

# CHANGE UNDERGRADUATE PROGRAM FORM

RECEIVED

NOV 13 2014

## 1. General Information

College: <u>Agriculture, Food and Environment</u>		Department: <u>Animal and Food Sciences</u>	
Current Major Name: <u>Food Science</u>		Proposed Major Name: <u>Food Science</u>	
Current Degree Title: <u>Bachelor of Science in Food Science</u>		Proposed Degree Title: <u>Bachelor of Science in Food Science</u>	
Formal Option(s): <u>NA</u>		Proposed Formal Option(s): <u>NA</u>	
Specialty Field w/in Formal Option: <u>NA</u>		Proposed Specialty Field w/in Formal Options: <u>NA</u>	
Date of Contact with Associate Provost for Academic Administration <sup>1</sup> : <u>2-3-2014</u>			
Bulletin (yr & pgs):	<u>2014-15, p. 108-109.</u>	CIP Code <sup>1</sup> :	<u>01.1001</u>
		Today's Date:	<u>8-7-2014</u>
Accrediting Agency (if applicable): <u>Institute of Food Technologists</u>			
Requested Effective Date:		<input checked="" type="checkbox"/> Semester following approval. OR <input type="checkbox"/> Specific Date <sup>2</sup> : _____	
Dept. Contact Person: <u>Melissa Newman</u>		Phone: <u>7-5881</u>	Email: <u>mnewman@uky.edu</u>

## 2. General Education Curriculum for this Program:

The new General Education curriculum is comprised of the equivalent of 30 credit hours of course work. There are, however, some courses that exceed 3 credits & this would result in more than 30 credits in some majors.

- There is no foreign language requirement for the new Gen Ed curriculum.
- There is no General Education Electives requirement.

### Please list the courses/credit hours currently used to fulfill the University Studies/General Education curriculum:

Intellectual Inquiry in Arts and Creativity--choose from approved list: 3 credits  
Intellectual Inquiry in the Humanities--choose from approved list: 3 credits  
Intellectual Inquiry in the Social Sciences--choose from approved list: 3 credits  
Intellectual Inquiry in the Natural, Physical and Mathematical Sciences--  
✓CHE 105, General College Chemistry I, 4 credits and  
✓CHE 111, Laboratory to Accompany General Chemistry I, 1 credit  
Composition and Communication I, CIS/WRD 110, Composition and Communication I, 3 credits  
Composition and Communication II, CIS/WRD 111, Composition and Communication II, 3 credits  
Quantitative Foundations--  
✓MA 123, Elementary Calculus and Its Applications OR  
✓MA 113, Calculus I OR  
✓MA 137, Calculus I With Life Science Applications, 4 credits  
Statistical Inferential Reasoning--  
✓STA 210, Making Sense of Uncertainty: An Introduction to Statistical Reasoning, 3 credits  
Community, Culture and Citizenship in the USA--GEN 100, Issues in Agriculture, Food and Environment, 3 credits  
Global Dynamics--choose from approved list: 3 credits  
Total UK Core, current--33 credits.

<sup>1</sup> Prior to filling out this form, you MUST contact the Associate Provost for Academic Administration (APAA). If you do not know the CIP code, the (APAA) can provide you with that during the contact.

<sup>2</sup> Program changes are typically made effective for the semester following approval. No program will be made effective until all approvals are received.

## CHANGE UNDERGRADUATE PROGRAM FORM

<i>Please identify below the suggested courses/credit hours to fulfill the General Education curriculum.</i>			
General Education Area	Course	Credit Hrs	
<b>I. Intellectual Inquiry (one course in each area)</b>			
Arts and Creativity	<i>choose from list</i>	<u>3</u>	
Humanities	<i>choose from list</i>	<u>3</u>	
Social Sciences	<i>choose from list</i>	<u>3</u>	
Natural/Physical/Mathematical	<i>✓CHE 105 &amp; 111</i>	<u>5</u>	
<b>II. Composition and Communication</b>			
Composition and Communication I	<i>✓CIS or WRD 110</i>	3	
Composition and Communication II	<i>✓CIS or WRD 111</i>	3	
<b>III. Quantitative Reasoning (one course in each area)</b>			
Quantitative Foundations <sup>3</sup>	<i>MA 123 OR MA 137</i>	<u>4</u>	
Statistical Inferential Reasoning	<i>✓STA 296</i>	<u>3</u>	
<b>IV. Citizenship (one course in each area)</b>			
Community, Culture and Citizenship in the USA	<i>✓GEN 100</i>	<u>3</u>	
Global Dynamics	<i>choose from list</i>	<u>3</u>	
<b>Total General Education Hours</b>		<u>33</u>	

**3. Explain whether the proposed changes to the program (as described in sections 4 to 12) involve courses offered by another department/program. Routing Signature Log must include approval by faculty of additional department(s).**

GCCR requirement will be fulfilled by WRD 203 Business Writing. Documents for submission will be submitted to the WRD department in Fall 2014 for final revisions. Formal submission is pending early Fall 2014.

**4. Explain how satisfaction of the University Graduation Writing Requirement will be changed.**

Current	Proposed
<input type="checkbox"/> Standard University course offering. List: _____	<input type="checkbox"/> Standard University course offering. List: _____
<input type="checkbox"/> Specific course – list: _____	<input checked="" type="checkbox"/> Specific course) – list: <u>WRD-203, Business Writing</u>

**5. List any changes to college-level requirements that must be satisfied.**

Current	Proposed
<input checked="" type="checkbox"/> Standard college requirement. List: <u>GEN 100, Issues in Agriculture, Food and Environment, 3 credits</u>	<input checked="" type="checkbox"/> Standard college requirement. List: <u>GEN 100, Issues in Agriculture, Food and Environment, 3 credits.</u>
<input type="checkbox"/> Specific required course – list: _____	<input type="checkbox"/> Specific course – list: _____

<sup>3</sup> Note that MA 109 is NOT approved as a Quantitative Foundations course. Students in a major requiring calculus will use a calculus course (MA 113, 123, 137 or 138) while students not requiring calculus should take MA 111, PHI 120 or another approved course.

## CHANGE UNDERGRADUATE PROGRAM FORM

### 6. List pre-major or pre-professional course requirements that will change, including credit hours.

Current	Proposed
<p><u>*Note that the current bulletin splits these into two categories, as follows:</u></p> <p><u>Prerequisites for upper-division courses:</u>  <u>BIO 150, Principles of Biology I, 3 credits</u>  <u>BIO 152, Principles of Biology II, 3 credits</u>  <u>CHE 105, General College Chemistry I, 4 credits</u>  <u>CHE 107, General College Chemistry II, 3 credits</u>  <u>CHE 111, Laboratory to Accompany General Chemistry I, 1 credit</u>  <u>CHE 113, Laboratory to Accompany General Chemistry II, 2 credits</u>  <u>MA 123, Elementary Calculus and Its Applications OR</u>  <u>MA 113, Calculus I OR</u>  <u>MA 137, Calculus I With Life Science Applications, 4 credits</u>  <u>Total prerequisite hours--20 credits</u></p> <p><u>Premajor Requirements:</u>  <u>*MA 132, Calculus for the Life Sciences, 3 credits</u>  <u>BIO 208, Principles of Microbiology, 3 credits</u>  <u>BIO 209, Introductory Microbiology Laboratory, 2 credits</u>  <u>CHE 236, Survey of Organic Chemistry, 3 credits</u>  <u>DHN 212, Introductory Nutrition, 3 credits</u>  <u>PHY 211, General Physics, 5 credits</u>  <u>STA 291, Statistical Methods, 3 credits</u>  <u>Total premajor hours--22 credits</u></p> <p><u>*Students who take MA 113 or MA 137 do not need to take MA 132</u></p>	<p><u>Note that we would prefer to simply list one category--premajor requirements, in the new version of the Bulletin.</u></p> <p><u><del>BIO 148, Principles of Biology I, 3 credits</del></u>  <u><del>BIO 152, Principles of Biology II, 3 credits</del></u></p> <p><u><del>ECO 201, Principles of Economics I, 3 credits</del></u></p> <p><u><del>BIO 208, Principles of Microbiology, 3 credits</del></u></p> <p><u><del>BIO 209, Introductory Microbiology Laboratory, 2 credits</del></u>  <u><del>CHE 105, General College Chemistry I, 4 credits</del></u>  <u><del>CHE 107, General College Chemistry II, 3 credits</del></u>  <u><del>CHE 111, Laboratory to Accompany General Chemistry I, 1 credit</del></u>  <u><del>CHE 113, Laboratory to Accompany General Chemistry II, 2 credits</del></u>  <u><del>CHE 236, Survey of Organic Chemistry, 3 credits</del></u>  <u>OR</u>  <u><del>CHE 230, Organic Chemistry I, 3 credits</del></u></p> <p><u><del>DHN 212, Introductory Nutrition, 3 credits</del></u></p> <p><u><del>MA 123, Elementary Calculus and Its Applications, 4 credits AND</del></u>  <u><del>MA 162, Finite Mathematics and Its Applications, 3 credits, (total of 7 credits) OR</del></u></p> <p><u><del>MA 110, Algebra and Trigonometry for Calculus, 4 credits AND</del></u>  <u><del>MA 137, Calculus I With Life Science Applications, 4 credits (total of 8 credits).</del></u>  <u><del>STA 296, Statistical Methods and Motivations, 3 credits</del></u></p> <p><u>Total premajor hours--40-41 credits</u></p>

### 7. List the major's course requirements that will change, including credit hours.

Current	Proposed
<p><u>FSC 107, Introduction to Food Science, 3 credits</u>  <u>AEN 340, Principles of Food Engineering, 4 credits</u></p> <p><u>DHN 311 Nutritional Biochemistry, 3 credits OR</u>  <u>BCH 401G, Fundamentals of Biochemistry, 3 credits</u></p> <p><u>FSC 306, Introduction to Food Processing, 4 credits</u>  <u>FSC 434G, Food Chemistry, 4 credits</u>  <u>FSC 530, Food Microbiology, 5 credits</u></p>	<p><u><del>FSC 107, Introduction to Food Science, 3 credits</del></u>  <u><del>FSC 306, Introduction to Food Processing, 4 credits</del></u></p> <p><u><del>FSC 395 Special Problem in Food Science, 3 credits</del></u>  <u><del>OR FSC 399 Experiential Learning in Animal Sciences/Food Science, 3 credits</del></u>  <u><del>OR EXP 396 Experiential Education, 3-6 credits</del></u></p> <p><u><del>FSC 434G, Food Chemistry, 4 credits</del></u></p>

## CHANGE UNDERGRADUATE PROGRAM FORM

<u>FSC 535, Food Analysis, 4 credits</u> <u>FSC 536, Advanced Food Technology, 4 credits</u> <u>Total major hours, 31 credits</u>	<del><u>FSC 530, Food Microbiology, 5 credits</u></del> <del><u>FSC 535, Food Analysis, 4 credits</u></del> <del><u>FSC 536, Advanced Food Technology, 4 credits</u></del>  <u>Students must select at least 3 of the following 4 courses:</u> <del><u>FSC 304, Animal Food Products, 4 credits</u></del> <sup>u</sup> <del><u>FSC 430, Sensory Evaluation, 3 credits</u></del> <del><u>FSC 538, Food Fermentation and Thermal Processing, 4 credits</u></del> <del><u>FSC 540, Food Sanitation, 4 credits</u></del> <u>Total major hours, 38-42 credits</u>
---	---

8. Does the pgm require a minor AND does the proposed change affect the required minor?  N/A  Yes  No  
 If "Yes," indicate current courses and proposed changes below.

<u>Current</u>	<u>Proposed</u>
<u>no minor is currently required</u>	<u>no minor is proposed to be required</u>

9. Does the proposed change affect any option(s)?  N/A  Yes  No  
 If "Yes," indicate current courses and proposed changes below, including credit hours, and also specialties and subspecialties, if any.

<u>Current</u>	<u>Proposed</u>
<u>no options exist currently</u>	<u>no options are proposed</u>

10. Does the change affect pgm requirements for number of credit hrs outside the major subject in a related field?  Yes  No  
 If so, indicate current courses and proposed changes below.

<u>Current</u>	<u>Proposed</u>
_____	_____

11. Does the change affect pgm requirements for technical or professional support electives?  Yes  No  
 If so, indicate current courses and proposed changes below.

<u>Current</u>	<u>Proposed</u>
<u>On the current descriptions of this program, these courses are described as "Specialty Support."</u> <u>Students must select 22 credits from the following suggested list of support courses:</u> <u>AEC 305, Food and Agricultural Marketing Principles, 3 credits</u> <u>ABT/ENT 360, Genetics, 3 credits</u> <u>CS 101, Introduction to Computing I, 3 credits</u> <u>ECO 201, Principles of Economics I, 3 credits</u> <u>FSC 304, Animal Food Products, 4 credits</u> <u>FSC 395, Special Problem in Food Science, 1-4 credits</u> <u>FSC 399, Experiential Learning in Animal Sciences/Food Science, 1-6 credits</u> <u>FSC 430, Sensory Evaluation of Foods, 3 credits</u> <u>FSC 538, Food Fermentation and Thermal</u>	<u>In the new version of this program, we would like to describe the courses below as "Specialty Support."</u>  <del><u>AEN 340, Principles of Food Engineering, 4 credits</u></del> <del><u>DHN 311 Nutritional Biochemistry, 3 credits OR</u></del> <del><u>BCH 401G, Fundamentals of Biochemistry, 3 credits</u></del>  <del><u>PHY 211, General Physics, 5 credits</u></del>  <u>Students must select 2 of the following 3 courses:</u> <del><u>AEC 305, Food and Agricultural Marketing Principles, 3 credits</u></del> <del><u>ASC 300, Meat Science, 4 credits</u></del> <del><u>CLD 230, Intrapersonal Leadership, 3 credits OR</u></del> <del><u>CLD 340, Community Interaction, 3 credits</u></del>

## CHANGE UNDERGRADUATE PROGRAM FORM

<u>Processing, 4 credits</u> <u>FSC 540, Food Sanitation, 3 credits</u> <u>DHN 340, Experimental Foods, 3 credits.</u> <u>Total, special support hours--22 credits.</u>	<u>Total Specialty Support hours--18-19 credits.</u>
--	--

**12. Does the change affect a minimum number of free credit hours or support electives?**

Yes  No

If "Yes," indicate current courses and proposed changes below.

<u>Current</u>	<u>Proposed</u>
<u>minimum of 15 free elective credits</u>	<u>3 free elective credits</u>

**13. Summary of changes in required credit hours:**

	<u>Current</u>	<u>Proposed</u>
a. Credit Hours of Premajor or Preprofessional Courses:	<u>39-42</u>	<u>40-41</u>
b. Credit Hours of Major's Requirements:	<u>31</u>	<u>38-42</u>
c. Credit Hours for Required Minor:	<u>NA</u>	<u>NA</u>
d. Credit Hours Needed for a Specific Option:	<u>NA</u>	<u>NA</u>
e. Credit Hours Outside of Major Subject in Related Field:	<u>NA</u>	<u>NA</u>
f. Credit Hours in Technical or Professional Support Electives:	<u>22</u>	<u>18-19</u>
g. Minimum Credit Hours of Free/Supportive Electives:	<u>15</u>	<u>3</u>
h. Total Credit Hours Required by Level:	100: <u>47</u>	<u>32</u>
	200: <u>28</u>	<u>19</u>
	300: <u>20</u>	<u>14</u>
	400-500: <u>25</u>	<u>21</u>
i. Total Credit Hours Required for Graduation:	<u>128</u>	<u>120</u>

**14. Rationale for Change(s) – if rationale involves accreditation requirements, please include specific references to that.**

The Food Science BS program is accredited by the Institute of Food Technologists (IFT). Therefore, any curricular changes must maintain the integrity of the program with respect to requirements of the accreditor; the modifications listed herein accomplish that primary objective. Other program updates include modifications in the both areas of the quantitative reasoning category of UK Core: MA 113 is dropped as an option for quantitative foundations and STA 296 replaces STA 210 for statistical inferential reasoning (SIR). In the past, Food Science students had to take both STA 210 and STA 291; now, since STA 296 can satisfy SIR and provide training in statistical methods, the faculty have decided to switch to that single course. With the advent of the Graduation Composition and Communications Requirement (GCCR), the Food Science faculty have chosen to meet that requirement using WRD 203 Business Writing, documentation pending. The presentation of pre-major courses has been clarified as a single grouping of courses, with updates in ECO, BIO, CHE, MA, and STA requirements. Note that PHY 211 has been moved to the Specialty Support category, and ECO 201 has moved to the pre-major category. Significant changes have been implemented in the major course listing; the proposed listing will be exclusively FSC courses. Seven credits from the major (AEN 340, 4 credits; and either DHN 311 or BCH 401G, 3 credits) are to be moved to Specialty Support, which are understood to be required courses per FSC faculty. Under the previous program, the Specialty Support category included numerous FSC courses. In the College of Agriculture, Food and Environment, specialty support courses are not allowed to include major courses. The new Specialty Support category no longer includes any FSC courses. Our Total Credit Hours Required to Graduate has changed from 128 to 120

## CHANGE UNDERGRADUATE PROGRAM FORM

due to the numerous changes in courses. CHE 105/111, MA 123 or 137 and STA 296 in our premajor course section also satisfies various UK Core requirements. While the courses are repeated in the section listings and their hours are reflected in the section totals, they have only been counted once in the Total Credit Hours to Graduate section.

15. List below the typical semester by semester program for the major. If multiple options are available, attach a separate sheet for each option.

<b>YEAR 1 – FALL:</b> (e.g. "BIO 103; 3 credits")	<u>UK CORE, A&amp;C; 3 credits</u> <u>CHE 105; 4 credits</u> <u>CHE 111; 1 credit</u> <u>WRD 110; 3 credits</u> <u>GEN 100; 3 credits</u> <u>Semester total; 14 credits.</u>	<b>YEAR 1 – SPRING:</b>	<u>CHE 107; 3 credits</u> <u>CHE 113; 2 credits</u> <u>WRD 111; 3 credits</u> <u>MA 110 or 123; 4 credits</u> <u>FSC 107; 3 credits</u> <u>DHN 212; 3 credits</u> <u>Semester total; 18 credits</u>
<b>YEAR 2 - FALL :</b>	<u>CHE 236; 3 credits</u> <u>BIO 148; 3 credits</u> <u>ECO 201; 3 credits</u> <u>WRD 203; 3 credits</u> <u>MA 137 or 162; 3-4 credits</u> <u>Semster total; 15-16 credits</u>	<b>YEAR 2 – SPRING:</b>	<u>BIO 152; 3 credits</u> <u>PHY 211; 5 credits</u> <u>STA 296; 3 credits</u> <u>FSC 304; 4 credits</u> <u>BCH 401G; 3 credits</u> <u>Semester total; 18 credits</u>
<b>YEAR 3 - FALL:</b>	<u>AEN 340; 4 credits</u> <u>FSC 306; 4 credits</u> <u>FSC 430; 3 credits</u> <u>ASC 300; 4 credits</u> <u>Semester total; 15 credits</u>	<b>YEAR 3 - SPRING:</b>	<u>UK CORE, Soc Sci; 3 credits</u> <u>FSC 434G; 4 credits</u> <u>BIO 208; 3 credits</u> <u>BIO 209; 2 credits</u> <u>Free elective; 3 hours</u> <u>Semester total; 15 credits</u>
<b>YEAR 4 - FALL:</b>	<u>FSC 399; 3 credits</u> <u>FSC 530; 5 credits</u> <u>FSC 535; 4 credits</u> <u>AEC 305; 3 credits</u> <u>Semester total; 15 credits</u>	<b>YEAR 4 - SPRING:</b>	<u>UK CORE, Hum.; 3 credit</u> <u>UK CORE, Glo Dyn; 3 credits</u> <u>FSC 536; 4 credits</u> <u>FSC 538; 4 credits</u> <u>Semester total; 14 credits</u>

**CHANGE UNDERGRADUATE PROGRAM FORM**

**Signature Routing Log**

**General Information:**

Current Degree Title and Major Name: Bachelor of Science in Food Science; Major--Food Science

Proposal Contact Person Name: Melissa Newman

Phone: 7-5881

Email: mnewman@uky.edu

**INSTRUCTIONS:**

Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

**Internal College Approvals and Course Cross-listing Approvals:**

<b>Reviewing Group</b>	<b>Date Approved</b>	<b>Contact Person (name/phone/email)</b>	<b>Signature</b>
Food Science Faculty	8/7/14	Melissa Newman / 7-5881 / mnewman@uky.edu	
Animal and Food Sciences Department	8/14/14	Bob Harmon / 7-2686 / rharmon@uky.edu	
Undergraduate Curriculum Committee, College of Agriculture, Food and Environment	8/29/14	Larry J. Grabau / 7-3469 / Larry.Grabau@uky.edu	
		/ /	
		/ /	

**External-to-College Approvals:**

<b>Council</b>	<b>Date Approved</b>	<b>Signature</b>	<b>Approval of Revision<sup>4</sup></b>
Undergraduate Council	11/11/14	Joanie Ett-Mims	
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

<sup>4</sup> Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.