Engineering Faculty Document No. 17-04
August 25, 2004

To: The Engineering Faculty
From: The Department of Engineering Education
Date: August 25, 2004
Subject: Proposed New Course

The faculty of the Department of Engineering Education has approved the following new undergraduate IDE course. This action is now submitted to the Engineering Faculty with a recommendation for approval.

IDE 301 – Professional Preparation in Interdisciplinary Engineering

Sem. 2. Class 1, Cr. 1. Junior or senior standing in IDE.

Seminar covering topics required for professional preparation of engineers including functioning in teams, communication, ethics, global and societal impacts, how people learn, and contemporary issues impacting and impacted by engineering.

Reason: Since the Division of Interdisciplinary Engineering Studies and the Department of Freshman Engineering merged to form the Department of Engineering Education, the IDE program is developing a BSE program with plans to seek ABET accreditation as a General Engineering program. This seminar will prepare IDE graduates in professional aspects of becoming an engineer and is needed to help ensure that ABET Criteria 3 d (multi-disciplinary teams), f (professional & ethical responsibility), g (communication), h (global & societal context), i (life-long learning), and j (contemporary issues) are satisfied. Additional assessment of criteria d and g will be done in EPICS or IDE 485. The seminar will also be used for advising purposes to ensure that students' plans of study are meeting their educational needs.

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Head
Department of Engineering Education

IDE 301

Professional Preparation in Interdisciplinary Engineering

Description:
Seminar covering topics required for professional preparation of engineers including functioning in teams, communication, ethics, global and societal impacts, how people learn, and contemporary issues impacting and impacted by engineering.

Format: 1 hour/week of lecture and interactive activities.

Credit hours: 1

Status: Junior in IDE

Offered: Spring

Corequisite: Junior or senior in IDE

Course Instructor: Phil Wankat or ENE professors.

Textbook (**Principal References**):
1. Gunn, A. S., and P. A. Vesilind, *Hold Paramount: The Engineer's Responsibility to Society*, Thomson/Brooks Cole, 2003.
2. Haile, J. M., *Technical Style: Technical Writing in a Digital Age*, Mactea Publications, 2001.
3. Walesh, S. G., *Engineering Your Future: Launching a Successful Entry-Level Technical Career in Today's Business Environment*, Prentice Hall, 1995.
4. EC 2000 Instructional Modules, <http://www.foundationcoalition.org/home/FCVersion2/ec2000.html>

Assessment Method: Homework assignments, peer ratings of group activities, writing sample, quizzes.

Course Objective: Cover professional topics needed for practicing engineers. Prepare IDE graduates in professional aspects of becoming an engineer and help ensure that ABET Criteria 3 d, f, g, h, i, and j are satisfied. The seminar will also be used for advising purposes to ensure that students' plans of study are meeting their educational needs.

Topics:

1. ABET criteria (1.5 weeks). Introduction to ABET criteria. Student self-evaluation of satisfying ABET criteria (at beginning and at end of semester).

2. Teams (2.5 weeks). Function, structure and improvement of teams. Individual roles in teams. Improving functioning of teams. Team role plays. Impact of ethics on teams.

3. Personal characteristics (2 weeks). Take Myers-Briggs Type Indicator. Use of Myers-Briggs theory to understand interactions with people and to improve functioning of teams.

4. Learning styles (1 week). Take Learning Styles Indicator. Impact of learning styles on study groups. Implications for lifelong learning.

5. Lifelong learning (1 week). Guest lecture from Continuing Engineering Education.

6. Communication. (3 weeks) Guest lecture on communication. Diagnostic test on written communication. Writing sample.

7. Ethics. (2.0 weeks) Watch scenario (from Society of Professional Engineers) and discuss ethics. Incorporate ethics as part of teamwork exercises and as part of global engineering and contemporary issues.

8. Global engineering and contemporary issues. (1.5 weeks) Guest lecture. Discussion of case study involving these issues plus ethical issues.

9. Course evaluation (0.5 weeks).