

EFD 2415

Office of the Registrar
FORM 40 REV. 5/11

PURDUE UNIVERSITY
REQUEST FOR ADDITION, EXPIRATION,
OR REVISION OF AN UNDERGRADUATE COURSE
(10000-40000 LEVEL)

Print Form

IDE 48500
201610

DEPARTMENT School of Engineering Education EFFECTIVE SESSION Fall 2015

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/type
- 7. Change in course attributes (department head signature only)
- 8. Change in instructional hours
- 9. Change in course description
- 10. Change in course requisites
- 11. Change in semesters offered (department head signature only)
- 12. Transfer from one department to another

PROPOSED: Subject Abbreviation IDE Course Number 48500 Long Title Multidisciplinary Engineering Design Project Short Title MDE Engr Design Project	EXISTING: Subject Abbreviation IDE Course Number 48500	TERMS OFFERED Check All That Apply: <input type="checkbox"/> Fall <input checked="" type="checkbox"/> Spring <input type="checkbox"/> Summer CAMPUS(ES) INVOLVED <input type="checkbox"/> Calumet <input type="checkbox"/> N. Central <input type="checkbox"/> Cont Ed <input type="checkbox"/> Tech Statewide <input type="checkbox"/> Ft. Wayne <input checked="" type="checkbox"/> W. Lafayette <input type="checkbox"/> Indianapolis
---	---	---

Abbreviated title will be entered by the Office of the Registrar if omitted. (30 CHARACTERS ONLY)

CREDIT TYPE 1. Fixed Credit: Cr. Hrs. <input type="text" value="3"/> 2. Variable Credit Range: Minimum Cr. Hrs. <input type="text"/> (Check One) To <input type="checkbox"/> Or <input type="checkbox"/> Maximum Cr. Hrs. <input type="text"/> 3. Equivalent Credit: Yes <input type="checkbox"/> No <input type="checkbox"/>	COURSE ATTRIBUTES: Check All That Apply 1. Pass/Not Pass Only <input type="checkbox"/> 2. Satisfactory/Unsatisfactory Only <input type="checkbox"/> 3. Repeatable <input type="checkbox"/> Maximum Repeatable Credit: <input type="text"/> 4. Credit by Examination <input type="checkbox"/> 5. Fees: <input type="checkbox"/> Coop <input type="checkbox"/> Lab <input type="checkbox"/> Rate Request Include comment to explain fee	6. Registration Approval Type Department <input type="checkbox"/> Instructor <input checked="" type="checkbox"/> 7. Variable Title <input type="checkbox"/> 8. Honors <input type="checkbox"/> 9. Full Time Privilege <input type="checkbox"/> 10. Off Campus Experience <input type="checkbox"/>
--	---	--

Schedule Type	Minutes Per Mtg	Meetings Per Week	Weeks Offered	% of Credit Allocated
Lecture	100	3	16	100
Recitation				
Presentation				
Laboratory				
Lab Prep				
Studio				
Distance				
Clinic				
Experiential				
Research				
Ind. Study				
Pract/Observ				

Cross-Listed Courses
 RECEIVED
 FEB 17 2015
 OFFICE OF THE REGISTRAR

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):
 Pre- or Co-requisite: IE 34300 or IDE 48300 or equivalent, ENE approved engineering design selective, MA 26200 or MA 26500 & 26600, IDE 48400, departmental permission. Pre- or corequisite: IDE 30100. Capstone design experience for multidisciplinary engineering students. Physical system or process system design projects, related to contemporary or potential problems involving interdisciplinary teams of engineers. Typically offered Spring.

***COURSE LEARNING OUTCOMES:**
 function as an effective member of a multidisciplinary team; demonstrate leadership in a team context; apply a systemic approach to the early design stages of the product life cycle; identify and verify stakeholder needs and thus develop valid design requirements; identify competing technical, commercial, socio-environmental issues; use advanced information seeking and computer knowledge management tools; synthesize a conceptual design for a complex product, machine or system; use of advanced computer tools to model & test the behaviour of design ideas; estimate the life cycle costs of a system at the conceptual phase; manage technical and other types of risk in early stages of the design process; demonstrate effective project management and apply professional judgement; conduct professional design reviews & make oral

Calumet Department Head _____ Date _____	Calumet School Dean _____ Date _____	
Fort Wayne Department Head _____ Date _____	Fort Wayne School Dean _____ Date _____	
Indianapolis Department Head _____ Date _____	Indianapolis School Dean _____ Date _____	
North Central Faculty Senate Chair _____ Date _____	Vice Chancellor for Academic Affairs _____ Date _____	
West Lafayette Department Head _____ Date _____	West Lafayette College/School Dean _____ Date _____	Carverston 4/29/15 West Lafayette Registrar _____ Date _____

OFFICE OF THE REGISTRAR

Clips 3/11/15

who sec

T0: The Engineering Faculty
FROM: The Faculty of the School of Engineering Education
RE: Changes in Undergraduate Course IDE 48500 Multidisciplinary Engineering Design

The Faculty of the School of Engineering Education has approved the changes in the course listed below. This action is now submitted to the Engineering Faculty with a recommendation for approval.

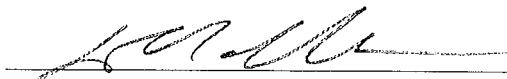
FROM: IDE 48500 Interdisciplinary Engineering Design
Sem. 2, Class 1 Lab 4, Credit. 3
Pre- or Co-requisite: IE 34300 or equivalent, ENE approved engineering design selective, MA 26200 or MA 26500 & 26600, departmental permission. Pre- or corequisite: IDE 30100.

Capstone design experience for interdisciplinary engineering students. Physical system or process system design projects, related to contemporary or potential problems involving interdisciplinary teams of engineers. Use of patent literature. Creativity methods. Analysis of design alternatives using case studies, economics and optimization. Typically offered Spring.

TO: IDE 48500 Multidisciplinary Engineering Design Project
Sem. 2, Lab 5, Credit 3
Pre- or Co-requisite: IE 34300 or IDE 48300 or equivalent, ENE approved engineering design selective, MA 26200 or MA 26500 & 26600, IDE 48400, departmental permission. Pre- or corequisite: IDE 30100.

Capstone design experience for multidisciplinary engineering students. Physical system or process system design projects, related to contemporary or potential problems involving interdisciplinary teams of engineers. Typically offered Spring.

REASON:
Name change from Interdisciplinary to Multidisciplinary to harmonize all course names associated with the ABET accredited engineering program. Removal of the design content/focused lectures (moved to IDE 48400) and the professional seminar content (moved to IDE 48700) allowing students greater time to fully develop and analytically expand upon their industry focused design projects in this capstone design experience course.


David Radcliffe,
Kamyar Haghighi Head, School of Engineering Education

Approved for the faculty of the Schools
of Engineering by the Engineering
Curriculum Committee
ECC Minutes 10 Date 2-9-15
Chairman ECC [Signature]

IDE 48500 Multidisciplinary Engineering Design Project

Sem. 2, Lab 5, Credit 3

Pre- or Co-requisite: IE 34300 or IDE 48300 or equivalent, ENE approved engineering design selective, MA 26200 or MA 26500 & 26600, IDE 48400, departmental permission. Pre- or corequisite: IDE 30100.

Course Description:

Capstone design experience for multidisciplinary engineering students. Physical system or process system design projects, related to contemporary or potential problems involving interdisciplinary teams of engineers. Typically offered Spring.

Summary of Changes:

Design content lectures have been removed and placed in the new course IDE 48400 (Multidisciplinary Engineering Design Methodology). Professional development seminar content has been removed and placed in IDE 48700 (Multidisciplinary Engineering Senior Professional Design Seminar). This content restructuring allowed the overall course structure to change to lab 5 (from lecture 1, lab 4). Added IDE 48400 as prerequisite and changed engineering economics prerequisite to IE 34300 *or* IDE 48300 or equivalent.

Rationale:

The IDE 48500 course as idealized originally aimed to cover a broad range of multidisciplinary design content areas, assess MDE professional outcomes, and concurrently provide a platform for MDE students to demonstrate their engineering competencies working on a significant design project (capstone). While this course was meeting the needs as designed, it is in the spirit of continuous course and program improvement that we recognize the need for enhancements. As proposed here, the revision to IDE 48500 will allow students to focus with intention on developing rigorous and well documented solutions for their capstone design projects which often involve an industry client. At the same time, we will retain design content (lectures), and professional development seminars through the focused one-credit hour courses, IDE 48400 (Multidisciplinary Engineering Design Methodology) and re-envisioned IDE 48700 (Multidisciplinary Engineering Senior Professional Design Seminar). In alignment with newly developed MDE courses (e.g. IDE48300 and IDE484), the prerequisite list has also been updated to establish a logical course sequence.

These changes offer enhanced flexibility in selecting course instructors to support the MDE course programming, in that a single instructor need not be a combined expert in all subject areas previously presented in IDE 48500. As presented here, the School of Engineering Education can respond more supportively to recommendations made by the ABET visitors, who have suggested that more ENE faculty should become involved in courses offered within the MDE program.