


**Date: February 4, 2015**

**From:** Ruth E Beattie,   
Director of Undergraduate Studies  
Department of Biology

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**Memo: Re changes to the BS, BA and Minor in Biology**

**The attached includes paperwork for changes to the BS, BA and Minor in Biology**

**Background**

In Fall 2011, the Department of Biology implemented a new curriculum for the BS, BA and Minor in Biology. The changes proposed in this document are ones that have arisen as the "new" biology curriculum was implemented and courses have been changed/developed.

The changes can be summarized as follows:

- 1) **(BS and BA)**  
**UKCore Statistical Inferential Reasoning (SIR) requirement has changed from STA 210 to STA 296.** In Fall 2011, the only SIR course available to biology majors was STA 210. STA 296 has since been developed and approved as a SIR course. Unofficially, for the past year, we have been recommending this course instead of STA 210 to biology majors. STA 296 is a methods course that is a much better fit for the Biology major.

Email from Dr Bill Rayens (Statistics) indicating this change will not be a problem.

RE: STA 296  
Rayens, William S  
Sent: Thursday, January 08, 2015 9:15 AM  
To: Beattie, Ruth E; Stromberg, Arnold

No problems at all. Bio is one of the programs we thought would benefit from the change. Certainly we will need a couple of semesters, maybe a couple of years, to ultimately figure out the redistribution of bodies so that we get the correct number of sections of 296 and 210 offered. But we're pretty good at that so I don't anticipate any real issues.

Bill

**From:** Beattie, Ruth E  
**Sent:** Thursday, January 08, 2015 9:09 AM

**To:** Rayens, William S; Stromberg, Arnold  
**Subject:** STA 296

Bill,

Biology is in the process of making a few changes to our curriculum. Since Fall 2011 we have listed STA 210 as the UKCore SIR class that biology majors must take. We would like to change this to STA 296, which is a much better fit for our needs. Do you foresee any issues at your end with making this change?

REB

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2) (BS and BA)

**The CHE 105 requirement can be satisfied by completion of the combination of CHE 109 and CHE 110.** This is just formalizing a change that occurred two years ago when the Department of Chemistry developed the CHE 109 and CHE 110 course.

3) (BS and BA)

**The BIO 155 requirement can be satisfied by completion of BIO 198** This is just formalizing a change that occurred two years ago when the BIO 198 course was formally approved. BIO 198 is a 2 credit hour enriched laboratory experience for high achieving students in the Scholars in Biology program.

4) (BS)

Currently students satisfy the physics requirement for the BS in Biology by completion of a sequence of physics courses (PHY 211 and PHY 213 or PHY 231, PHY 232, PHY 241 and PHY 242). The proposed change will provide more flexibility by permitting students to mix courses from either sequence to satisfy the requirement: **PHY 211 or PHY 231 and PHY 241 AND PHY 213 or PHY 232 and PHY 242.**

This is just formalizing a change that has been practice (through exception requests) for the past few years. Transfer students and those who change from other STEM majors have often completed PHY 231 and PHY 241 before entering

the biology major and are advised to take PHY 213 as it is a better fit for the biology major.

5) (BA)

The physics requirement for the BA in Biology is being expanded to include PHY 231 and 241. The requirement will read: PHY 211 or PHY 231 and PHY 241 or PHY 151. This is just formalizing a change that has been practice (through exception requests) for the past few years

6) (BS, BA and Minor)

The list of approved upper-level electives has been updated. Courses that are no longer offered at UK have been removed from the list. Some course titles or credit hours have been updated. 200-level BIO courses can no longer be used as upper-level electives for the BS, BA or Minor in Biology. The Department of Biology has developed a number of new upper-level elective courses and so the inclusion of the 200-level courses is not longer warranted.

7) (BS)

The upper-level laboratory requirement for the BS program has been reduced from 2 courses to one course. Before Fall 2011, the only laboratory courses that biology majors took were 2 lab courses in their freshman year and then two elective lab courses in their senior year. When the curriculum was revised in Fall 2011, resources were reallocated to increase laboratory experiences for biology majors and laboratory components were added to the 5 core courses in the curriculum and so the need for 2 additional laboratory experiences is less critical. By reducing the laboratory component to one course, students have more flexibility in their choice of electives.

8) (BA)

The upper-level laboratory requirement for the BA program has been eliminated although students still have the option to take a laboratory course as an elective.

## CHANGE UNDERGRADUATE PROGRAM FORM

### 1. General Information

College: <u>A &amp; S</u>		Department: <u>Biology</u>	
Current Major Name: <u>Biology</u>		Proposed Major Name: <u>no change</u>	
Current Degree Title: <u>BS</u>		Proposed Degree Title: <u>no change</u>	
Formal Option(s): <u>n/a</u>		Proposed Formal Option(s): <u>n/a</u>	
Specialty Field w/in Formal Option: <u>n/a</u>		Proposed Specialty Field w/in Formal Options: <u>n/a</u>	
Date of Contact with Associate Provost for Academic Administration <sup>1</sup> : _____			
Bulletin (yr & pgs):	<u>2014/15, 131-133</u>	CIP Code <sup>1</sup> :	<u>26.0101</u>
		Today's Date:	<u>01/09/15</u>
Accrediting Agency (if applicable): <u>n/a</u>			
Requested Effective Date: <input checked="" type="checkbox"/> Semester following approval. OR <input type="checkbox"/> Specific Date <sup>2</sup> : _____			
Dept. Contact Person: <u>Ruth E Beattie</u>		Phone: <u>257-7647</u>	Email: <u>rebeat1@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:**

A&C - any course  
Humanities - any course  
Social Science - any course  
NPM - CHE 105 and CHE 111  
CCI and CCII any course  
QF - MA 137 or MA 113  
SIR STA 210  
CCC USA - any course  
GD - any course

33 credit hours

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

General Education Area	Course	Credit Hrs
<b>I. Intellectual Inquiry (one course in each area)</b>		
Arts and Creativity	<u>any course</u>	<u>3</u>
Humanities	<u>any course</u>	<u>3</u>

<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>any course</i>	<u>3</u>
Social Sciences	<i>Completed by pre-major CHE 105 and CHE 111</i>	<u>5</u>
Natural/Physical/Mathematical		
<b>II. Composition and Communication</b>		
Composition and Communication I	CIS or WRD 110	<u>3</u>
Composition and Communication II	CIS or WRD 111	<u>3</u>
<b>III. Quantitative Reasoning (one course in each area)</b>		
Quantitative Foundations <sup>3</sup>	<i>MA 113 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>any course</i>	<u>3</u>
Global Dynamics	<i>any course</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).**

STA 296 - approving email included with cover letter

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

<b>Current</b> <input type="checkbox"/> Standard University course offering. List: _____	<b>Proposed</b> <input type="checkbox"/> Standard University course offering. List: _____
<input checked="" type="checkbox"/> Specific course – list: <u>GCCR- the combination of BIO 425 and BIO 350, or ENG 204</u>	<input checked="" type="checkbox"/> Specific course) – list: <u>no change</u>

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

<b>Current</b> <input checked="" type="checkbox"/> Standard college requirement. List: _____	<b>Proposed</b> <input checked="" type="checkbox"/> Standard college requirement. List: <u>no change</u>
<input type="checkbox"/> Specific required course – list: _____	<input type="checkbox"/> Specific course – list: _____

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

<b>Current</b> <u>BIO 148</u> <u>BIO 152</u> <u>BIO 155</u> <u>CHE 105</u> <u>CHE 111</u> <u>CHE 107</u>	<b>Proposed</b> <u>BIO 148</u> <u>BIO 152</u> <u>BIO 155 or BIO 198</u> <u>CHE 105*</u> <u>CHE 111</u> <u>CHE 107</u>
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<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

CHE 113  
MA 137 or MA 113  
MA 138 or MA 114

CHE 113  
MA 137 or MA 113  
MA 138 or MA 114

*\* Student can satisfy the CHE 105 requirement by completion of CHE 109 and CHE 110.*

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

Current	Proposed
<u>Minimum major requirement for graduation is 56 credit hours in courses not open to freshmen. The minimum GPA of all Major and Premajor courses must be at least 2.0</u>	<u>Minimum major requirement for graduation is 56 credit hours in courses not open to freshmen. The minimum GPA of all Major and Premajor courses must be at least 2.0</u>
<u>Major Core</u>	<u>Major Core</u>
<u>Ist tier CORE</u> <u>BIO 303 - 4 hours</u> <u>BIO 304 - 4 hours</u>	<u>Ist tier CORE</u>  <u>No CHANGE</u>
<u>2nd Tire CORE</u> <u>BIO 315 - 4 hours</u> <u>BIO 325 - 4 hours</u> <u>BIO 350 or BIO 430G - 4 hours</u>	<u>2nd Tire CORE</u>  <u>NO CHANGE.</u>
<u>Statistics - take any General Education Statistical Reasoning Course - 3 hours</u>	<u>Statistics - STA 296- 3 hours</u>
<u>BIO 425 or BIO 499 - 1 hour</u>	<u>NO CHANGE</u>
<u>Core Required hours = 24</u>	<u>Core Required hours = 24</u>
<u>Other course work required</u> <u>CHE 230, CHE 231, CHE 232 - 7 hours</u> <u>PHY 211 and PHY 213 or</u> <u>PHY 231/241 and PHY 232/ 242 - 10 hours</u>	<u>Other course work required</u> <u>CHE 230, CHE 231, CHE 232 - 7 hours</u> <u>PHY 211 or (PHY 231 and PHY 241)</u> <u>and PHY 213 or (PHY 232/ and PHY 242) - 10 hours</u>
<u>15 hours of acceptable biology electives.</u>	<u>15 hours of acceptable biology electives.</u>
<u>Other course work required:</u> <u>15 hours to be chosen from 200+ level BIO courses (excluding BIO 208) or the list below. Two courses</u>	<u>Other course work required:</u> <u>15 hours to be chosen from 300+ level BIO courses or the list below. One course must have lab, which</u>

## CHANGE UNDERGRADUATE PROGRAM FORM

must have labs ONE of which may be BIO 395. A maximum of only six credits of BIO 395 may be used as electives in this section. A total of six hours of Independent Research (395) from biological sciences departments may be counted within the 15 hour requirement; however, only BIO 395 is accepted for honors in biology. Note: ANA 209, BIO 208 and PGY 206 CANNOT be used for this requirement

56 total hours required for major

Acceptable biology electives from outside the Department:

Anthropology

ANT 332 (3) Human Evolution

Chemistry

CHE 226 (3-5) Analytical Chemistry

CHE 233 (2) Organic Chemistry

Laboratory II

CHE 440 G (4) Physical Chemistry CHE

441G (2) Physical Chemistry Lab

CHE 442G (3) Physical Chemistry CHE

446G (3) Physical Chemistry for Engineers

CHE 532 (2) Spectrometric ID of

Organic Compounds

CHE 533 (2) Qualitative Organic

Analysis Lab

CHE 550 (3) Biological Chemistry I

CHE 552 (3) Biological Chemistry II

CHE 558 (3) Hormone Receptors and Cell

Signals

CHE 565 (3) Environmental Chemistry

Geology

GLY 401G (3) Invertebrate Paleontology

and evolution

Arts & Sciences

A&S 300 Acceptable as upper-level credit ONLY when offered by the Dept of Biology.

A&S 500 Acceptable as upper-level credit ONLY when offered by the Dept of Biology.

Psychology

PSY 456 (4) Behavioral

Neuroscience

PSY 459 (3) Drugs and Behavior

Statistics (Biology usually accepts only one of the following for each student)

STA 570 (4) Basic Statistical

Analysis

STA580 (3) Biostatistics I

Other STA courses may be accepted at the discretion

may be BIO 395. A maximum of six hours of Independent Research coursework from biological sciences departments may be counted within the 14 hour requirement. Note: ANA 209, BIO 208, BIO 209, BIO 210 and PGY 206 CANNOT be used for this requirement. A maximum of 1 credit hour of seminar coursework (ex. BIO 425, BIO 426, BIO 427) may be counted within the 15 hour requirement.

56 total hours required for major

Acceptable Upper-level Electives for the BS in biology

Biology

BIO 3xx, BIO 4xx, BIO 5xx BIO 6xx

Note: BIO 208, BIO 209 and BIO 210 CANNOT be used to satisfy the upper-level elective requirement for the BS, BA or Minor in Biology

Anthropology

ANT 332 (3) Human Evolution

Chemistry

CHE 226 (3-5) Analytical Chemistry\*

CHE 233 (1) Organic Chemistry Laboratory II\*

CHE 440G (4) Physical Chemistry

CHE 441G (2) Physical Chemistry Lab\*

CHE 442G (3) Physical Chemistry

CHE 446G (3) Physical Chemistry for Engineers

CHE 532 (2) Spectrometric ID of Organic

Compounds

CHE 533 (2) Qualitative Organic Analysis Lab\*

CHE 550 (3) Biological Chemistry I

CHE 552 (3) Biological Chemistry II

CHE 558 (3) Hormone Receptors and Cell Signals

CHE 565 (3) Environmental Chemistry

Geology

EES 401G (3) Invertebrate Paleontology and

Evolution

Arts and Sciences

A&S 300 (Acceptable as upper-level credit ONLY when offered by the Dept of Biology)

A&S 500 (Acceptable as upper-level credit ONLY when offered by the Dept of Biology)

Psychology

PSY 456 (4) Behavioral Neuroscience\*

PSY 459 (3) Drugs and Behavior

PSY 552 (4) Evolutionary Psychology\*

PSY 565 (3) Advanced Topics In Neuroscience

Statistics (Biology usually accepts only one of the following for each student)

STA 570 (4) Basic Statistical Analysis

STA 580 (2) Biostatistics I

Other STA courses may be accepted at the discretion of your advisor, and this may depend upon the area of biology in which you choose to specialize.

## CHANGE UNDERGRADUATE PROGRAM FORM

<p>of your advisor, and this may depend upon the area of biology in which you choose to specialize</p> <p><u>College of Agriculture</u></p> <p>ABT 460 (2) Introduction to Molecular Genetics (Cross listed as AGR/ASC/ENT 460)</p> <p>ASC 364 (3) Reproductive Physiology of Animals</p> <p>ASC 378 (3) Animal Nutrition</p> <p>ENT 310 (3) Insect Pests of Field Crops</p> <p>ENT 320 (3) Horticultural Entomology</p> <p>ENT 360 (3) Genetics is NOT acceptable as an upper level elective for Biology majors Substitutes for BIO 304 only if student transferred into Biology major after taking this course. Cross listed as ABT/ASC/ENT/PLS 360</p> <p>ENT 402 (3) Forest Entomology (cross listed as FOR 402)</p> <p>ENT 460 (3) Intro to Molecular Genetics (cross listed as ABT/ASC/FOR 360)</p> <p>ENT 561 (4) Medical Entomology</p> <p>ENT 564 (4) Insect Taxonomy</p> <p>ENT 568 (3) Insect Behavior</p> <p>FOR 315 (3) Conservation Biology</p> <p>FOR 340 (3) Forest Ecology</p> <p>FOR 375 (3) Taxonomy of Forest Vegetation</p> <p>FOR 402 (3) Forest Entomology</p> <p>FSC 530 (5) Food Microbiology</p> <p>NRC 320 (3) Data Collection Techniques</p> <p>NRC 420G (4) Taxonomy of Vascular Plants</p> <p>NRC 450G (3) Biogeochemistry</p> <p>NRC 455G (3) Wetland Delineation</p> <p>PLS 320 (4) Woody Horticultural Plants</p> <p>PLS 330 (2) Herbaceous Horticultural Plants I</p> <p>PLS 332 (2) Herbaceous Horticultural Plants II</p> <p>PLS 366 (3) Fundamentals of Soil Science</p> <p>PLS 367 (2) Soil and Water Analysis Lab</p> <p>PLS 450G (3) Biogeochemistry</p> <p>PLS 502 (3) Ecology of Economic Plants</p> <p>PLS 566 (3) Soil Microbiology</p>	<p><u>College of Agriculture, Food and Environment</u></p> <p>ABT 460 (3) Introduction to Molecular Genetics (Cross listed as AGR/ASC/ENT 460)</p> <p>ASC 364 (4) Reproductive Physiology of Animals</p> <p>ASC 378 (4) Animal Nutrition</p> <p>ENT 310 (3) Insect Pests of Field Crops</p> <p>ENT 320 (3) Horticultural Entomology</p> <p>ENT 402 (3) Forest Entomology (cross listed as FOR 402)</p> <p>ENT 460 (3) Intro to Molecular Genetics (cross listed as ABT/ASC/FOR 360)</p> <p>ENT 561 (3) Insects Affecting Human and Animal Health</p> <p>ENT 564 (4) Insect Taxonomy</p> <p>ENT 568 (3) Insect Behavior</p> <p>FOR 340 (4) Forest Ecology*</p> <p>FOR 375 (1) Taxonomy of Forest Vegetation</p> <p>FOR 402 (3) Forest Entomology*</p> <p>FSC 530 (5) Food Microbiology*</p> <p>NRE 320 (3) Natural Resource and Environmental Analysis</p> <p>NRE 420G (4) Taxonomy of Vascular Plants*</p> <p>NRE 450G (3) Biogeochemistry</p> <p>NRC 455G (3) Wetland Delineation</p> <p>PLS 320 (4) Woody Horticultural Plants*</p> <p>PLS 330 (2) Herbaceous Horticultural Plants I*</p> <p>PLS 332 (2) Herbaceous Horticultural Plants II*</p> <p>PLS 366 (4) Fundamentals of Soil Science</p> <p>PLS 450G (3) Biogeochemistry</p> <p>PLS 502 (3) Ecology of Economic Plants</p> <p>PLS 566 (3) Soil Microbiology</p> <p>PLS 567 (1) Methods in Soil Microbiology (Lab)*</p> <p>PPA 400G (3) Principles of Plant Pathology*</p> <p><u>College of Medicine</u></p> <p>ANA 511 (5) Intro To Human Anatomy*</p> <p>ANA 512 (4) Microscopy and Ultrastructure*</p> <p>ANA 516 (3) Anatomy of the Nervous System*</p> <p>Some other anatomy courses at the 500-level are acceptable, but they are usually restricted to professional students.</p> <p>BCH 401G (3) Fundamentals of Biochemistry</p> <p>MI 494G (3) Immunobiology (same as BIO 494G)</p> <p>MI 595 (2) Immunobiology Laboratory*</p> <p>MI 598 (3) Clinical Microbiology (same as PAT 598)</p> <p>PGY 412G (4) Principles of Human Physiology</p> <p>Acceptable as an elective for upper level biology credit but DOES NOT substitute for BIO 350 or BIO430G).</p> <p>PGY 560 (1) Pathophysiology</p> <p>PGY 590 (4) Cellular and Molecular Physiology</p> <p>TOX 509 (3) Biochemical and Environmental Toxicology</p> <p>Unacceptable courses often mistakenly thought to be</p>
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PLS 567 (1) Methods in Soil Microbiology (Lab)	acceptable: ANA 209 (3) Principles of Human Anatomy and PGY 206 Elementary Physiology are not acceptable electives for Biology majors. Other courses may be accepted at the discretion of the Director of Undergraduate Studies in the Department of Biology *Lab courses that satisfy upper level lab requirement	
PPA 400G (3) Principles of Plant Pathology		
College of Medicine		
ANA 511 (5) Intro. To Human Anatomy		
ANA 512 (4) Microscopy and Ultrastructure		
ANA 516 (3) Anatomy of the Nervous System		
Some other anatomy courses at the 500-level are accepted, but are usually restricted to professional students.		
BCH 401G (3) Fundamentals of Biochemistry		
MI 494G (3) Immunobiology (same as BIO 494G)		
MI 595 (2) Immunobiology Laboratory		
MI 598 (3) Clinical Microbiology (same as PAT 598)		
PGY 412G (4) Principles of Human Physiology		
Acceptable as an elective for upper level biology credit but DOES NOT substitute for BIO 350 or BIO430G		
PGY 560 (1) Pathophysiology		
TOX 509 (3) Biochemical and Environmental Toxicology		
Other courses may be accepted at the discretion of the Director of Undergraduate Studies in the Department of Biology		

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

## CHANGE UNDERGRADUATE PROGRAM FORM

In a related field?

If so, indicate current courses and proposed changes below.

Yes  No

Current	Proposed

11. Does the change affect pgm requirements for technical or professional support electives?

If so, indicate current courses and proposed changes below.

Yes  No

Current	Proposed

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

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

Yes  No

Current	Proposed

13. Summary of changes in required credit hours:

	Current	Proposed
a. Credit Hours of Premajor or Preprofessional Courses:	no change	no change
b. Credit Hours of Major's Requirements:	56	56
c. Credit Hours for Required Minor:	N/A	N/A
d. Credit Hours Needed for a Specific Option:	N/A	N/A
e. Credit Hours Outside of Major Subject in Related Field:	N/A	N/A
f. Credit Hours in Technical or Professional Support Electives:	N/A	N/A
g. Minimum Credit Hours of Free/Supportive Electives:	6	6
h. Total Credit Hours Required by Level:		
100:	24 within major	<u>25 - 28 within the major</u>
200:	15 - 21 within major	<u>17 within the major</u>
300:	20 - 38 depending on elective choices within major	no change
400-500:	0 - 16 depending on elective choices within major	no change
i. Total Credit Hours Required for Graduation:	120 (above numbers do not include General Education or College required course hours as level is	<u>120 (above numbers do not include General Education or College required course hours as level is unknown) See attached documentation for additional</u>

## CHANGE UNDERGRADUATE PROGRAM FORM

	<u>unknown) See attached documentation for additional information.</u>	<u>information.</u>
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14. Rationale for Change(s) – If rationale involves accreditation requirements, please include specific references to that.

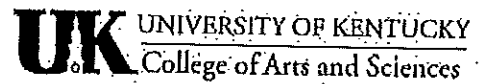
see attached memo

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 next pages</u>	YEAR 1 – SPRING:	_____
YEAR 2 - FALL :	_____	YEAR 2 – SPRING:	_____
YEAR 3 - FALL:	_____	YEAR 3 - SPRING:	_____
YEAR 4 - FALL:	_____	YEAR 4 - SPRING:	_____

**4-YEAR CURRICULAR MAP**

**Bachelor of Science in Biology**



YEAR 1	
<b>FALL</b> ‡UK Core CC1 (WRD 110) UK Core QFO (MA 137: Calculus with Life Science Applications or MA113: Calculus I) UK Core NPM (CHE 105: General College Chemistry I) UK Core NPM (CHE 111: General Chemistry I Lab) BIO 148: Introductory Biology I BIO 155: Lab for Introductory Biology I or BIO 198: Scholars Biology Research Total Credits: 16-17	<b>SPRING</b> UK Core CC2 (WRD 111) MA 138: Calculus II with Life Science Applications or MA 114: Calculus II CHE 107: General College Chemistry II CHE 113: Lab to Accompany General Chemistry II BIO 152: Principles of Biology II Total Credits: 15-16
YEAR 2	
<b>FALL</b> BIO 303: Introduction to Evolution OR BIO 304: Principles of Genetics UK CORE SSC CHE 230: Organic Chemistry I CHE 231: Organic Chemistry Lab I ‡Foreign language 201 Total Credits: 14	<b>SPRING</b> BIO 303: Introduction to Evolution OR BIO 304: Principles of Genetics UK Core HUM CHE 232: Organic Chemistry II ‡Foreign language 202 ♦ Elective (CHE 233) Total Credits: 14-16
YEAR 3	
<b>FALL</b> PHY 211: General Physics I UK Core SIR (STA 296 recommended) Tier 2 BIO Course I (BIO 315) Tier 2 BIO Course II Total Credits: 16	<b>SPRING</b> PHY 213: General Physics II Tier 2 BIO Course III (BIO 350) *BIO Elective ♦ Elective Total Credits: 15
YEAR 4	
<b>FALL</b> *BIO Elective *BIO Elective A&S SS UK Core ACR UK Core CCC Total Credits: 14-15	<b>SPRING</b> *BIO Electives BIO 425: Biology Seminar OR *BIO 499: Biology Research Seminar A&S HUM/Graduation writing requirement-if BIO 350 not taken UK Core GDY Total Credits: 13-14

- ‡ Incoming Students are Strongly Encouraged to take WRD 112 to fulfill the CC1 and CC2 requirements if they have any of the following: an ACT English score of 32 or Higher, an SAT Verbal score of 720 or Higher, or an AP English Composition score of 4 or 5. If the Student has been accepted into the University Honors Program, the Student is required to take WRD 112, instead of CC1 and CC2.
- \* To be discussed with your academic advisor. Consider pursuing a 2<sup>nd</sup> major or minor.
- ‡ Students who have taken at least 2 years of a language in high school can complete the A&S Foreign Language Requirement with 3 college semesters of a different language. Students choosing this option should replace the 4<sup>th</sup> semester of language with electives. Also note that if you take a foreign language placement exam, you may be exempt from 1 or more of the beginning semesters of that language. In this case, replace the by-passed language courses with electives. Any language sequence may be used to satisfy the foreign language requirements - French, German, Greek, or Latin is recommended.
- ♦ 6 hours of 'free' electives - that do not count toward any other requirement - must be taken. Additional electives may be required to reach the required minimum of 120 hours. Consider pursuing a 2<sup>nd</sup> major or minor.

<b>UK Core Abbreviations</b>	
HUM = Intellectual Inquiry in the Humanities	CC1 = Composition and Communication I
NPM = Intellectual Inquiry in the Natural/Physical/Mathematical Science	CC2 = Composition and Communication II
SSC = Intellectual Inquiry in Social Sciences	QFO = Quantitative Foundations
ACR = Intellectual Inquiry in Arts & Creativity	SIR = Statistical Inferential Reasoning
	CCC = Community, Culture and Citizenship in U.S.
	GDY = Global Dynamics
<b>College of Arts &amp; Sciences Abbreviations</b>	
SS: Social Sciences	NS: Natural Sciences
Lab: College Laboratory or Field Experience HUM: Humanities	

# A 4-YEAR CURRICULAR MAP

## BACHELOR of SCIENCE in BIOLOGY

PROPOSED Effective Fall 2015

Year 1					
Fall		Credits	Spring		Credits
WRD 110 (Gen Ed CCI)		3	WRD 111 (Gen Ed CCII)		3
BIO 148		3	BIO 152		3
BIO 155 or BIO 198		1 (2)	CHE 107		3
CHE 105* (Gen Ed Inquiry IV)		4	CHE 113		2
CHE 111 (Gen Ed Inquiry IV)		1	MA 138 or MA 114		4
MA 137 or MA 113 (Gen Ed QF)		4			<u>15</u>
		<u>15</u>			
*can be satisfied with CHE 109 and 110					
Year 2					
Fall		Credits	Spring		Credits
BIO 304 or 303		4	BIO 304 or 303		4
Gen Ed Inquiry II		3	Gen Ed Inquiry III		3
CHE 230		3	CHE 232		3
CHE 231		1	αForeign Language IV		3
αForeign Language III		3	+Elective(s)		3
		<u>14</u>			<u>16</u>
Year 3					
Fall		Credits	Spring		Credits
PHY 211 or PHY 231 and PHY 241		5	PHY 213 or PHY 232 and PHY 242		5
Gen Ed SIR (STA 296)		3	Tier 2 BIO Core (BIO 350 - GCCR)		4
Tier 2 BIO Core Course I		4	BIO Elective		3
Tier 2 BIO Core Course II		4	+Elective(s)		3
		<u>16</u>			<u>15</u>
Year 4					
Fall		Credits	Spring		Credits
BIO Elective		3	BIO Elective		3
BIO Elective		3	BIO 425(GCCR) or BIO 499		1
A&S Social Science		3	BIO Elective		3
Gen Ed US Citizenship		3	A&S Humanities		3
Gen Ed Inquiry IV		3	Gen Ed Global Citizenship		3
		<u>15</u>			<u>13</u>

**TOTAL CREDITS: 120**

Biology Electives 15 hours

15 hours to be chosen from 300+ level BIO courses or from the approved list below. One course must have a lab which may be BIO 395. A maximum of only six credits of BIO 395 may be used as electives in this section. A total of six hours of Independent Research from biological sciences departments may be counted within the 15-hour requirement; however, only BIO 395 is accepted for Honors in Biology. Note: ANA 209, BIO 208, BIO 209, BIO 210, and PGY 206 CANNOT be used for this requirement.

# CHANGE UNDERGRADUATE PROGRAM FORM

## Signature Routing Log

**General Information:**

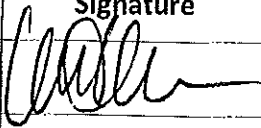
Current Degree Title and Major Name: BS in BIOLOGY

Proposal Contact Person Name: Ruth E Beattie Phone: 257-7647 Email: rebeat1@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
Dept of Biology		Dr Vincent Cassone / 257-6766 / vincent.cassone@uky.edu	
EPC / A&S		Anna Bosch / /	
		/ /	
		/ /	
		/ /	

**External-to-College Approvals:**

Council	Date Approved	Signature	Approval of Revision <sup>4</sup>
Undergraduate Council	3/31/15	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.