COLLEGE OF ARTS AND SCIENCES
NEW PROGRAM REVIEW FORM

	Chair's Signature	Recommendation	Review Date
Department	John Mullican	Approve	2013-09-29
Division	Susan Bjerke	Approve	2013-09-30
Dept. of Educ. (If relates to teacher certification program.)	N/A		
Dean	Laura Stephenson	Approve	2013-10-08
Curriculum Committee	Karen Camarda	Approve	2013-10-22
Accepted by CFC	Sarah Ubel	Approve	2013-11-01
CAS Faculty	Bruce Mactavish	Approve	2014-02-21

Approved By:	Faculty Senate	University Faculty	WU Board of Regents

1. Title of Program.

   Bachelor of Science in Environmental Biology

2. Rationale for offering this program.

   The Biology Department proposes offering both B.A. and B.S. degrees in Environmental Biology in an effort to provide targeted degrees for our students interested in entering the fields of basic and applied ecology and evolution. In addition to providing the necessary course work for pursuing graduate degrees, many internships, and temporary and entry level research positions are advertised as desiring applicants pursuing degrees in ecology, environmental biology, conservation, or related fields. This condition places our students majoring in biology at a real or perceived disadvantage that reduces our ability to attract and retain students interested in environmental biology. Many of our competitors offer degrees or emphases similar to these, including KU, KSU, Emporia State University, Fort Hays State University and Wichita State University. This condition places Washburn University at a disadvantage. Our ability to attract and retain students interested in basic and applied ecology is expected to increase with the implementation of these new programs.

3. Exact proposed catalog description.

   The B.S. degree in Environmental Biology is designed to meet the needs of students expressing an interest in environmental biology and prepares them to be competitive as applicants to graduate programs. This degree is built around a biology core emphasizing the principles of ecology and evolution with an orientation towards natural resources, conservation, and other environmental concerns.

   REQUIREMENTS FOR ENVIRONMENTAL BIOLOGY (EB) MAJORS:

Environmental Biology Majors must take a 23-hour core consisting of:
BI 102 General Cellular Biology (5)
BI 103 General Organismal Biology (5)
BI 310 Ecology (4)
BI 333 General Genetics (4)
BI 340 Evolutionary Biology (3)
BI 390 Biology Seminar (1) - Capstone Course
BI 395 Biology Research (1) - Capstone Course

Elective Supportive Organismal Courses for Environmental Biology Majors:
(Students must complete a total of 21 additional credit hours of biology electives with a minimum of 14 hours from the following list and at least 1 course from the Field Electives section)
BI 105 General Botany (4)
BI 110 General Zoology (4)
BI 301 General Microbiology (4)
BI 303 Invertebrate Zoology (4)
BI 305 Parasitology (4)
BI 328 Plant Anatomy and Physiology (3)
BI 330 Animal Physiology (4)

Field Electives Section
BI 300 Field Biology (3)
BI 302 Entomology (4)
BI 315 Vertebrate Zoology (4)
BI 324 Systematic Botany (3)

Quantitative Course Requirement for Environmental Biology Majors:
(Students must complete 1 quantitative course from the list below)
BI 380 Statistical Methods for Biologists (3)
MA 140 Statistics (3)
MA 145 Mathematics for Decision Making (3)

The following non-biology courses are required of Environmental Biology majors:
- MA 151
- One year of physics with lab (PS 261/PS 262 or PS 281/PS 282)
- One year of general chemistry with lab (CH 151/CH 152)
- One semester of organic chemistry with lab (CH 340/CH 342)

The Bachelor of Science (B.S.) degree in Environmental Biology requires a minimum of 44 hours in Biology: the 23-hour Environmental Biology core and 21 additional BI hours, plus a 3 credit hour quantitative course. The B.S. degree also requires a 30-hour minor to be chosen from the Natural Sciences (Biology, Chemistry, Mathematics & Statistics, or Computer Information Science. This minor must be in departments other than the major, and must have at least 20 hours in one department. Minors for the B.S. degree are limited to these courses: Chemistry 151 or above, Physics 261 or above, Mathematics 116 or above, Computer Science 110 or above. The B.S. degree in Environmental Biology requires 124 credit hours to graduate.

4. List and financial implications.

With a modest prediction of six B.S. students over the next 5 years (beginning 2014), we might predict a potential increase of $117,552 in tuition revenue with little to no negative financial

impact. The proposed degree program will utilize existing faculty members, courses, and teaching laboratories. Please see the attached pro forma document.

Department: BIOLOGY
New Program Name: B.S. Degree in Environmental Biology (124 total credit hours)

Program Name

Revenue:	Year 0 - Preparation	2014-2015 Year 1 # Students	# Cr Hrs	Year 2 # Students	# Cr Hrs	Year 3 # Students	# Cr Hrs	Year 4 # Students	# Cr Hrs	Year 5 # Students	# Cr Hrs
Est. Students/Cr Hrs	0	1	31	2	31	3	31	4	31	6	31
Total Credit Hours	0	31		62		93		124		186	
Tuition Rate		237		237		237		237		237	
Other Revenue Sources											
Total Revenue	0	$7,347		$14,694		$22,041		$29,388		$44,082	

Ongoing Expenses:	Year 0 - Preparation	Year 1	FTE	Year 2	FTE	Year 3	FTE	Year 4	FTE	Year 5	FTE
1 st Faculty Member											
Benefits (25%)											
2nd Faculty Member											
Benefits (25%)											
3rd Faculty Member											
Benefits (25%)											
(Continue to add as needed)											
Secretary											
Benefits (25%)											
Adjunct Faculty											
Student stipends											
Supplies											
Marketing											
Travel											
Online Course Development											
Professional Development											
Accreditation/Membership											
Support Materials											
Total Expenses	-	-		-		-		-		-	
Total Net Revenue	$ -	$ 7,347		$ 14,694		$ 22,041		$ 29,388		$ 44,082	$ 117,552

One-time Startup Costs	Year 0 - Preparation	Year 1	Year 2	Year 3	Year 4	Year 5
Furniture						
Office Equipment						
Computer/Software						
Other Electronic Hardware						
Renovation						
Program Equipment						
Initial Accreditation Costs						
Program Development						
Membership						
Release Time to Develop						
Consultant						
Site Visit						
Inservice/Preservice Prep						

Footnotes: