

CHANGE UNDERGRADUATE PROGRAM FORM

RECEIVED

SEP 25 2013

1. General Information

College:	<u>Agriculture</u>	Department:	<u>Interdepartmental</u>	OFFICE OF THE SENATE COUNCIL
Current Major Name:	<u>Agricultural Biotechnology</u>	Proposed Major Name:	_____	
Current Degree Title:	<u>BS</u>	Proposed Degree Title:	_____	
Formal Option(s):	_____	Proposed Formal Option(s):	_____	
Specialty Field w/in Formal Option:	_____	Proposed Specialty Field w/in Formal Options:	_____	
Date of Contact with Associate Provost for Academic Administration ¹ :	<u>02/19/2013</u>			
Bulletin (yr & pgs):	<u>12-13; p. 97</u>	CIP Code ¹ :	<u>26.1201</u>	Today's Date:
Accrediting Agency (if applicable):	<u>N/A</u>			
Requested Effective Date:	<input checked="" type="checkbox"/> Semester following approval.	OR	<input type="checkbox"/> Specific Date ² :	_____
Dept. Contact Person:	<u>Daniel K. Howe</u>	Phone:	<u>218-1113</u>	Email:
				<u>dkhowe2@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:
 This is the list of courses that have been approved to fulfill the GenEd/UKCore requirements for the ABT curriculum.
 No changes are being requested.

- Arts and Creativity - choose from list - 3 credit hours
- Humanities - choose from list - 3 credit hours
- Social Sciences - choose from list - 3 credit hours
- Natural/Physical/Mathematical - CHE 105/111 - 5 credit hours
- Comp & Comm I - CIS or WRD 110 - 3 credit hours
- Comp & Comm II - CIS or WRD 111 - 3 credit hours
- Quantitative Foundations - MA 123 or 113 or 137 - 4 credit hours
- Statistical Inferential Reasoning - STA 210 - 3 credit hours
- Community, Culture and Citizenship in the USA - GEN 100* - 3 credit hours
- Global Dynamics - choose from list - 3 credit hours

*College requirement; not required of students transferring into the College of Ag who have satisfied this UKCore requirement previously

Please identify below the suggested courses/credit hours to fulfill the General Education curriculum.

¹ 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.

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

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General Education Area	Course	Credit Hrs
I. Intellectual Inquiry (one course in each area)		
Arts and Creativity		_____
Humanities		_____
Social Sciences		_____
Natural/Physical/Mathematical		_____
II. Composition and Communication		
Composition and Communication I	CIS or WRD 110	3
Composition and Communication II	CIS or WRD 111	3
III. Quantitative Reasoning (one course in each area)		
Quantitative Foundations ³		_____
Statistical Inferential Reasoning		_____
IV. Citizenship (one course in each area)		
Community, Culture and Citizenship in the USA		_____
Global Dynamics		_____
Total General Education Hours		_____

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).

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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"/> <i>Standard University course offering.</i> List: _____
<input type="checkbox"/> Specific course – list: _____	<input type="checkbox"/> <i>Specific course) – list: _____</i>

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

Current	Proposed
<input type="checkbox"/> Standard college requirement. List: _____	<input type="checkbox"/> <i>Standard college requirement.</i> List: _____
<input type="checkbox"/> Specific required course – list: _____	<input type="checkbox"/> <i>Specific course – list: _____</i>

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

Current	Proposed
(MA 123 plus MA 132) OR MA 113 OR MA 137	<i>MA 123 OR MA 113 OR MA 137</i>

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

Current	Proposed

³ 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.

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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.

Current	Proposed

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.

Current	Proposed

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.

Current	Proposed

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

Current	Proposed

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.

Current	Proposed

13. Summary of changes in required credit hours:

	Current	Proposed
a. Credit Hours of Premajor or Preprofessional Courses:	39-42	39
b. Credit Hours of Major's Requirements:	_____	_____
c. Credit Hours for Required Minor:	_____	_____
d. Credit Hours Needed for a Specific Option:	_____	_____
e. Credit Hours Outside of Major Subject in Related Field:	_____	_____
f. Credit Hours in Technical or Professional Support Electives:	_____	_____
g. Minimum Credit Hours of Free/Supportive Electives:	_____	_____
h. Total Credit Hours Required by Level:		
	100:	_____
	200:	_____
	300:	_____
	400-500:	_____
i. Total Credit Hours Required for Graduation:	_____	_____

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

Previously, students could satisfy the ABT calculus requirement by taking MA 113 (Calculus I) OR MA 137 (Calculus I for Life Sciences) OR the combination of MA 123 (Elementary Calculus and its Applications) plus MA 132 (Calculus for Life Sciences). However, the Department of Mathematics is no longer offering MA 132. Additionally, MA 123 has been increased from 3 credits to 4 credits. Consequently, ABT Coordinating Committee members agreed unanimously that MA 123 alone was sufficient for the Premajor calculus requirement.

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

YEAR 1 – FALL: (e.g. "BIO 103; 3 credits")	<u>See attachment</u>	YEAR 1 – SPRING:	<u> </u>
YEAR 2 - FALL :	<u> </u>	YEAR 2 – SPRING:	<u> </u>
YEAR 3 - FALL:	<u> </u>	YEAR 3 - SPRING:	<u> </u>
YEAR 4 - FALL:	<u> </u>	YEAR 4 - SPRING:	<u> </u>

CHANGE UNDERGRADUATE PROGRAM FORM

Signature Routing Log

General Information:

Current Degree Title and Major Name: BS in Agricultural Biotechnology

Proposal Contact Person Name: Daniel K. Howe Phone: 218-1113 Email: dkhowe2@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:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
ABT Coordinating Committee	01/29/2013	Daniel K. Howe / 218-1113 / dkhowe2@uky.edu	
Undergraduate Curriculum Committee	04/26/2013	Larry J. Grabau / 7-3469 / Larry.Grabau@uky.edu	
		/ /	
		/ /	
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision ⁴
Undergraduate Council	9/17/13	Joanie Ett-Mims	
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

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

Agricultural Biotechnology

Example Curriculum for Students starting Fall 2012

UK
UNIVERSITY OF KENTUCKY
College of Agriculture

MA 109 in their first year

<u>Fall year 1</u>			<u>Spring Year 1</u>		
MA 109	College Algebra	3	CHE 107	General College Chemistry II	3
ABT 101	Intro to Biotechnology	1	CHE 113	General College Chemistry II Lab	2
GEN 100 ¹	Issues In Ag -UK Core IX-	3	ABT120	Genetics and Society	3
CIS 110 ¹	Composition and Communication I -UK Core V-	3	MA 123 ¹	Elementary Calculus and its Applications -UK Core VII-	4
CHE 105 ¹	General College Chemistry I -UK Core IV-	4	CIS 111 ¹	Composition and Communication II -UK Core VI-	3
CHE 111 ¹	General College Chemistry I Lab -UK Core IV-	1	UK Core ¹ I		3
Total		15	Total		18

<u>Fall Year 2</u>			<u>Spring Year 2</u>		
CHE 230	Organic Chemistry I	3	CHE 232	Organic Chemistry II	3
CHE 231	Organic Chemistry I Lab	2	CHE 233	Organic Chemistry II Lab	2
CHE 295	Organic Chemistry Workshop I	1	MA 132	Calculus for the Life Sciences	3
BIO 148	Biology	3	BIO 152	Biology	3
BIO 155	Biology computer lab	1	UK Core ¹ III		3
STA 210 ¹	Making Sense of Uncertainty: Intro to Stats -UK Core VIII-	3	STA 291	Statistical Methods	3
ABT 201	Scientific Method in Biotechnology (only after 30 hrs)	1			
UK Core ¹ II		3			
Total		17	Total		17

<u>Fall Year 3</u>			<u>Spring Year 3</u>		
PHY 211	General Physics I	5	PHY 213	General Physics II	5
ABT 360 ³	Genetics	3	BIO 308	General Microbiology	3
ABT 301	Writing & Presentation in the Life Sci	2	BIO 209	Introductory Microbiology Lab	2
UK Core ¹ X		3	ABT 461	Introduction to Population Genetics	3
SS ² - 1	Specialty Support Course	3	SS ² - 2	Specialty Support Course	3
Total		16	Total		16

<u>Fall Year 4</u>			<u>Spring Year 4</u>		
BCH 401	Fundamentals of Biochemistry	3	ABT 460	Introduction to Molecular Genetics	3
ABT 395	Independent Study in Biotechnology	3	SS ² - 4	Specialty Support Course	3
ABT 495	Experimental Methods in Biotechnology	4	SS ² - 5	Specialty Support Course	3
SS ² - 3	Specialty Support Course Elective	3 2-3	SS ² - 6	Specialty Support Course	3
Total		15-16	SS ² - 7	Specialty Support Course	3
			Total		15

MINIMUM TOTAL NEEDED = 128 credit hours

¹UK Core---for list of acceptable courses, check the UK 2011-2012 Bulletin pgs 91-92

²Specialty Support course---for list of acceptable courses, check the UK Bulletin pg 92 and check with your advisor

³BIO 304 (4hrs) can substitute for ABT 360 (3hrs)

Updated 1/14/13

Agricultural Biotechnology

Example Curriculum for Students starting Fall 2012



Math 123 in their first year

<u>Fall year 1</u>		<u>Spring Year 1</u>	
MA 123	Elementary Calculus and its Applications 4 -UK Core VII-	CHE 107	General College Chemistry II 3
ABT 101	Intro to Biotechnology 1	CHE 113	General College Chemistry II Lab 2
GEN 100	Issues in Ag -UK Core IX- 3	ABT 120	Genetics and Society 3
CHE 105	General College Chemistry I 4 -UK Core IV-	BIO 148	Biology 3
CHE 111	General College Chemistry I Lab 1 -UK Core IV-	MA 132	Calculus for the Life Sciences 3
CIS 110	Composition and Communication I 3 -UK Core V-	CIS 111	Composition and Communication II 3 -UK Core VI-
Total	16	Total	17

<u>Fall year 2</u>		<u>Spring Year 2</u>	
CHE 230	Organic Chemistry I 3	CHE 232	Organic Chemistry II 3
CHE 231	Organic Chemistry I Lab 2	CHE 233	Organic Chemistry II Lab 2
CHE 295	Organic Chemistry I Workshop 1	(Optional Organic Chemistry II Workshop)	
BIO 152	Principles of Biology II 3	UK Core ¹ II	3
BIO 155	Biology Computer Lab 1	UK Core ¹ III	3
STA 210	Making Sense of Uncertainty: Intro to Statistical Reasoning -UK Core VIII- 3	STA 291	Statistical Methods 3
ABT 201	Scientific Method in Biotechnology 1 (only after 30 hrs)	OR	
UK Core ¹ I	3	STA 570	Basic Statistical Analysis 4
Total	17	OR	
		STA 580	Biostatistics I 3
		Total	14-15

<u>Fall year 3</u>		<u>Spring Year 3</u>	
PHY 211	General Physics 5	PHY 213	General Physics II 5
BCH 401G	Fundamentals of Biochemistry 3	BIO 308	General Microbiology 3
ABT 360 ²	Genetics 3	BIO 209	Introductory Microbiology Lab 2
ABT 301	Writing & Presentation in the Life Sci 2	SS ² - 1	Specialty Support Course 3
UK Core X	3	SS ² - 2	Specialty Support Course 3
Total	16	Total	16

<u>Fall year 4</u>		<u>Spring Year 4</u>	
ABT 495	Experimental Methods in Biotechnology 4	ABT 460	Introduction to Molecular Genetics 3
ABT 395	Independent Study in Biotechnology 3-4	ABT 461	Introduction to Molecular Genetics 3
SS ² - 3	Specialty Support Course 3	SS ² - 5	Specialty Support Course 3
SS ² - 4	Specialty Support Course 3	SS ² - 6	Specialty Support Course 3
Elective 1	3	SS ² - 7	Specialty Support Course 3
Total	16-17	Total	15

MINIMUM TOTAL NEEDED = 128 credit hours

¹University Studies Program course—for list of acceptable courses, check the UK 2011-2012 Bulletin pgs 91-92

²Specialty Support course—for list of acceptable courses, check the UK Bulletin pg 91 and check with your advisor

³BIO 304 (4hrs) can substitute for ABT 360 (3hrs)

Updated 1/14/13

Agricultural Biotechnology

Example Curriculum for Students starting Fall 2012



MA 113 or MA 137 in their first year

<u>Fall year 1</u>		<u>Spring Year 1</u>	
MA 113	Calculus I -UK Core VII-	4	
MA 193	Calculus I Workshop	1	
	OR		
MA 137	Calculus for the Life Sciences -UK Core VII-	4	
ABT 101	Intro to Biotechnology	1	
GEN 100	Issues in Ag -UK Core IX-	3	
CHE 105	General College Chemistry I -UK Core IV-	4	
CHE 111	General College Chemistry I Lab -UK Core IV-	1	
CIS 110	Composition and Communication I -UK Core V-	3	
Total		Total	16

<u>Fall year 2</u>		<u>Spring Year 2</u>	
CHE 230	Organic Chemistry I	3	
CHE 231	Organic Chemistry I Lab	2	
CHE 295	Organic Chemistry I Workshop	1	
BIO 152	Principles of Biology II	3	
STA 210	Making Sense of Uncertainty: Intro to Statistical Reasoning - UK Core VIII	3	
ABT 201	Scientific Method in Biotechnology (only after 30 hrs)	1	
UK Core ¹ I		3	
Total	16	Total	14-15

<u>Fall year 3</u>		<u>Spring Year 3</u>	
PHY 211	General Physics	5	
BCH 401G	Fundamentals of Biochemistry	3	
ABT 360 ³	Genetics	3	
ABT 301	Writing & Presentation in the Life Sci	2	
UK Core ¹ X		3	
Total	16	Total	16

<u>Fall year 4</u>		<u>Spring Year 4</u>	
ABT 495	Experimental Methods in Biotechnology	3	
ABT 395	Independent Study in Biotechnology	3-4	
SS ² - 3	Specialty Support Course	3	
SS ² - 4	Specialty Support Course	3	
Elective 1		3	
Total	15-16	Total	15-18

MINIMUM TOTAL NEEDED = 128 credit hours

¹University Studies Program course—for list of acceptable courses, check the UK 2011-2012 Bulletin pgs 91-92²Specialty Support course—for list of acceptable courses, check the UK Bulletin pg 92 and check with your advisor³BIO 304 (4hrs) can substitute for ABT 360

updated 1/14/13