New Course Request  

Check Appropriate Boxes:  
Undergraduate credit □  
Graduate credit □  
Professional credit □  

1. School/Division: Engineering and Technology  
2. Academic Subject Code:  
3. Course Number: MET305 (must be cleared with University Enrollment Services)  
4. Instructor: D. Acheson  
5. Course Title: Computer-Aided Design with Applications  
   Recommended Abbreviation (Optional): CAD Use Parametr Model  
   (Limited to 32 Characters including spaces)  

9. Is variable title approval being requested? Yes □ No □  

11. Lecture Contact Hours: Fixed at _______ 2 _______ or Variable from _______ to _______  
12. Non-Lecture Contact Hours: Fixed at _______ 2 _______ or Variable from _______ to _______  
13. Estimated enrollment: _______ 15 _______ of which _______ 0 _______ percent are expected to be graduate students.  
14. Frequency of scheduling: Summer/Fall/Spring  
15. Justification for new course: To partially fulfill the requirements for a newly-proposed CAD certificate program at IUPUI.  
16. Are the necessary reading materials currently available in the appropriate library? Yes □ No □  

18. If this course overlaps with existing courses, please explain with which courses it overlaps and whether this overlap is necessary, desirable, or unimportant.  
19. A copy of every new course proposal must be submitted to departments, schools, or divisions in which there may be overlap of the new 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:  
Michael H. Ogle  
Department Chairman/Director  
Date: 11/12/07  
Dean of Graduate School (when required)  
Date:  

Approved by:  
William A. Wood  
Dean  
Date: 12/11/07  
Chancellor/Vice-President  
Date:  
University Enrollment Services  
Date:  

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.  

UPS 724  
University Enrollment Services Final—White; Chancellor/Vice-President—Blue; School/Division—Yellow;  
Department/Division—Pink; University Enrollment Services Advance—White
COURSE DESCRIPTION

Revised: 21 - November 2007

Course: MET 305 – Computer-Aided Design with Applications

Catalog Data: 2 Lecture Hours 2 Lab Hrs. 3 Credit Hours
Prerequisites: TECH104 or CGT110 (Or Instructor’s Consent)

This course provides advanced study of computer-aided drafting and
design utilizing current industrial computer-aided design systems.
The course covers the use of these systems in three dimensional and
parametric modeling applications.

Offerings: Fall / Spring / Summer

Textbooks: Engineering Drawing with SolidWorks, 2008, Schroff Development
Group

Other Required Material
(1) Flash Drive

Course Coordinator: Doug Acheson, Associate Professor of Mechanical Engineering
Technology

**Learning Objectives**

1. Understand the basic concepts of constraint-based 3D modeling.

2. Understand the basic concepts of parametric modeling techniques.

3. Define the role of 3D solid modeling in concurrent engineering

4. Define the role of 3D solid modeling for manufacturing.

5. Describe solid modeling database structures.

6. Explain data exchange concerns of 3D solid modeling databases.

7. Explore various applications involving 3D solid modeling databases.

8. Delineate between 3D solid modeling and knowledge-based engineering.

9. Gain an overview of various constraint-based solid modeling systems.
MET 305 - Tentative Course Outline

Week 1  Introduction to Constraint-Based Modeling – Course Overview
Week 2  Exploring SolidWorks
Week 3  2-D Sketches and Layouts
Week 4  Primary Features
Week 5  Treatment Features
Week 6  Creating Drawings of 3-D Models
Week 7  Dimensions and Annotations
Week 8  Midterm Exam Review
Week 9  Midterm Exam
Week 10  Sheet Metal Features
Week 11  Advanced Sheet Metal
Week 12  Assembly Design
Week 13  Presentation and Animation
Week 14  Document Management
Week 15  Final Exam Review
Week 16  Final Exam

Prepared by: Douglas C. Acheson  Date November 21, 2007
# Purdue University

## Request for Addition, Expiration, or Revision of an Undergraduate Course (100-400 Level)

### Department
- Engineering Technology

### Effective Session
- Fall 2008

### Instructional: Please check the items below which describe the purpose of this request.
- [ ] New course with supporting documents
- [ ] Add existing course offered at another campus
- [ ] Expiration of a course
- [ ] Change in course number
- [ ] Change in course title
- [ ] Change in course credit/typology
- [ ] Change in course attributes (department head signature only)
- [ ] Change in instructional hours
- [ ] Change in course description
- [ ] Change in course requisites
- [ ] Change in semesters offered (department head signature only)
- [ ] Transfer from one department to another

#### Proposed:
- Subject Abbreviation: NET
- Course Number: 305
- Course Title: Computer-Aided Design with Applications

#### Existing:
- Subject Abbreviation: NET
- Course Number: 305
- Course Title: Computer-Aided Design with Applications

#### Terms Offered:
- Check all that apply:
  - [ ] Summer
  - [ ] Fall
  - [ ] Spring

#### Campus(es) Involved:
- [ ] Calumet
- [ ] Doni Ed
- [ ] Ft. Wayne
- [ ] Tech Statewide
- [ ] W. Lafayette
- [ ] Indianapolis

### Credit Type

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#### Institutional Type

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#### Course Attributes: Check All That Apply
- [ ] Registration Approval Type
- [ ] Instructr
- [ ] Department
- [ ] Syllabus
- [ ] Syllabus

#### Delivery Method (Asyn. Or Syn.)

| Internet, Live, Text-based, Videos | Live |

### Course Description
Explain the course briefly. The course provides an advanced study of computer-aided drafting and design utilizing current industrial computer aided design systems. The course covers the use of these systems in three-dimensional and parametric modeling applications.

### Cross-Listed Courses

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### Signatures

- Calumet Department Head: [Signature]
- Calumet School Dean: [Signature]
- Fort Wayne Department Head: [Signature]
- Fort Wayne School Dean: [Signature]
- Indianapolis Department Head: [Signature]
- Indianapolis School Dean: [Signature]
- North Central Department Head: [Signature]
- North Central School Dean: [Signature]
- West Lafayette Department Head: [Signature]
- West Lafayette College School Dean: [Signature]

**Office of the Registrar**