**Date:** November 7, 2013

**Subject:** Concentration in Applied Energy & Sustainable Systems for CIET and CM Program Majors

**Originating Department:** Engineering Technology and Construction Management

**Type of Proposal:** Undergraduate [X]  Graduate [ ] Undergraduate & Graduate [ ]

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<th>Date Received</th>
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<th>Comments: Approved, Approved With Revisions, Etc.</th>
<th>Signatures</th>
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<td>John Hildreth</td>
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<td>11/8/13</td>
<td>Approved</td>
<td>Anthony Brizendine</td>
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<td>Wes Williams</td>
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**General Education**

Approved

**Undergraduate Course & Curriculum Committee Chair** (for Undergraduate courses only)

Approved

**Graduate Council Chair** (for graduate courses only)

Approved

**Faculty Governance Assistant**

(Received and processed in Academic Affairs)
*To: Rick Lejk, Chair  
University Undergraduate Curriculum Committee  

From: John Hildreth, CIET/CM Program Coordinator  
Dept. of Engineering Technology & Construction Management  

Date: November 7, 2013  

Re: Creation of a Concentration in Applied Energy & Sustainable Systems  
Civil Engineering Technology and Construction Management  

SUMMARY  
The Department of Engineering Technology and Construction Management proposes to add a concentration in applied energy and sustainable systems for majors in the Civil Engineering Technology (CIET) and Construction Management (CM) programs within the department. The CIET and CM programs are tightly integrated and changes to one curriculum often directly impact the other. Therefore, the proposed concentration is designed to serve both programs and is presented herein on this short-form curriculum proposal. The concentration is developed fully from courses that currently exist.  

A concentration in applied energy and sustainable systems is available to CIET and CM majors successfully completing:  

1. CMET 2680 Professional Development II: Sustainable Engineering and Construction  
2. ETCE 2410 Intro to Environmental Engineering Technology  
3. ETCE 3271 Building Systems or ETCE 3242 Hydraulics & Hydrology  
4. ETCE 3271L Building Systems Laboratory or ETCE 3242L Hydraulics Laboratory  
5. Any two (2) of the following courses  
   a. ENER 4140 Energy Management  
   b. ENER 4250 Analysis of Renewable Energy Systems  
   c. ENER 4275 Air Conditioning Systems  

Revised 12/18/12  
OAA/mjw
d. ETCE 3271 Building Systems or ETCE 3242 Hydraulics & Hydrology

c. SEGR 4961 Introduction to Energy Systems

f. SEGR 4962 Energy Markets

**FOR CONSULTATION WITH OTHER DEPARTMENTS:**

1. Does the proposed change affect other departments (including additions and/or changes to degree requirements or prerequisites offered in other departments)?

   X Yes    No

2. If Yes, please list the other departments affected by the proposed change:

   **Systems Engineering & Engineering Management**

3. Have you consulted with each department listed in item 2 regarding the proposed change?

   X Yes    No

Result(s) of Consultation(s) (please attach documentation):

_Agreement for SEGR courses as electives in this concentration (see attached email)_

For a new course or for major modification of an existing course, include Consultation on Library Holdings.

**RESOURCES:**

1. For a new course or revisions to an existing course, check all the statements that apply:

   X This course will be cross listed with another course.
   X There are prerequisites for this course.
   X There are co-requisites for this course.
   X This course is repeatable for credit.
   X This course will affect the number of credits hours for its program.
   X This proposal results in the deletion of an existing course(s) from the degree program and/or catalog.
   X This proposal will alter an agreement with a North Carolina community college.

   For all items checked above, applicable statements and content must be reflected in the proposed catalog copy.

2. Indicate the additional resources required, if any, to implement and maintain the proposed change.

   **No additional resources are required to implement this proposal.**

Revised 12/18/12
OAA/mjw
Consultation with Department of Systems Engineering & Engineering Management

From: Ozelkan, Ertunga  
Sent: Friday, September 27, 2013 8:04 AM  
To: Brizendine, Tony  
Subject: RE: SEGR courses listed in our energy option

Tony,
Should not be a problem. We are hoping to schedule these courses in CARC 101 and there should be plenty of space. Roughly, how many people are you anticipating signing up?

Ertunga

Dr. Ertunga C. Ozelkan, Ph.D. | Interim Chair & Associate Professor,  
Systems Engineering and Engineering Management  
Associate Director, Center for Lean Logistics and Engineered Systems  
UNC Charlotte | Room: Cameron 204  
9201 University City Blvd. | Charlotte, NC 28223  
Phone: 704-687-1952 | Fax: 704-687-0968  
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From: Brizendine, Tony  
Sent: Thursday, September 26, 2013 3:48 PM  
To: Ozelkan, Ertunga  
Subject: SEGR courses listed in our energy option

Ertunga,
I'd like to list one or two of your courses as options for our students interested in energy concentration. Do you have any objection to us including the following courses as options?

a. SEGR 4961 Introduction to Energy Systems  
b. SEGR 4962 Energy Markets

Thanks for your consideration.
Tony

Anthony L. Brizendine, PhD, PE  
Chair & Professor, Department of Engineering Technology & Construction Management  
William States Lee College of Engineering  
University of North Carolina at Charlotte  
9201 University City Blvd  
Charlotte, NC 28223-0001  
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