### Engineering Education

**Department:** Engineering Education  
**Effective Session:** Spring 2011

**INSTRUCTIONS:** Please check the items below which describe the purpose of this request.

1. New course with supporting documents (complete proposal form)  
2. Add existing course offered at another campus  
3. Expiration of a course  
4. Change in course number  
5. Change in course title  
6. Change in course credit/weight  
7. Change in course attributes  
8. Change in instructional hours  
9. Change in course description  
10. Change in course requisites  
11. Change in semesters offered  
12. Transfer from one department to another

**PROPOSED:**

- Subject Abbreviation: ENE  
- Course Number: 690  
- Long Title: Seminar in Engineering Education  
- Short Title: Sem ENE in Engineering Education

**EXISTING:**

- Subject Abbreviation:  
- Course Number:  
- Long Title:  
- Short Title:  

**TERMS OFFERED:**

- Check All That Apply: [ ] Summer  
- [ ] Fall  
- Spring

**CAMPUS(ES) INVOLVED:**

- [ ] Calumet  
- [ ] N. Central  
- [ ] Tech Statewide  
- [ ] W. Lafayette  
- [ ] Indianapolis

**CREDIT TYPE:**

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<th>2. Variable Credit Range: Minimum Crs Hrs (Check One)</th>
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<td>To Cr Or X</td>
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<tr>
<th>3. Equivalent Credit</th>
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<th>No X</th>
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<tbody>
<tr>
<td>4. Thesis Credit</td>
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<td>No X</td>
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**COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):**

Seminar course covering a broad range of current discovery, learning, and engagement topics in Engineering Education. Seminar presentations by representatives from academia, industry, other external institutions, and members of the Purdue University community. This is a required course for the graduate program in the Department of Engineering Education.

Prerequisite: Engineering Education student.

**Date**

- Calumet School Dean Date:  
- Calumet Undergrad Curriculum Committee Date:  
- Fort Wayne Department Head Date:  
- Fort Wayne School Dean Date:  
- Fort Wayne Chancellor Date:  
- Indianapolis Department Head Date:  
- Indianapolis School Dean Date:  
- Undegrad Council Chair Date:  
- North Central Department Head Date:  
- North Central Chancellor Date:  
- Graduate Council Secretary Date:  
- West Lafayette Department Head Date:  
- West Lafayette College/School Dean Date:  
- Graduate Council Secretary Date:  

**APPROVED 10/21/10**

**OFFICE OF THE REGISTRAR**

(Grad Form 40G [Excel format] - Does not include the Graduate Council's required supporting document. See pdf version of Form 40G)
Seminar in Engineering Education

Sem EnEd

Abbreviated title will be entered by the Office of the Registrar if omitted. (32 CHARACTERS ONLY)

### CREDIT TYPE

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### COURSE ATTRIBUTES

- Pass/Not Pass Only
- Satisfactory/Unsatisfactory Only
- Repeatable
- Maximum Repeatable Credit
- Credit by Examination
- Special Fees
- Full-Time Privilege
- Off-Campus Experience

### PROPOSED COURSE DESCRIPTION

Seminar course covering a broad range of current discovery, learning, and engagement topics in Engineering Education. Seminar presentations by representatives from academia, industry, other external institutions, and members of the Purdue University community. This is a required course for the graduate program in the Department of Engineering Education.
To: The Faculty of the College of Engineering
From: Department of Engineering Education
Subject: New Graduate Course, ENE 690

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

ENE 690  Seminar in Engineering Education

Sem. 1 and 2, Class 1, Cr. 0.

Prerequisite: Open to students in Engineering Education or by consent of instructor.

Course description: Seminar course covering a broad range of current discovery, learning, and engagement topics in Engineering Education. Seminar presentations by representatives from academia, industry, other external institutions, and members of the Purdue University community.

Reasons: This is a required course for the graduate programs in the Department of Engineering Education (ENE). This new course will also be of interest to graduate students in other Departments, Schools, and Colleges with engineering education or related interests. The intent of the course is to raise awareness of the opportunities and cutting edge research and programs in engineering education and provide networking opportunities for ENE graduate students within ENE and at national and international levels.

Kamyar Baghini, Head
Engineering Education

APPROVED FOR THE FACULTY
OF THE SCHOOLS OF ENGINEERING
BY THE ENGINEERING
CURRICULUM COMMITTEE

ECC Minutes 925
Date 3/19/08
Chairman ECC
A. Justification for the Course:

- Provide a complete and detailed explanation of the need for the course (e.g., in the preparation of students, in providing new knowledge/training in one or more topics, in meeting degree requirements, etc.), how the course contributes to existing fields of study and/or areas of specialization, and how the course relates to other graduate courses offered by the department, other departments, or interdisciplinary programs.

- Justify the level of the proposed graduate course (50000- or 60000-level) including statements on, but not limited to: (1) the target audience, including the anticipated number of undergraduate and graduate students who will enroll in the course; and (2) the rigor of the course.

B. Learning Outcomes and Method of Evaluation or Assessment:

- Describe the course objectives and student learning outcomes that address the objectives (i.e., knowledge, communication, critical thinking, ethical research, etc.).

- Describe the methods of evaluation or assessment of student learning outcomes. (Include evidence for both direct and indirect methods.)

- Grading criteria (select from dropdown box); include a statement describing the criteria that will be used to assess students and how the final grade will be determined.

Criteria: Attendance and Class Participation
- Identify the method(s) of instruction (select from dropdown box) and describe how the methods promote the likely success of the desired student learning outcomes.

**Method of Instruction**

Presentation

C. Prerequisite(s):

- List prerequisite courses by subject abbreviation, number, and title.
- List other prerequisites and/or experiences/background required. If no prerequisites are indicated, provide an explanation for their absence.

D. Course Instructor(s):

- Provide the name, rank, and department/program affiliation of the instructor(s).
- Is the instructor currently a member of the Graduate Faculty?  
  \( \checkmark \) Yes  — No  
  (If the answer is no, indicate when it is expected that a request will be submitted.)

E. Course Outline:

- Provide an outline of topics to be covered and indicate the relative amount of time or emphasis devoted to each topic. If laboratory or field experiences are used to supplement a lecture course, explain the value of the experience(s) to enhance the quality of the course and student learning. For special topics courses, include a sample outline of a course that would be offered under the proposed course.

F. Reading List (including course text):

- A primary reading list or bibliography should be limited to material the students will be required to read in order to successfully complete the course. It should not be a compilation of general reference material.
- A secondary reading list or bibliography should include material students may use as background information.

G. Library Resources

- Describe the library resources that are currently available or the resources needed to support this proposed course.

H. Example of a Course Syllabus  
(While not a necessary component of this supporting document, an example of a course syllabus is available, for information, by clicking on the link below, which goes to the Graduate School’s Policies and Procedures Manual for Administering Graduate Student Programs. See Appendix K.)


(Revised and Approved by the Graduate Council 2/08)
Justification for the Course:

This is a required course for the graduate programs in the School of Engineering Education (ENE). This new course will also be of interest to graduate students in other Departments, Schools, and Colleges with engineering education or related interests. The intent of the course is to raise awareness of the opportunities and cutting edge research and programs in engineering education and provide networking opportunities for ENE graduate students within ENE and at national and international levels.

Learning Outcomes and Method of Evaluation or Assessment:

1. Develop an understanding of the field of Engineering Education in its widest possible applications.
2. Develop an appreciation of the various interdisciplinary research efforts being pursued
   Engineering Education has the potential to provide leadership/

Criteria: (pick one)

___ Exams and Quizzes
___ Papers and Projects
___ Homework
___ Laboratory Exercises
_X Attendance and Class Participation
___ Extra Credit Policies

Method of Instruction: (pick one)

___ Lecture
___ Recitation
_X Presentation
___ Laboratory
___ Lab Prep
___ Studio
___ Distance

Prerequisite(s):

Graduate standing, MS or PHD student in Engineering Education

Course Instructor(s):

This changes from semester to semester. Faculty within the School of Engineering Education who are a member of the Graduate Faculty

Course Outline:

Week Typical Schedule:

1. Introduction and discussion of the semester schedule.
2. Gregory Light, Northwestern University
3. Matthew Romoser, University of Massachusetts-Amherst
4. Krishna Madhavan, Clemson University
5. Nadia Kellam, University of Georgia
6. Victor Goldschmidt, past head of Purdue, Dept of Freshman Engineering
7. Yvonna Lincoln, Texas A&M University
8. Guest Presenter TBD
9. Guest Presenter TBD
10. Spring break - NO SEMINAR
11. Trevor Harding, CalPoly, San Luis Obispo
12. Guest Presenter TBD
13. Guest Presenter TBD
14. Cindy Atman, University of Washington
15. ENE 590 Presentations

Reading List (including course text):
None required

Library resources:
None required
Supporting Document for a New Graduate Course

To: Purdue University Graduate Council
From: Faculty Member: Kamyar Haghighi
Department: Engineering Education
Campus: Purdue University West Lafayette

Date: Proposal for New Graduate Course-Documentation
Required by the Graduate Council to Accompany
Registrar’s Form 40G

Contact for information if
questions arise:
Name: Suzie Schilling
Phone Number: 45755
E-mail: suzie@purdue.edu
Campus Address: 1300 ARMS

For Reviewer’s comments only
(Select One)
Reviewer:
Comments:

Course Subject Abbreviation and Number: FNE 690
Course Title: History and Philosophy of Engineering Education

A. Justification for the Course:

- Provide a complete and detailed explanation of the need for the course (e.g., in the
  preparation of students, in providing new knowledge/training in one or more topics, in
  meeting degree requirements, etc.), how the course contributes to existing fields of study
  and/or areas of specialization, and how the course relates to other graduate courses offered
  by the department, other departments, or interdisciplinary programs.

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  will be used to assess students and how the final grade will be determined.

Criteria: Attendance and Class Participation
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**Method of Instruction** Presentation

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(Revised and Approved by the Graduate Council 2/08)