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from:	to:	from:	to:	from:	to:
.. 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	..	..
X N/B-Lecture/Lab(w/fee)	..	..	.. STS	..	..
.. N/L-Lecture/Lab(no fee)	..	..	

.. Change Catalog Description:

from:

to:

X Change Prerequisite(s):

from: Coreq: FD SC 306, 404.

to: Undergraduate students: Preq - FDSC 306; Coreq: 404. Graduate students: Consent of Instructor.

Learning Objectives:

Topical Outline:

Evaluation: Grades for undergraduate students:

Laboratory reports (5 @ 10%) = 50%

Field trip report = 20%

Midterm exam = 15%

Final exam = 15%

Grading for undergraduates will use the following scale: A = 90%-100%; B = 80-89%; C = 70-79%; D = 60-69%; F = <60%

Grading for Graduate students will use the following scale: A = 90-100%; B = 80-89%; C = 70-79%; F = <70%

Graduate Students:

Laboratory reports (5 @ 10%) = 50%

Midterm exam = 15%

Final exam = 15%

Graduate students will do a research paper worth 20% of grade.

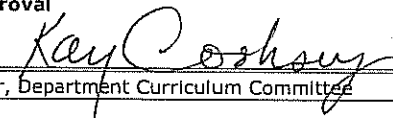
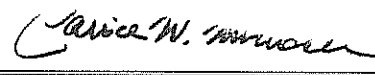
Graduate students will have a project worth 20% of their grade.

Form Originator: RHLN, Rita Halliena Date Form Created: 10/26/2012

Form Last Updated by: , Date Form Last Updated: 11/9/2012

Form Number: 5546

Approval

	11/9/12		12/7/2012
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date

Anthony Perrotta 11/9/16
Department Chair Date

000008
Date

Robert J. Kosinski 11/29/12
Chair, College Curriculum Committee Date

Alicia R. Helms 2/3/13
Chair, Graduate Curriculum Committee Date

Red Whitwell 11/29/12
College Dean Date

Alicia R. Helms 2/3/13
Provost Date

Director, Calhoun Honors College Date

James J. [Signature]
President Date



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

000009

X Change a Course - Abbrev & Number: NUTR- 418

Corresponding Lab Course: --
 Corresponding Honors course: --
 .. **Add Honors course:** --
 Corresponding Graduate course: --
 .. **Add Graduate course:** --
Course Title: PROF DEV DIETETICS

Brief Statement of Change:

Change pre-requisite from senior to junior status. Program assessment results (graduate surveys and course evaluations) indicated moving Nutr 418 earlier in the curriculum so students will have the information to better prepare them for the dietetic internships application process which occurs in the senior year.

Last Term taught: 1108 .. **Change Abbrev to:**
 Effective Term: 08/2013 .. **Change Number to:**
 .. **Change Catalog Title:** .. **Change Transcript Title:**
 from: from: PROF DEV DIETETICS
 to: to:

.. From: Fixed Credit: 1 (1,) 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:
.. A-Lecture Only	.. .. Pass/Fail Only	.. English Composition ..
.. B-Lab (w/fee)	.. X Graded	.. Oral Communication ..
X 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: Senior standing
 to: Junior standing

Learning Objectives:

Topical Outline:

Evaluation:

Form Originator: RHLN, Rita Hallena **Date Form Created:** 10/25/2012
Form Last Updated by: , **Date Form Last Updated:** 11/9/2012
Form Number: 5542

Approval

		<i>Carice W. Murchison</i>	12/7/2012
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
<i>Carice W. Murchison</i>	11/9/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
<i>Robert J. Kasinski</i>	11/29/12	<i>Darius P. Helms</i>	2/3/13
Chair, College Curriculum Committee	Date	Provost	Date
<i>Deed Whitfield</i>	11/29/12	<i>Darius P. Helms for</i>	2/3/13
College Dean	Date	President	Date
		<i>James O. ...</i>	
Director, Calhoun Honors College	Date		

CLEMSON

UNIVERSITY

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

000010

XChange a Course - Abbrev & Number: FD SC-101

Corresponding Lab Course: --

Corresponding Honors course: --

..Add Honors course: --

Corresponding Graduate course: --

..Add Graduate course: --

Course Title: EPOCH MAN STRUG FOOD**Brief Statement of Change:**

The faculty desires to change the content of FDSC 101 to be an introductory course for both Food Technology and Nutrition and Dietetics students. This change is in response to graduate surveys and course evaluations.

Last Term taught:1108

Effective Term:08/2013

..Change Abbrev to:

..Change Number to:

XChange Catalog Title:

from: Epochs in Mans Struggle for Food

to: Introduction to Food Science and Human Nutrition

XChange Transcript Title:

from: EPOCH MAN STRUG FOOD

to: Intro to FDSC & NUTR

.. From: Fixed Credit: 1 (1,)

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:
XA-Lecture Only	..	..Pass/Fail Only	..	..English Composition	..
..B-Lab (w/fee)	..	XGraded	..	..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)	..				

XChange Catalog Description:

from: Study of significant developments in food preservation methods and the impact each has on mans struggle for food.

to: Introductory course providing an overview of career opportunities in both food science and human nutrition disciplines. Provides an orientation to principles related to food and human nutrition.

..Change Prerequisite(s):**from:****to:**

- Learning Objectives:**
1. Discuss the career options for food scientists
 2. Recognize food chemistry concepts related to various food components
 3. Identify food processing principles and their effect on product quality
 4. Identify career options for nutritionist and dietitians
 5. Introduce the national dietary guidance system including Dietary Guidelines, Dietary Reference Intakes, and nutrition labeling
 6. Define basic nutrition terms

Topical Outline: Introduction; overview of the department - 2 hours

Careers in food science/food science terms - 1 hour

Scientific Research and Ethical Behavior - 1 hour

Food Safety - 1 hour

Food Processing - 2 hours

Culinary Science - 1 hour

Nutrition terms and concepts - 1 hour

Careers in nutrition and dietetics - 1 hour

Food Guidance system - 3 hours

Exams - 2 hours

Evaluation: Quizzes (6 @ 10% each): 60%

Exams (2 @ 20% each): 40%

GRADING: A = 90%-100%; B = 80-89%; C = 70-79%; D = 60-69%; F = <60%

Form Originator: RHLN, Rita Hallena Date Form Created: 10/25/2012
 Form Last Updated by: , Date Form Last Updated: 11/7/2012
 Form Number: 5539

000011

Approval

<i>Kay Cooksey</i>	11/8/12	<i>Carissa W. Burdick</i>	12/7/2012
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
<i>Conroy Pomeroy</i>	11/8/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
<i>Robert J. Kaminiski</i>	11/8/12	<i>Alvin R. Helms</i>	2/3/13
Chair, College Curriculum Committee	Date	Provost	Date
<i>Ted Weitzner</i>	11/8/12	<i>Alvin R. Helms for</i>	2/3/13
College Dean	Date	President	Date
		<i>Alvin R. Helms</i>	
Director, Calhoun Honors College	Date		

Alvin R. Helms

000012



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

X Change a Course - Abbrev & Number: FD SC- 306

Corresponding Lab Course: --

Corresponding Honors course: --

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

Corresponding Graduate course: --

.. **Add Graduate course:** --**Course Title: FOOD SERV OPER****Brief Statement of Change:**

A comprehensive review of the curriculum occurred in the past 12 months in preparation for the program assessment report for the accrediting agency Accreditation Council for Education in Nutrition and Dietetics (ACEND). This review led to the identification of some content not being covered adequately such as food production equipment, facility planning, and budget development for foodservice institutions. The course description needed to be changed to more aptly reflect the course content in relationship to the ACEND requirements.

Last Term taught: 1108

Effective Term: 08/2013

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

from: Food Service Operations

to: Institutional Foodservice Management

X Change Transcript Title:

from: FOOD SERV OPER

to: INST FOODSERVICE MGT

.. 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/Fall 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)	..	..	..

X Change Catalog Description:

from: Principles of management of resources in food service systems. Emphasizes menu planning, types of delivery systems, principles of quantity food production, techniques for cost control and concepts of food science and food safety.

to: Principles of management of resources in institutional food service systems. Emphasizes financial management, menu planning, principles of quantity food production, and safety and sanitation.

.. **Change Prerequisite(s):****from:****to:****Learning Objectives:** Plan menus and production schedules appropriate for various types of foodservice operations;

Describe food safety and sanitation practices;

Describe facilities and types of equipment necessary for various institutions and foodservice delivery systems;

Develop quality improvement programs consistent with current accreditation standards;

Describe management information systems.

Topical Outline: Introduction - 2 hours

Operation practices/facility planning - 4 hours

Equipment specifications - 4 hours

Functions of management/human resources - 4 hours

Financial management - 5 hours

Foodservice systems/menu development - 3 hours

Procurement and production - 4 hours

Distribution and service - 3 hours

Food safety/hygiene/sanitation/Infectious control/HACCP - 6 hours

Emergency preparedness - 3 hours

Sustainability - 2 hours

Presentations - 5 hours

Evaluation: Projects - 12 @ 5% = 60%

Team presentations: 10%

Quizzes (20 @ 1% each): 20%

Final exam: 10%

GRADING: A = 90%-100%; B = 80-89%; C = 70-79%; D = 60-69%; F = <60%

Form Originator: RHLN, Rita Haliena **Date Form Created:** 10/26/2012**Form Last Updated by:** , **Date Form Last Updated:** 11/9/2012**Form Number:** 5545

000013

Approval

<i>Kay Cooksey</i>	11/9/12	<i>Carice W. Hunsicker</i>	12/1/12
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
<i>Dr. Day Komulke</i>	11/9/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
<i>Robert J. Kucinski</i>	11/29/12	<i>Darius R. Helms</i>	2/3/13
Chair, College Curriculum Committee	Date	Provost	Date
<i>Jim Whitwell</i>	11/29/12	<i>Darius R. Helms for</i>	2/3/13
College Dean	Date	President	Date
		<i>Ann J. [Signature]</i>	
Director, Calhoun Honors College	Date		



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

000014

XChange a Course - Abbrev & Number: NUTR-203

Corresponding Lab Course: --

Corresponding Honors course: --

..Add Honors course: --

Corresponding Graduate course: --

..Add Graduate course: --

Course Title: PRIN OF HUMAN NUTR

Brief Statement of Change:

With a total review of the Nutrition and Dietetics curriculum, Nutr 203 was added to the curriculum to provide students with an introductory nutrition course. Prior to adding Nutr 203 to the sophomore year, Nutr 451 was the first nutrition course students received which was in the junior year. Results of graduate surveys indicated students wanted and needed more nutrition coursework and nutrition courses earlier in the curriculum. This change will address the recommendations from this program assessment outcome. A change in course title will more aptly reflect the content of the course and will result in a flow better within the Nutrition and Dietetics curriculum. Changing Nutr 203 to Introduction to Principles of Human Nutrition in the sophomore year will be the first nutrition course the Nutrition and Dietetics students take - hence "Introduction". With the addition of Nutr 203 to the curriculum, the current catalog statement "credit toward a degree will be given for only one of Nutr 203, 205, 451" needed to be deleted.

Last Term taught:1206

Effective Term:08/2013

..Change Abbrev to:

..Change Number to:

XChange Catalog Title:

from: Principles of Human Nutrition

to: Introduction to Principles of Human Nutrition

XChange Transcript Title:

from: PRIN OF HUMAN NUTR

to: INTRO PRIN OF NUTR

.. 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:
XA-Lecture OnlyPass/Fail Only	..	..English Composition	..
..B-Lab (w/fee)	..	XGraded	..	..Oral Communication	..
..D-SeminarVariable Title	..	..Mathematics	..
..E-Independent StudyCreative 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)

XChange Catalog Description:

from: Study of nutrient functions and requirements, food choices, dietary adequacy, and role of nutrition in physical fitness. Deals with social and scientific issues; health care policy; evaluation and interpretation of nutrition sources from government, private, academic, and the health care sectors. Credit toward a degree will be given for only one of NUTR 203, 205, 451.

to: Study of nutrient functions and requirements, food choices, dietary adequacy, and role of nutrition in physical fitness. Deals with social and scientific issues; evaluation and interpretation of nutrition sources from government, private, academic, and the health care sectors.

..Change Prerequisite(s):

from:

to:

Learning Objectives:

- Evaluate validity of nutrition information using the scientific method
- Plan a balanced diet that meets nutrient needs according to current dietary recommendations throughout the lifecycle
- Evaluate food products for nutrient content and health benefits or detriments
- Discuss nutritional strategies related to health maintenance and disease prevention
- Summarize the recommended components to promote weight control and energy balance
- Identify food handling techniques to reduce the risk of food borne illness
- Evaluate the reasons behind global hunger and strategies for reducing hunger in the US and in the World
- Apply nutrition concepts through information and tools to lifelong learning and personal experiences
- Create opportunities for students to grow in their educational endeavors, emphasizing Clemson's STS requirement.

000015

Topical Outline: Introduction - 1 hour
 Scientific method/sources of reliable nutrition information - 3 hours
 Tools for healthful eating - 6 hours
 Digestion and absorption; macronutrients; micronutrients - 5 hours
 Energy balance - 6 hours
 World Hunger - 6 hours
 Physical activity and eating disorders - 4 hours
 Nutrition throughout the lifecycle - 5 hours
 Nutrition and health maintenance - 5 hours
 Exams - 4

Evaluation: Exams (3@ 19% each) - 57%

Final exam: 19%

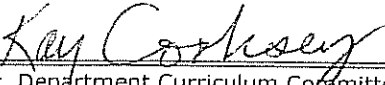

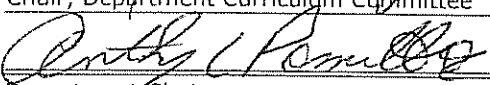
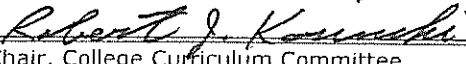
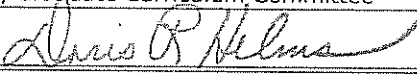
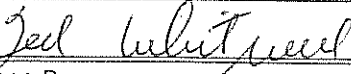
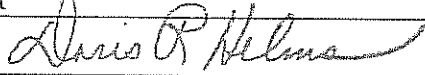
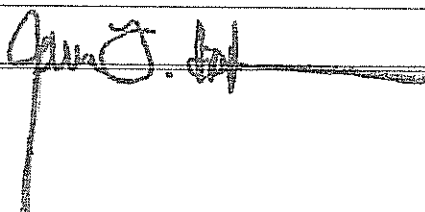
Assignments (2 projects @ 5% each related to social justice and reading assignment; food intake analysis 10%; Food label 4%): 24%
 GRADING: A = 90%-100%; B = 80-89%; C = 70-79%; D = 60-69%; F = <60

Form Originator: RHLN, Rita Haliena **Date Form Created:** 10/25/2012

Form Last Updated by: RHLN, Rita Haliena **Date Form Last Updated:** 11/7/2012

Form Number: 5540

Approval

	11/8/12		12/7/2012
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11/8/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/8/12		2/3/13
Chair, College Curriculum Committee	Date	Provost	Date
	11/8/12		2/3/13
College Dean	Date	President	Date
			
Director, Calhoun Honors College	Date		



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

000016

X Change a Course - Abbrev & Number: NUTR- 216

Corresponding Lab Course: --

Corresponding Honors course: --

.. Add Honors course: --

Corresponding Graduate course: --

.. Add Graduate course: --

Course Title: CURR ISSUES NUTR

Brief Statement of Change:

A comprehensive review of the curriculum occurred in the past 12 months in preparation for the program assessment report for the accrediting agency Accreditation Council for Education in Nutrition and Dietetics (ACEND). The accreditation requirements include "The curriculum must reflect the scientific basis of the dietetics profession and must include research methodology, interpretation of the literature and integration of research principles into evidence based practice." As a result, the content of Nutr 216 needed to address this void in the curriculum. The course description needed to be changed to more aptly reflect the course content in relationship to the ACEND requirements.

Last Term taught: 1108

Effective Term: 08/2013

.. Change Abbrev to:

.. Change Number to:

X Change Catalog Title:

from: Current Issues in Nutrition
to: Evidence-Based Nutrition

X Change Transcript Title:

from: CURR ISSUES NUTR
to: EVIDENCE-BASED NUTR

.. From: Fixed Credit: 1 (1,) 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)	..	..	..

X Change Catalog Description:

from: Explores current issues in nutrition with emphasis on areas of research and inquiry by faculty.

to: Introduction to research methods, ethics in research, and evidence-based nutrition guidelines within the profession of Nutrition and Dietetics.

.. Change Prerequisite(s):

from:

to:

Learning Objectives: Identify the education/training required to be a nutritionist/dietitian

Evaluate nutritional evidence and identify evidence-based guidelines and protocols

Topical Outline: Introduction - 1 hour

Nutrition and dietetics - scope of practice, credentials - 2 hours

Food guidance systems: US and global - 3 hours

Research methods/evidence analysis/ethics in research - 7 hours

Exams - 2 hours

Evaluation: Quizzes (4 @ 10% each): 40%

Assignments including hypothesis statement, analysis of a journal article, ethics in research, IRB certification, and evidence evaluation: 60%

GRADING: A = 90%-100%; B = 80-89%; C = 70-79%; D = 60-69%; F = <60%

Form Originator: RHLN, Rita Hallena Date Form Created: 10/25/2012

Form Last Updated by: RHLN, Rita Hallena Date Form Last Updated: 11/6/2012

Form Number: 5541

Approval

	11/8/12		12/7/2012
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11/8/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date

000017

<i>Robert J. Kaminicki</i>	<i>11/8/12</i>	<i>Chris R. Helma</i>	<i>2/3/13</i>
Chair, College Curriculum Committee	Date	Provost	Date
<i>Ted Whitwell</i>	<i>11/8/12</i>	<i>Chris R. Helma</i> <i>for</i>	<i>2/3/13</i>
College Dean	Date	President	Date
		<i>James O. ...</i>	
Director, Calhoun Honors College	Date		

000018



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

X Change a Course - Abbrev & Number: NUTR- 419

Corresponding Lab Course: --

Corresponding Honors course: --

.. Add Honors course: --

Corresponding Graduate course: --

.. Add Graduate course: --

Course Title: PROF DEV NUTRITION

Brief Statement of Change:

Changing course description and pre-requisite from senior to junior status. Program assessment results (graduate surveys and course evaluations) suggested moving Nutr 419 earlier in the curriculum so students will have information such as how to write a resume and personal statements which are needed for professional program application at the beginning of the senior year.

Last Term taught: 1108

.. Change Abbrev to:

Effective Term: 08/2013

.. Change Number to:

.. Change Catalog Title: .. Change Transcript Title:

from: from: PROF DEV NUTRITION

to:

to:

.. From: Fixed Credit: 1 (1,) 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:
.. A-Lecture Only	.. .. Pass/Fall Only	..	..	.. English Composition	..
.. B-Lab (w/fee)	.. X Graded	..	..	.. Oral Communication	..
X 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)	..	..	..

X Change Catalog Description:

from: Career development in nutrition and concepts of professional standards and development.

to: Career development strategies to assist students pursuing professional or graduate degrees. The focus will be on standards used for admission, application preparation, and what to do when admitted.

X Change Prerequisite(s):

from: Senior standing

to: Junior standing

Learning Objectives: Students will identify personal professional goals; Students will identify codes of ethics for relevant professional organizations; Students will demonstrate how to conduct themselves during an Interview; and Students will compile an application packet, including a professional portfolio, for a position or continued study.

Topical Outline: Introduction - 1 hour

Professional goal setting - 5 hours

Interviewing - 4 hours

Ethics in practice - 3 hours

Scientific writing - 2 hours

Evaluation: In-class student presentations including identification of professional goals, role play an interview session, and report on a professional program: 35%

Assignments including book report, ethics papers, compare/contrast professional programs: 65%

Form Originator: RHLN, Rita Haliena **Date Form Created:** 10/25/2012

Form Last Updated by: , **Date Form Last Updated:** 11/9/2012

Form Number: 5543

Approval

	11/9/12		12/7/2012
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11/9/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/29/12		2/3/13
Chair, College Curriculum Committee	Date	Provost	Date

000019

<i>Ed Whitacre</i>	<i>11/30/12</i>	<i>Alvin R. Helms for</i>	<i>2/3/13</i>
College Dean	Date	President	Date
Director, Calhoun Honors College	Date	<i>[Signature]</i>	



000020

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

X Change a Course - Abbrev & Number: NUTR- 451

Corresponding Lab Course: --
 Corresponding Honors course: NUTR-H-451
 .. **Add Honors course:** --
 Corresponding Graduate course: NUTR- -651
 .. **Add Graduate course:** --
Course Title: HUMAN NUTRITION

Brief Statement of Change:

With a total review of the Nutrition and Dietetics curriculum, Nutr 203 was added to the curriculum to provide students with an introductory nutrition course. Prior to adding Nutr 203 to the sophomore year, Nutr 451 was the first nutrition course which was in the junior year. Results of graduate surveys indicated students wanted and needed more nutrition coursework and earlier in the curriculum. This change will address the recommendations from this program assessment outcome. A change in course description is needed to better reflect the content covered with the addition of Nutr 203 to the curriculum. With the addition of Nutr 203 to the curriculum, the current catalog statement "credit toward a degree will be given for only one of Nutr 203, 205, 451" needs to be deleted.

Last Term taught: 1108 .. **Change Abbrev to:**
 Effective Term: 08/2013 .. **Change Number to:**
 .. **Change Catalog Title:** .. **Change Transcript Title:**
 from: from: HUMAN NUTRITION
 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: X A-Lecture Only	to: .. Pass/Fail Only	from: .. 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)		

X Change Catalog Description:

from: Essentials of nutrition and principle nutritional deficiency conditions. Factors affecting adequacy of dietary intake, methods of determining nutritional status, development of nutrition standards, and recent advances in human nutrition
to: Advanced concepts of nutrition including physiological handling of nutrients, nutrient-nutrient interactions, and principles of nutritional deficiency and over-nutrition. Factors affecting methods of determining nutritional status, development of nutrition standards, and recent advances in human nutrition.

X Change Prerequisite(s):

from: Credit toward a degree will be given for only one of NUTR 203,205, 451. Preq: BIOCH 305 and BIOSC 434 or equivalent or consent of instructor.
to: Undergraduate Preq: BIOCH 305 and BIOSC 434 or equivalent or consent of instructor. Graduate Preq: Consent of instructor

Learning Objectives: The curriculum must reflect the scientific basis of the dietetics profession and must include research methodology, interpretation of research literature and integration of research principles into evidence-based practice.

Students are able to use current information technologies to locate and apply evidence-based guidelines and protocols, such as the U.S. Department of Health and Human Services and National Guideline Clearinghouse Web sites.

The curriculum must include opportunities to develop a variety of communication skills sufficient for entry into pre-professional practice.

Students are able to demonstrate effective and professional oral and written communication and documentation

Course content will include nutrition across the life span.

Explain nutrient needs and the role of food in the promotion of a healthy lifestyle during infancy, childhood, adolescence, adulthood, pregnancy and lactation, exercise training, and the aging process.

Topical Outline: Introduction/overview - 2 hours

Planning healthy diets - 2 hours

Digestion, absorption, and transport - 4 hours

Carbohydrates - 4 hours

Lipids - 4 hours

Protein - 4 hours

Metabolism - 2 hours

Energy balance and weight management - 5 hours

Vitamins - 4 hours

Minerals/water - 4 hours

Physical activity - 5 hours

000021

Exams - 5 hours

Evaluation: Undergraduate students:

Exams (3 @ 20% each): 60%

Final exam: 20%

Assignments (Individual dietary analysis, class participation, nutrition label): 20%

Grading for undergraduates will use the following scale: A = 90%-100%; B = 80-89%; C = 70-79%; D = 60-69%; F = <60%

Graduate students:

Exams (3 @ 15% each): 45%

Final exam: 15%

Assignments (Individual dietary analysis, class participation, nutrition label): 20%

For graduate students a research project will be worth 20% of the grade

Grading for undergraduates will use the following scale: A = 90%-100%; B = 80-89%; C = 70-79%; D = 60-69%; F = <60%

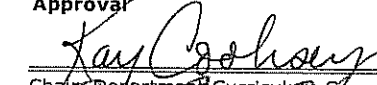
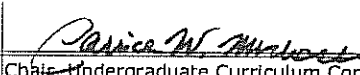
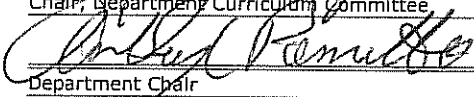
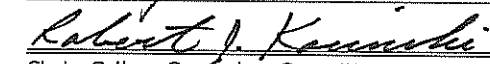
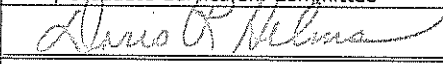
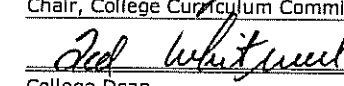
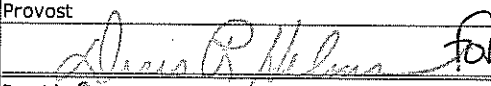

Grading for Graduate students will include use the following scale: A = 90-100%; B = 80-89%; C = 70-79%; F = <70%

Form Originator: RHLN, Rita Hallena **Date Form Created:** 10/25/2012

Form Last Updated by: , **Date Form Last Updated:** 11/9/2012

Form Number: 5544

Approval

	11/9/12		12/7/2012
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11/9/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/29/12		2/3/13
Chair, College Curriculum Committee	Date	Provost	Date
	11/29/12		2/3/13
College Dean	Date	President	Date
			
Director, Calhoun Honors College	Date		



Curriculum and Course Change System - Print Major Form

000022

Change Major Name: Biological Sciences
Degree: BS
Effective Catalog Year: 2013
.. Change Major Name to:
.. Change Degree to: (CHE approval required)
 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: Feedback from students and faculty indicates that our BS is regarded as too inflexible, with too many required courses. Also, professional schools and especially grad schools tend to look more favorably on students who have minors. Therefore, the faculty has approved changes that reduce the number of required courses and allow 15 credits of completely free electives that may be used to pursue a minor.

Specific changes are:

- We will no longer require students to take BIOSC 102; BIOSC 101 will remain a required course.
- CH 224/228, the second semester of organic chemistry, is no longer mentioned on the map, although it is a recommended option in footnotes.
- We have reduced our former "diversity" requirement from two courses with labs to one course with lab; BIOSC 301 (Insect Biology and Diversity) and BIOSC 425 (Introductory Mycology) have been added to the list of approved diversity courses.
- Students previously had to take an ecology course and a physiology course with lab. We are proposing to remove the lab requirement for these two courses and to change the physiology requirement to a broader "functional biology" requirement. BIOSC 408 (Comparative Vertebrate Morphology) and 480 (Comparative Vertebrate Endocrinology) have been added to the existing list of approved physiology courses that will now make up the "functional biology" list; MICRO 401 (Microbial Diversity and Ecology) and BIOSC 442 (Biogeography) have been added to the existing list of approved ecology courses.
- Our present degree has a 39-hour "Major Requirement" that can be satisfied by an extensive list of courses. We have reduced the Major Requirement to 21 hours and put several restrictions on it:
 - a minimum of 17 hours must come from BIOSC or MICRO courses at the 300-level or above;
 - four of these credit hours must come from BIOSC or MICRO laboratory courses at the 300-level or above;
 - up to four credit hours may come from either CH 224/228 or the existing "Major Requirement" list of courses;
 - no more than 8 hours may come from BIOSC 491, H491, 492, 494 and 495 (research, internships, Creative Inquiry, and service learning).
- 15 credits of free electives are now included in the map.
- The existing second semester of calculus requirement has been changed to MTHSC 111, EX ST 301, or MTHSC 203.
- The locations of several courses in the map were shifted, and footnotes were renumbered to accommodate course shifting and the new material.

Form Originator: RJKSN, Robert Kosinski **Date Form Created:** 10/26/2012
Form Last Updated by: RJKSN, Robert Kosinski **Date Form Last Updated:** 10/27/2012
Form Number: 5547

Approval			
	10/27/12		12/7/2012
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	10/29/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/8/12		2/3/13
Chair, College Curriculum Committee	Date	Provost	Date

<i>Paul Whitford</i>	<i>11/8/12</i>	<i>Ann R. Helms</i>	<i>For</i>	<i>2/3/13</i>
College Dean	Date	President		Date

Ann R. Helms ————— 000023

PROPOSED B. S. BIOLOGICAL SCIENCES 2013-2014

FRESHMAN YEAR

000024

First Semester

BIOL 110 Prin. of Biol. I ¹	5(4,3)
BIOSC 101 Frontiers in Biol. I	1(1,0)
CH 101 General Chemistry	4(3,3)
COMM 150 Intro. to Human Comm. or	3(2,2)
COMM 250 Public Speaking	3(3,1)
MTHSC 106 Calculus of One Var. I	4(4,0)
17	

Second Semester

BIOL 111 Prin. of Biol. II ¹	5(4,3)
CH 102 General Chemistry	4(3,3)
ENGL 103 Accelerated Composition	3(3,1)
Mathematical Sciences Requirement ²	3-4
15-16	

SOPHOMORE YEAR

CH 223 Organic Chemistry ³ and	3(3,0)
CH 227 Organic Chemistry Lab or	1(0,3)
CH 201 Survey of Organic Chemistry	4(3,3)
GEN 300 Fundamental Genetics ⁴	3(3,0)
Arts and Humanities (Literature) Req. ⁵	3
Organismal Diversity Requirement ⁶ or	4
Social Science Requirement ⁵	3
Elective	2-3
16	

BIOCH 301 Molecular Biochemistry or	3(3,0)
BIOCH 305 Essential Elements of Bioch. ⁴	3(3,0)
BIOCH 335 Evolutionary Biology or	3(3,0)
Elective	3
Major Requirement ^{3,7}	4
Organismal Diversity Requirement ⁶ or	4
Social Science Requirement ⁵	3
Elective	2-3
16	

JUNIOR YEAR

BIOCH 335 Evolutionary Biology or	3(3,0)
Elective	3
BIOSC 461 Cell Biology	3(3,0)
BIOSC 462 Cell Biology Laboratory	2(1,2)
PHYS 207 General Physics I and	3(3,0)
PHYS 209 General Physics I Lab or	1(0,2)
PHYS 122 Physics with Calculus I and	3(3,0)
PHYS 124 Physics Lab I	1(0,3)
Ecology ⁸ or Functional Biol. Requirement ⁹	3
15	

ENGL 315 Scientific Writing and Comm.	3(3,0)
PHYS 208 General Physics II and	3(3,0)
PHYS 210 General Physics II Lab or	1(0,2)
PHYS 221 Physics with Calculus II and	3(3,0)
PHYS 223 Physics Lab II	1(0,3)
Arts and Humanities (Non-Lit) Req. ⁵	3
Ecology ⁸ or Functional Biol. Requirement ⁹	3
Major Requirement ⁷	2
15	

SENIOR YEAR

BIOSC 493 Senior Seminar	2(2,0)
Major Requirement ⁷	6
Social Science Requirement ⁵	3
Elective	4
15	

Major Requirement ⁷	9
Elective	3
12	

Total Semester Hours = 121-122

¹ BIOL 110 and 111 are strongly recommended; however, BIOL 103/105 may substitute for BIOL 110 and BIOL 104/106 may substitute for BIOL 111. The remaining 1-2 credit hours required must be satisfied by completing 1-2 extra credits from departmental course offerings at the 200 level or higher.

² EX ST 301, MTHSC 203 or 111, or other approved coursework. See advisor. Medical/dental schools have different mathematics requirements.

³ Most professional health sciences schools require two semesters of organic chemistry with laboratory.

⁴ Or other approved coursework at the 200 level or higher.

⁵ See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and the Science and Technology in Society Requirements.

⁶ At least one lecture and associated laboratory selected from BIOSC 301, 302/306, 303/307, 304/308, 320, 406/407, 425/426 or other approved coursework at the 200 level or higher.

⁷ Twenty-one credit hours. At least seventeen credit hours must come from BIOSC or MICRO courses at the 300-level or above, four credit hours of which must be laboratory. Up to 4 credit hours may come from CH 224/228 or courses on the department-approved list. Any combination of BIOSC 491, H491, 492, 494 and 495 may not exceed eight credit hours.

⁸ At least one course selected from BIOSC 441, 442, 443, 446, 470, or MICRO 401.

⁹ At least one course selected from selected from BIOSC 316, 401, 408, 459, 475, or 480.



Curriculum and Course Change System - Print Major Form

000025

Change Major Name: Biological Sciences
Degree: BS
Effective Catalog Year: 2013
 .. **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: These changes apply to the Biological Sciences BS, Entomology Emphasis.

As was explained for the BS, feedback from students and faculty indicates that our BS is regarded as too inflexible, with too many required courses. Also, professional schools and especially grad schools tend to look more favorably on students who have minors. Therefore, the faculty has approved changes that reduce the number of required courses and allow 15 credits of completely free electives that may be used to pursue a minor. These changes are somewhat different because of the presence of 18 hours of recommended ENT courses, which have not been changed.

Specific changes are:

We will no longer require students to take BIOSC 102; BIOSC 101 will remain a required course.

CH 224/228, the second semester of organic chemistry, is no longer mentioned on the map, although it is a recommended option in footnotes.

Formerly, we required a plant diversity course for the Entomology emphasis area, but this requirement has been dropped because ENT courses cover the new single-course BS diversity requirement.

Students previously had to take an ecology course and a physiology course with lab. We are proposing to remove the lab requirement for these two courses and to change the physiology requirement to a broader "functional biology" requirement. BIOSC 408 (Comparative Vertebrate Morphology) and 480 (Comparative Vertebrate Endocrinology) have been added to the existing list of approved physiology courses that will now make up the "functional biology" list. MICRO 401 (Microbial Diversity and Ecology) and BIOSC 442 (Biogeography) have been added to the existing list of approved ecology courses.

Our present Entomology Emphasis degree has a 25-hour "Major Requirement" that can be satisfied by an extensive list of courses. We have reduced the Major Requirement to 7 hours taken from BIOSC or MICRO courses at the 300-level or above or CH 224/228.

15 credits of free electives are now included in the map.

The existing second semester of calculus requirement can be satisfied by MTHSC 111, EX ST 301, or MTHSC 203.

The locations of several courses in the map were shifted, and footnotes were renumbered to accommodate course shifting and the new material.

Form Originator: RJKSN, Robert Kosinski **Date Form Created:** 10/26/2012

Form Last Updated by: , **Date Form Last Updated:** 10/27/2012

Form Number: 5548

Approval			
	10/27/12		12/7/2012
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	10/29/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/8/12		2/3/13
Chair, College Curriculum Committee	Date	Provost	Date
	1/8/12		2/3/13
College Dean	Date	President J. S. G.	Date

**PROPOSED B. S. BIOLOGICAL SCIENCES 2013-2014
ENTOMOLOGY EMPHASIS**

000026

FRESHMAN YEAR

<u>First Semester</u>	<u>Second Semester</u>
BIOL 110 Prin. of Biol. I ¹ .....5(4,3)	BIOL 111 Prin. of Biol. II ¹ .....5(4,3)
BIOSC 101 Frontiers in Biol. I .....1(1,0)	CH 102 General Chemistry .....4(3,3)
CH 101 General Chemistry .....4(3,3)	ENGL 103 Accelerated Composition.....3(3,1)
COMM 150 Intro. to Human Comm. or ....3(2,2)	Mathematical Sciences Requirement ² .....3-4
COMM 250 Public Speaking.....3(3,1)	15-16
MTHSC 106 Calculus of One Var. I .....4(4,0)	
<u>17</u>	

SOPHOMORE YEAR

CH 223 Organic Chemistry ³ and .....3(3,0)	BIOCH 301 Molecular Biochemistry or .....3(3,0)
CH 227 Organic Chemistry Lab or .....1(0,3)	BIOCH 305 Essential Elements of Bioch. ⁴ ...3(3,0)
CH 201 Survey of Organic Chemistry .....4(3,3)	BIOSC 335 Evolutionary Biology.....3(3,0)
ENT (BIOSC) 301 Insect Biol. & Div. ....4(3,3)	Major Requirement ^{3,6} .....4
GEN 300 Fundamental Genetics ⁴ .....3(3,0)	Social Science Requirement ⁵ .....3
Arts and Humanities (Literature) Req. ⁵ .....3	Elective .....3
Elective .....2	<u>16</u>
<u>16</u>	

JUNIOR YEAR

BIOSC 461 Cell Biology .....3(3,0)	ENGL 315 Scientific Writing and Comm. ....3(3,0)
BIOSC 462 Cell Biology Laboratory .....2(1,2)	PHYS 208 General Physics II and .....3(3,0)
PHYS 207 General Physics I and .....3(3,0)	PHYS 210 General Physics II Lab or .....1(0,2)
PHYS 209 General Physics I Lab or.....1(0,2)	PHYS 221 Physics with Calculus II and .....3(3,0)
PHYS 122 Physics with Calculus I and ....3(3,0)	PHYS 223 Physics Lab II .....1(0,3)
PHYS 124 Physics Lab I .....1(0,3)	Arts and Humanities (Non-Lit) Req. ⁵ .....3
Ecology ⁷ or Functional Biol. Requirement ⁸ ..3	Ecology ⁷ or Functional Biol. Requirement ⁸ .....3
Entomology Requirement ⁹ .....3	Entomology Requirement ⁹ .....3
<u>15</u>	<u>16</u>

SENIOR YEAR

BIOSC 493 Senior Seminar.....2(2,0)	Entomology Requirement ⁹ .....4
Entomology Requirement ⁹ .....4	Major Requirement ⁶ .....3
Social Science Requirement ⁵ .....3	Elective .....6
Elective .....4	<u>13</u>
<u>13</u>	

Total Semester Hours = 121-122

¹ BIOL 110 and 111 are strongly recommended; however, BIOL 103/105 may substitute for BIOL 110 and BIOL 104/106 may substitute for BIOL 111. The remaining 1-2 credit hours required must be satisfied by completing 1-2 extra credits from departmental course offerings at the 200 level or higher.

² EX ST 301, MTHSC 203 or 111, or other approved coursework. See advisor. Medical/dental schools have different mathematics requirements.

³ Most professional health sciences schools require two semesters of organic chemistry with laboratory.

⁴ Or other approved coursework at the 200 level or higher.

⁵ See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and the Science and Technology in Society Requirements.

⁶ Seven credit hours must be selected from BIOSC or MICRO courses at the 300-level or above or CH 224/228.

⁷ At least one course selected from BIOSC 441, 442, 443, 446, 470, or MICRO 401.

⁸ At least one course selected from selected from BIOSC 316, 401, 408, 459, 475, or 480.

⁹ ENT (BIOSC) 400, (BIOSC) 415 and seven additional credits selected from ENT 300, 308, 404/409, 407, (BIOSC) 436, (BIOSC, WFB) 469, 490, (GEN) 495, or PL PA (ENT) 406.



Curriculum and Course Change System - Print Major Form

000027

Change Major Name: Biological Sciences
Degree: BS
Effective Catalog Year: 2013
 .. **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: These changes apply to the Biological Sciences BS, Prepharmacy Emphasis.

As explained for the BS, feedback from students and faculty indicates that our BS is regarded as too inflexible, with too many required courses. Also, professional schools and especially grad schools tend to look more favorably on students who have minors. Therefore, the faculty has approved changes that reduce the number of required courses and allow 15 credits of completely free electives that may be used to pursue a minor.

Specific changes are:

We will no longer require students to take BIOSC 102; BIOSC 101 will remain a required course.

We have reduced our former "diversity" requirement from two courses with labs to one course with lab; BIOSC 301 (Insect Biology and Diversity) and BIOSC 425 (Introductory Mycology) have been added to the list of approved diversity courses.

Students previously had to take an ecology course and a physiology course with lab. We are proposing to remove the lab requirement for the ecology course and to change the physiology requirement to BIOSC 316 (Human Physiology), which has a lab. MICRO 401 (Microbial Diversity and Ecology) and BIOSC 442 (Biogeography) have been added to the existing list of approved ecology courses.

Our present degree has a 22-hour "Major Requirement" that can be satisfied by an extensive list of courses. We have reduced the Major Requirement to 6 hours taken from BIOSC or MICRO courses at the 300-level or above or from the existing "Major Requirement" list.

16 credits of free electives are now included in the map.

The existing second semester of calculus requirement has been changed to MTHSC 111, EX ST 301, or MTHSC 203.

The locations of several courses in the map were shifted, and footnotes were renumbered to accommodate course shifting and the new material.

Form Originator: RJKSN, Robert Kosinski **Date Form Created:** 10/26/2012
Form Last Updated by: RJKSN, Robert Kosinski **Date Form Last Updated:** 10/29/2012
Form Number: 5549

Approval			
	10/29/12		12/7/2012
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	10/29/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/8/12		2/3/13
Chair, College Curriculum Committee	Date	Provost	Date
	11/8/12		2/3/13
College Dean	Date	President	Date

**PROPOSED B. S. BIOLOGICAL SCIENCES 2013-2014
PREPHARMACY EMPHASIS**

000028

FRESHMAN YEAR

<u>First Semester</u>	<u>Second Semester</u>
BIOL 103 General Biology I ¹.....3(3,0)	BIOL 104 General Biology II ¹.....3(3,0)
BIOL 105 General Biology I Lab.....1(0,3)	BIOL 106 General Biology II Lab.....1(0,3)
BIOSC 101 Frontiers in Biol. I.....1(1,0)	CH 102 General Chemistry.....4(3,3)
CH 101 General Chemistry.....4(3,3)	ENGL 103 Accelerated Composition.....3(3,1)
COMM 150 Intro. to Human Comm. or ....3(2,2)	Mathematical Sciences Requirement ².....3-4
COMM 250 Public Speaking.....3(3,1)	14-15
MTHSC 106 Calculus of One Var. I.....4(4,0)	
16	

SOPHOMORE YEAR

CH 223 Organic Chemistry and.....3(3,0)	BIOCH 301 Molecular Biochemistry or.....3(3,0)
CH 227 Organic Chemistry Lab or.....1(0,3)	BIOCH 305 Essential Elements of Bioch. ³ ...3(3,0)
CH 201 Survey of Organic Chemistry.....4(3,3)	BIOSC 335 Evolutionary Biology.....3(3,0)
GEN 300 Fundamental Genetics ³.....3(3,0)	CH 224 Organic Chemistry and.....3(3,0)
Arts and Humanities (Literature) Req. ⁴.....3	CH 228 Organic Chemistry Lab.....1(0,3)
Organismal Diversity Requirement ⁵ or.....4	Organismal Diversity Requirement ⁵ or.....4
Social Science Requirement ⁴.....3	Social Science Requirement ⁴.....3
Elective.....2-3	Elective.....2-3
16	16

JUNIOR YEAR

BIOSC 315 Functional Human Anatomy.....4(3,3)	BIOSC 316 Human Physiology.....4(3,3)
BIOSC 461 Cell Biology.....3(3,0)	ENGL 315 Scientific Writing and Comm. ....3(3,0)
BIOSC 462 Cell Biology Laboratory.....2(1,2)	PHYS 208 General Physics II and.....3(3,0)
PHYS 207 General Physics I and.....3(3,0)	PHYS 210 General Physics II Lab or.....1(0,2)
PHYS 209 General Physics I Lab or.....1(0,2)	PHYS 221 Physics with Calculus II and.....3(3,0)
PHYS 122 Physics with Calculus I and ...3(3,0)	PHYS 223 Physics Lab II.....1(0,3)
PHYS 124 Physics Lab I.....1(0,3)	Arts and Humanities (Non-Lit) Req. ⁴.....3
PSYCH 201 Introduction to Psychology.....3	Economics Requirement ⁶.....3
16	17

SENIOR YEAR

BIOSC 493 Senior Seminar.....2(2,0)	MICRO 305 General Microbiology.....4(3,3)
Ecology Requirement ⁷.....3	Major Requirement ⁸.....3
Major Requirement ⁸.....3	Elective.....6
Elective.....5	13
13	

Total Semester Hours = 121-122

¹ Pharmacy programs require BIOL 103/105 and BIOL 104/106, or equivalent; however, BIOL 110 and BIOL 111 may substitute. The additional 1-2 credit hours will be subtracted from the Major Requirement credits.

² EX ST 301, MTHSC 203 or 111, or other approved coursework. See advisor. Medical/dental schools have different mathematics requirements.

³ Or other approved coursework at the 200 level or higher.

⁴ See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and the Science and Technology in Society Requirements.

⁵ At least one lecture and associated laboratory selected from BIOSC 301, 302/306, 303/307, 304/308, 320, 406/407, 425/426 or other approved coursework at the 200 level or higher.

⁶ ECON 200, 211, or 212

⁷ At least one course selected from BIOSC 441, 442, 443, 446, 470, or MICRO 401.

⁸ Six credit hours must be selected from BIOSC or MICRO courses at the 300-level or above or from the department-approved list.



Curriculum and Course Change System - Print Major Form

000029

Change Major Name: Biological Sciences
Degree: BS
Effective Catalog Year: 2013
 .. **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: These changes apply to the Biological Sciences BS, Quantitative Emphasis

Feedback from students and faculty indicates that our BS is regarded as too inflexible, with too many required courses. Also, professional schools and especially grad schools tend to look more favorably on students who have minors. Therefore, the faculty has approved changes that reduce the number of required courses and allow 15 credits of completely free electives that may be used to pursue a minor.

Specific changes are:

We will no longer require students to take BIOSC 102; BIOSC 101 will remain a required course.

CH 224/228, the second semester of organic chemistry, is no longer mentioned on the map, although it is a recommended option in footnotes.

Reduction in our former "diversity" requirement from two courses with labs to one course with lab; BIOSC 301 (Insect Biology and Diversity) and BIOSC 425 (Introductory Mycology) have been added to the list of approved diversity courses.

Students previously had to take an ecology course and a physiology course with lab. We are proposing to remove the lab requirement for these two courses and to change the physiology requirement to a broader "functional biology" requirement. BIOSC 408 (Comparative Vertebrate Morphology) and 480 (Comparative Vertebrate Endocrinology) have been added to the existing list of approved physiology courses that will now make up the "functional biology" list; MICRO 401 (Microbial Diversity and Ecology) and BIOSC 442 (Biogeography) have been added to the existing list of approved ecology courses.

Our present degree has a 19-hour "Major Requirement" that can be satisfied by an extensive list of courses. We have reduced the Major Requirement to 4 hours selected from BIOSC or MICRO courses at the 300-level or above, CH 224/228, or the existing "Major Requirement" list of courses.

15 credits of free electives are now included in the map.

The locations of several courses in the map were shifted, and footnotes were renumbered to accommodate course shifting and the new material.

Form Originator: RJKSN, Robert Kosinski **Date Form Created:** 10/26/2012
Form Last Updated by: , **Date Form Last Updated:** 10/27/2012
Form Number: 5552

Approval			
	10/27/12		12/7/2012
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	10/29/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/8/12		2/3/13
Chair, College Curriculum Committee	Date	Provost	Date
	11/8/12		2/3/13
College Dean	Date	President	Date



000031

Curriculum and Course Change System - Print Major Form

Change Major Name: Biological Sciences
Degree: BS
Effective Catalog Year: 2013
 .. **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: These changes pertain to the Biological Sciences BS, Toxicology Emphasis.

Feedback from students and faculty indicates that our BS is regarded as too inflexible, with too many required courses. Also, professional schools and especially grad schools tend to look more favorably on students who have minors. Therefore, the faculty has approved changes that reduce the number of required courses and allow 15 credits of completely free electives that may be used to pursue a minor.

Specific changes are:

We will no longer require students to take BIOSC 102; BIOSC 101 will remain a required course.

CH 224/228, the second semester of organic chemistry, is no longer mentioned on the map, although it is a recommended option in footnotes.

We have reduced our former "diversity" requirement from two courses with labs to one course with lab; BIOSC 301 (Insect Biology and Diversity) and BIOSC 425 (Introductory Mycology) have been added to the list of approved diversity courses.

Students previously had to take an ecology course and a physiology course with lab. We are proposing to remove the lab requirement for these two courses and to change the physiology requirement to a broader "functional biology" requirement. BIOSC 408 (Comparative Vertebrate Morphology) and 480 (Comparative Vertebrate Endocrinology) have been added to the existing list of approved physiology courses that will now make up the "functional biology" list; MICRO 401 (Microbial Diversity and Ecology) and BIOSC 442 (Biogeography) have been added to the existing list of approved ecology courses.


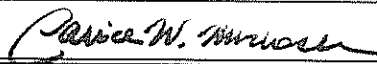
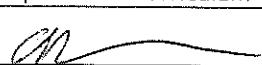

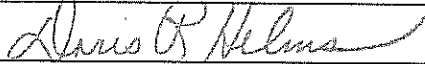
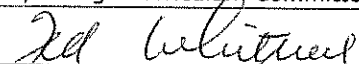
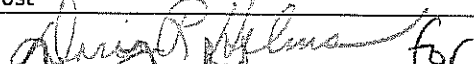
Our present degree has a 23-hour "Major Requirement" that can be satisfied by an extensive list of courses. We have reduced the Major Requirement to 4 hours that must come from BIOSC or MICRO courses at the 300-level or above, from CH 224/228, or from the existing list of "Majors Requirement" courses.

15 credits of free electives are now included in the map.

The existing second semester of calculus requirement has been changed to MTHSC 111, EX ST 301, or MTHSC 203.

The locations of several courses in the map were shifted, and footnotes were renumbered to accommodate course shifting and the new material.

Form Originator: , **Date Form Created:** 10/27/2012
Form Last Updated by: RJKSN, Robert Kosinski **Date Form Last Updated:** 10/29/2012
Form Number: 5554

Approval			
	10/29/12		12/7/2012
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	10/29/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/8/12		2/3/13
Chair, College Curriculum Committee	Date	Provost	Date
	11/8/12		2/3/13
College Dean	Date	President	Date

**PROPOSED B. S. BIOLOGICAL SCIENCES 2013-2014
TOXICOLOGY EMPHASIS**

000032

FRESHMAN YEAR

<u>First Semester</u>		<u>Second Semester</u>	
BIOL 110 Prin. of Biol. I ¹	5(4,3)	BIOL 111 Prin. of Biol. II ¹	5(4,3)
BIOSC 101 Frontiers in Biol. I	1(1,0)	CH 102 General Chemistry	4(3,3)
CH 101 General Chemistry	4(3,3)	ENGL 103 Accelerated Composition.....	3(3,1)
COMM 150 Intro. to Human Comm. or	3(2,2)	Mathematical Sciences Requirement ²	3-4
COMM 250 Public Speaking	3(3,1)		15-16
MTHSC 106 Calculus of One Var. I	4(4,0)		
	17		

SOPHOMORE YEAR

BIOSC 210 Introduction to Toxicology	3(3,0)	BIOCH 301 Molecular Biochemistry or	3(3,0)
CH 223 Organic Chemistry ³ and	3(3,0)	BIOCH 305 Essential Elements of Bioch. ⁴ ...	3(3,0)
CH 227 Organic Chemistry Lab ³ or	1(0,3)	BIOSC 335 Evolutionary Biology.....	3(3,0)
CH 201 Survey of Organic Chemistry	4(3,3)	Major Requirement ^{3,7}	4
GEN 300 Fundamental Genetics ⁴	3(3,0)	Organismal Diversity Requirement ⁵ or.....	4
Organismal Diversity Requirement ⁵ or	4	Social Science Requirement ⁶	3
Social Science Requirement ⁶	3	Elective	2-3
Elective	2-3		16
	16		

JUNIOR YEAR

BIOSC 461 Cell Biology	3(3,0)	ENGL 315 Scientific Writing and Comm.	3(3,0)
BIOSC 462 Cell Biology Laboratory	2(1,2)	PHYS 208 General Physics II and	3(3,0)
ENTOX 430 Toxicology	3(3,0)	PHYS 210 General Physics II Lab or.....	1(0,2)
PHYS 207 General Physics I and	3(3,0)	PHYS 221 Physics with Calculus II and	3(3,0)
PHYS 209 General Physics I Lab or	1(0,2)	PHYS 223 Physics Lab II	1(0,3)
PHYS 122 Physics with Calculus I and ...	3(3,0)	Arts and Humanities (Literature) Req. ⁶	3
PHYS 124 Physics Lab I.....	1(0,3)	Ecology ⁸ or Functional Biol. Requirement ⁹	3
Ecology ⁸ or Functional Biol. Requirement ⁹ ..	3	Elective	2
	15		15

SENIOR YEAR

BIOSC 493 Senior Seminar	2(2,0)	CH 413 Chemistry of Aqueous Systems or.....	3(3,0)
CH 313 Quantitative Analysis	3(3,0)	ENTOX 421 Chemical Fate in Environ.	3(3,0)
CH 317 Quantitative Analysis Lab.....	2(0,6)	Arts and Humanities (Non-Lit) Req. ⁶	3
Social Science Requirement ⁶	3	Toxicology Requirement ¹⁰	3
Elective	5	Elective	3
	15		12

Total Semester Hours = 121-122

¹ BIOL 110 and 111 are strongly recommended; however, BIOL 103/105 may substitute for BIOL 110 and BIOL 104/106 may substitute for BIOL 111. The remaining 1-2 credit hours required must be satisfied by completing 1-2 extra credits from departmental course offerings at the 200 level or higher.

² EX ST 301, MTHSC 203 or 111, or other approved coursework. See advisor. Medical/dental schools have different mathematics requirements.

³ Most professional health sciences schools require two semesters of organic chemistry with laboratory.

⁴ Or other approved coursework at the 200 level or higher.

⁵ At least one lecture and associated laboratory selected from BIOSC 301, 302/306, 303/307, 304/308, 320, 406/407, 425/426 or other approved coursework at the 200 level or higher.

⁶ See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and the Science and Technology in Society Requirements.

⁷ Four credit hours must be selected from BIOSC or MICRO courses at the 300-level or above, CH 224/228, or from the department-approved list.

⁸ At least one course selected from BIOSC 441, 442, 443, 446, 470, or MICRO 401.

⁹ At least one course selected from selected from BIOSC 316, 401, 408, 459, 475, or 480.

¹⁰ Any 400-level ENTOX course.



Curriculum and Course Change System - Print Major Form

000033

Change Major Name: Biological Sciences (BA)
Degree: BA
Effective Catalog Year: 2013
 .. **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: While the Biological Sciences BA does not have as many required courses as our BS, and already has a minor, we felt that to maintain consistency between the degrees we should make similar changes to the BA.

Specific changes are:

We will no longer require students to take BIOSC 102; BIOSC 101 will remain a required course.

CH 223/227 is now named on the map as an organic chemistry alternative to CH 201. CH 224/228, the second semester of organic chemistry, is a recommended option in footnotes. It is not mentioned at all in the present curriculum.

We have reduced our former "diversity" requirement from two courses with labs to one course with lab; BIOSC 301 (Insect Biology and Diversity) and BIOSC 425 (Introductory Mycology) have been added to the list of approved diversity courses.

Students previously had to take an ecology course and a physiology course with lab. We are proposing to remove the lab requirement for these two courses and to change the physiology requirement to a broader "functional biology" requirement. BIOSC 408 (Comparative Vertebrate Morphology) and 480 (Comparative Vertebrate Endocrinology) have been added to the existing list of approved physiology courses that will now make up the "functional biology" list; MICRO 401 (Microbial Diversity and Ecology) and BIOSC 442 (Biogeography) have been added to the existing list of approved ecology courses.

Our present BA degree has a 12-credit "Major Requirement" that can be satisfied by an extensive list of courses. We have reduced the Major Requirement to 4 hours that must be taken from BIOSC or MICRO courses at the 300-level or above, CH 224/228, or from the existing approved course list.

The second-semester Mathematical Sciences requirement has been changed to MTHSC 111, EX ST 301, or MTHSC 203.

Three credits of electives have been added to the curriculum map.

The locations of several courses on the map were shifted, and footnotes were renumbered to accommodate course shifting and the new material.

Form Originator: , **Date Form Created:** 10/27/2012
Form Last Updated by: RJKSN, Robert Kosinski **Date Form Last Updated:** 10/29/2012
Form Number: 5555

Approval			
	10/29/12		12/7/2012
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	10/29/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/8/12		2/3/13
Chair, College Curriculum Committee	Date	Provost	Date
	11/8/12		2/3/13
College Dean	Date	President	Date

PROPOSED B. A. BIOLOGICAL SCIENCES 2013-2014

000034

FRESHMAN YEAR

<u>First Semester</u>	<u>Second Semester</u>
BIOL 110 Prin. of Biol. I ¹ .....5(4,3)	BIOL 111 Prin. of Biol. II ¹ .....5(4,3)
BIOSC 101 Frontiers in Biology I ² .....1(1,0)	CH 102 General Chemistry .....4(3,3)
CH 101 General Chemistry .....4(3,3)	ENGL 103 Accelerated Composition.....3(3,1)
COMM 150 Intro. to Human Comm. or .....3(2,2)	Mathematical Sciences Requirement ³ .....3-4
COMM 250 Public Speaking.....3(3,1)	15-16
MTHSC 106 Cal. of One Var. I .....4(4,0)	
17	

SOPHOMORE YEAR

CH 223 Organic Chemistry ⁴ and .....3(3,0)	BIOCH 301 Molecular Biochemistry or .....3(3,0)
CH 227 Organic Chemistry Lab or .....1(0,3)	BIOCH 305 Essential Elements of Bioch. ⁵.....3(3,0)
CH 201 Survey of Organic Chemistry .....4(3,3)	Major Requirement ^{4,8} .....4
GEN 300 Fundamental Genetics ⁵ .....3(3,0)	Foreign Language Requirement ⁷ .....4
Arts and Humanities (Literature) Req. ⁶ .....3	Organismal Diversity Requirement ⁹ .....4
Foreign Language Requirement ⁷ .....4	15
Social Science Requirement ⁶ .....3	
17	

JUNIOR YEAR

BIOSC 335 Evolutionary Biology .....3(3,0)	Arts and Humanities (Non-Lit) Req. ⁶ .....3
BIOSC 461 Cell Biology .....3(3,0)	Foreign Language Requirement ⁷ .....3
BIOSC 462 Cell Biology Laboratory ¹⁰ .....2(1,2)	Ecology ¹² or Functional Biol. Req. ¹³ .....3
ENGL 315 Scientific Writing and Comm. ....3(3,0)	Minor Requirement ¹¹ .....6
Foreign Language Requirement ⁷ .....3	15
Minor Requirement ¹¹ .....3	
17	

SENIOR YEAR

BIOSC 493 Senior Seminar .....2(2,0)	PHYS 208 General Physics II .....3(3,0)
PHYS 207 General Physics I .....3(3,0)	PHYS 210 General Physics II Lab .....1(0,2)
PHYS 209 General Physics I Lab .....1(0,2)	Minor Requirement ¹¹ .....6
Ecology ¹² or Functional Biol. Req. ¹³ .....3	Elective .....3
Social Science Requirement ⁶ .....3	13
12	

Total Semester Hours = 121 - 122

- ¹ BIOL 110 and 111 are strongly recommended; however, BIOL 103/105 may substitute for BIOL 110 and BIOL 104/106 may substitute for BIOL 111. The remaining 1-2 credits required must be satisfied by completing 1-2 extra credits from departmental course offerings at the 300-level or higher.
- ² Students seeking a double major in Science Teaching/Biological Sciences should substitute ED 105 for BIOSC 101.
- ³ EX ST 301, MTHSC 203 or 111, or other approved coursework. See advisor. Medical/dental schools have different mathematics requirements.
- ⁴ Most professional health sciences schools require two semesters of organic chemistry with laboratory.
- ⁵ Or other approved coursework at the 200 level or higher.
- ⁶ See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and the Science and Technology in Society Requirements.
- ⁷ Four semesters (through 202) in the same modern foreign language are required.
- ⁸ Four credit hours must be selected from BIOSC or MICRO courses at the 300-level or above, CH 224/228, or from the department-approved list.
- ⁹ At least one lecture and associated laboratory selected from BIOSC 301, 302/306, 303/307, 304/308, 320, 406/407, 425/426 or other approved coursework at the 200 level or higher.
- ¹⁰ Students seeking a double major in Science Teaching/Biological Sciences should substitute BIOSC 482 for BIOSC 462.
- ¹¹ See page 61 in the Undergraduate Announcements for approved minors.
- ¹² At least one course selected from BIOSC 441, 442, 443, 446, 470, or MICRO 401.
- ¹³ At least one course selected from selected from BIOSC 316, 401, 408, 475, 459, or 480.



000035

Curriculum and Course Change System - Print Major Form

Change Major Name: Biological Sciences (BA)
Degree: BA
Effective Catalog Year: 2013
 .. **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: These changes pertain to the Biological Sciences BA, Prerehabilitation Sciences Emphasis.

While the Biological Sciences BA does not have as many required courses as our BS, and already has a minor, we felt that to maintain consistency between the degrees we should make similar changes to the BA.

Specific changes are:

We will no longer require students to take BIOSC 102; BIOSC 101 will remain a required course.

CH 223/227 is now named in footnotes as an organic chemistry alternative to CH 201. CH 224/228, the second semester of organic chemistry, is a recommended option in footnotes. It is not mentioned at all in the present curriculum.

We have reduced our former "diversity" requirement from two courses with labs to one course with lab; BIOSC 301 (Insect Biology and Diversity) and BIOSC 425 (Introductory Mycology) have been added to the list of approved diversity courses.

Students previously had to take an ecology course with lab. We are proposing to remove the lab requirement. MICRO 401 (Microbial Diversity and Ecology) and BIOSC 442 (Biogeography) have been added to the existing list of approved ecology courses.

Our present Prerehabilitation Sciences BA degree has a 6-credit "Major Requirement" that can be satisfied by an extensive list of courses. We have turned this into a three-credit "Prerehabilitation Requirement" that can be satisfied by BIOSC 478 (Exercise Physiology), BIOSC 479 (Kinesiology), or MICRO 305 (General Microbiology).

The second-semester Statistics Requirement has been changed to EX ST 301, MTHSC 203, or other approved coursework.

Two credits of electives have been added to the curriculum map.

The locations of several courses in the map were shifted, and footnotes were renumbered to accommodate course shifting and the new material.

Form Originator: , **Date Form Created:** 10/27/2012
Form Last Updated by: , **Date Form Last Updated:** 10/29/2012
Form Number: 5556

Approval			
	10/29/12		12/7/2012
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	10/29/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/8/12		2/3/13
Chair, College Curriculum Committee	Date	Provost	Date
	11/8/12		2/3/13
College Dean	Date	President	Date

**PROPOSED B. A. BIOLOGICAL SCIENCES 2013-2014
PREREHABILITATION SCIENCES EMPHASIS**

000036

FRESHMAN YEAR

First Semester

BIOL 103 General Biology I ¹ and.....	3(3,0)
BIOL 105 General Biology I Lab.....	1(0,3)
BIOSC 101 Frontiers in Biol. I	1(1,0)
CH 101 General Chemistry	4(3,3)
COMM 150 Intro. to Human Comm. or	3(2,2)
COMM 250 Public Speaking.....	3(3,1)
MTHSC 106 Cal. of One Var. I	4(4,0)
	<u>16</u>

Second Semester

BIOL 104 General Biology II ¹ and	3(3,0)
BIOL 106 General Biology II Lab	1(0,3)
CH 102 General Chemistry	4(3,3)
ENGL 103 Accelerated Composition.....	3(3,1)
Statistics Requirement ²	<u>3</u>
	14

SOPHOMORE YEAR

CH 201 Survey of Organic Chemistry ³	4(3,3)
GEN 300 Fundamental Genetics ⁴	3(3,0)
Foreign Language Requirement ⁵	4
Organismal Diversity Requirement ⁶	<u>4</u>
	15

BIOCH 301 Molecular Biochemistry or	3(3,0)
BIOCH 305 Essential Elements of Bioch. ⁴	3(3,0)
PSYCH 201 Introduction to Psychology.....	3(3,0)
Arts and Humanities (Literature) Req. ⁷	3
Foreign Language Requirement ⁵	4
Social Science Requirement ⁷	<u>3</u>
	16

JUNIOR YEAR

BIOSC 315 Functional Human Anatomy.....	4(3,3)
BIOSC 335 Evolutionary Biology.....	3(3,0)
BIOSC 461 Cell Biology.....	3(3,0)
BIOSC 462 Cell Biology Laboratory	2(1,2)
Foreign Language Requirement ⁵	<u>3</u>
	15

BIOSC 316 Human Physiology.....	4(3,3)
Arts and Humanities (Non-Lit) Req. ⁷	3
Foreign Language Requirement ⁵	3
Minor Requirement ⁸	<u>6</u>
	16

SENIOR YEAR

BIOSC 493 Senior Seminar.....	2(2,0)
ENGL 315 Scientific Writing and Comm.	3(3,0)
PHYS 207 General Physics I	3(3,0)
PHYS 209 General Physics I Lab.....	1(0,2)
Ecology Requirement ⁹	3
Minor Requirement ⁸	<u>3</u>
	15

PHYS 208 General Physics II	3(3,0)
PHYS 210 General Physics II Lab	1(0,2)
Minor Requirement ⁸	6
Prerehabilitation Requirement ¹⁰	3
Elective	<u>2</u>
	15

Total Semester Hours = 122

¹ Rehabilitation programs require BIOL 103/105 and BIOL 104/106, or equivalent; however, BIOL 110 and BIOL 111 may substitute. The additional 1-2 credits will be subtracted from the Major Requirement credits.

² EX ST 301 or MTHSC 203, or other approved coursework. See advisor. Medical/dental schools have different mathematics requirements.

³ Most professional health sciences schools require two semesters of organic chemistry with laboratory, CH 223/227 and 224/228.

⁴ Or other approved coursework at the 200 level or higher.

⁵ Four semesters (through 202) in the same modern foreign language are required.

⁶ At least one lecture and associated laboratory selected from BIOSC 301, 302/306, 303/307, 304/308, 320, 406/407, 425/426 or other approved coursework at the 200 level or higher.

⁷ See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and the Science and Technology in Society Requirements.

⁸ See page 62 in the Undergraduate Announcements for approved minors. Psychology is recommended. The Medical University of South Carolina and other Rehabilitation Sciences programs require PSYCH 201 and 383.

⁹ At least one course selected from BIOSC 441, 442, 443, 446, 470, or MICRO 401.

¹⁰ BIOSC 478 or 479 or MICRO 305. BIOSC 478 or 479 is recommended for physical and occupational therapy programs. MICRO 305 is recommended for physician assistant programs.



Curriculum and Course Change System - Print Minor Form

000037

Change Minor: Biological Sciences
Effective Catalog Year:

.. Change Minor Name to:

X Change Minor Requirements:

Current Catalog Description: A minor in Biological Sciences requires 15 credits and must include both a lecture and corresponding laboratory in animal diversity (BIOSC 302/306 or 303/307) and a lecture and corresponding laboratory in plant diversity (BIOSC 304/308); remaining credits (minimum of seven) must be selected from BIOCH, BIOSC, or GEN courses numbered 300 or higher.

Proposed Catalog Description: A minor in Biological Sciences requires BIOL 103/105 and 104/106 or BIOL 110 and 111 and 12 additional credits selected from BIOSC courses at the 300 level or above, BIOCH 305, GEN 300, or MICRO 305.

Summary/ Explanation: Because of student feedback, Biological Sciences is proposing to reduce its requirement for animal and plant diversity courses in its BA and BS curricula and to make its BA and BS curricula more flexible. This minor change will make the minor more consistent with this philosophy. Also, the inclusion of introductory biology in the minor will make the minor accessible for more students.

Form Originator: BALLARD, Robert Ballard **Date Form Created:** 10/29/2012

Form Last Updated by: RJKSN, Robert Kosinski **Date Form Last Updated:** 10/29/2012

Form Number: 5573

Approval

<i>Robert J. Kosinski</i>	10/29/12	<i>Carrie W. Anderson</i>	12/7/2012
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
<i>aw</i>	10/29/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
<i>Robert J. Kosinski</i>	11/8/12	<i>David R. Helms</i>	2/3/13
Chair, College Curriculum Committee	Date	Provost	Date
<i>Zed Wilbur</i>	11/8/12	<i>David R. Helms for</i>	2/3/13
College Dean	Date	President	Date

James S. [Signature]



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

00038

X Change a Course - Abbrev & Number: AFLS- 191
 Corresponding Lab Course: --
 Corresponding Honors course: --
 .. **Add Honors course:** --
 Corresponding Graduate course: --
 .. **Add Graduate course:** --
Course Title: DIRECTED RESEARCH

Brief Statement of Change:
 CAFLS wishes to convert this course to a BIOSC rubric, and BIOSC agrees to the change.

Last Term taught: 1206 **X Change Abbrev to:** BIOSC
 Effective Term: 01/2013 .. **Change Number to:**

.. **Change Catalog Title:** .. **Change Transcript Title:**
 from: from: DIRECTED RESEARCH
 to: to:

.. From: Fixed Credit: (,) To: Fixed Credit: (,)
Change of Credit Variable Credit: 1-3 (-), (-) 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	..
X E-Independent Study	.. .. Creative Inquiry	.. .. Natural Science w/Lab	..	.. Natural Science w/Lab	..
.. F-Tutorial (w/fee)	.. X 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	..
.. N/B-Lecture/Lab(w/fee)	..	.. .. STS	..	.. STS	..
.. N/L-Lecture/Lab(no fee)	..				

.. **Change Catalog Description:**
 from:
 to:
 .. **Change Prerequisite(s):**
 from:
 to:
Learning Objectives:
Topical Outline:
Evaluation:

Form Originator: RJKSN, Robert Kosinski **Date Form Created:** 10/30/2012
Form Last Updated by: RJKSN, Robert Kosinski **Date Form Last Updated:** 10/30/2012
Form Number: 5583

Approval

<i>Robert J. Kosinski</i>	10/30/12	<i>Christa W. Wilson</i>	12/7/12
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
<i>[Signature]</i>	10/31/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
<i>Robert J. Kosinski</i>	11/9/12	<i>David R. Helms</i>	2/3/13
Chair, College Curriculum Committee	Date	Provost	Date

<i>Zed Luttrell</i>	<i>11/8/12</i>	<i>David R. Nelson for</i>	<i>2/13/13</i>
College Dean	Date	President	Date
Director, Calhoun Honors College	Date	<i>James S. [Signature]</i>	

000039

5/2013


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

000040

X Change a Course - Abbrev & Number: HORT- 305

Corresponding Lab Course: --

Corresponding Honors course: --

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

Corresponding Graduate course: --

.. **Add Graduate course:** --**Course Title: PLANT PROPAGATION****Brief Statement of Change:**

This will become a 400 level class. Biological principles will receive more emphasis than in prior years. As noted in the topical outline, biological principles are integrated throughout the semester with technical applications of and relating to plant propagation. Note that the credit increase from 3(2,0) to 3(3,0) included on this form is independent of the changes proposed to the course; it is to correct an erroneous value included in the current system.

Last Term taught: 1201

.. **Change Abbrev to:**

Effective Term: 08/2013

X Change Number to: 404.. **Change Catalog Title:**.. **Change Transcript Title:**

from:

from: PLANT PROPAGATION

to:

to:

X From: Fixed Credit: 3 (2,0) 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:**

.. 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)	..	..	..

X Change Catalog Description:

from: All phases of plant propagation from seeds, bulbs, divisions, layers, cuttings, budding, and other types of grafting are comprehensively treated. Timing, manner and material for making cuttings; temperature and media requirements and propagation structures for rooting cuttings of ornamental and fruit trees, shrubs and indoor plants are studied.

to: Practices of plant propagation from seeds, bulbs, divisions, layers, cuttings, grafting, and plant tissue culture are introduced.

Physiological principles of pollination and seed biology, plant growth regulators, source sink relations, life cycles and developmental phase transitions explain the practices. Environmental and economic contexts frame the preferred practices.

.. **Change Prerequisite(s):****from:****to:****Learning Objectives:** The student will be able to:

1. Recognize, compare and contrast factors that lead to successful plant propagation;
2. Describe, categorize, and evaluate propagation scenarios using appropriate terms; and
3. Be able to plan and prepare potential propagation solutions for underutilized plants.

Topical Outline: Weekly topics include:

Biology of Propagation (3 hrs)
 The Propagation Environment (3 hrs)
 Seed Developmental Biology (3hrs)
 Biology of Seed Selection (2hrs)
 Seed Production and Handling (2hrs)
 Biology of Germination and Dormancy (3hrs)
 Seedling Production Systems (2hrs)
 Biology of Shoot Cuttings (3hrs)
 Cutting Propagation Production Systems (3hrs)
 Biology of Grafting and Budding (3hrs)
 Grafting and Budding Techniques (3 hrs)
 Layering (3hrs)
 Specialized roots, stems and bulbs (3hrs)
 Clonal Selection and Chimeras (3hrs)
 Biology of Tissue culture (3hrs)
 Practices of Micropropagation (3hrs)

Evaluation: Test #1 15%
 Test #2 15%
 Test #3 15%
 Final Exam (comprehensive) 30%
 Critical thoughts review document 2%
 Eighteen chapter 'quizzes', field trip, attendance
 and class participation 23%*

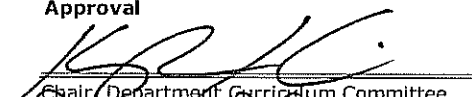

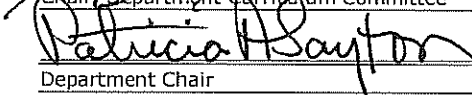
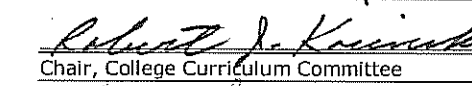
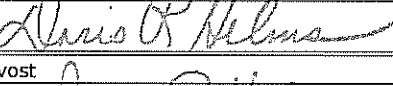
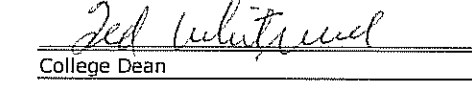
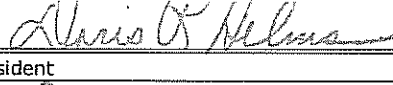

000041

*Note: To allow for different needs each semester, dependent on a number of influencing factors (weather, etc.), this 23% might be broken down slightly differently each semester. As a sample breakdown that would be typical, this 23% would break down as: Quizzes = 15%; Field Trip = 5%; and Class Participation = 3%.

Grades
 A 90 - 100%
 B 80 - 89%
 C 70 - 79%
 D 60 - 69%
 F 59 and below

Form Originator: JADLBRG, Jeffrey Adelberg **Date Form Created:** 10/9/2012
Form Last Updated by: , **Date Form Last Updated:** 11/7/2012
Form Number: 5459

Approval

	11/7/12		12/7/2012
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11/7/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/5/12		2/3/13
Chair, College Curriculum Committee	Date	Provost	Date
	11/8/12		2/3/13
College Dean	Date	President	Date
			
Director, Calhoun Honors College	Date		



000042

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

X Change a Course - Abbrev & Number: HORT- 306

Corresponding Lab Course: --

Corresponding Honors course: --

.. Add Honors course: --

Corresponding Graduate course: --

.. Add Graduate course: --

Course Title: PLANT PROP TECH LAB

Brief Statement of Change:

change course number to accompany change of lecture to 400 level.

Last Term taught: 1201

.. Change Abbrev to:

Effective Term: 08/2013

X Change Number to: 405

.. Change Catalog Title:

.. Change Transcript Title:

from:

from: PLANT PROP TECH LAB

to:

to:

.. From: Fixed Credit: 1 (0,3) 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:
.. 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	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:

.. Change Prerequisite(s):

from:

to:

Learning Objectives:

Topical Outline:

Evaluation:

Form Originator: JADLBRG, Jeffrey Adelberg Date Form Created: 10/10/2012

Form Last Updated by: , Date Form Last Updated: 11/7/2012

Form Number: 5489

Approval

	11/7/12		12/7/12
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11/8/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/8/12		2/3/13
Chair, College Curriculum Committee	Date	Provost	Date
	11/8/12		2/3/13
College Dean	Date	President	Date
Director, Calhoun Honors College	Date		



Curriculum and Course Change System - Print Major Form

000043

Change Major Name: Agricultural Education

Degree: BS

Effective Catalog Year: 2012 ³

..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: Explanation of proposed changes to AG ED Curriculum

- 1) Add AGED 103 to freshman first semester
- 2) Take out AGED 200 from the freshman first semester
- 3) For the teaching emphasis area in the first semester senior year, Change the technical requirement to Arts and Humanities (Non-literature) and STS requirement to cover all General Education requirements.

We are needing to add this back to our curriculum to help the students with their multicultural experiences. Our students go into various jobs working with an array of populations. This course is vital to them being able to handle a variety of situations and people. This is also a requirement for our certification with the School of Education and our accreditations with NCATE and SCDE.

Form Originator: CCAMPB3, Christina Leard **Date Form Created:** 10/5/2012

Form Last Updated by: , **Date Form Last Updated:** 10/30/2012

Form Number: 5418

Approval

	11/7/12		12/7/2012
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11/7/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/8/12		2/3/13
Chair, College Curriculum Committee	Date	Provost	Date
	11/8/12		2/3/13
College Dean	Date	President	Date

AGRICULTURAL EDUCATION**Bachelor of Science**

Agricultural Education provides broad preparation in agricultural sciences and professional education, including communications and human relations skills. In addition to required courses, students may select a minor (see page 62).

The Bachelor's degree prepares students for professional education positions in the mainstream of agriculture, including teaching, cooperative extension service, and government agricultural agencies. The Agricultural Education degree also prepares students for other educational work, such as agricultural missionary, public relations, and training officers in agricultural industry.

In consultation with the departmental advisor, students choose one of the following emphasis areas: Communications, Leadership, or Teaching.

Freshman Year First Semester 1 - AG ED 102 Agric. Education Freshman Seminar 3 - AG ED 103 Multiculturalism in Agric. Ed. 3 - AVS 150 Introduction to Animal Science 1 - AVS 151 Introduction to Animal Science Lab. 3 - BIOL 103 General Biology I 1 - BIOL 105 General Biology Lab. I 3 - HORT 101 Horticulture 3 - Mathematics Requirement ¹ 18	Second Semester 1 - AG ED 100 Orientation and Field Experience 3 - AG M 205 Principles of Fabrication 3 - BIOL 104 General Biology II 1 - BIOL 106 General Biology Lab II 3 - ENGL 103 Accelerated Composition 6 - Social Science Requirement ² 17
Sophomore Year First Semester 3 - AG ED 201 Intro. to Agricultural Education 3 - AG ED 204 Applied Agriculture Calculations 3 - B T 220 Biosystems Technology I 4 - CH 101 General Chemistry 3 - HORT 212 Introduction to Turfgrass Culture 1 - HORT 213 Turfgrass Culture Lab. 17	Second Semester 3 - EDSP 370 Introduction to Special Education 4 - CH 102 General Chemistry 1 - COMM 101 Communication Academic and Professional Development I ³ 3 - PHYS 207 General Physics I 3 - EXST 301 Introductory Statistics 3 - Technical Requirement ⁴ 16 - 17

1. MTHSC 101, 102, 106, 108, 203, or 207

2. See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement. Note: ANTH 201, GEOG 103 or HIST 173 is recommended to satisfy the Social Science Requirement.

3. Required of students in Communications Emphasis Area only.

4. See advisor.

COMMUNICATIONS EMPHASIS AREA

Junior Year First Semester 3 - AG ED 303 Mech. Technology for Agric. Ed. 3 - AG M 221 Surveying 4 - COMM 201 Intro. to Communication Studies 4 - CSENV 202 Soils 3 - Arts and Humanities (Non-Lit.) and STS Requirements ¹ 17	Second Semester 3 - ED F 302 Educational Psychology 3 - HORT 305 Plant Propagation 1 - HORT 306 Plant Propagation Techniques Lab. 3 - ENR 302 Natural Resources Measurements 3 - Advanced Writing Requirement ² 3 - Departmental Communication Requirement ³ 3 - Oral Communication Requirement ⁴ 19
Senior Year First Semester 3 - ENGL 231 Introduction to Journalism 3 - HORT 303 Landscape Plants 6 - Departmental Communication Requirement ³ 3 - Arts and Humanities (Literature) Requirement ¹ 3 - Technical Requirement ³ 18	Second Semester 12 - AG ED 407 Internship in Extension and Leadership Education ⁵ 12

138 Total Semester Hours

1. See General Education Requirements

2. ENGL 304 or 314 is recommended.

3. See advisor.

4. See General Education Requirements. COMM 150 or 250 is recommended.

5. Internship must meet departmental requirements for Communications Emphasis Area. See advisor.

LEADERSHIP EMPHASIS AREA

Junior Year First Semester 3 - AG ED 303 Mech. Technology for Agric. Ed. 3 - AG M 221 Surveying 4 - CSENV 202 Soils 3 - HORT 303 Landscape Plants 3 - Arts and Humanities (Non-Lit.) and STS Requirements ¹ 3 - Advanced Writing Requirement ² 19	Second Semester 3 - ED F 302 Educational Psychology 3 - HORT 305 Plant Propagation 1 - HORT 306 Plant Propagation Techniques Lab. 3 - ENR 302 Natural Resources Measurements 3 - Oral Communication Requirement ³ 3 - Technical Requirement ⁴ 16
Senior Year First Semester 3 - AG ED 403 Principles of Adult/Ext. Educ. 3 - AG ED 415 Leadership of Volunteers 3 - AG ED 416 Ethics and Issues in Agriculture and the Food and Fiber System 3 - MGT 201 Principles of Management 3 - Arts and Humanities (Literature) Requirement ¹ 3 - Technical Requirement ⁴ 18	Second Semester 12 - AG ED 407 Internship in Extension and Leadership Education 12

136 Total Semester Hours

1. See General Education Requirements.
2. ENGL 304 or 314 is recommended.
3. See General Education Requirements. COMM 150 or 250 is recommended.
4. See advisor.

TEACHING EMPHASIS AREA

Junior Year First Semester 3 - AG ED 303 Mech. Technology for Ag. Ed. 3 - AG M 221 Surveying 4 - CSENV 202 Soils 3 - HORT 303 Landscape Plants 3 - Advanced Writing Requirement ¹ 16	Second Semester 3 - AG ED 416 Ethics and Issues in Agriculture and the Food and Fiber System 3 - ED F 302 Educational Psychology 3 - HORT 305 Plant Propagation 1 - HORT 306 Plant Propagation Techniques Lab. 3 - ENR 302 Natural Resources Measurements 3 - Oral Communication Requirement ² 16
Senior Year First Semester 1 - AG ED 400 Supervised Field Experience II 3 - AG ED 401 Instructional Methods in Ag. Ed. 3 - AG ED 403 Principles of Adult/Ext. Education 3 - AG ED 423 Curriculum 3 - Arts and Humanities (Literature) Requirement ³ 3 - Arts and Humanities (Non-literature) and STS requirement 16	Second Semester 12 - AG ED 406 Directed Teaching 2 - AG ED 425 Teaching Agricultural Mechanics 14

133 Total Semester Hours

1. ENGL 304 or 314 is recommended.
2. See General Education Requirements. COMM 150 or 250 is recommended.
3. See General Education Requirements.
- ~~4. See advisor.~~

000046



Curriculum and Course Change System - Print Major Form

Change Major Name: Applied Economics and Statistics

Degree: BS

Effective Catalog Year: 2013

X Change Major Name to: Agribusiness

.. 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)

X Add, Change or Delete Emphasis Area(s)

Explanation: Name Change

The change in the name of the major reflects: 1) the change of its focus from Applied Economics to Agribusiness and Applied Economics, and 2) the composition of the faculty in charge of the program which is now comprised primarily of Agricultural and Natural Resource Economists.

Change Curriculum Requirements and Deletion of Emphasis Areas

The proposed new Agribusiness Curriculum is built upon the foundation of the Agribusiness Emphasis Area in the former Applied Economics and Statistics degree. To reflect the new focus of the curriculum and also to avoid redundancy, we are deleting the Agribusiness and the Economic and Statistical Analysis Emphasis Areas. The proposed new curriculum only includes a BS in Agribusiness program (see attachment) and a Concentration in Community and Economic Development (no changes proposed for the concentration).

We propose the inclusion of APEC 357 and APEC 412 to strengthen students' ability to analyze and understand the impact of agribusiness on the environment, society and the local economies. We also propose the inclusion of AGM 319 which focuses on the use of computer programs for decision analysis, a skill highly valued by employers. To make room for these three courses we have decided to delete CU 101, EX ST 462 (both not offered anymore) and 3 Elective hours. A Leadership Requirement is added to the program with students given the option to choose from AG ED 355, AG ED 415 and CRD 335. This Requirement substitutes for CRD 335 which has not been taught the last few years due to the restructuring of the former Applied Economics and Statistics Department.

Because the new emphasis on agribusiness in the BS program, the prior 15 hours "Agribusiness Requirement" has been replaced by 15 hours "Minor Requirement" to eliminate redundancy. This "Minor Requirement" is also designed to encourage students to use the 15 hours to develop a supporting area of expertise rather than 15 hours of unrelated free electives. Other changes represent reshuffling of courses to better suit schedule availability across semesters. All footnotes were added or changed to reflect the course changes.

Change of General Education Requirements: A General Education Checklist has also been submitted (form 5420)

Form Originator: CCARPIO, Carlos Carpio Date Form Created: 10/1/2012

Form Last Updated by: , Date Form Last Updated: 10/29/2012

Form Number: 5402

Approval

	10/29/12		12/7/12
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	10/29/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/8/12		2/3/13
Chair, College Curriculum Committee	Date	Provost	Date
	11/3/12		2/3/13
College Dean	Date	President	Date

Agribusiness Curriculum

000047

Proposed for 2013-2014 (last revised October 29 2012 by ccarpio)

Freshman Year

<ul style="list-style-type: none"> 2 - CU 101 University Success Skills 3 - AP EC 205 Agriculture and Society 3 - MTHSC 102 Intro. to Mathematical Analysis 4 - Natural Science Requirement¹ 3 - Oral Communication Requirement¹ 3 - EX ST 222 Statistics in Everyday Life <hr style="width: 100%;"/>	<ul style="list-style-type: none"> 3 - AP EC 202 Agricultural Economics 3 - ENGL 103 Accelerated Composition 3 - EX ST 301 Introductory Statistics 3 - Arts and Humanities (Non-Lit.) Requirement¹ 3 - Elective <hr style="width: 100%;"/>
16	15

Sophomore Year

<ul style="list-style-type: none"> 3 - ACCT 201 Financial Accounting Concepts 3 - AP EC 302 Economics of Farm Management 3 - MGT 201 Principles of Management 3 - Arts and Humanities (Literature) Requirement¹ 3 - ECON 212 Principles of Macroeconomics <hr style="width: 100%;"/>	<ul style="list-style-type: none"> 3 - ACCT 202 Managerial Accounting Concepts 3 - AP EC 357 Natural Resource Economics 3 - Social Science Requirement¹ 3 - Leadership Requirement² 3 - Elective 3 - Minor Requirement³ <hr style="width: 100%;"/>
15	15

Junior Year

<ul style="list-style-type: none"> 3 - AP EC 309 Econ. of Agricultural Marketing or 3 - MKT 301 Principles of Marketing 3 - ECON 306 Managerial Economics or 3 - ECON 314 Intermediate Microeconomics 3 - ENGL 314 Technical Writing 3 - AGM 319 Agribusiness Decision Analysis 3 - Agribusiness Requirement² 3 - Minor requirement³ <hr style="width: 100%;"/>	<ul style="list-style-type: none"> 3 - CRD 335 Leadership in Organizations and Communities 3 - EX ST 462 Statistics Applied to Economics 3 - AP EC 319 Agribusiness Management 3 - ECON 302 Money and Banking or 3 - ECON 315 Intermediate Macroeconomics 3 - AP EC 421 Globalization or 3 - ECON 310 International Economy 3 - AP EC 308 Quantitative Applied Economics 3 - Agribusiness Requirement² 3 - Minor Requirement³ <hr style="width: 100%;"/>
15	15

Senior Year

<ul style="list-style-type: none"> 3 - AP EC 409 Commodity Futures Markets 3 - AP EC 460 Agricultural Finance 3 - APEC 412 Regional Economic Development 3 - LAW 322 Legal Environment of Business 3 - Agribusiness Requirement² 3 - Minor Requirement³ <hr style="width: 100%;"/>	<ul style="list-style-type: none"> 3 - AP EC 452 Agricultural Policy 3 - AP EC 456 Prices 3 - Internship, Creative Inquiry or Selected Topics⁴ 3 - AP EC 490 Selected Topics⁴ 3 - AP EC 402 Production Economics 6 - Agribusiness Requirement² 3 - Minor Requirement³ <hr style="width: 100%;"/>
15	15

121 Total semester hours

¹See General Education Requirements

²Selected from AG ED 355, 415, CRD 335.

³See CAFLS approved minors.

⁴APEC 490, 491, 494.

AGRIBUSINESS

Bachelor of Science

The Agribusiness curriculum provides strong training in economic and business principles as applied in agribusiness enterprises. Core classes in the major focus on agribusiness economics and management, leadership, marketing and sales, finance, accounting, and business skill development. Employment opportunities for Agribusiness graduates are many and diverse. Private sector opportunities include national and international careers in agribusiness management, banking, finance, sales, marketing, and public relations. Public sector opportunities include positions in organizations that promote food, agriculture, and natural resource interests; government agencies; and educational institutions. Moreover, the curriculum design provides graduates with the skills necessary to successfully establish their own businesses.

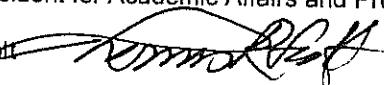
In the Community and Economic Development Concentration, core courses focus on community development methods, regional economic development, leadership, experiential learning, communication skills, and behavioral science principles. Employment opportunities for Community and Economic Development graduates include positions in social science administration, management, and research. Other careers include community development and economic development specialist positions with local, county, and state governments. Additional opportunities exist in a variety of agencies, research and consulting firms, foundations and councils, financial institutions, public and private utilities, and organizations looking for entrepreneurial skills.

The plans of study also emphasize training on globalization, information technology, and interdisciplinary skills needed to analyze the complex interrelationships between business, the environment and society. Students are encouraged to participate on a creative inquiry student research team and to take advantage of an internship and/or study abroad opportunity. The two study options provide an excellent background for professional or graduate study in several disciplines.



MEMORANDUM

TO: Dr. Doris Helms
Vice President for Academic Affairs and Provost

FROM: Tom Scott 
Dean

DATE: August 13, 2012

SUBJECT: Transfer of Applied Economics and Statistics Undergraduate Major

OFFICE OF THE DEAN
COLLEGE OF AGRICULTURE,
FORESTRY & LIFE SCIENCES

Clemson University
101 Barre Hall
Clemson, SC
29634-0303

P 864-656-3013
F 864-656-1286

This memorandum is written to make an official request to transfer the Undergraduate Degree Program in Applied Economics and Statistics (Major Code 103) from the College of Business and Behavior Sciences to the College of Agriculture, Forestry and Life Sciences (CAFLS) at this time. With the concurrent transfer of interested faculty members in the Department of Economics who deliver the curriculum and advise students in this major, CAFLS will begin to offer a program in agribusiness tailored to the specific interests of undergraduate students seeking careers in the agribusiness industries. A planned name change for this major is forthcoming. We will assemble the appropriate faculty members in the School of Agricultural, Forest, and Environmental Sciences (SAFES) to design for approval a program in agribusiness enterprises that will include business, leadership, communications and entrepreneurship concentrations or emphasis areas.

Into the fall semester, a meeting of faculty members in Economics and SAFES will be called to discuss the future of graduate programs in Applied Economics as joint or standalone degrees. A resolution for the futures of both the MS and PhD programs will be necessary early in the semester so that both BBS and CAFLS can plan faculty hires for the year.

c: C. Watt
R. Balakrishnan
T. Whitwell
P. Layton
R. Sauer

Approved: 
Doris Helms

Date: 8/15/12



Curriculum and Course Change System - General Education Checklist

000050

Major Name: Agribusiness

Specific General Education Requirements

Requirement	Select from Gen Ed List	Select from Restricted Gen Ed List Specify restrictions - e.g. PHIL courses only	Specific Course(s) Specify courses or cluster* of courses if appropriate	No Change
English Composition			ENGL 103	
Oral Communication*	X	..	..	..
Academic & Professional Development			X AP EC 302	..
Mathematics	..	..	X MTHSC 102	..
Natural Science with lab	X	..	..	..
Math or Natural Science	..	..	X EXST 301	..
Arts & Humanities (Literature)	X	..	..	..
Arts & Humanities (Non-Literature)	X	..	..	..
Social Sciences	X	..	..	..
Cross-Cultural Awareness	..	..	X AP EC 205	..
Science and Tech. in Society	..	..	X AP EC 205	..

*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 Agribusiness curriculum. All students must take AP EC 319 (Agribusiness Management). AP EC 319 will be the primary course where ethics competency is evaluated. In this class as well as AP EC 302 the students are introduced to professionalism, ethical conduct, academic integrity, and professional integrity. Case studies and/or role playing will be used to allow the students to develop their professional value system and to understand why ethics are important. In AP EC 319, students will prepare reports and presentations that will include ethics in the subject matter. 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 Agribusiness Management class 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: Agribusiness is a broad-based curriculum with particular knowledge in applications of economics and business concepts as related to agribusiness industries. The concept of a digital portfolio will be introduced in AP EC 302 and revisited in AP EC 319. All students must take both AP EC 302 and AP EC 319. 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, formal reports, and business plans are covered in AP EC 319. Assessment of written and oral communication competencies will take place in the AP EC 319.

There will be a 4-point rubric. Our goal is to have 75% of our graduates achieve scores of good or excellent on their Agribusiness Management 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 Agribusiness curriculum has problem solving and critical thinking as a foundation in the curriculum. With most areas of business and social sciences there is seldom one correct answer. Many variables must be considered in each situation. Sample assignments used for the development of students' critical thinking competencies are the business plan developed in AP EC 319 and the final report on commodity trading developed in AP EC 409. All students must take AP EC 319. AP EC 319 will allow the student to demonstrate the knowledge learned in the curriculum. Assessment of critical thinking will be performed through the students' oral and/or written technical presentations conducted for their business plan final project in AP EC 319.

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: CCARPIO, Carlos Carpio **Date Form Created:** 10/5/2012

Form Last Updated by: CCARPIO, Carlos Carpio **Date Form Last Updated:** 10/25/2012 **Form Number:** 5420

Approval

	10/29/12		12/7/12
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	10/29/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/8/12		2/3/13
Chair, College Curriculum Committee	Date	Provost	Date
	11/8/12		2/3/13
College Dean	Date	President	Date



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

000051

X Change a Course - Abbrev & Number: CSENV- 455

Corresponding Lab Course: --

Corresponding Honors course: --

.. Add Honors course: --

Corresponding Graduate course: --

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

We would like to change the course description to reflect a change in the learning objectives. The new course will include presentations of interdisciplinary topics and original research in agronomy, entomology, plant pathology, soils, and related sciences.

Last Term taught: 0401

.. Change Abbrev to:

Effective Term: 08/2013

.. Change Number to:**.. Change Catalog Title:****.. Change Transcript Title:**

from:

from: SEMINAR

to:

to:

.. From: Fixed Credit: 1 (1,) 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:

.. A-Lecture Only

.. .. Pass/Fail Only

..

.. English Composition

..

.. B-Lab (w/fee)

.. X Graded

..

.. Oral Communication

..

X 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)

..

..

X Change Catalog Description:

from: Student presentation of current agronomic topics of special interest in crop production appearing in recent scientific journals and other publications.

to: Presentation of interdisciplinary topics and original research in agronomy, entomology, plant pathology, soils, and related sciences.

.. Change Prerequisite(s):**from:****to:**

Learning Objectives: 1) Students will expand their knowledge of current research topics in soils and sustainable agriculture, and related sciences.

2) Students will identify current practices in soils and sustainable agriculture, and related sciences.

3) Students will critically assess through discussion the current research topics and practices in soils and sustainable agriculture, and related sciences.

Topical Outline: Topics may vary by semester, a sample outline is provided below:

Week 1. Plant Nematology

Week 2. Entomology, Industry perspective

Week 3. Irrigation. Soil and Water Environmental Science

Week 4. Research proposals. Plant Diseases.

Week 5. Plant Physiology

Week 6. Aquatic Entomology

Week 7. Agricultural Entomology

Week 8. Research Proposals. Plant Sciences

Week 9. Soil sciences

Week 10. Plant Breeding

Week 11. Agronomy

Week 12. Bioinformatics

Week 13. Research Proposals. Entomology

Week 14. Biotechnology

Week 15. Plant Virology

Evaluation: Students' grades are based on seminar reviews and attendance. Each student will select 10 seminars for which he will write a review of 350-words. Each review is worth 10% of the student's grade. If a student must miss a scheduled seminar for any reason, he must attend an alternate seminar and submit a 350-word summary of the presentation within one week of the missed seminar in addition to the ten required reviews. For each seminar missed and not made up within one week of the missed seminar, students will lose half a letter grade.

Grading

Grades will be assigned as follows:

- A - 90-100%
- B - 80-89%
- C - 70-79%
- D - 60-69%
- F - below 60%



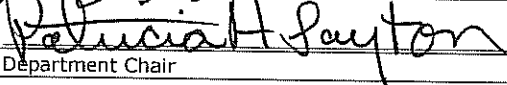
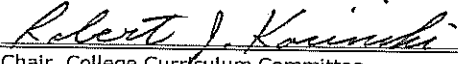
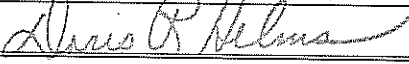
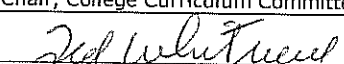
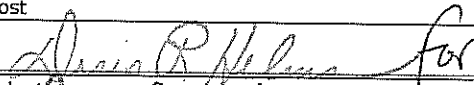

000052

Form Originator: PAGUDEL, Paula Agudelo **Date Form Created:** 9/13/2012

Form Last Updated by: , **Date Form Last Updated:** 11/7/2012

Form Number: 5256

Approval

	11/7/12		12/7/12
Chair, Department Curriculum Committee	Date	Chair, Undergraduate Curriculum Committee	Date
	11/7/12		
Department Chair	Date	Chair, Graduate Curriculum Committee	Date
	11/8/12		2/3/13
Chair, College Curriculum Committee	Date	Provost	Date
	11/9/12		2/3/13
College Dean	Date	President	Date
			
Director, Calhoun Honors College	Date		