To: The Faculty of the College of Engineering  
From: Environmental and Ecological Engineering (EEE)  
Subject: New Course EEE 59800

The faculty of the Division of Environmental and Ecological Engineering have approved the following new course to offer independent study projects to graduate students. This action is now submitted to the Engineering Faculty with a recommendation for approval.

EEE 59800 Environmental and Ecological Engineering Projects  
Sem. 1, 2. SS. Cr. 0-6.

Course description: Topics vary. Arrange Hours and Credit. Permission of instructor required.

Reasons: The Division of Environmental and Ecological Engineering will be offering independent study projects to Purdue graduate students. The goal is to provide graduate students the opportunity to explore environmental and ecological engineering topics.

Submitted by:

John W. Sutherland  
Fehsenfeld Family Head  
Environmental and Ecological Engineering
Topics vary. Arrange hours and credit. Permission of instructor required.

*COURSE LEARNING OUTCOMES: (Note: if course learning outcomes will not fit in space provided, please create a separate document and attach it to this form.)

Office of the Registrar
Grad Form 40G must include the Graduate Council's supporting document, which is available at http://www.purdue.edu/registrar/forms/form_40_intro.html
Detailed Graduate Course Proposal for Academic Review

Note: The detailed course proposal is intended for academic review by the appropriate area committee of the Graduate Council. It supplements the Form 40G that is intended for administrative review of the Graduate School and Registrar.

To: Purdue University Graduate Council

From: Faculty Member: John W. Sutherland
Department: Environmental and Ecological Engineering
Campus: West Lafayette

Date: October 10, 2016

Subject: Proposal for New Graduate Course

Contact for information if questions arise:
Name: Nina Robinson
Phone: 67578
Email: nlrobins@purdue.edu
Address: POTR

Course Number: EEE 59800
Course Title: Environmental and Ecological Engineering Projects
Short Title: Env and Ecol Eng Projects

Course Description:

The Division of Environmental and Ecological Engineering will be offering independent study projects to Purdue graduate students. The goal is to provide graduate students the opportunity to explore environmental and ecological engineering topics.
A. Justification for the Course

Justification of the need for the course

• Provide graduate students with the opportunity to conduct independent study projects and explore environmental and ecological engineering topics. This activity will be mentored by a graduate faculty member.

Justification that course will be taught at a graduate level

• Only graduate students will be allowed to enroll in independent study course. Primary literature will be used, the topics will be current, assignments will assess that the students are synthesizing the literature.

Justification of the demand for the course

• Anticipated enrollment
  o Undergraduate  0
  o Graduate  3 to 5

Justification for online delivery

Will not be delivered online

B. Learning Outcomes and Methods of Assessment


Conduct an in-depth investigation on environmental and ecological engineering topics – selectively locate and effectively analyze academic literature related to a particular topic.

Effectively present findings of a literature investigation – prepare professional report or oral presentation on literature related to environmental and ecological engineering topic.
Learning Outcomes | Assessment Methods
---|---
Conduct an in-depth investigation on environmental and ecological engineering topics – selectively locate and effectively analyze academic literature related to a particular topic. | • Comprehensive level of study will be evaluated by a sponsoring faculty member

Effectively present findings of a literature investigation – prepare professional report or oral presentation on literature related to environmental and ecological engineering topic. | • Written reports meet the standards of writing expected of graduate students.  
• Oral presentations meet the standards of presentations expected of graduate students.

Final Grading Criteria

Describing the criteria that will be used to assess students and how the final grade will be determined. Add and delete rows as needed.

<table>
<thead>
<tr>
<th>Assessment Methods (should match method types in the previous table)</th>
<th>Weight Toward Final Course Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Papers and Projects</td>
<td>100%</td>
</tr>
</tbody>
</table>

Methods of Instruction

<table>
<thead>
<tr>
<th>Class Hrs/Week</th>
<th>Method of Instruction</th>
<th>Contribution to Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-6</td>
<td>Independent Study</td>
<td>Mostly self-directed investigation of topic of interest. There may be some lectures provided by the faculty member.</td>
</tr>
</tbody>
</table>

C. Prerequisite(s)

• Graduate Student Standing
## D. Course Instructor(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>Rank</th>
<th>School, dept., or center</th>
<th>Graduate Faculty or expected date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ernest (Chip) Blatchley</td>
<td>Professor</td>
<td>CE/EEE</td>
<td>Yes</td>
</tr>
<tr>
<td>Hua Cai</td>
<td>Assistant Professor</td>
<td>EEE/IE</td>
<td>Yes</td>
</tr>
<tr>
<td>Abigail Engelberth</td>
<td>Assistant Professor</td>
<td>ABE/EEE</td>
<td>Yes</td>
</tr>
<tr>
<td>Brady Hardiman</td>
<td>Assistant Professor</td>
<td>EEE/FNR</td>
<td>Yes</td>
</tr>
<tr>
<td>John Howarter</td>
<td>Assistant Professor</td>
<td>EEE/MSE</td>
<td>Yes</td>
</tr>
<tr>
<td>Inez Hua</td>
<td>Professor</td>
<td>CE/EEE</td>
<td>Yes</td>
</tr>
<tr>
<td>Chad Jafvert</td>
<td>Professor</td>
<td>CE/EEE</td>
<td>Yes</td>
</tr>
<tr>
<td>Michael Mashtare</td>
<td>Assistant Professor</td>
<td>AGRY/EEE</td>
<td>Yes</td>
</tr>
<tr>
<td>Roshanak Nateghi</td>
<td>Assistant Professor</td>
<td>EEE/IE</td>
<td>Yes</td>
</tr>
<tr>
<td>Loring (Larry) Nies</td>
<td>Assistant Professor</td>
<td>CE/EEE</td>
<td>Yes</td>
</tr>
<tr>
<td>Amisha Shah</td>
<td>Assistant Professor</td>
<td>CE/EEE</td>
<td>Yes</td>
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<tr>
<td>Shweta Singh</td>
<td>Assistant Professor</td>
<td>ABE/EEE</td>
<td>Yes</td>
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<tr>
<td>John Sutherland</td>
<td>Professor</td>
<td>EEE/ME</td>
<td>Yes</td>
</tr>
<tr>
<td>Andrew Whelton</td>
<td>Assistant Professor</td>
<td>CE/EEE</td>
<td>Yes</td>
</tr>
<tr>
<td>Fu Zhao</td>
<td>Associate Professor</td>
<td>EEE/ME</td>
<td>Yes</td>
</tr>
<tr>
<td>Zhi (George) Zhou</td>
<td>Assistant Professor</td>
<td>CE/EEE</td>
<td>Yes</td>
</tr>
</tbody>
</table>
E. Course Schedule or Outline

Option 2: Outline Format

Students will conduct an investigation of literature on topics related to environmental and ecological engineering under the mentorship of a graduate faculty member. There may be a limited number of lectures. Students will then provide a written report or make an oral presentation.

F. Reading List (including course text)

Primary Reading List

- The reading list will vary depending on the topics. Primary literature will be used along with textbooks on advanced topics.

G. Library Resources

<table>
<thead>
<tr>
<th>Name of journal, proceedings, book, video, or other acquisition</th>
<th>Already in Libraries?</th>
</tr>
</thead>
<tbody>
<tr>
<td>This will be dependent on the topic</td>
<td>If not in libraries it will be available online</td>
</tr>
</tbody>
</table>

H. Course Syllabus (now required)

- Since this is an independent study class a syllabus is not available.