**Ogden College of Science and Engineering**

**Office of the Dean**

**745-4449**

**REPORT TO THE UNIVERSITY CURRICULUM COMMITTEE**

Date: November 12, 2013

The Ogden College of Science and Engineering submits the following information and consent items for consideration at the November 2013, UCC meeting.

1. New Business

|  |  |
| --- | --- |
| **Type of item** | **Description of Item & Contact Information** |
| Information | **Proposal to Create a Temporary Course**  EE 436, Electric Machines and Drives, 3 hrs.  Contact: Farhad Ashrafzadeh, [farhad.ashrafzadeh@wku.edu](mailto:farhad.ashrafzadeh@wku.edu), x 5877 |
| Consent | **Proposal to Revise a Course Catalog Listing**  Math 417, Algebraic Systems, 3 hrs.  Contact: Dominic Lanphier, [Dominic.lanphier@wku.edu](mailto:Dominic.lanphier@wku.edu), x6233 |

Proposal Date: Oct. 10, 2013

**Ogden College of Science and Engineering**

**Department of Engineering**

**Proposal to Create a Temporary Course**

**Information Item**

Contact Person: Dr. Farhad Ashrafzadeh, Email: Farhad.Ashrafzadeh@wku.edu, phone: 270-745-5877

1. Identification of proposed course:
   1. Course prefix (subject area) and number: EE 436
   2. Course title: Electric Machines and Drives
   3. Abbreviated course title: Electric Machines and Drives
   4. Credit hours: 3
   5. Schedule type: L (lecture)
   6. Prerequisites: EE 211 and EE 473
   7. Grade type: \_X\_ standard letter grade \_\_\_\_ pass/fail \_\_\_\_in progress (IP)
   8. Course description:

Introduction to principles and contemporary applications of electric machines and drive systems as they pertain to electric vehicles, wind turbines, residential appliances, etc. Topics include basic electromechanical energy conversion, switch mode power converters, DC and AC machines, and speed control of both DC and AC motor drives. No laboratory is included.

1. Rational**e**
   1. Reason for offering this course on a temporary basis:

Electric machines account for 60% of total energy consumption at the national level, and electric drives are widely used in renewable energy and electric vehicles. Knowledge of these topics is critical to workforce development. We would like to see if the course is appealing to students, faculty, and industrial partners. If well received, we may propose its implementation, as an elective, on an ongoing and sustainable basis.

* 1. Relationship of the proposed course to courses offered in other academic units:

No similar course is being offered in other academic units.

1. **Description of proposed course**
   1. Course content outline

* Introduction to electrical motor drives
* Mechanical system requirement of electrical drives
* Basics of three-phase electric circuits
* Switched mode power converters for motor drives
* Basics of magnetic circuits
* Principles of electromechanical energy conversion
* Designing feedback controllers for motor drives
* DC motor drives
* AC induction motor drives – speed control
  1. Tentative text(s):
* “Electric Machines and Drives: A First Course,” By: Ned Mohan
* “Electrical Machines, Drives, and Power Systems” By: Theodore Wildi

1. **Second offering of a temporary course (if applicable)**
   1. Reason for offering this course a second time on a temporary basis: N/A
   2. Term course was first offered: N/A
   3. Enrollment in first offering: N/A
2. **Term of Implementation: Spring 2014**
3. **Dates of review/approvals:**

|  |  |  |
| --- | --- | --- |
| Department of Engineering |  | Oct. 17, 2013 |
| Dean, Ogden College of Science and Engineering |  | 11/07/2013 |

Proposal Date:10/09/2013

**Ogden College**

**Department of Mathematics**

**Proposal to Revise Course Catalog Listing**

**(Consent Item)**

Contact Person: Dominic Lanphier, 56233, dominic.lanphier@wku.edu

1. **Identification of course:**
   1. Course prefix (subject area) and number: Math 417
   2. Course title: Algebraic Systems
2. **Current course catalog listing:**

Theory of groups

1. **Proposed course catalog listing:**The theory of finite groups and related algebraic systems. Lagrange’s Theorem, Sylow Theorems, and the structure of finite groups are studied. Applications of group theory to the study of algebraic problems and symmetry.
2. **Rationale for revision of the course catalog listing:**

The old listing lacks sufficient detail and is inflexible in that subjects other than group theory may be covered. The new listing is more accurate for a senior and first-year graduate-level algebra course and allows for a more flexible list of topics to be covered.

1. **Proposed term for implementation:  
   Fall 2014**
2. **Dates of prior committee approvals:**

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| --- | --- |
| Department of Mathematics | 10/18/2013 |
| Ogden College Curriculum Committee | 11/07/2013 |
| Undergraduate Curriculum Committee |  |
| University Senate |  |
| Provost |  |