Dept: DEPARTMENT ENGINEERING  EFFECTIVE SESSION FALL 2009

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 semester offered (department head signature only)
12. Transfer from one department to another

PROPOSED:

<table>
<thead>
<tr>
<th>Subject Abbreviation</th>
<th>ME</th>
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</thead>
<tbody>
<tr>
<td>Course Number</td>
<td>160</td>
</tr>
<tr>
<td>Long Title Solid Modelling</td>
<td></td>
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<tr>
<td>Short Title Solid Modelling</td>
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EXISTING:

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TERMS OFFERED

- [ ] Summer
- [X] Fall
- [X] Spring

CAMPUS(ES) INVOLVED

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

Abbreviated title will be entered by the Office of the Registrar if omitted. (20 CHARACTERS ONLY)

CREDIT TYPE

1. Fixed Credit: Cr. Hrs. 2
2. Variable Credit Range: Minimum Cr. Hrs (Check One) 100
3. Equivalent Credit: Yes No

COURSE ATTRIBUTES: Check All That Apply

- [ ] Pass/Not Pass Only
- [ ] Satisfactory/Unsatisfactory Only
- [ ] Repeatable
- [ ] Maximum Repeatable Credit
- [ ] Credit by Examination
- [ ] Special Fees

COURSES

- [ ] Cross-Listed Courses

COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):

P: ENGR 120, MA 165
Cr. 2 Class 1, Lab 2
Communication of form and layout of real world objects, solid modelling of objects. Engineering drawing layouts, orthogonal projections, dimensioning, tolerancing and standard drawing symbols, principles of detail design drawings and assembly drawings, and manufacturability. Use of computer graphics and production of drawings.

Calumet Department Head: Donald Mueller, Date: 1/24/09
Calumet School Dean: Gerald Schrock, Date: 2-25-09

Ft. Wayne Department Head: Date
Ft. Wayne School Dean: Date

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
NEW COURSE PROPOSAL

ME160 SOLID MODELING

Credit Hours: 2 (1 credit for 50 min. lecture and 1 credit for 100 min. lab)

Course Description:
Communication of form and layout of real world objects, solid modeling of objects. Engineering drawing
layouts, orthogonal projections, dimensioning, tolerancing and standard drawing symbols, principles of
detail design drawings and assembly drawings, and manufacturability. Use of computer graphics and
production of drawings.

Prerequisite:
ENGR120 Graphical Communications and Spatial Analysis and
MA165 Analytical Geometry and Calculus I

Prerequisite by Topic:
Geometry, Calculus, Graphic and Data Standards, Dimensioning, and Views.

Offering: Fall and Spring

Textbook: TBD

Software Package: TBD among SolidWorks, ProE, Unigraphics, CATIA, etc.

Course Objectives:
To introduce the student to the operation of a typical three-dimensional parametric CAD system. Content
stresses graphic commands and proper manipulation of industrial CAD software to produce engineering
parts, assemblies, and drawings. Emphasis is placed on developing solid modeling skills.

Topics To be Covered:
1. 3D geometry, defining graphic standards
2. Merge models and link sets
3. Design and combine base solids
4. Design advanced solids, analyze or modify parts
5. Fillets and draft surfaces
6. Surfaces
7. Parameterization
8. Mesh generation
9. Animation
10. Manufacturability