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: Beattle, 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. Beattle
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Dept. of Biology
University of Kentucky
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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.

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

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- (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.
- 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.

1. General Information

1. General Informatio	n	a managa ang at ang pang managan pang ang anakan pang ang ang ang ang pang pang pang ang pang ang pang p		
College: A&S		Department: Biology		
Current Major Name:	Biology	Proposed Major Name:	Biology	
Current Degree Title:		Proposed Degree Title:	<u>BA</u>	
	<u>1/a</u>	Proposed Formal Option(s):	n/a	
Specialty Field w/in Formal Option:	<u>n/a</u>	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 :		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.

	Ly 5 1511 the University Studies/General Education curricult	ım:
Please list the courses/credit hours currently used	ed to fulfill the University Studies/General Education curriculu	
A&C - any course		ļ
Humanities - any course		- 1
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		

se identify below the suggested courses/credit hours	Course	Credit Hrs
eral Education Area	Course	
tellectual inquiry (one course in each area)		
	no change	
Arts and Creativity	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.

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

	Social Sciences		7	7	
	Natural/Physical/Mathematical		+	no change	
-		and the second s		no change	
-	II. Composition and Communication	·			
\vdash	Composition and Communication I			CIS or WRD 110	3
t	Composition and Communication I			CIS or WRD 111	3
	III. Quantitative Reasoning (one course	in each area)			
	Quantitative Foundations ³	· m cach area;	77		
	Statistical Inferential Reasoning		-	no change	
-				STA 296	3
H	V. Citizenship (one course in each area)			
\vdash	Community, Culture and Citizenship	in the USA		no change	
L	Global Dynamics			no change	
L		Total G	000	ral Education Hours	
3	Explain whether the proposed chang nother department/program. Routing	es to the program (as	desc	ribed in sections 4 to 1	3\ t
a	nother department/program. Routing	Signature Log must in	clud	e approval by faculty of	2) involve courses offered by
	STA 296 - approving email with	cover lotter		s approval by faculty O	auditional department(s).
		cover letter			
4.	Explain how satisfaction of the University	ersity Graduation Writi	ing l	Requirement will be cha	inged.
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	Standard University course o	ffering.	 	Standard University co	urani e CC e et
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		R - the combination O 425 and BIO 350,	└─	Specific course) - list:	no change
	or El	NG 204			
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5.	List any changes to college-level requ	irements that must be	sat	sfied.	
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	BIO 155		<u>10 1</u>		
	CHE 105			55 or BIO 198	
	CHE 111			105*	
	CHE 107		HE . HE .		
	CHE 113		ч <u>е</u> , 1 ЧЕ 1		
į	MA 137 o MA 113 or MA 123			<u>15</u> 7 o MA 113 or MA 123	•
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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 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

Ist tier CORE BIO 303 - 4 hours BIO 304 - 4 hours

Take two from 2nd Tire CORE BIO 315 - 4 hours BIO 325 - 4 hours BIO 350 or BIO 430G - 4 hours

Statistics - take any General Education Statistical Reasoning Course - 3 hours

BIO 425 or BIO 499 - 1 hour

Other course work required CHE 236 or CHE 230, CHE 231, 5 hours 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.

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

Complete the requirements for any minor other than the biology minor 18 – 21 hours

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

Major Core

Ist tler CORE BIO 303 - 4 hours BIO 304 - 4 hours

Take two from 2nd Tire CORE BIO 315 - 4 hours BIO 325 - 4 hours BIO 350 or BIO 430G - 4 hours

Statistics - STA 296 - 3 hours

BIO 425 or BIO 499 - 1 hour

Other course work required CHE 236 or CHE 230, CHE 231, 4 hours 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.

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

Complete the requirements for any minor other than the biology minor 18-21 hours

Biology Electives** 4-9 hours Biology Electives** - One course must have which may be BIO 395. A maximum of only the credits of BIO 395 may be used in this section.	Biology Electives** 4-9 hours Biology Electives** - A maximum of three credits of Independent Research coursework may be used in this section.
If students double-dip major and minor requirement additional biology electives must be taken to meet a graduation requirement of 54 hours for the BA Biology. Total 25 - 27 Hours in this option Option B - Topical Focus Option - 14 of these hour must be at the 300-level or above* Complete a 12 credit hour sequence of courses with topical focus. At least 6 of these hours must be at the 300-level or above topical focus.	In Biology. Total 25 - 27 Hours in this option 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
Note: Students who have multiple interests of interests that do not fall into the requirements for minor offered at the University of Kentucky masselect 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. Student 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
Biology Electives# 13 - 15 hours 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. Total 25 - 27 hours in this option	Biology Electives# 13-15 hours Biology electives#: A maximum of six credits of independent research coursework may be used as electives in this section. 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:

	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
ANT 332 (3) Human Evolution	requirement A maximum of 1 credit hour of seminar
Chemistry	coursework (ex. BIO 425, BIO 426, BIO 427) may be
CHE 226 (3-5) Analytical Chemistry	counted within this elective requirement.
CHE 233 (2) Organic Chemistry	COMMECT WATER THE CO.
Laboratory II OVER 440 C (4) Physical Chemistry CHE	-
CHE 440 G (4) 1 Inysion 2	Acceptable Upper-level Electives for the BA in
441G (2) Physical Chemistry Lab* ONE 442G (2) Physical Chemistry CHE	biology
CHE 4420 (5) Injuly Con Projects	<u> </u>
446G (3) Physical Chemistry for Engineers CHE 532 (2) Spectrometric ID of	Biology
CILIDAD	Pro 2 Pro dry BIO 5xx BIO 6xx
Organic Compounds CUR 533 (2) Qualitative Organic	Note: PIO 208 RIO 209 and BIO 210 CANNOT DE
CHE 333	used to satisfy the upper-level elective requirement
Analysis Lab CHE 550 (3) Biological Chemistry I.	for the BS, BA or Minor in Biology
CITIO 3 3 0 1 1 Claration II	
CIRCUIT CON	Anthropology
<u></u>	ANT 332 (3) Human Evolution
Signals CHR 565 (3) Environmental Chemistry	
CHIGOD	Chemistry
Geology GLY 401G (3) Invertebrate Paleontology	CITE 226 (2-5) Analytical Chemistry*
GLY 4010 (3) INVESTMENT	CHE 233 (1) Organic Chemistry Laboratory II
and evolution Arts & Sciences	CHF. 440G (4) Physical Chemistry
A&S 300 Acceptable as upper-level credit	CHE 441G (2) Physical Chemistry Lab*
ONLY when offered by the Dept of Biology.	
A&S 500 Acceptable as upper-level credit	CHE 446G (3) Physical Chemistry for Engineers CHE 446G (3) Physical Chemistry for Engineers CHE 446G (3) Physical Chemistry for Engineers
ONLY when offered by the Dept of Biology.	CHE 332 (2) Spectrometric 15
OTOT WAS	Compounds Over the time Over and Analysis Lab*
Psychology	CHE 533 (2) Qualitative Organic Analysis Lab*
PSY 456 (4) Behavloral	CHE 550 (3) Biological Chemistry I CHE 552 (3) Biological Chemistry II
Neuroscience	CHE 552 (3) Hormone Receptors and Cell Signals
PSY 459 (3) Drugs and Behavior	CHE 538 (3) Information Recognition CHE 565 (3) Environmental Chemistry
Statistics (Biology usually accepts only one of the	EES 401G (3) Invertebrate Paleontology and
following for each student)	<u>EBO 4010 107 - </u>
STA 503 (4) Introduction to	Auto and Salances
Statistical Methods (4) Basic Statistica	The second of the second land crodit (INL)
S1A 370 (1) 2432	A with a Royal by the Dent of Biology
Analysis STA 580 (3) Biostatistics I	A&S 500 (Acceptable as upper-level creat ONLY
STA580 (3) Biostatistics I	when offered by the Dept of Biology)
Other STA courses may be accepted at the discretion	f Psychology
of your advisor, and this may depend upon the area of	PSY 456 (4) Behavioral Neuroscience*
biology in which you choose to specialize	PSY 459 (3) Drugs and Behavior
O. H. Charleston	pcy 552 (4) Evolutionary Psychology*
College of Agriculture ART 460 (2) Introduction t	pov 565 (3) Advanced Tonics in Neuroscience
ABT 460 (2) Introduction (2) Molecular Genetics (Cross listed as AGR/ASC/EN	T Statistics (Biology usually accepts only one of the
	following for each student)
ASC 364 (3) Reproductive	STA 570 (4) Basic Statistical Analysis
Physiology of Animals	STA 580 (2) Biostatistics I
ASC 378 (3) Animal Nutrition	out of the appear mon he accepted at the discretion
<u> </u>	of your advisor, and this may depend upon the area of
ENT 310 (3) Insect Pests of Fie	ld biology in which you choose to specialize.
10.11 0.10	·

ENT 320 (3) Florticultural Entomology (3) Genetics is NOT seceptable as an upper level elective for Biology majors as substitutes for Biology majors as Substitutes for Biology majors after taking this course. Cross listed as ABTASC/ENT/TLS 360 ENT 402 (3) Forest Bittomology (cross listed as ABTASC/ENT/TLS 360 ENT 402 (3) Forest Bittomology (cross listed as ABTASC/ENT/TLS 360 ENT 561 (3) Into to Molecular Genetics (cross listed as ABTASC/ENT/TLS 360 ENT 561 (4) Medical Entomology ENT 360 (3) Intro to Molecular Genetics (cross listed as ABTASC/FOR 360) ENT 561 (4) Insect Taxonomy ENT 360 (3) Intro to Molecular Genetics (cross listed as ABTASC/FOR 360) ENT 561 (4) Insect Taxonomy ENT 360 (3) Intro to Molecular Genetics (cross listed as ABTASC/FOR 360) ENT 561 (4) Insect Taxonomy ENT 360 (3) Intro to Molecular Genetics (cross listed as ABTASC/FOR 360) ENT 561 (4) Insect Taxonomy ENT 360 (3) Intro to Molecular Genetics (cross listed as ABTASC/FOR 360) ENT 561 (4) Insect Taxonomy ENT 360 (3) Intro to Molecular Genetics (cross listed as ABTASC/FOR 360) ENT 561 (4) Insect Taxonomy ENT 360 (3) Intro to Molecular Genetics (cross listed as ABTASC/FOR 360) ENT 561 (4) Insect Taxonomy ENT 360 (3) Intro to Molecular Genetics (cross listed as FOR 402 (3) Intro to Molecular Enterpology ENT 402 (3) Intro to Molecular Genetics (cross listed as ABTASC/FOR 360) ENT 561 (3) Insect Enterpology ENT 402 (3) Intro to Molecular Genetics (cross listed as ABTASC/FOR 360) ENT 561 (3) Intro to Molecular Genetics (cross listed as ABTASC/FOR 360) ENT 561 (3) Intro to Molecular Genetics (cross listed as ABTASC/FOR 360) ENT 561 (3) Intro to Molecular Genetics (cross listed as ABTASC/FOR 360) ENT 561 (3) Intro to Molecular Genetics (cross listed as ABTASC/FOR 360 (3) Intro to Molecular Genetics (cross listed as ABTASC/FOR 360 (3) Intro to Molecular Genetics (cross listed as ABTASC/FOR 360 (3) Intro to Molecular Enterpology ENT 402 (3) Intro to Molecular Genetics (cross listed as ABTASC/FOR 360 (4) Intro to Molecular Enterpology ENT 402 (3) Intro		
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PLS 332 (2) Herbaceous Horticultural Plants II PLS 366 (3) Fundamentals of Soil Science PLS 367 (2) Soil and Water Analysis Lab PLS 450G (3) Biogeochemistry PLS 502 (3) Ecology of Economic Plants PLS 566 (3) Soil Microbiology PLS 567 (1) Methods in Soil Microbiology (Lab) PPA 400G (3) Principles of Plant Pathology PLS 567 (1) Methods in Soil Microbiology (Lab) PPA 400G (3) Principles of Plant Pathology PLS 567 (1) Methods in Soil Microbiology (Lab) PPA 400G (3) Principles of Plant Pathology PLS 567 (1) Methods in Soil Microbiology (Lab) PPA 400G (3) Principles of Plant Pathology PLS 567 (1) Methods in Soil Microbiology (Allows PPA 400G (3) Principles of Plant Pathology MI 512 (4) Microscopy and Ultrastructure* ANA 512 (4) Microscopy and Ultrastructure* ANA 516 (3) Anatomy of the Nervous System* Some other anatomy courses at the 500-level are acceptable, but they are usually restricted to professional students. BCH 401G (3) Immunobiology (same as BIO 494G) MI 595 (2) Immunobiology (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		PLS 566 (3) Soil Microbiology
Horticultural Plants II PLS 366 (3) Fundamentals of Soil Science PLS 367 (2) Soil and Water Analysis Lab PLS 450G (3) Biogeochemistry PLS 502 (3) Ecology PLS 502 (3) Soil Microbiology PLS 566 (3) Soil Microbiology PLS 567 (1) Methods in Soil Microbiology (Lab) 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 acceptable, but they are usually restricted to professional students. BCH 401G (3) Fundamentals of Biochemistry MI 494G (3) Immunobiology (same as BIO 494G) MI 595 (2) Immunobiology (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	DI CI 220	PLS 567 (1) Methods in Soil Migrobiology (1-1)
PLS 366 Science PLS 367 (2) Soil and Water Analysis Lab PLS 450G PLS 502 (3) Biogeochemistry PLS 502 (3) Ecology PLS 566 (3) Soil Microbiology PLS 567 Microbiology (Lab) PPA 400G (3) Principles of Plant Pathology College of Medicine 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 acceptable, but they are usually restricted to professional students. BCH 401G (3) Fundamentals of Biochemistry MI 494G (3) Immunobiology (same as BIO 494G) MI 595 (2) Immunobiology (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		PPA 400G (3) Principles of Plant Bath 1
Science PLS 367 (2) Soil and Water Analysis Lab PLS 450G (3) Biogeochemistry PLS 502 (3) Ecology PLS 566 (3) Soil Microbiology PLS 567 (1) Methods in Soil Microbiology (Lab) 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 acceptable, but they 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	TOT CLOSES	College of Medicina
PLS 367 Analysis Lab PLS 450G PLS 502 (3) Biogeochemistry PLS 566 PLS 566 PLS 567 (1) Methods in Soil Microbiology (Lab) PPA 400G College of Medicine ANA 512 (4) Microscopy and Ultrastructure* ANA 516 (3) Anatomy of the Nervous System* Some other anatomy courses at the 500-level are acceptable, but they are usually restricted to professional students. BCH 401G (3) Fundamentals of Biochemistry MI 494G (3) Immunobiology (same as BIO 494G) MI 595 (2) Immunobiology (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		ANA 511 (5) Intro To House 4
Analysis Lab PLS 450G (3) Biogeochemistry PLS 502 (3) Ecology of Economic Plants PLS 566 (3) Soil Microbiology PLS 567 (1) Methods in Soil Microbiology (Lab) PPA 400G (3) Principles of Plant Pathology College of Medicine ANA 516 (3) Anatomy of the Nervous System* Some other anatomy courses at the 500-level are acceptable, but they 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	Science	
Analysis Lab PLS 450G (3) Biogeochemistry PLS 502 (3) Ecology of Economic Plants PLS 566 (3) Soil Microbiology PLS 567 (1) Methods in Soil Microbiology (Lab) PPA 400G (3) Principles of Plant Pathology College of Medicine Analysis Lab Some other anatomy courses at the 500-level are acceptable, but they 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	OVE and water	4N/4 516 (2) And Oltrastructure*
PLS 502 (3) Ecology of Economic Plants PLS 566 (3) Soil Microbiology PLS 567 (1) Methods in Soil Microbiology (Lab) PPA 400G (3) Principles of Plant Pathology College of Medicine Geonomic Plants PLS 566 (3) Soil Microbiology (1) Methods in Soil Microbiology (3) Immunobiology (5 ame as BIO 494G) MI 595 (2) Immunobiology (5 ame 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	Analysis Lab	Some other greaters of the Nervous System*
PLS 502 (3) Ecology of Economic Plants PLS 566 (3) Soil Microbiology PLS 567 (1) Methods in Soil Microbiology (Lab) PPA 400G (3) Principles of Plant Pathology College of Medicine (3) Ecology of professional students. BCH 401G (3) Fundamentals of Biochemistry MI 494G (3) Immunobiology (same as BIO 494G) 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	PLS 450G (3) Biogeochemistry	generable has a
Economic Plants PLS 566 (3) Soil Microbiology PLS 567 (1) Methods in Soil Microbiology (Lab) PPA 400G (3) Principles of Plant Pathology College of Medicine College of Medicine Dicition Dicit	PLS 502 (3) Ecology of	acceptable, but they are usually restricted to
PLS 566 (3) Soil Microbiology PLS 567 (1) Methods in Soil Microbiology (Lab) PPA 400G (3) Principles of Plant Pathology College of Medicine 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	Francis District	<u>projessio</u> nal students.
PLS 567 (1) Methods in Soil Microbiology (Lab) PPA 400G (3) Principles of Plant Pathology College of Medicine 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	PI 9 566	BCH 401G (3) Fundamentals of Biochemistry
Microbiology (Lab) PPA 400G (3) Principles of Plant Pathology College of Medicine MI 593 (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	PLS 567	1911 494G (3) Immunobiology (same as RIO 494G)
PPA 400G (3) Principles of Plant Pathology College of Medicine 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	Migrapiology (7-13)	WI 393 (2) Immunobiology Laboratory*
PPA 400G (3) Principles of Plant Pathology College of Medicine Acceptable as an elective for upper level biology credit but DOES NOT substitute for BIO 350 or		MI 598 (3) Clinical Microbiology (same as PAT 508)
College of Medicine Acceptable as an elective for upper level biology credit but DOES NOT substitute for BIO 350 or	PPA 400C (2) P	1 4120 (4) Principles of Human Physiology
College of Medicine Cream our DOES NOT substitute for BIO 350 or	Prop of France attition of	Acceptable as an elective for upper level biology
Confess of Medicine	College of Modining	credit but DOES NOT substitute for BIO 250
ANA 511 (5)	ANIA 511	BIO430G)
ANA 311 (5) Intro. To Human PCV 500 (1) P. d.	ANA 311 (5) Intro. To Human	
PGY 590 (4) Cellular and Molocular Blancia	Anatomy	PGY 590 (4) Cellular and Malacidan Pl
ANA 512 (4) Microscopy and TOX 509 (3) Biochemical and Environmental	THE TRACE OF THE PROPERTY OF T	TOX 509 (3) Richard 1
Ultrastructure Towards (3) Biochemical and Environmental	Ultrastructure	The state of the s
Anatomy of the Unacceptable courses often mistakenly thought to be	110	simple courses often mistakenly thought to be

Nervous System	acceptable:
Some other anatomy courses at the 500-level	r and at the discretion of
are accepted, but are usually restricted to professional	Other courses may be accepted at the discretion of
students.	the Director of Undergraduate Studies in the
	Department of Biology *Lab courses that satisfy upper level lab requirement
	*Lab courses that saits y appearers to
BCH 401G (3) Fundamentals of	,
Biochemistry	
(a) Luumahiologu	•
MI 494G (3) Immunobiology	
(same as BIO 494G) MI 595 (2) Immunoblology Laboratory	
MI DE COMP	·
1711 070	
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	·
IMP STATE OF THE S	
4 1 -4 the digaration of the	
Other courses may be accepted at the discretion of the Director of Undergraduate Studies in the Department	
of Biology	·
	effect the required minor? \(\sum \text{N/A} \sum \text{Yes} No
Does the pgm <u>require</u> a minor AND does the proposed <u>chan</u>	nge affect the required minor? \(\bigcap \text{N/A} \bigcap \text{Yes} \text{ No} \)
f "Yes," indicate current courses and proposed changes be	
Current	Proposed
Current	
	□ N/A □ Yes ☑ No
Does the proposed change affect any option(s)?	
Does the proposed change affect any option(s)r If "Yes," Indicate current courses and proposed changes b	elow, including credit flours, and also specialises with
subspecialties, if any.	
	Proposed
Current	
). Does the change affect pgm requirements for number	of credit hrs outside the major subject
in a volatod field?	
If so, indicate current courses and proposed changes below	V
II 50, High are cultient courses and property	Proposed
Current	Tioposcu
	ol or professional support electives?
1. Does the change affect pgm requirements for technical	low
If so, indicate current courses and proposed changes be	TOW ·

Current	Proposed	
12. Does the change affect a minimum numb	er of free credit hours or support electives?	☐ Yes ⊠ No
If "Yes," indicate current courses and prop Current	Proposed	

13. Summary of changes in required credit hours:

a. Credit Hours of Premajor or Preprofessi	onal Cources	Current	Proposed
	21	<u> 21 - 24</u>	
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		7-9	7-9
f. Credit Hours in Technical or Professional	Support Electives:	0	0
3. Minimum Credit Hours of Free/Supporti		6	6
			12
n. Total Credit Hours Required by Level:	100:	21 - 24 within major	21 - 24 within major
	200:	5 - 10 within	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
Total Credit Hours Required for Graduation	n:	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.

14. Rationale for Change(s) that.	– if rationale involves ac	creditation requirements, ple	ease include specific references t
see attached memo			
15. List below the typical sem separate sheet for each optio		m for the major. If multiple o	ptions are available, attach a
YEAR 1 - FALL: (e.g. "BIO 103; 3 credits")	ssee next page	YEAR 1 – SPRING:	
YEAR 2 - FALL:		YEAR 2 - SPRING:	

YEAR 3 - SPRING:

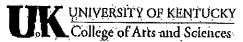
YEAR 4 - SPRING:

YEAR 3 - FALL:

YEAR 4 - FALL:

4-YEAR CURRICULAR MAP

Bachelor of Arts in Biology - Topical Focus



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.

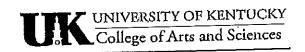
Fall VF		
‡UK Core CC1 (WRD 110)	AR 1 Spring UK Core CC2 (WRD 111)	
UK Core QFO (MA 123: Elementary Calculus and its Applications OR	CHE 107: General College Chemistry II	
MA 137; Calculus I with Life Science Applications QR MA 113:	CHE 113: Lab to Accompany General Chemistry II	
Calculus I)	BIO 152: Principles of Biology II	
UK Core NPM (CHE 105: General College Chemistry I)	#Foreign language 201	
UK Core NPM (CHE 111: General Chemistry I Lab)	A O'CIGIT IATIBUAGE 201	
BIO 148: Introductory Blology I		
BIO 155: Lab for Introductory Biology I OR BIO 198;	,	
Scholars Biology Research	Total Credits: 14	
Total Credits: 16	Total Credits: 14	
	AR.2 Spring	
BIO 303: Intro to Evolution OR BIO 304: Principles of Genetics	BIO 303: Intro to Evolution OR BIO 304: Principles of Genetics	
CHE 236: Survey of Organic Chemistry OR CHE 230:	UK Core HUM	
Organic Chemistry I	UK Core SSC (STA 296 recommended)	
CHE 231: Organic Chemistry Lab	UK Core SIR	
A&S SS		
#Foreign language 202Total Credits: 14	Total Credits: 13	
	AR3 Spring	
PHY 151: Intro to Physics OR PHY 211: General Physics I	Tier 2 BIO Course II	
Topical Focus Course I	A&S SS	
Tier 2 BIO Course I (BIO 315)	A&S HUM	
BIO Elective	Topical Focus Course II	
Total Credits: 13-15	0 Elective(s) Total Credits: 16	
Fall YEA	Uping	
*BIO Electives	*BIO Electives	
Topical Focus Course III	BIO 425: Biology Seminar OR *BIO 499: Blology Research	
UK Core ACR	Seminar	
UK Core CCC	Topical Focus Course IV	
♦ Elective(s)	A&S HUM/Graduation writing requirement-If BIO 350 not taken	
Total Credits: 15-17	UK Core GDY Total Credits: 16	
Incoming Students are Strongly Encouraged to take WRD 112 to fulfill the	e CC1 and CC2 requirements if they have any of the following: an ACT English score	

- 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 2rd 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 2rd major or minor.

UK Core Abbreviations	CC1= Composition and Communication I
HUM =Intellectual inquiry in the Humanities	CC2= Composition and Communication II
NPM=Intellectual inquiry in the Natural/Physical/Mathematical	QFO = Quantitative Foundations
Science = = = = = = = = = = = = = = = = = = =	SIR= Statistical Inferential Reasoning
\$SC=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

A 4-YEAR CURRICULAR MAP

BACHELOR of ARTS in BIOLOGY - Topical Focus

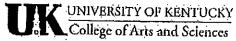


	PROPOSED			
	Fall »WRD 110 (Gen Ed CCI) BIO 148 BIO 155 (or BIO 198) CHE 105* (Gen Ed Inquiry IV) CHE 111 (Gen Ed Inquiry IV) MA 137 or MA 113 (Gen Ed QF) *Can be satisfied with CHE 109 and CHE 110	Credits 3 1(2) 4 1. 4 16 (17)	Spring WRD 111 (Gen Ed CCII) BIO-152 CHE 107 CHE 113 ¤Foreign Language III	Credits 3 3 3 2 3 14
	Fall BIO 304 or 303 A&S Social Science CHE 236 CHE 231 ¤Foreign Language IV	Year Credits 4 3 1 3 14	Spring BIO 304 or 303 Gen Ed Inquiry II Gen Ed Inquiry III Gen Ed SIR (STA 296)	Credits
Operation	Fall PHY 151 or 211or PHY 231 and PHY 24 Tier 2 BIO Core Course I Tier 2 BIO Core(BIO 350, GCCR) Topical Focus Course I	<u>Credits</u>	Spring A&S Social Science BIO Elective A&S Humanities Topical Focus Course II +Elective(s)	Credits 3 3-4 3 3 15-16
	Fall BIO Elective Topical Focus Course III Gen Ed US Citizenship Gen Ed Inquiry IV +Elective(s)	Credits 3-4 3 3 3 3 16-17	Spring BIO Elective BIO 425 (GCCR) or BIO 499 BIO Elective Topical Focus Course IV A&S Humanities Gen Ed Global Citizenship	Credits 3 1 3 3 3 16

TOTAL CREDITS: 120

4-YEAR CURRICULAR MAP

Bachelor of Arts in Biology - Minor Option



bacheror of Arts III blology - Wilhor	Uption College of Arts and Sciences
γ	AR1
FALL	SPRING
‡UK Core CC1 (WRD 110)	UK Core CC2 (WRD 111)
UK Core QFO (MA 123: Elementary Calculus and Its	CHE 107: General College Chemistry II
Applications OR MA 137: Calculus I with Life Science	CHE 113: Lab to Accompany General Chemistry II
Applications OR MA 113: Calculus I)	BIO 152: Principles of Biology II
UK Core NPM (CHE 105: General College Chemistry I)	#Foreign language 201
UK Core NPM (CHE 111: General Chemistry I Lab)	B. G.
BIO 148: Introductory Biology I	
BIO 155: Lab for Introductory Biology I or BIO 198: Scholars	
Biology Research Total Credits: 16-17	Total Credits: 14
YE	AR2
FALL	SPRING
BIO 303: Intro to Evolution OR BIO 304: Principles of Genetics	BIO 303: Intro to Evolution OR BIO 304: Principles of Genetics
A&S SS	UK Core HUM
CHE 236: Survey of Organic Chemistry OR CHE 230:	Minor course
Organic Chemistry I	UK Core SIR (STA 296 recommended)
CHE 231: Organic Chemistry Lab I	♦ Elective
¤Foreign language 202 Total Credits: 14	Total Credits: 16
YE.	AR'3
FALL	SPRING
PHY 151: Intro to Physics OR PHY 211: General Physics [Tier 2 BIO Course II
Minor course	A&S SS
Tier 2 BIO Course I (BIO 315)	Minor course
A&S HUM	Minor course
Total Credits: 13-15	UK Core SSC · Total Credits: 16
Y.E.	NR/4
FALL	SPRING
*BIO Electives	*BIO Elective/minor course
Minor course	BIO 425: Biology Seminar OR *BIO 499: Biology Research
UK Core ACR	Seminar
UK Core CCC	Minor course
♦ Elective	A&S HUM/Graduation writing requirement-if BIO 350 not
,	taken
Total Credits: 13-18	UK Core GDY Total Credits: 13-14
Incoming Students are Strongly Encouraged to take Wind 442 a. 6. (6)	out of cuits, 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.
- 5 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	CC1= Composition and Communication (
HUM =intellectual Inquiry in the Humanities	
NPM=Intellectual inguiry in the Natural/Physical/Mathematical Science	CC2= Composition and Communication II
SSC=Intellectual inquiry in Social Sciences	QFO= Quantitative Foundations
ACD STANLES OF THE ST	SIR# Statistical inferential Reasoning
ACR=Intellectual Inquiry in Arts & Creativity	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

PROPOSED for

BA with Minor Option		F	ALL 2015
	Ye Credits	ar i Spring	Credits
WRD 110 (Gen Ed CCI) BIO 148	3	WRD 111 (Gen Ed CCII) BIO 152	3 3
BIO 155 or BIO 198 CHE 105* (Gen Ed Inquiry IV) CHE 111 (Gen Ed Inquiry IV)	1 (2) 4 1	CHE 107 CHE 113 ¤Foreign Language III	3 2 3

16 (17)

*can be satisfied with CHE 109 and CHE 110)

MA 137 or MA 113 or MA 123

Fall BIO 304 or 303 A&S Social Science CHE 236 CHE 231 ¤Foreign Language IV	Credits 4 3 3 1 1 14	Spring BIO 304 or 303 Gen Ed Inquiry II Minor Course Gen Ed SIR (STA 296) Free elective	Credits 4 3 3 3 3 16
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	Ye	ar S	
Fall PHY 151 or 211 or 231 and 241 Tier 2 BIO Core Course I Tier 2 BIO Core (BIO 350 GCCR) Minor Course	2-5 3-5 4 4 3 14-or 16	Spring A&S Social Science II A&S Humanities Minor Course Minor Course Gen Ed Inquiry III	Credits 3 3 3 3 3 15

Fall BIO Elective Minor Course Gen Ed US Citizenship Gen Ed Inquiry IV Free Elective(s) Credits 3 or 5 BIO 425 (GCCR) or BIO BIO Elective/Minor Cours Minor Course A&S Humanities Gen Ed Global Citizensh	se 3 3 3
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Signature Routing Log

General Information:

Current Degree Title and Major Name:

BA in Biology

Proposal Contact Person Name: Ruth F Beattie

Phone: 257-7647

Email: rebeat1@ukv.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 (na	Signature	
Biology Dept		Vincent Cassor vincent,casso		
EPC/ A&S		Anna Bosch/	1	
			/	·
		. /	/	
		/	1	

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	

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