Proposal Of A New Undergraduate Or Graduate Program

This document should not exceed 3-5 pages in length.

1. Proposing College / School: School of Forestry and Wildlife Sciences

2. Proposed Program Title: Watershed Sciences Minor

3. CIP Code of Proposed Program: 

4. Proposed Implementation Date: Fall 2014

5. Relationship of Proposed Program to the Auburn University Mission Statement and Strategic Plan:

(Auburn University’s mission statement may be accessed at the following site: http://www.auburn.edu/administration/trustees/policymanual/vision_and_mission.html; Auburn University’s strategic plan may be accessed at the following site: http://ocm.auburn.edu/strategic_plan/)

The Watershed Science and Management Minor is in response to the increasing need for trained professionals to understand and capably manage water resources. Freshwater supply and quality are increasingly in high demand and natural resource professionals specifically trained to understand water availability, the fate and transport of pollutants, and aquatic ecosystems are needed. There has been an increasing interest in this facet of natural resources in the student body.

Implementation of this minor is consistent with several priorities stated in Auburn University Strategic Plan, including: Elevating undergraduate education and enrich the undergraduate student experience, serving our students better and raising their expectations and standards; and, implementing new projects in the area of sustainability (Strategic Priority 1: Elevating Academics).

6. Expected Program Outcomes and Assessment Methods:

(Expected outcomes must be stated clearly and must include student learning outcomes and an assessment plan for ascertaining the extent to which the expected outcomes are achieved and for designing improvements based on analysis of assessment results.)

Students completing the Watershed Science and Management minor will be able to accomplish the following learning outcomes and will be assessed through the following measures:

Student Learning Outcomes:
1) Understanding and capable of explaining a watershed, its delineation, and the potential fate of water; 2) assessing the influence of land use on stream flow and water yield; 3) capable of explaining the role of climate on water yield and quality; 4) understanding how to effectively implement management practices available for minimizing erosion and conserving soils; 5) measuring and calculating sediment and pollutant yield from watersheds; 6) understanding the role of wetlands, riparian areas, and natural land cover on water resource protection; 7) gaining familiarity with the various laws and regulations pertaining to water and wetland resource management under various management scenarios including urbanization, forestry, and agriculture.

Assessment:
1. Students will be evaluated on their knowledge and retention of the above learning objectives based upon individual assignments, presentations and testing within each of the required courses.
2. Upon completion of the minor, students will complete an exit survey that will include general questions about watershed science and management. This survey will be examined by SFWS faculty to determine level of student comprehension and whether there is need to modify either the course content of the minor or possibly the material content or presentation within one or more courses. The survey will also be used to request general feedback from the student for improving the minor.

7. Degree Requirements (Including All Formal Options):

(For programs at the undergraduate level, please provide a curriculum model for the program as well as for each formal option.)
8. Specific Admission and/or Continuation Requirements:

None

9. Existing Courses and New Courses Required:

FOWS 5140, Watershed Services (2 hours) is a new course that has been previously taught as a Special Topics and is being submitted concurrently with this Minor. FORY 5240 is an existing course that is being revised and has been submitted concurrently with this minor.

10. Relationship of Proposed Program to Other Auburn University Programs:

(If "yes" for either item, please provide explanation in the space provided below.)

Will the program support or be supported by other program(s) at Auburn University?  Yes  No

Will this program replace any existing program(s), or specializations / options / concentrations within existing program(s) at Auburn University?  Yes  No
11. New or Additional Resources / Resource Shifting Required:

(If "yes" for any item, please provide explanation in the space provided below.)

Will additional faculty lines be required?  ○ Yes  ○ No
Will new or additional space (e.g.: laboratory or classroom) be required?  ○ Yes  ○ No
Will additional library resources be required?  ○ Yes  ○ No
Will additional GTA support be required?  ○ Yes  ○ No

Explanation of or provision for new or additional resources / explanation of program’s support or replacement of other programs:

10a. Courses from units beyond the SFWS are included in the proposed minor and may increase enrollment in those classes. Each of these units has been contacted and have agreed to the inclusion of their respective courses in this minor.

12. Potential Duplication of Other Programs in the State:

(If the program would overlap with or duplicate a similar offering at another institution in the state, articulate the program’s necessity and/or any differences from similar programs.)

The minor does not duplicate any other programs in the state.

13. Collaboration With Other Institutions:

(Indicate whether or not the proposed program will — either immediately or in the future — involve collaboration with other post-secondary institutions. If so, provide all relevant details.)

This program will not involve cooperation with other post secondary institutions.

14. Distance Education:

(If Distance Education will be incorporated in the delivery of the proposed program, provide details of implementation, scope, etc.)

N/A

15. Documented Need for Proposed Program:

(Elaborate upon the methodology used to appropriately assess regional, state, or national need and/or student demand for program.)

The recently approved Natural Resources Management degree provides AU students with the broad foundation required to work in any of the range of disciplines dealing with the environment; this minor allows them to focus their studies and career opportunities on water related issues.

There is an increasing need for individuals in natural resources, biological sciences, planning, agriculture, and other fields to become familiar with issues, policies, and management of water. Water is becoming an increasingly limited resource and important issues related to supply, maintaining water quality, managing aquatic habitats, and flood control will be the focus of many Auburn students in their professional careers.

16. Employment Opportunities:

(Provide specific examples of employment opportunities anticipated for graduates of the proposed program.)

Freshwater is an essential resource but becoming increasingly scarce in many parts of the world. Watershed science and management is an expanding field that involves managing the availability, quantity, and quality of water. This minor is well suited for students looking for a career in watershed science, soil conservation, water management, or wetland ecology.

Some professional positions that students with this minor may fill include:
- Watershed scientist
- Environmental consultant
- Water quality regulator
- Municipal water planner
- Wetland ecologist

The U.S. Bureau Employment anticipates that between 2008 and 2018, job growth in positions such as hydrologists, geoscientists, and environmental scientists will increase anywhere between 18-28%. Given the increasing severity of water demand in the Southeast U.S., we expect that regional job growth in these fields will meet or exceed national averages.
From: Edward Loewenstein <LOEWEED@auburn.edu>
Date: Mon, 11 Mar 2013 13:15:47 -0500
To: David Rouse <rousedb@auburn.edu>
Subject: Proposed minor in Watershed Sciences

Dear David (this is the second of two similar requests),

Thanks for responding so quickly to the Natural Resources Ecology minor. Attached is another minor that we are proposing in Watershed Sciences. We would like to include FISH 5220, 5320, and 5520 as elective options within the minor. Please reply and let me know whether you are willing to allow us to include these courses. If you are willing, I will attach your e-mail in our submission packet to the University Curriculum Committee, if not, I will remove the courses from our list. Although I do not believe this inclusion will place substantial pressure on your course enrollment, if you agree to allow us to include them but increased numbers become a problem in any of the courses in the future, we would be happy to remove them as an option at any time.

Sincerely,
Ed

Edward F. Loewenstein, PhD
Associate Dean of Academic Affairs
School of Forestry and Wildlife Sciences
Bring ‘em on Ed. We can easily accommodate a good many additional students in both classes. Cheers! Mark

Good morning Mark,

I’m sure you’ll be surprised to learn that not everything was carved in stone with the first (final) draft of our minors. The committee took one last look at them and would like to add GEOG 2020, Physical Geography, as electives to both the Watershed Minor and the Urban Environmental Sciences Minor (UES). Also, for the UES Minor, they would like to include GEOG 5510, Human-Environmental Interaction.

If this is acceptable, same deal applies. If over-enrollment becomes a problem, we are willing to immediately remove them from the list of electives in the respective minors.

Thanks,
Ed

Edward F. Loewenstein, PhD
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loewenstein@auburn.edu
334-844-1069 (office)
334-844-1084 (fax)

Hi Ed,

I’m back this morning. Yes, we are happy to support the WS minor with geochemistry, hydrogeology, climatology, and geomorphology. Cheers! Mark
Dear Mark (this is the second of three similar requests),

Thanks for responding so quickly to the Natural Resources Ecology minor; I fully understand that you are on the road and will not be able to respond until your return, but... when you get a chance, attached is another minor that we are proposing in Watershed Sciences. We would like to include GEOL 4260 and 5100; and GEOG 5210 and 5220 as elective options within the minor. Please reply and let me know whether you are willing to allow us to include these courses. If you are willing, I will attach your e-mail in our submission packet to the University Curriculum Committee, if not, I will remove the courses from our list. Although I do not believe this inclusion will place substantial pressure on your course enrollment, if you agree to allow us to include them but increased numbers become a problem in any of the courses in the future, we would be happy to remove them as an option at any time.

Sincerely,

Ed

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Hi Ed,
I’m back this morning. Yes, we are happy to support the WS minor with geochemistry, hydrogeology, climatology, and geomorphology. Cheers! Mark

Edward Loewenstein

From: Mark Steltenpohl
Sent: Friday, March 15, 2013 7:55 AM
To: Edward Loewenstein
Subject: RE: Proposed minor in Watershed Sciences

Hi Ed,
I’m back this morning. Yes, we are happy to support the WS minor with geochemistry, hydrogeology, climatology, and geomorphology. Cheers! Mark

From: Edward Loewenstein
Sent: Monday, March 11, 2013 1:25 PM
To: Mark Steltenpohl
Subject: Proposed minor in Watershed Sciences
Importance: High

Dear Mark (this is the second of three similar requests),
Thanks for responding so quickly to the Natural Resources Ecology minor; I fully understand that you are on the road and will not be able to respond until your return, but… when you get a chance, attached is another minor that we are proposing in Watershed Sciences. We would like to include GEOL 4260 and 5100; and GEOG 5210 and 5220 as elective options within the minor. Please reply and let me know whether you are willing to allow us to include these courses. If you are willing, I will attach your e-mail in our submission packet to the University Curriculum Committee, if not, I will remove the courses from our list. Although I do not believe this inclusion will place substantial pressure on your course enrollment, if you agree to allow us to include them but increased numbers become a problem in any of the courses in the future, we would be happy to remove them as an option at any time.
Sincerely,
Ed

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Ed:

I have received all 3 requests. Let me start with this one:

1) Coastal Zone Management is taught during summer at Dauphin Island Sea Lab. Given it's off campus and likely will conflict with your Summer Camp, you may need to rethink its utility/inclusion in the minor.
2) I can't think of any other courses in DBS that would pertain to the minor other than more general ecology courses that could be applied to understanding watershed influences, such as Plant Ecology, Community Ecology, and Conservation Biology. Each of these courses are taught every year, but are not focused on watersheds per se.
3) We may develop a restoration ecology course in the near future with our new ecology hire, but there's nothing developed at present that can be included.

Hope this helps; will comment on the other 2 proposals as time permits. You may include my email on your request to the UCC, if appropriate.

Jack

On Mar 11, 2013, at 11:45 AM, Edward Loewenstein wrote:

Dear Jack (this is the third of three similar requests),
   Attached is a minor that we are proposing in Watershed Sciences. We would like to include BIOL 4535 as an elective choice within the minor. Please reply and let me know whether you are willing to allow us to include this course. If you are willing, I will attach your e-mail in our submission packet to the University Curriculum Committee, if not, I will remove the course from our list. Although I do not believe this inclusion will place substantial pressure on your course enrollment, if you agree to allow us to include them but increased numbers become a problem in any of the courses in the future, we would be happy to remove them as an option at any time.
Sincerely,
Ed

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By all means, include LAND 5350 in your proposed minors, Ed.

Rod

On Mar 19, 2013, at 10:16 AM, Edward Loewenstein <LOEWEED@auburn.edu> wrote:

Dear Rod,

With all of the requests I’ve sent, for course inclusion in our proposed minors, I may have dropped the ball on one. With your approval, we would like to include LAND 5350 in our Watershed Sciences Minor. As before, if enrollment becomes an issue, we would be willing to delete the course from our list of electives at any time.

Cheers,

Ed

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<WSM MINOR ADVISOR CHECK SHEET.docx>
Yes. You indicated that it was the third of three similar requests. Somehow, I missed the others but can include our courses in the minor. If they result in an over load that we can’t handle, will let you know.

Dear Joe (this is the third of three similar requests),

Attached is a minor that we are proposing in Urban Environmental Science. We would like to include AGRN 5080 as an elective choice in this minor. Please reply and let me know whether you are willing to allow us to include this course. If you are willing, I will attach your e-mail in our submission packet to the University Curriculum Committee, if not, I will remove the course from our list of electives. Although I do not believe this inclusion will place substantial pressure on your course enrollment, if you agree to allow us to include them but increased numbers become a problem in any of the courses in the future, we would be happy to remove them as an option at any time.

Sincerely,

Ed

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