

Course Change Request

Indiana University

IUPUI

Campus

Check Appropriate Boxes:

Undergraduate credit

Graduate credit

Professional credit

- 1. School/Division School of Engineering and Technology
- 2. Academic Subject Code ME 3. Current Course Number 462 4. Current Credit Hours 4
- 5. Current Title Capstone Design
- 6. Effective Semester/Year for changes listed below: Spring 2009 7. Instructor: Variable

Type of Change Requested (Check appropriate boxes and indicate changes)

- 8. Change course number to: _____ (must be cleared with University Enrollment Services)
- 9. Current course title: _____
Change to: _____
Recommended abbreviation (optional) _____
(Limited to 32 Characters including spaces)
- 10. Current credit hours fixed at: 4 or variable from: _____ to _____
Change to credit hours fixed at: 3 or variable from: _____ to _____
- 11. Current lecture contact hours fixed at: _____ or variable from: _____ to _____
Change to lecture contact hours fixed at: _____ or variable from: _____ to _____
- 12. Current non-lecture contact hours fixed at: _____ or variable from: _____ to _____
Change to non-lecture contact hours fixed at: _____ or variable from: _____ to _____
- 13. Is this course currently graded with S-F (only) grades? Yes _____ No _____
Change to S-F (only) grading? Yes _____ No _____
- 14. Does this course presently have variable title approval? Yes _____ No _____
Is variable title approval being requested? Yes _____ No _____
- 15. Is this course being discontinued? For all campuses _____ or for this campus only _____
- 16. Current course description _____

Change course description to (not to exceed 50 words) _____

17. Justification for change Seminar component of the course to be separated and offered as ME 405 (1cr)

(Use additional paper if necessary)

18. Are the necessary reading materials currently available in the appropriate library? N/A

19. A copy of every new course proposal must be submitted to departments, schools, or divisions in which there may be overlap of this course with existing courses or areas of strong concern, with instructions that they send comments directly to the originating Curriculum Committee. Please append a list of departments, schools, or divisions thus consulted.

Submitted by:

[Signature] Date 1/19/2009
Department Chairman/Division Director

Approved by:

[Signature] Date 1-20-09
Dean

Date _____
Dean of Graduate School (when required)

Date _____
Chancellor/Vice-President

Date _____
University Enrollment Services

After School/Division approval, forward the last copy (without attachments) to University Enrollment Services for initial processing, and the remaining four copies and attachments to the Campus Chancellor or Vice-President.

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

Print Form

DEPARTMENT Mechanical Engineering

EFFECTIVE SESSION Spring 2009

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

- | | |
|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| <input type="checkbox"/> 1. New course with supporting documents | <input type="checkbox"/> 7. Change in course attributes (department head signature only) |
| <input type="checkbox"/> 2. Add existing course offered at another campus | <input checked="" type="checkbox"/> 8. Change in instructional hours |
| <input type="checkbox"/> 3. Expiration of a course | <input type="checkbox"/> 9. Change in course description |
| <input type="checkbox"/> 4. Change in course number | <input type="checkbox"/> 10. Change in course requisites |
| <input type="checkbox"/> 5. Change in course title | <input type="checkbox"/> 11. Change in semesters offered (department head signature only) |
| <input type="checkbox"/> 6. Change in course credit/type | <input type="checkbox"/> 12. Transfer from one department to another |

PROPOSED:

Subject Abbreviation ME
Course Number 462
Long Title Capstone Design
Short Title _____

EXISTING:

Subject Abbreviation _____
Course Number _____

TERMS OFFERED
Check All That Apply:

Summer Fall Spring

CAMPUS(ES) INVOLVED

Calumet N. Central
 Cont Ed Tech Statewide
 Ft. Wayne W. Lafayette
 Indianapolis

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 Or
Maximum Cr. Hrs. _____
3. Equivalent Credit: Yes No
4. Thesis Credit: Yes No

COURSE ATTRIBUTES: Check All That Apply

1. Pass/Not Pass Only
2. Satisfactory/Unsatisfactory Only
3. Repeatable
Maximum Repeatable Credit: _____
4. Credit by Examination
5. Designator Required
6. Special Fees
7. Registration Approval Type Department Instructor
8. Variable Title
9. Remedial
10. Honors
11. Full Time Privilege
12. Off Campus Experience

Instructional Type	Minutes Per Mtg	Meetings Per Week	Weeks Offered	% of Credit Allocated	Delivery Method (Asyn. Or Syn.)	Delivery Medium (Audio, Internet, Live, Text-Based, Video)
Lecture	75	2	15			
Recitation	50	1	15			
Presentation						
Laboratory						
Lab Prep						
Studio						
Distance						
Clinic						
Experiential						
Research						
Ind. Study						
Pract/Observ						

Cross-Listed Courses

COURSE DESCRIPTION (INCLUDE REQUISITES):

Concurrent engineering design concept is introduced. Application of the design is emphasized. Design problems from all areas of mechanical engineering are considered.

Calumet Department Head _____ Date _____ Calumet School Dean _____ Date _____

Fort Wayne Department Head _____ Date _____ Fort Wayne School Dean _____ Date _____

Indianapolis Department Head _____ Date 1/19/09 H.U. Akay _____ Date 1-20-09

North Central Department Head _____ Date _____ North Central Chancellor _____ Date _____

West Lafayette Department Head _____ Date _____ West Lafayette College/School Dean _____ Date _____ West Lafayette Registrar _____ Date _____

Required Course:	ME 462 Capstone Design (3 cr., class 3)
Catalog Description:	Credit 3. Class 3 Concurrent engineering design concept is introduced. Application of the design is emphasized. Design problems from all areas of mechanical engineering are considered.
Prerequisites:	1) ME 344 Introduction to Engineering Materials, and 2) ME 372 Mechanical Design II
Corequisites:	1) ME 414 Thermal-Fluid Systems Design and 2) ME 482 Control Systems Analysis and Design
Textbook:	David G. Ullman, <i>The Mechanical Design Process</i> , Third Edition, McGraw-Hill, 1997.
Coordinator:	Jie Chen
Goals:	To teach the process of design, go generate better quality designs in less time, the organization within a company, how to be more creative in solving design problems, and how to design as part of a group activity.

Course Outcomes:

After completion of the course, the students should be able to:

1. Describe the design process [g]
2. Identify design tasks and their objectives [e]
3. Establish a project schedule [c1, g, d]
4. Develop design specifications by completion of a house of quality [c1, f]
5. Generate design ideas based on functional decomposition [c1]
6. Evaluate the ideas based on customer requirement [e, k3]
7. Creatively generate product designs [a, c1]
8. Validate the final design [b]
9. Give technical presentations in the forms of weekly progress report, proposal, final report, and oral presentation [g]
10. Document the design activities and outcomes (product development file, drawings, period minutes, and personal design notebook) [g, i]
11. Work as team player by demonstrating his/her participation record in the personal design notebook [d]
12. Work effectively in a multidisciplinary project team [d]

Note: The letters within the brackets indicate the program outcomes of mechanical engineering

Topics:

1. Introduction to the design process (1 period)
2. Design process and its planning (1 period)
3. Project specification development (1 period)
4. Concept generation (1 period)
5. Concept evaluation (1 period)
6. Product generation (1 period)
7. Product evaluation (1 period)
8. Robust design (1 period)
9. Finalizing product design (1 period)
10. Proposal and presentation preparation (1 period)
11. Oral presentation (1 period)
12. Final report and presentation preparation (1 period)

13. Oral presentation (1 period)

Computer Usage: Matlab, Pro/Engineer, Pro/Mechanica, ANSYS, etc.

Evaluation Methods: Homework assignments, quizzes, two mid-term exams, and one final report and presentation.

Professional Component: Engineering Design (Engineering Topics)

Prepared by: Jie Chen

Revised: September 22, 2008