

REQUEST FOR CHANGE IN UNDERGRADUATE PROGRAM

1. General Information

College: <u>College of Agriculture</u>		Department: <u>Interdisciplinary Program</u>	
Current Major Name:	<u>Natural Resource Conservation and Management</u>	Proposed Major Name:	<u>Natural Resources and Environmental Science</u>
Current Degree Title:	<u>Bachelor of Science in Natural Resource Conservation and Management</u>	Proposed Degree Title:	<u>Bachelor of Science in Natural Resources and Environmental Science</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 ¹ : <u>October 7, 2009</u>			
Bulletin (yr & pgs):	<u>2009-2010 Page 98-99</u>	CIP Code ¹ :	<u>03.0101</u> Today's Date: <u>10/12/2009</u>
Accrediting Agency (if applicable): <u>n/a</u>			
Requested Effective Date: <input type="checkbox"/> Semester following approval. OR <input checked="" type="checkbox"/> Specific Date ² : <u>Fall 2010</u>			
Dept. Contact Person: <u>Dr. Mary Arthur</u>		Phone: <u>859-257-2852</u>	Email: <u>marthur@uky.edu</u>

2. University Studies Requirements or Recommendations for this Program.

	Current	Proposed
I. Mathematics	<u>MA 123 Elementary Calculus and Its Applications</u> or <u>MA 113 Calculus I</u>	<u>MA 123 Elementary Calculus and Its Applications</u>
II. Foreign Language	<u>Two years of a foreign language in secondary school as indicated on transcripts, or any two-semester sequence (at least six hours) in a single foreign language at the college level.</u>	<u>same</u>
III. Inference-Logic	<u>MA 123 Elementary Calculus and Its Applications</u> or <u>MA 113 Calculus I</u>	<u>MA 123 Elementary Calculus and Its Applications</u>
IV. Written Communication	<u>ENG 104 or Honors</u>	<u>same</u>
V. Oral Communication	<u>Suspended through Fall 2009</u>	<u>Suspended through Fall 2009</u>
VI. Natural Sciences	<u>CHE 105 General College Chemistry I</u> <u>CHE 107 General College</u>	<u>same</u>

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.

REQUEST FOR CHANGE IN UNDERGRADUATE PROGRAM

	<u>Chemistry II</u> <u>CHE 111 Laboratory to</u> <u>Accompany General Chemistry I</u> <u>CHE 113 Laboratory to</u> <u>Accompany General Chemistry II</u>	
VII. Social Sciences	<u>ECO 201 Principles of Economics I</u> <u>One course other than economics</u> <u>from USP list</u>	<u>same</u>
VIII. Humanities	<u>Two humanities courses from USP</u> <u>list</u>	<u>same</u>
IX. Cross-Cultural	<u>One cross-cultural course from</u> <u>USP list</u>	<u>same</u>
X. USP Electives (3 must be outside the student's major)	<u>BIO 150 Principles of Biology I</u> <u>BIO 152 Principles of Biology II</u>	<u>same</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).

The proposed changes to the major requirement courses involve courses offered in five other departments - Agricultural Economics, Forestry, Landscape Architecture, Plant and Soil Sciences, and Earth and Environmental Sciences.

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

Current		Proposed	
<input type="checkbox"/> Standard University course offering. List: _____		<input type="checkbox"/> Standard University course offering. List: _____	
<input checked="" type="checkbox"/> Specific course – list:	<u>NRC 301 Natural Resource Conservation and Management</u>	<input checked="" type="checkbox"/> Specific course) – list:	<u>(name change to course) NRE 301 Natural Resources and Environmental Science</u>

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

Current		Proposed	
<input type="checkbox"/> Standard college requirement. List: _____		<input type="checkbox"/> Standard college requirement. List: _____	
<input checked="" type="checkbox"/> Specific required course – list:	<u>GEN 100 Issues in Agriculture</u>	<input checked="" type="checkbox"/> Specific course – list:	<u>same</u>

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

Current	Proposed
<u>PLS 210 The Life Processes of Plants (3)</u>	<u>PLS 210 - no longer a pre-major requirement</u>
<u>MA 113 Calculus I (4)</u>	<u>MA 113 - no longer a pre-major requirement option</u>

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

Current	Proposed
----------------	-----------------

REQUEST FOR CHANGE IN UNDERGRADUATE PROGRAM

<u>AEC 424 Principles of Environmental Law (3)</u>	<u>AEC 424 Principles of Environmental Law (3)</u>
<u>AEC 445G Introduction to Resource and Environmental Economics (3)</u>	<u>AEC 445G Introduction to Resource and Environmental Economics (3)</u>
<u>FOR 315 Conservation Biology (3)</u>	<u>FOR 230 Conservation Biology (3)</u>
	<u>FOR 240 Forestry and Natural Resource Ethics (2)</u>
	<u>FOR 325 Economic Botany: Plants and Human Affairs (3)</u>
<u>FOR 340 Forest Ecology (3)</u>	<u>FOR 340 Forest Ecology (4)</u>
	<u>FOR 460 Forest Hydrology and Watershed Management (4) or GLY 385 Hydrology and Water Resources (3)</u>
<u>NRC 301 Natural Resource Conservation and Management (3)</u>	<u>NRE 301 Natural Resources and Environmental Science (3)</u>
<u>NRC 320 Data Collection Techniques (3)</u>	<u>NRE 320 Natural Resource and Environmental Analysis (3)</u>
<u>NRC 380 Analysis of Natural Resource Systems (3)</u>	
<u>NRC 381 Natural Resource Policy Analysis (3)</u>	<u>NRE 381 Natural Resource and Environmental Policy Analysis (3)</u>
<u>NRC 395 Independent Study in Natural Resources (3) or NRC 399 Experiential Education in Natural Resources (3)</u>	<u>NRE 395 Independent Study in Natural Resources and Environmental Science (3) or NRE 399 Experiential Education in Natural Resources and Environmental Science (3)</u>
<u>NRC 471 Senior Problem in Natural Resources (3)</u>	<u>NRE 471 Senior Problem in Natural Resources and Environmental Science (3)</u>
<u>NRC 555 Geographic Information Systems and Landscape Analysis (3)</u>	<u>NRE 555 Geographic Information Systems and Landscape Analysis (3)</u>
<u>PLS 366 Fundamentals of Soil Science (4)</u>	<u>PLS 366 Fundamentals of Soil Science (4)</u>
<u>plus one of the following:</u>	
<u>NRC 420G Taxonomy of Vascular Plants (4)</u>	
<u>NRC 450G Biogeochemistry (3)</u>	
<u>NRC 455G Wetland Delineation (3)</u>	
<u>NRC 456G Constructed Wetlands (3)</u>	
<u>NRC 477G Land Treatment of Waste (3)</u>	
<u>NRC 545 Resource and Environmental Economics (3)</u>	

REQUEST FOR CHANGE IN UNDERGRADUATE PROGRAM

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
<p><u>Each student, in consultation with his or her academic advisor, must select a minimum of 18 hours in course work that will constitute the Concentration Area. At least 9 of these hours must be at the 300 level or above.</u></p>	<p><u>Students must take nine hours in one of four Analytical Skill Development areas and nine hours in one of seven Environmental System Emphasis Areas. A total of 7 hours of 300-level and above courses must be completed between the Analytical Skill Development section and the Environmental System Emphasis Area. Depending on the student's interest and career goals they will select from a list of courses in specific topic areas. Courses taken to complete the Analytical Skill Development section may not count towards the Environmental System Emphasis Area and vice versa.</u></p> <p><u>ANALYTICAL SKILL DEVELOPMENT</u></p> <p><u><i>Economic and Policy Analysis</i></u></p> <p><u><i>AEC 483 Regional Economics (3)</i></u> <u><i>AEC 532 Agriculture and Food Policy (3)</i></u> <u><i>AEC/NRE 545 Resource and Environmental Economics (3)</i></u> <u><i>CLD/SOC 360 Environmental Sociology (3)</i></u> <u><i>FOR 280 Forest Policy (2)</i></u> <u><i>FOR 320 Forest Valuation and Economics (3)</i></u> <u><i>GEO 235 Environmental Management and Policy (3)</i></u> <u><i>GEO 455 Economic Geography (3)</i></u> <u><i>PS 489G The Analysis of Public Policy (3)</i></u></p> <p><u><i>Field and Laboratory Analysis of Ecosystems</i></u></p> <p><u><i>BIO/NRE 420G Taxonomy of Vascular Plants (4)</i></u> <u><i>BIO 452G Laboratory in Ecology (2)</i></u> <u><i>ENT/FOR 402 Forest Entomology (3)</i></u> <u><i>FOR 219 Dendrology (4)</i></u> <u><i>FOR 250 Statistics and Measurements I (3)</i></u> <u><i>PLS 396 Soil Judging (up to 3 credits)</i></u> <u><i>PLS/NRE 455G Wetland Delineation (3)</i></u> <u><i>PLS 573 Soil Morphology and Classification (3)</i></u> <u><i>PLS 597 Special Topics in Plant and Soil Science: Environmental Sampling and Analysis (3)</i></u></p>

REQUEST FOR CHANGE IN UNDERGRADUATE PROGRAM

	<p><u>Geospatial Analysis</u></p> <p><u>BAE 538 Applications for Water Resources (3)</u> <u>FOR 200 Basics of Geospatial Technology (2)</u> <u>FOR 330 GIS and Spatial Analysis (3)</u> <u>GEO 309 Digital Geographic Data: Sources, Characteristics, Problems, and Uses (3)</u> <u>GEO 409 Geographic Information Systems and Science: Fundamentals (3)</u> <u>GEO 415 Map Interpretation (3)</u> <u>LA 956/NRE 556 Advanced Geographic Information Systems (GIS) and Landscape Analysis (3)</u></p> <p><u>Individualized Analytical Skill Development</u></p> <p><u>A written proposal must be submitted to the NRES Steering Committee to approve courses for the Individualized Analytical Skill Development.</u></p> <p><u>ENVIRONMENTAL SYSTEM EMPHASIS AREA</u></p> <p><u>Conservation Biology</u></p> <p><u>BIO/PLS 210 The Life Processes of Plants (3)</u> <u>BIO 325 Introductory Ecology (4)</u> <u>BIO 361 Ecology of the Kentucky Flora and Vegetation (3)</u> <u>BIO 375 Behavioral Ecology and Sociobiology (3)</u> <u>BIO/NRE 420G Taxonomy of Vascular Plants (4)</u> <u>BIO/GEO 530 Biogeography and Conservation (3)</u> <u>FOR 219 Dendrology (4)</u> <u>FOR 370 Wildlife Biology and Management (4)</u> <u>GEO 365 Special Topics in Regional Geography: Global Climate Change (3)</u></p> <p><u>Forestry</u> <u>*For the forestry environmental system emphasis area students must take FOR 219 Dendrology and FOR 350 Silviculture. FOR 219 can be taken as part of Analytical Skill Development but the hours will not count towards both Analytical Skill Development courses and Environmental System Emphasis Area courses.</u></p> <p><u>*FOR 219 Dendrology (4)</u> <u>*FOR 350 Silviculture (4)</u> <u>FOR 310 Introduction to Forest Health and Protection (3)</u> <u>FOR 320 Forest Valuation and Economics (3)</u> <u>FOR 400 Human Dimensions of Forestry and Natural Resources (3)</u> <u>FOR 425 Forest Management (4)</u></p>
--	---

REQUEST FOR CHANGE IN UNDERGRADUATE PROGRAM

Human Dimensions and Natural Resource Planning

BIO/GEO 530 Biogeography and Conservation (3)

CLD/SOC 340 Community Interaction (3)

CLD/SOC 360 Environmental Sociology (3)

CLD/420 Sociology of Communities (3)

CLD/SOC 440 Community Processes and Communication (3)

ENS 400 Senior Seminar in Environmental Studies (3)

FOR 400 Human Dimensions of Forestry and Natural Resources (3)

FOR 470 Interdependent Natural Resource Issues - Analysis and Solutions (3)

GEO 285 Introduction to Planning (3)

GEO 485G Urban Planning and Sustainability (3)

GEO 490G American Landscapes (3)

GEO 531 Landscape Ecology (3)

LA 858 Regional Land Use Planning Systems (3)

LA 959 Advanced Regional Land Use Planning Applications (3)

Environmental Soil Science

PLS 396 Soil Judging (up to 3 credits)

PLS/NRE 450G Biogeochemistry (3)

PLS/NRE 455G Wetland Delineation (3)

PLS 468G Soil Use and Management (3)

PLS/NRE 470G Soil Nutrient Management (3)

PLS/NRE 477G Land Treatment of Waste (3)

PLS 566 Soil Microbiology (3)

PLS 573 Soil Morphology and Classification (3)

PLS 575 Soil Physics (3)

Water Resources

AEN 461G Biometeorology (3)

BAE 438G/CE 460 Fundamentals of Groundwater Hydrology (3) or GLY 585 Hydrogeology (3)

BAE 532/CE 542 Introduction to Stream Restoration (3)

BAE 538 Applications for Water Resources (3)

BIO/GEO 530 Biogeography and Conservation (3)

CHE 565 Environmental Chemistry (3)

GEO 230 Weather and Climate (3)

GEO 451G Fluvial Forms and Processes (3)

GLY 530 Low Temperature Geochemistry (3)

PLS/NRE 450G Biogeochemistry (3)

PLS/NRE 455G Wetland Delineation (3)

PLS 573 Soil Morphology and Classification (3)

PLS 575 Soil Physics (3)

REQUEST FOR CHANGE IN UNDERGRADUATE PROGRAM

	<p><u><i>Wildlife Management</i></u></p> <p><u><i>BIO/ENT 300 General Entomology (3)</i></u> <u><i>BIO 304 Principles of Genetics (4)</i></u> <u><i>BIO 325 Introductory Ecology (4)</i></u> <u><i>BIO 350 Animal Physiology (4) or ASC 325 Animal Physiology (3)</i></u> <u><i>BIO 375 Behavioral Ecology and Sociobiology (3)</i></u> <u><i>BIO 555 Vertebrate Zoology (5)</i></u> <u><i>BIO 559 Ornithology (4)</i></u> <u><i>FOR 370 Wildlife Biology and Management (4)</i></u> <u><i>PLS/NRE 455G Wetland Delineation (3)</i></u></p> <p><u><i>Individualized System Emphasis Area</i></u></p> <p><u><i>A written proposal must be submitted by a student with an advisor's approval to the NRES Steering Committee for an Individualized System Emphasis Area. Potential topics may include renewable energy, sustainability, or outdoor recreation. The student's proposal should also include an explanation of how the Experiential Learning requirement will be coordinated with the Emphasis Area.</i></u></p>
--	--

- 10. Does the change affect pgm requirements for number of credit hrs outside the major subject in a related field?** Yes No
 If so, indicate current courses and proposed changes below.

Current	Proposed

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

Current	Proposed

- 12. Does the change affect a minimum number of free credit hours or support electives?** Yes No
 If "Yes," indicate current courses and proposed changes below.

Current	Proposed

13. Summary of changes in required credit hours:

	Current	Proposed
a. Credit Hours of Premajor or Preprofessional Courses:	<u>31-32</u>	<u>28</u>
b. Credit Hours of Major's Requirements:	<u>40-41</u>	<u>43-44</u>
c. Credit Hours for Required Minor:		
d. Credit Hours Needed for a Specific Option:	<u>18</u>	<u>18</u>
e. Credit Hours Outside of Major Subject in Related Field:		

REQUEST FOR CHANGE IN UNDERGRADUATE PROGRAM

g. Minimum Credit Hours of Free/Supportive Electives:	<u>6</u>	<u>6</u>
h. Total Credit Hours Required by Level:	100:	<u>21-22</u>
	200:	<u>13</u>
	300:	<u>25-34</u>
	400-500:	<u>15-25</u>
i. Total Credit Hours Required for Graduation:	<u>120</u>	<u>120</u>

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

In 2008, the University of Kentucky Natural Resource Conservation and Management (NRCM) undergraduate program was reviewed by an external committee appointed by the Dean of the College of Agriculture. One key recommendation of the external review committee was to revise the NRCM curriculum. The June 2008 External Periodic Review report recommended “the steering committee and other UK faculty work together to develop a set of more well-integrated courses that would better train students in the particular knowledge, skills, and abilities needed to succeed in environmental science and policy careers” (pg 2).

As a result, the NRCM Steering Committee began work on revising the NRCM curriculum in 2009. The NRCM curriculum has been revised based on input from the NRCM Steering Committee and stakeholders. The curriculum has been restructured to provide better focused and more integrated study of specific natural resource and environmental science topic areas, explicitly related to the student’s selection for the required internship or research experience. Because of the growing enrollment by students interested in the environmental sciences and the addition of environmental science topic areas, we propose to change the name of the NRCM program to Natural Resources and Environmental Science (NRES).

The goal of the NRES curriculum is for students to attain the skills for entry-level positions in the natural resources and environmental field or enter graduate school. The revised curriculum contains pre-major and major requirements that will provide students with a background in the basic sciences, communication, socioeconomics, field and laboratory skills, and problem solving. Students will gain hands-on experiential learning through an internship or independent study as well as several major requirement courses. One of the key changes to the curriculum is that students will be required to take nine credit hours each in (1) Analytical Skill Development and (2) Environmental Systems Emphasis Area. We anticipate the Natural Resource and Environmental Science curriculum outlined below will attract more students to the program as well as better prepare students to be successful in fulfilling their interests and career goals in the natural resources and environmental science field.

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 attached sheet for sample curriculum options*)</u> <u>CHE 105; 3 credits</u> <u>CHE 111; 1 credit</u> <u>MA 123; 3 credits</u> <u>ENG 104; 4 credits</u> <u>GEN 100; 3 credits</u>	YEAR 1 – SPRING:	<u>(*See attached sheet for sample curriculum options*)</u> <u>CHE 107; 3 credits</u> <u>CHE 113; 2 credits</u> <u>STA 291; 3 credits</u> <u>Social Science Course 1; 3 credits</u> <u>Humanities Course 1; 3 credits</u>
YEAR 2 - FALL :	<u>Cross Cultural Course; 3 credits</u> <u>BIO 150; 3 credits</u>	YEAR 2 – SPRING:	<u>Humanities Course 2; 3 credits</u> <u>BIO 152; 3 credits</u>

REQUEST FOR CHANGE IN UNDERGRADUATE PROGRAM

	<u>ECO 201; 3 credits</u> <u>FOR 230; 3 credits</u> <u>NRE 301; 3 credits</u>		<u>GLY 220; 4 credits</u> <u>FOR 240; 2 credits</u> <u>PLS 366; 4 credits</u> <u>YEAR 2 Summer - NRE 320; 3 credits</u>
YEAR 3 - FALL:	<u>Elective Course 1; 3 credits</u> <u>FOR 340; 4 credits</u> <u>FOR 325; 3 credits</u> <u>Elective Course 2; 3 credits</u>	YEAR 3 - SPRING:	<u>AEC 424; 3 credits</u> <u>AEC 445G; 3 credits</u> <u>NRE 381; 3 credits</u> <u>NRE 555; 3 credits</u> <u>YEAR 3 Summer - NRE 395 or</u> <u>NRE 399; 3 credits</u>
YEAR 4 - FALL:	<u>FOR 460; 4 credits</u>	YEAR 4 - SPRING:	<u>NRE 471; 3 credits</u>

REQUEST FOR CHANGE IN UNDERGRADUATE PROGRAM

Signature Routing Log

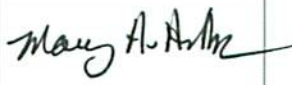


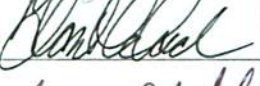
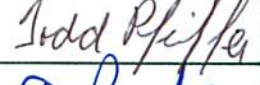

General Information:

Current Degree Title and Major Name: Bachelor of Science in Natural Resource Conservation and Management - Natural Resource Conservation and Management
 Proposal Contact Person Name: Dr. Mary Arthur Phone: 257-2852 Email: marthur@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
Natural Resource Conservation and Management Steering Committee	10-12-09	Mary Arthur / 257-2852 / marthur@uky.edu	
Agricultural Economics		Lynn Robbins / 257-5762 / lrobbins@uky.edu	
Forestry	10-12-09	Michael Lacki / 257-8571 / mlacki@uky.edu	
Landscape Architecture	10-15-09	Horst Schach / 257-3485 / hschach@uky.edu	
Plant and Soil Sciences	10-12-09	Todd Pfeiffer / 257-5020 ext. 80709 / tpfeiffe@uky.edu	
Earth and Environmental Sciences	15 Oct 09	Dhananjay Ravat / 257-4726 / dhananjay.ravat@uky.edu	

COA Undergraduate Curriculum Committee 16 Oct 09
 External-to-College Approvals: Larry Grabau 257-1885 lgrabau@email.uky.edu Larry J 12/9/09 Grabau

Council	Date Approved	Signature	Approval of Revision ³
Undergraduate Council	1-19-2010		
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

³ Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

The NRCM Steering Committee provides program oversight for the NRCM curriculum. Below are the committee members' approvals of the final version of the curriculum revision, provided via email.

Request to NRCM Steering Committee for approval of final curriculum revision:

From: Arthur, Mary
Sent: Friday, October 09, 2009 8:53 AM
To: Grabau, Larry; Infanger, Craig L; D'Angelo, Elisa; McNear, David H; Lee, Brian D; Schieffer, John K; Barton, Christopher D; Gorton III, William T
Cc: Lhotka, Laura R
Subject: final revision, need you to vote

Dear NRCM Steering Committee members,
We have circulated the draft of the curriculum to the external stakeholders previously contacted, to chairs of the affected departments, and to all faculty teaching courses in the core curriculum. We have received comments back from several people, which have led to some changes in the curriculum. I have attached two files to this email, a list of the changes we've made, and the final draft of the curriculum revision, which we will be sending to the College Curriculum Committee, hopefully on Monday morning. Please peruse these documents carefully, and then send me an email confirmation of your vote to forward the curriculum on to the Curriculum Committee. If you have changes you'd like to see, please let me know whether your vote of approval is contingent on those changes being made.

Best, Mary

Mary A. Arthur
Professor of Forest Ecology
Department of Forestry
103 TP Cooper Building
University of Kentucky
Lexington, KY 40546-0073
Email: mary.arthur@uky.edu<mailto:mary.arthur@uky.edu>
Phone: 859.257.2852
Fax: 859.323.1031
website: <http://www.ca.uky.edu/forestry/arthur.php>

Responses follow, with date of email votes noted:

10/12/09, 2:16 PM, from Dr. Elisa D'Angelo

Mary,
With regards to approving the NRCM revision of 10/9/09.

I approve the revision, pending the replacement of the name and description of the soil science emphasis area. As it is in the current document, the name and description (indicated below) do not reflect the nature and skills gained by students that select this area. In addition, the current description is not in line with the format of descriptions of other NRCM emphasis areas.

Required changes:

1. It is important that we change the name from "Soil Science" to "Environmental Soil Science", due to the strong emphasis on environmental quality that students will experience if they choose this emphasis.

2. It is also important that we change the description from:

"Soil Science - Students choosing this emphasis area will learn about the variability in soils across landscapes, become better equipped to evaluate soils for a range of management options, and be eligible for positions with specific agencies which focus on soils, for example, the Natural Resource Conservation Service."

to

Environmental Soil Science - Students in this emphasis area will gain experience and understanding of the importance of soils in making management decisions and determining environmental quality in a variety of landscapes, including forests, wetlands, aquatic, and agricultural ecosystems, as well as urban areas. This emphasis area prepares students by delivering a mixture of specialized coursework and field experiences that will enable the student to evaluate the transport of water, chemicals, and other pollutants in the environment, as well as gain an understanding of the biological and chemical interactions and effects in soil and water that influence human and wildlife health and environmental quality. Students in this emphasis area will be highly prepared for graduate work in a wide range of environmental science areas, and will also be prepared for gaining positions at consulting firms, and local, state, and federal agencies that deal with environmental quality management and protection. [Note: Students with a B.S. in a soils focus area are prepared and eligible to become state and nationally certified professional soil scientists by the Soil Science Society of America)

Elisa

10/12/09, 11:27 AM, from Dr. David McNear

All looks good to me Mary. Send it up the chain.

Cheers!

David H. McNear Jr., Ph.D.
Assistant Professor of Rhizosphere Science
University of Kentucky
Department of Plant and Soil Sciences
N-122S Ag. Sciences North Bldg.
1100 Nicholasville Road
Lexington, KY 40546-0091
Office Phone: 859.257.8627
Email: dave.mcnear@uky.edu
Website: <http://www.ca.uky.edu/labs/Rhizolab>

10/12/09, 10:59 AM, from William Gorton, Esq.

Good morning. It looks good to me and my compliments to you and Laura for staying focussed and developing a very professional piece of work.

Bill G

William T. Gorton III | Member | **STITES & HARBISON PLLC** | 250 West Main Street, Suite 2300,
Lexington KY 40507
direct 859.226.2241 | cell 859.312.7300 | fax 859.253.9144 | wgorton@stites.com | www.stites.com

10/12/09, 8:46 AM, from Dr. Chris Barton

Looks good to me...I approve the proposed curriculum.

Chris

Chris Barton, Ph.D.
Associate Professor
Department of Forestry
University of Kentucky
203 Thomas Poe Cooper Bldg.
Lexington, KY 40546-0073
859.257.2099
barton@uky.edu

10/10/09, 10:52 AM, from Dr. Larry Grabau

Mary--if I didn't vote; here's my yes!

With respect, Larry G.

10/09/09, 3:04 PM, from Dr. Craig Infanger

Changes are fine by me. Go with it!!

Craig

10/09/09, 11:39 AM, from Dr. Brian Lee

Dear Mary,

Overall YEA! I spoke with Laura for a few changes that she will run past you to the first page and a little wording change on the geospatial description to be accurate. The change of the front page really has to do with primarily what we have done is to re-formulate the old Concentration Area idea because some students and external stakeholders along with external review said it was weak. I don't think this comes across just quite strong enough in the cover page. I think most of the other stuff, premajor and major requirements, has not really changed from the NRCM. Sending the document through the review process with people potentially thinking that this is an entirely revised curriculum could slow down the approval process. This is more the sense I got when I just re-read the front page. It could just be me.

Just my thoughts and take them for what they are worth. If you think the changes that I suggested to Laura help then include them. Else forward the document on to the next step on Monday.

Thanks
Brian

Brian D. Lee, Ph.D.
Department of Landscape Architecture
College of Agriculture
University of Kentucky
S305 Agriculture Science Building
1100 Nicholasville Road
Lexington, Kentucky 40546-0091
(859) 257-7205

10/09/09, 10:24 AM, from Dr. Jack Schieffer

Hi Mary –

The changes look good to me. I especially like the color-coding for the pre-reqs; that will make it easier for advising students for registration. It gets my stamp of approval.

Have a great weekend,

Jack

Jack Schieffer
University of Kentucky
Department of Agricultural Economics
405 Charles E. Barnhart Bldg.
Lexington, KY 40546-0276
Phone: 859-257-7246
Fax: 859-323-1913
E-mail: jack.schieffer@uky.edu

Natural Resources and Environmental Science

Sample Curriculum for Current USP with Example Options: **Field and Laboratory Analysis of Ecosystems**
(Analytical Skill Development) and **Water Resources** (Environmental System Emphasis Area)

Year 1 Fall		Year 1 Spring	
CHE 105 General College Chemistry I (VI. Natural Sciences)	3	CHE 107 General College Chemistry II (VI. Natural Sciences)	3
CHE 111 Laboratory to Accompany General Chemistry I	1	CHE 113 Laboratory to Accompany General Chemistry II	2
MA 123 Elementary Calculus and Its Applications (I. Math) (III. Inference-Logic)	3	STA 291 Statistical Method	3
ENG 104 Writing (IV. Written Communication)	4	VII. Social Sciences (1 st course)	3
GEN 100 Issues in Agriculture	3	VIII. Humanities (1 st course)	3
	14		14
Year 2 Fall		Year 2 Spring	
IX. Cross Cultural	3	VIII. Humanities (2nd course)	3
BIO 150 Principles of Biology I	3	BIO 152 Principles of Biology II	3
ECO 201 Principles in Economics I (VII. Social Sciences – 2 nd course)	3	GLY 220 Principles of Physical Geology	4
FOR 230 Conservation Biology	3	FOR 240 Forestry & Natural Resource Ethics	2
NRE 301 Natural Resources and Environmental Science	3	PLS 366 Fundamentals of Soil Science	4
	15		16
Year 2 Summer - NRE 320 Natural Resource and Environmental Analysis		3	
Year 3 Fall		Year 3 Spring	
X. Elective (1 st course)	3	AEC 424 Principles of Environmental Law	3
FOR 340 Forest Ecology	4	AEC 445G Introduction to Resource and Environmental Economics	3
FOR 325 Economic Botany: Plants and Human Affairs	3	NRE 381 Natural Resource and Environmental Policy Analysis	3
PLS/NRE 455G Wetland Delineation	3	NRE 555 Geographic Information Systems and Landscape Analysis	3
X. Elective (2 nd course)	3	PLS 597 Special Topics in Plant and Soil Science: Environmental Sampling and Analysis	3
	16		15
Year 3 Summer - NRE 395 Independent Study in Natural Resources and Environmental Science OR NRE 399 Experiential Education in Natural Resources and Environmental Science		3	
Year 4 Fall		Year 4 Spring	
FOR 460 Forest Hydrology and Watershed Management	4	NRE 471 Senior Problem in Natural Resources and Environmental Science	3
PLS 573 Soil Morphology and Classification	3	BAE 532/CE 542 Introduction to Stream Restoration	3
BAE 538 Applications for Water Resources	3	GLY 585 Hydrogeology	3
General Elective	2	General Elective	3
	12		12
USP, Pre-major, College Requirement		53	
Major Requirements		44	
Analytical Skills Development – Field and Laboratory Analysis of Ecosystems		9	
Environmental Systems Emphasis Area – Water Resources		9	
General Elective		5	
TOTAL		120	

Natural Resources and Environmental Science

Sample Curriculum for Current USP with Example Options: **Economic and Policy Analysis** (Analytical Skill Development) and **Human Dimensions and Natural Resource Planning** (Environmental System Emphasis Area)

Year 1 Fall		Year 1 Spring	
CHE 105 General College Chemistry I (VI. Natural Sciences)	3	CHE 107 General College Chemistry II (VI. Natural Sciences)	3
CHE 111 Laboratory to Accompany General Chemistry I	1	CHE 113 Laboratory to Accompany General Chemistry II	2
MA 123 Elementary Calculus and Its Applications (I. Math) (III. Inference-Logic)	3	STA 291 Statistical Method	3
ENG 104 Writing (IV. Written Communication)	4	VII. Social Sciences (1 st course)	3
GEN 100 Issues in Agriculture	3	VIII. Humanities (1 st course)	3
	14		14
Year 2 Fall		Year 2 Spring	
IX. Cross Cultural	3	VIII. Humanities (2 nd course)	3
BIO 150 Principles of Biology I	3	BIO 152 Principles of Biology II	3
ECO 201 Principles in Economics I (VII. Social Sciences – 2 nd course)	3	GLY 220 Principles of Physical Geology	4
FOR 230 Conservation Biology	3	FOR 240 Forestry & Natural Resource Ethics	2
NRE 301 Natural Resources and Environmental Science	3	PLS 366 Fundamentals of Soil Science	4
	15		16
Year 2 Summer - NRE 320 Natural Resource and Environmental Analysis		3	
Year 3 Fall		Year 3 Spring	
X. Elective (1 st course)	3	AEC 424 Principles of Environmental Law	3
FOR 340 Forest Ecology	4	AEC 445G Introduction to Resource and Environmental Economics	3
FOR 325 Economic Botany: Plants and Human Affairs	3	NRE 381 Natural Resource and Environmental Policy Analysis	3
GEO 235 Environmental Management and Policy	3	NRE 555 Geographic Information Systems and Landscape Analysis	3
X. Elective (2 nd course)	3	General Elective	2
	16		14
Year 3 Summer - NRE 395 Independent Study in Natural Resources and Environmental Science OR NRE 399 Experiential Education in Natural Resources and Environmental Science		3	
Year 4 Fall		Year 4 Spring	
FOR 460 Forest Hydrology and Watershed Management	4	NRE 471 Senior Problem in Natural Resources and Environmental Science	3
AEC/NRE 545 Resource and Environmental Economics	3	GEO 485G Urban Planning and Sustainability	3
GEO 285 Introduction to Planning	3	LA 858 Regional Land Use Planning Systems	3
FOR 320 Forest Valuation and Economics	3	General Elective	3
	13		12
USP, Pre-major, College Requirement		53	
Major Requirements		44	
Analytical Skills Development – Economic and Policy Analysis		9	
Environmental Systems Emphasis Area – Human Dimensions and Natural Resource Planning		9	
General Elective		5	
TOTAL		120	

Natural Resources and Environmental Science

Sample Curriculum for Current USP with Example Options: **Geospatial Analysis** (Analytical Skill Development) and **Conservation Biology** (Environmental System Emphasis Area)

Year 1 Fall		Year 1 Spring	
CHE 105 General College Chemistry I (VI. Natural Sciences)	3	CHE 107 General College Chemistry II (VI. Natural Sciences)	3
CHE 111 Laboratory to Accompany General Chemistry I	1	CHE 113 Laboratory to Accompany General Chemistry II	2
MA 123 Elementary Calculus and Its Applications (I. Math) (III. Inference-Logic)	3	STA 291 Statistical Method	3
ENG 104 Writing (IV. Written Communication)	4	VII. Social Sciences (1 st course)	3
GEN 100 Issues in Agriculture	3	VIII. Humanities (1 st course)	3
14		14	
Year 2 Fall		Year 2 Spring	
IX. Cross Cultural	3	VIII. Humanities (2 nd course)	3
BIO 150 Principles of Biology I	3	BIO 152 Principles of Biology II	3
ECO 201 Principles in Economics I (VII. Social Sciences – 2 nd course)	3	GLY 220 Principles of Physical Geology	4
FOR 230 Conservation Biology	3	FOR 240 Forestry & Natural Resource Ethics	2
NRE 301 Natural Resources and Environmental Science	3	PLS 366 Fundamentals of Soil Science	4
15		16	
Year 2 Summer - NRE 320 Natural Resource and Environmental Analysis			3
Year 3 Fall		Year 3 Spring	
X. Elective (1 st course)	3	AEC 424 Principles of Environmental Law	3
FOR 340 Forest Ecology	4	AEC 445G Introduction to Resource and Environmental Economics	3
FOR 325 Economic Botany: Plants and Human Affairs	3	NRE 381 Natural Resource and Environmental Policy Analysis	3
BIO/PLS 210 The Life Processes of Plants	3	NRE 555 Geographic Information Systems and Landscape Analysis	3
BIO 361 Ecology of the Kentucky Flora and Vegetation	3	GEO 309 Digital Geographic Data: Sources, Characteristics, Problems, and Uses	3
16		15	
Year 3 Summer - NRE 395 Independent Study in Natural Resources and Environmental Science OR NRE 399 Experiential Education in Natural Resources and Environmental Science			3
Year 4 Fall		Year 4 Spring	
FOR 460 Forest Hydrology and Watershed Management	4	NRE 471 Senior Problem in Natural Resources and Environmental Science	3
X. Elective (2 nd course)	3	GEO 415 Map Interpretation	3
BIO/GEO 530 Biogeography&Conservation	3	General Elective	3
LA 956/NRE 556 Advanced GIS & Landscape Analysis	3	General Elective	3
13		12	
		USP, Pre-major, College Requirement	53
		Major Requirements	44
		Analytical Skills Development – Geospatial Analysis	9
		Environmental Systems Emphasis Area – Conservation Biology	9
		General Elective	6
		TOTAL	121