PURDUE UNIVERSITY
REQUEST FOR ADDITION, EXPIRATION,
OR REVISION OF AN UNDERGRADUATE COURSE
(100-400 LEVEL)

DEPARTMENT: Engineering  EFFECTIVE SESSION: Spring 2011

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

- 1. New course with supporting documents
- 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/effort type
- 7. Change in course attributes (department head signature only)
- 8. Change in instructional hours
- 9. Change in course description
- 10. Change in course prerequisites
- 11. Change in semesters offered (department head signature only)
- 12. Transfer from one department to another

PROPOSED:
Subject Abbreviation: CE
Course Number: 49700
Long Title: Civil Engineering Design Project
Short Title: CE Design Project

EXISTING:
Subject Abbreviation
Course Number

TERMS OFFERED:
Check All That Apply:
- Summer
- Fall
- Spring

CAMPUS(ES) INVOLVED:
- Calumet
- Ft. Wayne
- Indianapolis
- N. Central
- Tech Statewide
- W. Lafayette

Abbreviated title will be entered by the Office of the Registrar if omitted. (22 CHARACTERS ONLY)

CREDIT TYPE
1. Fixed Credit: Cr. Hrs. 3
2. Variable Credit Range:
   Minimum Cr. Hrs. (Check One) To
   Maximum Cr. Hrs.  Or
3. Equivalent Credit: Yes  No
4. Thesis Credit: Yes  No

COURSE ATTRIBUTES: Check All That Apply
7. Registration Approval Type:
   Department
   Instructor
8. Variable Title
9. Remedial
10. Honors
11. Full Time Privilege
12. Off Campus Experience

Instructional Type
Lecture
Recitation
Presentation
Laboratory
Lab Prep
Studio
Distance
Clinic
Experimental
Research
Ind. Study
Prac/Obsrv
Minutes Per Mtg
Meetings Per Week
Weeks Offered
% of Credit
Allocated
Synchronous
Delivery Method (Asyn, Or Syn.)
Delivery Medium (Audio, Internet, Live, Text-Based, Video)

Cross-Listed Courses

COURSE DESCRIPTION (INCLUDE REQUISITES):
P: CE 345 or CE 365 or CE 418 or CE 478 and consent of instructor. Planning, analysis, and design of a civil engineering project; an integrated and realistic group project involves as much as possible all major aspects of the civil engineering profession. Emphasis on teamwork, project management, testing through simulation or modeling, oral and written communications.

Calumet Department Head
Date: 8/3/10

Calumet School Dean
Date: 8/4/10

Ft. Wayne Department Head
Date: 

Ft. Wayne School Dean
Date: 8/4/10

Indianapolis Department Head
Date:

Indianapolis School Dean
Date:

North Central Department Head
Date:

North Central Chancellor
Date:

West Lafayette Department Head
Date:

West Lafayette College/School Dean
Date:

West Lafayette Registrar
Date:

OFFICE OF THE REGISTRAR
Required Course

CE 487 - Civil Engineering Design Project
Offered each fall and spring

Catalog Data

Class: 3. Credits: 3.
Planning, analysis, and design of a civil engineering project; an integrated and realistic group project involves as much as possible all major aspects of the civil engineering profession. Emphasis on teamwork, project management, testing through simulation or modeling, oral and written communications.

Prerequisites

CE 345- Transportation Engineering or CE 365- Environmental Engineering or CE 418: Hydraulics Engineering or CE 478- Design of Concrete Structures and consent of instructor.

Required Textbook:

N/A

References:

Determined by the instructor.

Course Objectives:

To develop capabilities of students to solve real-life problems. Students have to apply knowledge from their previous course work to accomplish projects formulation to prototype evaluation.

Schedule:

One lab of 100 minutes per week.
Weekly meeting with the project advisor.

Lecture Topics

1. Introduction, discuss the Capstone Senior Design Guidelines 1 class
2. Formulation of Problem Statement 1 class
3. Brainstorming and Conceptual Designs 1 class
4. Evaluation of Conceptual Designs 1 class
5. Detailed Design 1 class
6. Knowledge of contemporary issues 2 classes
7. The broad education necessary to understand the impact of Engineering solutions in global and societal contexts 2 classes
8. Recognition of the need for life-long learning 2 classes
9. Understanding professional and ethical responsibility 2 classes
10. Discussion related to oral presentations 1 class
11. Oral Presentations 1 class

Course Outcomes

Upon successful completion of this course, students shall be able to:

1. understand how Federal/State environmental regulations and standards are developed as well as their impact [f (7), h (9), i (2), j(9)]
2. formulate a problem statement [a(1), c (3), e (2)]
3. develop multiple preliminary design solutions using brainstorming technique [a(1), c (3)]
4. evaluate alternative solutions and select the optimum alternative using a well-defined criteria [a(1), c (3), e(2), h (9)]
5. successfully develop detailed final design for the project considering safety, economical, ethical, professional, and environmental issue [a(1), c (3), e(2), f (7), h (9)]
6. develop technical drawings and specification for the project, if needed [c (3), e(2), f (7), g (9), k (9)]
7. preliminary cost estimate and schedule for project activities, in needed [a (1), g (8), k (9)]
8. write technical reports clearly and concisely [g (8)]
9. The ability to present preliminary work both written and orally [g (8)]
10. The ability to function within a team [d(5)]
11. present final design to technical and non-technical professionals [g (8)]
12. Understanding of the ethical issues those are associated with the engineering profession [f (7)]
13. Knowledge of contemporary issues [j(9)]
14. Understanding of the impact of civil engineering on society [h (9)]

**ABET category:**
- Engineering science: 0 credits or 0%
- Engineering design: 3 credits or 100%