**Ogden College of Science and Engineering**

**Office of the Dean**

**745-4449**

**REPORT TO THE UNIVERSITY CURRICULUM COMMITTEE**

Date: January 17, 2013

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

1. New Business

|  |  |
| --- | --- |
| **Type of item** | **Description of Item & Contact Information** |
| Information | **Create a Temporary Course**  ME 332, Fluid Mechanics Laboratory  Contact: Joel Lenoir, [joel.lenoir@wku.edu](mailto:joel.lenoir@wku.edu), x56858 |
| Consent | **Suspend a Course**  ME 175, University Experience – Mechanical Engineering  Contact: Joel Lenoir, [joel.lenoir@wku.edu](mailto:joel.lenoir@wku.edu), x56858 |
| Consent | **Suspend a Course**  ME 285, Elements of Industrial Automation  Contact: Joel Lenoir, [joel.lenoir@wku.edu](mailto:joel.lenoir@wku.edu), x56858 |
| Consent | **Suspend a Course**  ME 365, Thermal Sciences for Electrical Engineers  Contact: Joel Lenoir, [joel.lenoir@wku.edu](mailto:joel.lenoir@wku.edu), x56858 |
| Consent | **Suspend a Course**  ME 440, Thermal Fluid Systems Laboraroy  Contact: Joel Lenoir, [joel.lenoir@wku.edu](mailto:joel.lenoir@wku.edu), x56858 |
| Consent | **Suspend a Course**  ME 445, Dynomics Systems Laboratory  Contact: Joel Lenoir, [joel.lenoir@wku.edu](mailto:joel.lenoir@wku.edu), x56858 |
| Consent | **Revise Course Prerequisites/Corequisites**  ME 180, Freshman Design II  Contact: Joel Lenoir, [joel.lenoir@wku.edu](mailto:joel.lenoir@wku.edu), x56858 |
| Consent | **Revise Course Prerequisites/Corequisites**  ME 220, Engineering Thermodynamics I  Contact: Joel Lenoir, [joel.lenoir@wku.edu](mailto:joel.lenoir@wku.edu), x56858 |
| Consent | **Revise Course Prerequisites/Corequisites**  ME 300, Junior Design  Contact: Joel Lenoir, [joel.lenoir@wku.edu](mailto:joel.lenoir@wku.edu), x56858 |
| Consent | **Revise Course Prerequisites/Corequisites**  ME 330, Fluid Mechanics  Contact: Joel Lenoir, [joel.lenoir@wku.edu](mailto:joel.lenoir@wku.edu), x56858 |

Proposal Date: 10/26/2012

**Ogden College of Science and Engineering**

**Department of Engineering**

**Proposal to Create a Temporary Course**

**(Information Item)**

Contact Person: Joel Lenoir, joel.lenoir@wku.edu, 270-745-6858

1. **Identification of proposed course**
   1. Course prefix (subject area) and number: ME 332
   2. Course title: Fluid Mechanics Laboratory
   3. Abbreviated course title: Fluid Mechanics Laboratory
   4. Credit hours: 1
   5. Schedule type: B, Lab
   6. Corequisites: ME 330
   7. Course description:

An applied laboratory in the modeling, prediction, and measurement of fluid mechanics components and systems, with emphasis on the preparation of engineering reports, uncertainty analysis, and the experimental design plan process. System level experiments include fluid property measurements, pipe flow and turbomachinery characteristics.

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

Topical coverage of the to-be suspended ME 440 Thermal Fluid Systems Laboratory is being divided into two labs, coupled to their respective engineering science courses. ME 332 will be coupled in the spring semester to ME 330 Fluid Mechanics. It will also retain some of the design of experiments plan material from ME 440. This offering provides the student with a direct linkage with ME 330 and creates a more integrated and streamlined ME junior year in engineering laboratory practices. The course focuses on fluid mechanics and supports the ABET requirement of a balance between both stems of the curriculum.

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

None

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

Design of Experiments Plan Topics:

* Experimental planning
* Methods of measurement
* Selection of instrumentation
* Prediction of uncertainty
* Analysis of data and results
* Estimation of error
* Reporting of experimental results

List of Selected Experiments:

* Viscosity of a fluid
* Fluid flow measurements
* Fluid Bernoulli test bed – conservation of energy
* Impact of a jet – momentum transfer
* Hydrostatic forces on planar and curved surfaces
* Viscous internal flow – laminar and turbulent regimes
* Pump characteristics and similarity
* Wind tunnel (external flow) - lift and drag forces
  1. Tentative text(s):

No required textbook. Laboratory handouts will be provided. Textbooks used in ME 310 and ME 330 will serve as reference sources for the course.

1. **Second offering of a temporary course (if applicable)**
   1. Reason for offering this course a second time on a temporary basis:

The approval of a revision to the ME program curriculum was delayed by the UK ME Department. Therefore, it is necessary to offer this laboratory for a second time on a temporary basis. The approval of all of the ME program curriculum changes is expected in late Fall 2012 or early Spring 2013.

* 1. Term course was first offered: Spring 2012
  2. Enrollment in first offering: 27

1. **Term of Implementation:**
2. **Dates of review/approvals:**

Engineering Department: 15 Nov. 2012

OCSE Dean 05 Dec. 2012

OCSE Curriculum Committee 06 Dec. 2012

UCC Chair \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Provost: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Attachment: Course Inventory Form**

 Proposal Date: 10/26/12

**Ogden College of Science and Engineering**

**Department of Engineering**

**Proposal to Suspend a Course**

**(Consent Item)**

Contact Person: Joel Lenoir, joel.lenoir@wku.edu, 270-745-6858

**1. Identification of course:**

* 1. Current course prefix (subject area) and number: ME 175
  2. Course title: University Experience – Mechanical Engineering
  3. Credit hours: 2

**2. Rationale for the course suspension:**

The course has been superseded by a departmental course ENGR 175, optionally taken by students who are investigating an engineering major. Students in the Mechanical Engineering major have been taking ME 176: Mechanical Engineering Freshman Design as their introductory course.

**3. Effect of course suspension on programs or other departments, if known:**

None, this course has not been offered for several years.

**4. Proposed term for implementation:** Fall 2013

**5. Dates of prior committee approvals:**

Engineering Department: 15 Nov. 2012

OCSE Curriculum Committee 06 Dec. 2012

Undergraduate Curriculum Committee \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

University Senate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Attachment: Course Inventory Form**

 Proposal Date: 10/26/12

**Ogden College of Science and Engineering**

**Department of Engineering**

**Proposal to Suspend a Course**

**(Consent Item)**

Contact Person: Joel Lenoir, joel.lenoir@wku.edu, 270-745-6858

**1. Identification of course:**

* 1. Current course prefix (subject area) and number: ME 285
  2. Course title: Elements of Industrial Automation
  3. Credit hours: 1

**2. Rationale for the course suspension:**

The project component of this course has been integrated into an existing design project in ME 200. This level of topical coverage is sufficient to support the design goals of the major, rendering this course unnecessary.

**3. Effect of course suspension on programs or other departments, if known:**

None; this course has not been offered for several years to investigate the efficacy of the curricular change.

**4. Proposed term for implementation:** Fall 2013

**5. Dates of prior committee approvals:**

Department of Engineering 15 Nov. 2012

OCSE Curriculum Committee 06 Dec. 2013

University Curriculum Committee

University Senate

**Attachment: Course Inventory Form**

Proposal Date: 10/26/12

**Ogden College of Science and Engineering**

**Department of Engineering**

**Proposal to Suspend a Course**

**(Consent Item)**

Contact Person: Joel Lenoir, joel.lenoir@wku.edu, 270-745-6858

**1. Identification of course:**

* 1. Current course prefix (subject area) and number: ME 365
  2. Course title: Thermal Sciences for Electrical Engineers
  3. Credit hours: 3

**2. Rationale for the course suspension:**

The course does not provide efficient deployment of limited faculty resources. The Department of Engineering and electrical engineering students are better served through alternate mechanical engineering courses. Moreover, beginning in 2014, the Fundamentals of Engineering Exam for electrical engineering students will not include the topical coverage provided by this course.

**3. Effect of course suspension on programs or other departments, if known:**

The Electrical Engineering Program will replace ME 365 with the existing ME 220: Engineering Thermodynamics I as alternate elective course.

**4. Proposed term for implementation:** Fall 2013

**5. Dates of prior committee approvals:**

Engineering Department 15 Nov. 2012

OCSE Curriculum Committee 06 Dec. 2012

Undergraduate Curriculum Committee \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

University Senate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Proposal Date: 10/26/12

**Ogden College of Science and Engineering**

**Department of Engineering**

**Proposal to Suspend a Course**

**(Consent Item)**

Contact Person: Joel Lenoir, joel.lenoir@wku.edu, 270-745-6858

**1. Identification of course:**

* 1. Current course prefix (subject area) and number: ME 440
  2. Course title: Thermal Fluid Systems Laboratory
  3. Credit hours: 2

**2. Rationale for the course suspension:**

The course is being replaced by two 1 credit-hour laboratories: ME 332 Fluid Mechanics Laboratory and ME 333 Heat Transfer Laboratory. These laboratories will be taught concurrently with ME 330 Fluid Mechanics and ME 325 Elements of Heat Transfer, respectively.

**3. Effect of course suspension on programs or other departments, if known:**

The Mechanical Engineering Program will be changed to reflect this suspension and the replacement of the laboratory with ME 332 and ME 333.

**4. Proposed term for implementation:** Fall 2013

**5. Dates of prior committee approvals:**

Engineering Department 15 Nov. 2012

OCSE Curriculum Committee 06 Dec. 2012

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University Senate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Proposal Date: 10/26/12

**Ogden College of Science and Engineering**

**Department of Engineering**

**Proposal to Suspend a Course**

**(Consent Item)**

Contact Person: Joel Lenoir, joel.lenoir@wku.edu, 270-745-6858

**1. Identification of course:**

* 1. Current course prefix (subject area) and number: ME 445
  2. Course title: Dynamics Systems Laboratory
  3. Credit hours: 2

**2. Rationale for the course suspension:**

The course does not provide efficient deployment of limited faculty resources. Department of Engineering and mechanical engineering students are better served through alternate mechanical engineering courses.

**3. Effect of course suspension on programs or other departments, if known:**

The Mechanical Engineering Program will be changed to reflect the suspension of this course.

**4. Proposed term for implementation:** Fall 2013

**5. Dates of prior committee approvals:**

Engineering Department 15 Nov. 2012

OCSE Curriculum Committee 06 Dec. 2012

Undergraduate Curriculum Committee \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

University Senate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Attachment: Course Inventory Form**

Proposal Date: 10/18/12

**Ogden College of Science and Engineering**

**Department of Engineering**

**Proposal to Revise Course Prerequisites/Corequisites**

**(Consent Item)**

Contact Person: Joel Lenoir, [joel.lenoir@wku.edu](mailto:joel.lenoir@wku.edu), 745-6858

**1. Identification of course:**

* 1. Course prefix (subject area) and number: ME 180
  2. Course title: Freshman Design II
  3. Credit hours: 3.0

**2. Current prerequisites/corequisites/special requirements:**

**Prerequisite:** ME 175 or 176, or permission of instructor, and MATH 136 with a grade of “C” or better

**Corequisite:** none

**3. Proposed prerequisites/corequisites/special requirements:**

**Prerequisites:** ME 176 and MATH 136 with a grade of “C” or better

**Corequisite:** none

**4. Rationale for the revision of prerequisites/corequisites/special requirements:**

ME 175 is being suspended for eventual deletion, and the option to waive the ME 176 requirement is not feasible due to the safety training topics contained in ME 176.

**5. Effect on completion of major/minor sequence: None**

**6. Proposed term for implementation: Fall 2013**

**7. Dates of prior committee approvals:**

Department of Engineering 15 Nov. 2012

OCSE Curriculum Committee 06 Dec. 2012

University Curriculum Committee

University Senate

**Attachment: Course Inventory Form**

Proposal Date: 10/18/12

**Ogden College of Science and Engineering**

**Department of Engineering**

**Proposal to Revise Course Prerequisites/Corequisites**

**(Consent Item)**

Contact Person: Joel Lenoir, [joel.lenoir@wku.edu](mailto:joel.lenoir@wku.edu), 745-6858

**1. Identification of course:**

* 1. Course prefix (subject area) and number: ME 220
  2. Course title: Engineering Thermodynamics I
  3. Credit hours: 3.0

**2. Current prerequisites/corequisites/special requirements:**

**Prerequisite:** MATH 237, ME 200 AND MATH 331

**Corequisite:** MATH 331

**3. Proposed prerequisites/corequisites/special requirements:**

**Prerequisites:** EM 221 OR EM 222, AND MATH 331

**Corequisite:** MATH 331

**4. Rationale for the revision of prerequisites/corequisites/special requirements:**

The proposed prerequisites and corequisite more closely reflect the student skills necessary for the course. This change will also correct a previous revision, which occurred in 2009, aligning the course prerequisite with the ME 200 design course. This has now been determined to be neither appropriate nor relevant for non-ME students.

**5. Effect on completion of major/minor sequence: None**

**6. Proposed term for implementation: Fall 2013**

**7. Dates of prior committee approvals:**

Department of Engineering 15 Nov. 2012

OCSE Curriculum Committee 06 Dec. 2012

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Proposal Date: 10/18/12

**Ogden College of Science and Engineering**

**Department of Engineering**

**Proposal to Revise Course Prerequisites/Corequisites**

**(Consent Item)**

Contact Person: Joel Lenoir, [joel.lenoir@wku.edu](mailto:joel.lenoir@wku.edu), 745-6858

**1. Identification of course:**

* 1. Course prefix (subject area) and number: ME 300
  2. Course title: Junior Design
  3. Credit hours: 2.0

**2. Current prerequisites/corequisites/special requirements:**

**Prerequisite:** ME 200, ME 344. Students must have satisfied the Mechanical Engineering Pre-Major requirements as shown in the iCAP system.

**Pre or Corequisite:** ME 310

**3. Proposed prerequisites/corequisites/special requirements:**

**Prerequisites:** ME 200, ME 310, and ME 344. Students must have satisfied the Mechanical Engineering Pre-Major requirements as shown in the iCAP system.

**Corequisite:** None

**4. Rationale for the revision of prerequisites/corequisites/special requirements:**

Moving ME 310 to the list of prerequisites reflects a reordering of the courses in the junior year, and ensures the topical content of ME 310 is present before taking ME 300.

**5. Effect on completion of major/minor sequence: None**

**6. Proposed term for implementation: Fall 2013**

**7. Dates of prior committee approvals:**

Department of Engineering 15 Nov. 2012

OCSE Curriculum Committee 06 Dec. 2012

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Proposal Date: 10/26/12

**Ogden College of Science and Engineering**

**Department of Engineering**

**Proposal to Revise Course Prerequisites/Corequisites**

**(Consent Item)**

Contact Person: Joel Lenoir, [joel.lenoir@wku.edu](mailto:joel.lenoir@wku.edu), 745-6858

**1. Identification of course:**

* 1. Course prefix (subject area) and number: ME 330
  2. Course title: Fluid Mechanics
  3. Credit hours: 3.0

**2. Current prerequisites/corequisites/special requirements:**

**Prerequisite:** ME 220

**Corequisite:** MATH 331

**3. Proposed prerequisites/corequisites/special requirements:**

**Prerequisites:** ME 220 AND MATH 331

**Corequisite:** ME 220

**4. Rationale for the revision of prerequisites/corequisites/special requirements:**

The proposed prerequisites and corequisite more closely reflect the student skills necessary for the course. These changes also create an alternate non-sequential path through the thermal fluids curriculum, allowing off-semester offerings of ME 220 which would enhance student progress through the ME curriculum.

**5. Effect on completion of major/minor sequence: None**

**6. Proposed term for implementation: Fall 2013**

**7. Dates of prior committee approvals:**

Department of Engineering 15 Nov. 2012

OCSE Curriculum Committee 06 Dec. 2012

University Curriculum Committee

University Senate

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