**Date: February 4, 2015**

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

**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 20111 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

Ruth E. Beattie
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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 PHY241 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: A&S | | Department: Biology | |
| Current Major Name: Biology | | *Proposed Major Name:* *Biology* | |
| Current Degree Title: BA | | *Proposed Degree Title:* *BA* | |
| Formal Option(s): n/a | | *Proposed Formal Option(s):* *n/a* | |
| Specialty Field w/in Formal Option: n/a | | *Proposed Specialty Field w/in Formal Options:* *n/a* | |
| Date of Contact with Associate Provost for Academic Administration[1]: _____ | | | |
| Bulletin (yr & pgs): 2014/15, 131-133 | CIP Code[1]: 26.0101 | | Today's Date: 2/4/15 |
| Accrediting Agency (if applicable): N/A | | | |
| Requested Effective Date: ☒ Semester following approval. | OR | ☐ Specific Date[2]: _____ | |
| Dept. Contact Person: Ruth E Beattie | Phone: 257-7647 | Email: rebeat1@uky.edu | |

**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 hoursno

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

| | General Education Area | | Course | Credit Hrs |
|---|---|---|---|---|
| I. Intellectual Inquiry (one course in each area) | | | | |
| | Arts and Creativity | | *no change* | _____ |
| | Humanities | | *no change* | _____ |

[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.

| | | | | |
|---|---|---|---|---|
| | Social Sciences | | *no change* | |
| | Natural/Physical/Mathematical | | *no change* | |
| 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] | | *no change* | |
| | Statistical Inferential Reasoning | | *STA 296* | *3* |
| IV. | Citizenship (one course in each area) | | | |
| | Community, Culture and Citizenship in the USA | | *no change* | |
| | Global Dynamics | | *no change* | |
| | | | **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).**

STA 296 - approving email with cover letter

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

| Current | | *Proposed* | |
|---|---|---|---|
| ☐ Standard University course offering. List: | | ☐ *Standard University course offering. List:* | |
| ☒ Specific course – list: | GCCR - the combination of BIO 425 and BIO 350, or ENG 204 | ☐ *Specific course) – list:* | *no change* |

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

| Current | | *Proposed* | |
|---|---|---|---|
| ☒ Standard college requirement. List: | | ☒ *Standard college requirement. List: no change* | |
| ☐ Specific required course – list: | | ☐ *Specific course – list:* | |

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

| Current | *Proposed* |
|---|---|
| BIO 148 | *BIO 148* |
| BIO 152 | *BIO 152* |
| BIO 155 | *BIO 155 or BIO 198* |
| CHE 105 | *CHE 105** |
| CHE 111 | *CHE 111* |
| CHE 107 | *CHE 107* |
| CHE 113 | *CHE 113* |
| MA 137 o MA 113 or MA 123 | *MA 137 o MA 113 or MA 123* |

[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.

| | |
|---|---|
| | ** the CHE 105 requirement can be satisfied with CHE 109 and CHE 110.* |

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

| Current | *Proposed* |
|---|---|
| Minimum major requirement for graduation is 54 credit hours in courses not open to freshmen. The minimum GPA of all Major and Premajor courses must be at least 2.0 | *Minimum major requirement for graduation is 54 credit hours in courses not open to freshmen. The minimum GPA of all Major and Premajor courses must be at least 2.0* |
| Major Core | *Major Core* |
| Ist tier CORE<br>BIO 303 - 4 hours<br>BIO 304 - 4 hours | *Ist tier CORE*<br>*BIO 303 - 4 hours*<br>*BIO 304 - 4 hours* |
| Take two from<br>2nd Tire CORE<br>BIO 315 - 4 hours<br>BIO 325 - 4 hours<br>BIO 350 or BIO 430G - 4 hours | *Take two from*<br>*2nd Tire CORE*<br>*BIO 315 - 4 hours*<br>*BIO 325 - 4 hours*<br>*BIO 350 or BIO 430G - 4 hours* |
| Statistics - take any General Education Statistical Reasoning Course - 3 hours | *Statistics - STA 296 - 3 hours* |
| BIO 425 or BIO 499 - 1 hour | *BIO 425 or BIO 499 - 1 hour* |
| Other course work required<br>CHE 236 or CHE 230, CHE 231, 5 hours<br>PHY 211 - 5 hours or PHY 151 3 hours* | *Other course work required*<br>*CHE 236 or CHE 230, CHE 231, 4 hours*<br>*PHY 211 - 5 hours or PHY 151 3 hours** |
| *Note PHY 151 is not accepted for admission into Medical, Dental or Pharmacy School. Check with your advisor before choosing a physics course. | **Note PHY 151 is not accepted for admission into Medical, Dental or Pharmacy School. Check with your advisor before choosing a physics course.* |
| Complete one of the following options. Students cannot mix and match requirements from the two options. An option must be completed in its entirety. | *Complete one of the following options. Students cannot mix and match requirements from the two options. An option must be completed in its entirety.* |
| Option A – Minor Option - 14 of these hours must be at the 300-level or above | *Option A – Minor Option - 14 of these hours must be at the 300-level or above* |
| Complete the requirements for any minor other than the biology minor 18 – 21 hours | *Complete the requirements for any minor other than the biology minor 18 – 21 hours* |

# CHANGE UNDERGRADUATE PROGRAM FORM

| | |
|---|---|
| Biology Electives** 4 – 9 hours<br>Biology Electives** - One course must have lab which may be BIO 395. A maximum of only three credits of BIO 395 may be used in this section. | *Biology Electives** 4 – 9 hours*<br>*Biology Electives** - A maximum of three credits of Independent Research coursework may be used in this section.* |
| If students double-dip major and minor requirements, additional biology electives must be taken to meet the graduation requirement of 54 hours for the BA in Biology.<br>Total 25 - 27 Hours in this option | *If students double-dip major and minor requirements, additional biology electives must be taken to meet the graduation requirement of 54 hours for the BA in Biology.*<br>*Total 25 - 27 Hours in this option* |
| Option B – Topical Focus Option - 14 of these hours must be at the 300-level or above* | *Option B – Topical Focus Option - 14 of these hours must be at the 300-level or above** |
| Complete a 12 credit hour sequence of courses with a topical focus. At least 6 of these hours must be at the 300-level or above. 12 hours | *Complete a 12 credit hour sequence of courses with a topical focus. At least 6 of these hours must be at the 300-level or above. 12 hours* |
| Note: Students who have multiple interests or interests that do not fall into the requirements for a minor offered at the University of Kentucky may select a 12 hour credit hour sequence of courses with a topical focus. Courses in several disciplines and in the various interdisciplinary programs may be combined to pursue the topical focus. Students interested in pursuing Option B MUST have the 12 credit hour sequence of courses APPROVED IN ADVANCE by the Director of Undergraduate Studies, Dept. of Biology. | *Note: Students who have multiple interests or interests that do not fall into the requirements for a minor offered at the University of Kentucky may select a 12 hour credit hour sequence of courses with a topical focus. Courses in several disciplines and in the various interdisciplinary programs may be combined to pursue the topical focus. Students interested in pursuing Option B MUST have the 12 credit hour sequence of courses APPROVED IN ADVANCE by the Director of Undergraduate Studies, Dept. of Biology.* |
| Biology Electives# 13 - 15 hours<br>Biology electives#: One course must have lab, which may be BIO 395. A maximum of six credits of BIO 395 may be used as electives in this section.<br>Total 25 - 27 hours in this option | *Biology Electives# 13 - 15 hours*<br>*Biology electives#: A maximum of six credits of independent research coursework may be used as electives in this section.*<br>*Total 25 - 27 hours in this option* |
| 54 total hours required for major | *54 total hours required for major* |
| Acceptable biology electives from outside the Department: | *Acceptable biology electives from outside the Department:* |

# CHANGE UNDERGRADUATE PROGRAM FORM

| | |
|---|---|
| Anthropology<br>ANT 332 (3) Human Evolution<br>Chemistry<br>CHE 226 (3-5) Analytical Chemistry<br>CHE 233 (2) Organic Chemistry Laboratory II<br>CHE 440 G (4) Physical Chemistry CHE 441G (2) Physical Chemistry Lab*<br>CHE 442G (3) Physical Chemistry CHE 446G (3) Physical Chemistry for Engineers<br>CHE 532 (2) Spectrometric ID of Organic Compounds<br>CHE 533 (2) Qualitative Organic Analysis Lab<br>CHE 550 (3) Biological Chemistry I<br>CHE 552 (3) Biological Chemistry II<br>CHE 558 (3) Hormone Receptors and Cell Signals<br>CHE 565 (3) Environmental Chemistry<br>Geology<br>GLY 401G (3) Invertebrate Paleontology and evolution<br>Arts & Sciences<br>A&S 300 Acceptable as upper-level credit ONLY when offered by the Dept of Biology.<br>A&S 500 Acceptable as upper-level credit ONLY when offered by the Dept of Biology.<br><br>Psychology<br>PSY 456 (4) Behavioral Neuroscience<br>PSY 459 (3) Drugs and Behavior<br><br>Statistics (Biology usually accepts only one of the following for each student)<br>STA 503 (4) Introduction to Statistical Methods<br>STA 570 (4) Basic Statistical Analysis<br>STA580 (3) Biostatistics I<br>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<br><br>College of Agriculture<br>ABT 460 (2) Introduction to Molecular Genetics (Cross listed as AGR/ASC/ENT 460)<br>ASC 364 (3) Reproductive Physiology of Animals<br>ASC 378 (3) Animal Nutrition<br><br>ENT 310 (3) Insect Pests of Field | *Hours to be chosen from 300+ level BIO courses or the list below. 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 this elective requirement.*<br><br>*Acceptable Upper-level Electives for the BA in biology*<br><br>*Biology*<br>*BIO 3xx, BIO 4xx, BIO 5xx BIO 6xx*<br>*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*<br><br>*Anthropology*<br>*ANT 332 (3) Human Evolution*<br><br>*Chemistry*<br>*CHE 226 (3-5) Analytical Chemistry**<br>*CHE 233 (1) Organic Chemistry Laboratory II**<br>*CHE 440G (4) Physical Chemistry*<br>*CHE 441G (2) Physical Chemistry Lab**<br>*CHE 442G (3) Physical Chemistry*<br>*CHE 446G (3) Physical Chemistry for Engineers*<br>*CHE 532 (2) Spectrometric ID of Organic Compounds*<br>*CHE 533 (2) Qualitative Organic Analysis Lab**<br>*CHE 550 (3) Biological Chemistry I*<br>*CHE 552 (3) Biological Chemistry II*<br>*CHE 558 (3) Hormone Receptors and Cell Signals*<br>*CHE 565 (3) Environmental Chemistry*<br>*Geology*<br>*EES 401G (3) Invertebrate Paleontology and Evolution*<br>*Arts and Sciences*<br>*A&S 300 (Acceptable as upper-level credit ONLY when offered by the Dept of Biology)*<br>*A&S 500 (Acceptable as upper-level credit ONLY when offered by the Dept of Biology)*<br>*Psychology*<br>*PSY 456 (4) Behavioral Neuroscience**<br>*PSY 459 (3) Drugs and Behavior*<br>*PSY 552 (4) Evolutionary Psychology**<br>*PSY 565 (3) Advanced Topics In Neuroscience*<br>*Statistics (Biology usually accepts only one of the following for each student)*<br>*STA 570 (4) Basic Statistical Analysis*<br>*STA 580 (2) Biostatistics I*<br>*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.* |

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

| | |
|---|---|
| Nervous System<br>Some other anatomy courses at the 500-level are accepted, but are usually restricted to professional students.<br><br>~~BCH 401G (3) Fundamentals of~~ Biochemistry<br><br>MI 494G (3) Immunobiology (same as BIO 494G)<br>MI 595 (2) Immunobiology Laboratory<br>MI 598 (3) Clinical Microbiology (same as PAT 598)<br>PGY 412G (4) Principles of Human Physiology<br>Acceptable as an elective for upper level biology credit but DOES NOT substitute for BIO 350 or BIO430G<br>PGY 560 (1) Pathophysiology<br>TOX 509 (3) Biochemical and Environmental Toxicology<br><br>Other courses may be accepted at the discretion of the Director of Undergraduate Studies in the Department of Biology | *acceptable:*<br><br>*Other courses may be accepted at the discretion of the Director of Undergraduate Studies in the Department of Biology*<br>**Lab courses that satisfy upper level lab requirement* |

**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.

# CHANGE UNDERGRADUATE PROGRAM FORM

| 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: | | 21 | *21 - 24* |
| b. Credit Hours of Major's Requirements: | | 54 | *54* |
| c. Credit Hours for Required Minor: | | 0-21 | *0-21* |
| d. Credit Hours Needed for a Specific Option: | | N/A | *N/A* |
| e. Credit Hours Outside of Major Subject in Related Field: | | 7-9 | *7-9* |
| f. Credit Hours in Technical or Professional Support Electives: | | 0 | *0* |
| g. Minimum Credit Hours of Free/Supportive Electives: | | 6 | *6* |
| h. Total Credit Hours Required by Level: | 100: | 21 - 24 within major | *21 - 24 within major* |
| | 200: | 5 - 10 within major | *5 - 10 within major* |
| | 300: | 20 - 38 depending on elective choices withnin major | *20 - 38 depending on elective choices withnin major* |
| | 400-500: | 0 - 16 depending on elective choices within major | *0 - 16 depending on elective choices within major* |
| i. Total Credit Hours Required for Graduation: | | 120 (above numbers do not include General Education or College required course hours as level is unknown) See attached documentation for additional information. | *120 (above numbers do not include General Education or College required course hours as level is unknown) See attached documentation for additional information.* |

# CHANGE UNDERGRADUATE PROGRAM FORM

**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") | ssee next page | **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 Arts in Biology – Topical Focus

UK UNIVERSITY OF KENTUCKY College of Arts and Sciences

Students who have multiple interests or interests that do not fall into the requirements for a minor offered at the University of Kentucky may select a 12 hour credit hour sequence of courses with a topical focus. Courses in several disciplines and in the various interdisciplinary programs may be combined to pursue the topical focus. Students interested in pursuing this option MUST have the 12 credit hour sequence of courses APPROVED IN ADVANCE by the Director of Undergraduate Studies, Dept. of Biology. Students must submit an APPROVAL OF TOPICAL FOCUS FORM to the DUS.

| Fall | YEAR 1 | Spring |
|---|---|---|
| ‡UK Core CC1 (WRD 110)<br>UK Core QFO (MA 123: Elementary Calculus and its Applications OR MA 137: Calculus I with Life Science Applications OR MA 113: Calculus I)<br>UK Core NPM (CHE 105: General College Chemistry I)<br>UK Core NPM (CHE 111: General Chemistry I Lab)<br>BIO 148: Introductory Biology I<br>BIO 155: Lab for Introductory Biology I OR BIO 198: Scholars Biology Research<br>Total Credits: 16 | | UK Core CC2 (WRD 111)<br>CHE 107: General College Chemistry II<br>CHE 113: Lab to Accompany General Chemistry II<br>BIO 152: Principles of Biology II<br>¤Foreign language 201<br>Total Credits: 14 |
| **Fall** | **YEAR 2** | **Spring** |
| BIO 303: Intro to Evolution OR BIO 304: Principles of Genetics<br>CHE 236: Survey of Organic Chemistry OR CHE 230: Organic Chemistry I<br>CHE 231: Organic Chemistry Lab I<br>A&S SS<br>¤Foreign language 202 Total Credits: 14 | | BIO 303: Intro to Evolution OR BIO 304: Principles of Genetics<br>UK Core HUM<br>UK Core SSC (STA 296 recommended)<br>UK Core SIR<br>Total Credits: 13 |
| **Fall** | **YEAR 3** | **Spring** |
| PHY 151: Intro to Physics OR PHY 211: General Physics I<br>Topical Focus Course I<br>Tier 2 BIO Course I (BIO 315)<br>BIO Elective<br>Total Credits: 13-15 | | Tier 2 BIO Course II<br>A&S SS<br>A&S HUM<br>Topical Focus Course II<br>◊ Elective(s) Total Credits: 16 |
| **Fall** | **YEAR 4** | **Spring** |
| *BIO Electives<br>Topical Focus Course III<br>UK Core ACR<br>UK Core CCC<br>◊ Elective(s)<br>Total Credits: 15-17 | | *BIO Electives<br>BIO 425: Biology Seminar OR *BIO 499: Biology Research Seminar<br>Topical Focus Course IV<br>A&S HUM/Graduation writing requirement-if BIO 350 not taken<br>UK Core GDY Total Credits: 16 |

‡ 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 2nd 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 4th 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 2nd major or minor.

| UK Core Abbreviations | |
|---|---|
| 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 |
| | QFO= Quantitative Foundations |
| | SIR= Statistical Inferential Reasoning |
| SSC=Intellectual Inquiry in Social Sciences | CCC= Community, Culture and Citizenship in U.S. |
| ACR=Intellectual Inquiry in Arts & Creativity | GDY= Global Dynamics |

**College of Arts & Sciences Abbreviations**

SS: Social Sciences NS: Natural Sciences Lab: College Laboratory or Field Experience HUM: Humanities

Updated 5/14/2014

# A 4-YEAR CURRICULAR MAP

## BACHELOR of ARTS in BIOLOGY - Topical Focus

UK UNIVERSITY OF KENTUCKY College of Arts and Sciences

PROPOSED

### Year 1

| Fall | Credits |
|---|---|
| »WRD 110 (Gen Ed CCI) | 3 |
| ~~BIO 148~~ | ~~3~~ |
| BIO 155 (or BIO 198) | 1(2) |
| CHE 105* (Gen Ed Inquiry IV) | 4 |
| CHE 111 (Gen Ed Inquiry IV) | 1 |
| MA 137 or MA 113 (Gen Ed QF) | 4 |
| | 16 (17) |

*Can be satisfied with CHE 109 and CHE 110

| Spring | Credits |
|---|---|
| WRD 111 (Gen Ed CCII) | 3 |
| ~~BIO 152~~ | ~~3~~ |
| CHE 107 | 3 |
| CHE 113 | 2 |
| ¤Foreign Language III | 3 |
| | 14 |

### Year 2

| Fall | Credits |
|---|---|
| BIO 304 or 303 | 4 |
| A&S Social Science | 3 |
| CHE 236 | 3 |
| CHE 231 | 1 |
| ¤Foreign Language IV | 3 |
| | 14 |

| Spring | Credits |
|---|---|
| BIO 304 or 303 | 4 |
| Gen Ed Inquiry II | 3 |
| Gen Ed Inquiry III | 3 |
| Gen Ed SIR (STA 296) | 3 |
| | 13 |

### Year 3

| Fall | Credits |
|---|---|
| PHY 151 or 211or PHY 231 and PHY 241 | 3-5 |
| Tier 2 BIO Core Course I | 4 |
| Tier 2 BIO Core(BIO 350, GCCR) | 4 |
| Topical Focus Course I | 3 |
| | 14-16 |

| Spring | Credits |
|---|---|
| A&S Social Science | 3 |
| BIO Elective | 3-4 |
| A&S Humanities | 3 |
| Topical Focus Course II | 3 |
| +Elective(s) | 3 |
| | 15-16 |

### Year 4

| Fall | Credits |
|---|---|
| BIO Elective | 3-4 |
| Topical Focus Course III | 3 |
| Gen Ed US Citizenship | 3 |
| Gen Ed Inquiry IV | 3 |
| +Elective(s) | 3 |
| | 16- 17 |

| Spring | Credits |
|---|---|
| BIO Elective | 3 |
| BIO 425 (GCCR) or BIO 499 | 1 |
| BIO Elective | 3 |
| Topical Focus Course IV | 3 |
| A&S Humanities | 3 |
| Gen Ed Global Citizenship | 3 |
| | 16 |

**TOTAL CREDITS: 120**

*updated 2/4/15*

4-YEAR CURRICULAR MAP

# Bachelor of Arts in Biology – Minor Option

UNIVERSITY OF KENTUCKY
College of Arts and Sciences

## YEAR 1

**FALL**
‡UK Core CC1 (WRD 110)
UK Core QFO (MA 123: Elementary Calculus and Its Applications OR MA 137: Calculus I with Life Science Applications OR MA 113: 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

**SPRING**
UK Core CC2 (WRD 111)
CHE 107: General College Chemistry II
CHE 113: Lab to Accompany General Chemistry II
BIO 152: Principles of Biology II
¤Foreign language 201
Total Credits: 14

## YEAR 2

**FALL**
BIO 303: Intro to Evolution OR BIO 304: Principles of Genetics
A&S SS
CHE 236: Survey of Organic Chemistry OR CHE 230: Organic Chemistry I
CHE 231: Organic Chemistry Lab I
¤Foreign language 202
Total Credits: 14

**SPRING**
BIO 303: Intro to Evolution OR BIO 304: Principles of Genetics
UK Core HUM
Minor course
UK Core SIR (STA 296 recommended)
◊ Elective
Total Credits: 16

## YEAR 3

**FALL**
PHY 151: Intro to Physics OR PHY 211: General Physics I
Minor course
Tier 2 BIO Course I (BIO 315)
A&S HUM
Total Credits: 13-15

**SPRING**
Tier 2 BIO Course II
A&S SS
Minor course
Minor course
UK Core SSC
Total Credits: 16

## YEAR 4

**FALL**
*BIO Electives
Minor course
UK Core ACR
UK Core CCC
◊ Elective
Total Credits: 13-18

**SPRING**
*BIO Elective/minor course
BIO 425: Biology Seminar OR *BIO 499: Biology Research Seminar
Minor course
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 2nd 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 4th 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 2nd major or minor.

**UK Core Abbreviations**
HUM=Intellectual Inquiry in the Humanities
NPM=Intellectual Inquiry in the Natural/Physical/Mathematical Science
SSC=Intellectual Inquiry in Social Sciences
ACR=Intellectual Inquiry in Arts & Creativity
CC1= Composition and Communication I
CC2= Composition and Communication II
QFO= Quantitative Foundations
SIR= Statistical Inferential Reasoning
CCC= Community, Culture and Citizenship in U.S.
GDY= Global Dynamics

**College of Arts & Sciences Abbreviations**
SS: Social Sciences NS: Natural Sciences Lab: College Laboratory or Field Experience HUM: Humanities

Updated 5/14/2014

PROPOSED for FALL 2015

BA with Minor Option

## Year 1

| Fall | Credits |
|---|---|
| WRD 110 (Gen Ed CCI) | 3 |
| BIO 148 | 3 |
| BIO 155 or BIO 198 | 1 (2) |
| CHE 105* (Gen Ed Inquiry IV) | 4 |
| CHE 111 (Gen Ed Inquiry IV) | 1 |
| MA 137 or MA 113 or MA 123 | 4 |
| | 16 (17) |

*can be satisfied with CHE 109 and CHE 110)

| Spring | Credits |
|---|---|
| WRD 111 (Gen Ed CCII) | 3 |
| BIO 152 | 3 |
| CHE 107 | 3 |
| CHE 113 | 2 |
| ¤Foreign Language III | 3 |
| | 14 |

## Year 2

| Fall | Credits |
|---|---|
| BIO 304 or 303 | 4 |
| A&S Social Science | 3 |
| CHE 236 | 3 |
| CHE 231 | 1 |
| ¤Foreign Language IV | 3 |
| | 14 |

| Spring | Credits |
|---|---|
| BIO 304 or 303 | 4 |
| Gen Ed Inquiry II | 3 |
| Minor Course | 3 |
| Gen Ed SIR (STA 296) | 3 |
| Free elective | 3 |
| | 16 |

## Year 3

| Fall | Credits |
|---|---|
| PHY 151 or 211 or 231 and 241 | 3-5 |
| Tier 2 BIO Core Course I | 4 |
| Tier 2 BIO Core (BIO 350 GCCR) | 4 |
| Minor Course | 3 |
| | 14-or 16 |

| Spring | Credits |
|---|---|
| A&S Social Science II | 3 |
| A&S Humanities | 3 |
| Minor Course | 3 |
| Minor Course | 3 |
| Gen Ed Inquiry III | 3 |
| | 15 |

## Year 4

| Fall | Credits |
|---|---|
| BIO Elective | 3 or 5 |
| Minor Course | 3 |
| Gen Ed US Citizenship | 3 |
| Gen Ed Inquiry IV | 3 |
| Free Elective(s) | 3 |
| | 16 or 18 |

| Spring | Credits |
|---|---|
| BIO 425 (GCCR) or BIO 499 | 1 |
| BIO Elective/Minor Course | 3 |
| Minor Course | 3 |
| A&S Humanities | 3 |
| Gen Ed Global Citizenship | 3 |
| | 13 |

# CHANGE UNDERGRADUATE PROGRAM FORM

## Signature Routing Log

**General Information:**

Current Degree Title and Major Name: BA 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 |
|---|---|---|---|
| Biology Dept | | Vincent Cassone / 257-6766 / vincent.cassone@uky.edu | |
| EPC/ A&S | | Anna Bosch / / | |
| | | / / | |
| | | / / | |
| | | / / | |

**External-to-College Approvals:**

| Council | Date Approved | Signature | Approval of Revision[4] |
|---|---|---|---|
| Undergraduate Council | 3/31/15 | 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.