Proposal Date: 25 Aug 2013

Ogden College of Science and Engineering
Department of Engineering
Proposal to Create a Temporary Course
Information Item: First Offering

Contact Person: Julie Ellis, julie.ellis@wku.edu, 270.745.2461

1. Identification of proposed course:

1.1 Course prefix (subject area) and number: ENGR 250
1.2 Course title: Early Engineering Experiences in Industry
1.3 Abbreviated course title: Engineering in Industry
1.4 Credit hours: 3.0
1.5 Schedule type: K (Workshop)
1.6 Prerequisites: ENG100 and MATH137 and PHYS 255
1.7 Grade type: __√__ standard letter grade ____ pass/fail ____in progress (IP)
1.8 Course description:

For students about to transition from an engineering pre-major to an engineering major. Students explore a sequence of industry-based cases illustrating basic engineering principles applied in local engineering sites. Interactions with practicing engineers provide real-world applications of selected topics, while traditional instruction provides basic theory and underlying principles that pertain to the cases. Presentations, teamwork, experimentation, and professional communication are emphasized and practiced. This is a short-term (3 or 4 weeks) Study Away course, with a set program fee. Transportation to the industrial sites is included.

2. Rationale

2.1 Reason for offering this course on a temporary basis:

We wish to see whether the concept works and is appealing to students, faculty, and industrial partners. We also wish to determine whether it can be implemented on an ongoing and sustainable basis.

2.2 Relationship of the proposed course to courses offered in other academic units:

There is no other industry-based course like this offered for engineering students, with extensive field experiences. The structure may be readily applicable to other professions and majors in other academic units.

3. Description of proposed course

3.1 Course content outline

This course is designed for a 3- or 4-week term and focuses on specific technical concepts and skills that typically are *not* covered in the standard required engineering curriculum, but that *are* used in real industry applications. Examples include industrial automation, statistical process control, energy management, and the environmental impacts of modern manufacturing. The point is to give students some exposure to the basic concepts of each topic in the form of standard academic instruction plus a real-world application — a case drawn from local industry. Industrial partners are on board to help in developing these cases and in hosting these students in

the field experiences.

Students will prepare summative presentations of one concept they have explored more deeply on their own as their final work product. These presentations will be shared with faculty and the industrial partners at a final event near the conclusion of the course.

3.2 Tentative text(s)

Success through Failure: The Paradox of Design by Henry Petroski, Princeton University Press, Aug 7, 2013

Technical resources, both in print and in web form, will be selected when the final topics are chosen.

4. Second offering of a temporary course (if applicable) N.A.

5. **Term of Implementation:** Winter 2014, as a Study Away course

6. Dates of review/approvals:

Department of Engineering 29Aug2013

Julie Ellison per (per e-mail request)

Dean, Ogden College of Science and Engineering 09/02/13

Cheryl Stevens 9/6/13