To: The Faculty of the College of Engineering

From: Division of Construction Engineering and Management

Subject: New Course

The Faculty of the Division of Construction Engineering and Management (CEM) has approved the following new course listed below. This action is now submitted to the Engineering Faculty with recommendation for approval.

**CEM 45500 Building Information Modeling**
Sem. 2, Class 3. Lecture, Cr.3.
Prerequisite: CEM 29100 - Construction Internship II
              CEM 30100 - Project Control & Life Cycle Execution of Constructed Facilities
              or Instructor Permission

Course Description: The primary objective of this course is to provide students with an understanding of the concepts behind Building Information Modeling (BIM); how it can be used during design, construction, and operation of facilities; and how to apply it. This is a computer intensive course requiring computer programming for controlling applications, for computer graphics, and for database management.

Reason: This course is being taught as CEM 497 and will continue to be offered in the Spring semester. The syllabus for the existing course is attached. This course will serve as a key course at the 400 level for CEM majors, as part of the Construction Engineering undergraduate curriculum.

[Signature]

Makamadi Hastak, Professor and Head
Division of Construction Engineering and Management
CEM 49700-002   Building Information Modeling
W 2:30-5:00pm Jan 12 - May 9, 2009 Matthews Hall 301

Instructor

Dr. Julio C. Martinez, CIVL Room 1245, 494-2250, Julio@purdue.edu, Office hours TBD

Objectives

This course will give you an understanding of the concepts behind Building Information Modeling (BIM); how it can be used during design, construction, and operation of facilities; and how to apply it. This is a computer intensive course requiring computer programming for controlling applications, for computer graphics, and for database management.

Course Structure

After introducing the basic concepts of BIM, we will develop our own “toy” BIM models using Microsoft Visio and programming for it with Visual Basic for Applications. This will provide us with a platform to explore many of the current issues related to BIM and its implementation. We will then learn how to use a commercial BIM solution (Graphisoft’s ArchiCAD) to create Building Information Models and to use them for a variety of purposes.

Exams and Grading

There will be no exams in this course. All evaluation will be based on individual and group assignments.

Course Materials

Course Materials will include software documentation and tutorials, as well as articles that will be provided electronically to you.

Software

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

**DEPARTMENT**: Division of Construction Engineering and Management  
**EFFECTIVE SESSION**: Spring 2010 (201020)

**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**: CEM
- **Course Number**: 45500
- **Long Title**: Building Information Modeling
- **Short Title**: Building Information Modeling

**EXISTING**:
- **Subject Abbreviation**:
- **Course Number**:
- **Long Title**:
- **Short Title**:

**TERMS OFFERED**:
- ✔ Summer
- ✔ Fall
- ✔ Spring

**CAMPUS(ES) INVOLVED**:
- ✔ Calumet
- ✔ Cont Ed
- ✔ Pl Wayne
- ✔ Tech Statewide
- ✔ W. Lafayette
- ✔ Indianapolis

**CREDIT TYPE**

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<th>Date</th>
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**COURSE ATTRIBUTES**:
- ✔ 1. Pass/No Pass Only
- ✔ 2. Satisfactory/Unsatisfactory Only
- ✔ 3. Repeatable
- ✔ 4. Credit by Examination
- ✔ 5. Special Fees
- ✔ 6. Registration Approval Type
- ✔ 7. Variable Title
- ✔ 8. Honors
- ✔ 9. Full Time Privilege
- ✔ 10. Off Campus Experience

**COURSE DESCRIPTION (INCLUDE REQUISITES/RESTRICTIONS):**

**Prerequisites**: CEM 29100 Construction Internship II; CEM 30100 Project Control & Life Cycle Execution of Constructed Facilities

The primary objective of this course is to provide students with an understanding of the concepts behind Building Information Modeling (BIM). This is a computer intensive course requiring computer programming for controlling applications, for computer graphics, and for database management.

**COURSE LEARNING OUTCOMES**

The student will learn and demonstrate how BIM can be used during design, construction, and operation of facilities; and how to apply these concepts to all phases of the construction process.

**Cross-Listed Courses**

**Office of the Registrar**

**Calumet Department Head**

**Calumet School Dean**

**Fort Wayne Department Head**

**Fort Wayne School Dean**

**Indianapolis Department Head**

**Indianapolis School Dean**

**North Central School Dean**

**North Central Vice Chancellor for Academic Affairs**

**West Lafayette Department Head**

**West Lafayette College/School Dean**

**West Lafayette Registrar**