New Course Request

Indiana University

Check Appropriate Boxes: Undergraduate credit [✓]  Graduate credit [ ]  Professional credit [ ]

1. School/Division: School of Engineering and Technology
   2. Academic Subject Code: BMET

3. Course Number: 490 (must be cleared with University Enrollment Services)
   4. Instructor: Christie

5. Course Title: Project Planning and Design
   Recommended Abbreviation (Optional): Proj. Planning and Design
   (Limited to 32 Characters including spaces)

6. First time this course is to be offered (Semester/Year): Fall, 2008

7. Credit Hours: Fixed at [ ] 1 [ ] or Variable from [ ] to [ ]

8. Is this course to be graded S/F (only)? Yes [ ] No [✓]

9. Is variable title approval being requested? Yes [ ] No [✓]

10. Course description (not to exceed 50 words) for Bulletin publication:
    P: three 300 or 400 level BMET courses. Students are expected to prepare an individual design in
    collaboration with industry and/or the clinical setting. The course will introduce the
    applications of project management to the student's design. Topics include project scope,
    scheduling, resource limitations, stakeholder interactions, delivery and quality
    assurance.

11. Lecture Contact Hours: Fixed at [ ] 1 [ ] or Variable from [ ] to [ ]

12. Non-Lecture Contact Hours: Fixed at [ ] 0 [ ] or Variable from [ ] to [ ]

13. Estimated enrollment: [ ] 25 of which [ ] 0 percent are expected to be graduate students.

14. Frequency of scheduling: [ ] 2/yr [ ] Will this course be required for majors? [✓] Yes

15. Justification for new course: supports new BMET BS degree

16. Are the necessary reading materials currently available in the appropriate library? Yes

17. Please append a complete outline of the proposed course, and indicate instructor (if known), textbooks, and other
    materials.

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:

[Signature]  Date: 3/25/05
Department Chairman/Division Director

Approved by:

[Signature]  Date: 4/16/05
Dean

Dean of Graduate School (when required)

Chancellor/Vice-President

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.
BMET 490 Project Planning and Design

Course Description: Students are expected to prepare an individual design in collaboration with industry and or the clinical setting. This course will introduce the applications of project management to the student’s design. Topics include project scope, scheduling, resource limitations, stakeholder interactions, delivery and quality assurance.

Prerequisite: Three 300 or 400 level BMET courses

Textbook: Fundamentals of Technology Project Management by Garton

Coordinator: Barbara Christie

Goals: Students will design a project or study which will address a contemporary topic for the field of Biomedical Engineering Technology.

Course Outcomes:
1. Identify the basic elements of project planning
2. Identify the elements of a project proposal document
3. Generate a specific proposal for use in BMET 491, obtain approval of proposal
4. Conceptualize and articulate the requirements for approved proposal
5. Present a written and oral report

Meetings
The course instructor will be updated at least bi-weekly on the progress of the project design throughout the semester. Milestones and goals for meetings will be identified. Assessment of the achievement of milestones will factor into overall course grade.

Oral Presentation
This is required at the end of the semester. It is expected to be 3-5 minutes in duration and must be facilitated using Power Point. It should convey the contents of the project plan.

Final Report
Students must prepare a report which documents all elements of the project plan in accordance with the requirements identified in the course materials.

Grading:
30% bi-weekly milestone achievement and attendance
30% oral report (see grading rubric)
30% written report (see grading rubric)
PURDUE SCHOOL OF ENGINEERING & TECHNOLOGY
COURSE OUTCOMES AND ASSESSMENT DATA SHEET

This is an internal document to identify and record expected outcomes and anticipated assessment strategies for all courses taught within the School of Engineering and Technology. Submission of this form, as noted below, is required and must accompany all new course and course change requests. Copies of this form should also be retained within the department and kept on file with the outline or syllabus for each course.

Course Number: BMET 490 Course Title: Project Planning & Design

Procedure:

1. First, identify all instructional outcomes expected for this course, and then select all ABET outcomes which are consistent with those anticipated objectives from TABLE 1 below.

<table>
<thead>
<tr>
<th>#</th>
<th>TECHNOLOGY - TAC Criteria #1 (Proposed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Demonstrate an appropriate mastery of the knowledge, techniques, skills and modern tools of their discipline.</td>
</tr>
<tr>
<td>2</td>
<td>Apply current knowledge and adapt to emerging applications in mathematics, science, engineering and technology.</td>
</tr>
<tr>
<td>3</td>
<td>Conduct, analyze and interpret experiments and apply experimental results to improve processes.</td>
</tr>
<tr>
<td>4</td>
<td>Apply creativity in the design of systems, components or processes appropriate to program objectives.</td>
</tr>
<tr>
<td>5</td>
<td>Function effectively on teams.</td>
</tr>
<tr>
<td>6</td>
<td>Identify, analyze and solve technical problems.</td>
</tr>
<tr>
<td>7</td>
<td>Communicate effectively.</td>
</tr>
<tr>
<td>8</td>
<td>Recognize the need for and possess the ability to pursue lifelong learning.</td>
</tr>
<tr>
<td>9</td>
<td>Understand professional, ethical and societal responsibilities.</td>
</tr>
<tr>
<td>10</td>
<td>Recognize contemporary professional, societal and global issues and be aware of and respect diversity.</td>
</tr>
<tr>
<td>11</td>
<td>Have a commitment to quality, timeliness and continuous improvement.</td>
</tr>
</tbody>
</table>

2. Subsets for each of the six IUPUI Principles of Undergraduate Learning (PUL) are given on the reverse side in TABLE 2. Using a number corresponding to each ABET outcome identified from TABLE 1 above to select a column, place a “✓” or “X” mark in the applicable TABLE 2 row(s) cell for each PUL. Courses will often address multiple ABET outcomes and ABET outcomes frequently will overlap more than one PUL subset. Thus, it is expected completed data sheets may contain marks in several cells thereby indicating the course simultaneously satisfies multiple Principles of Undergraduate Learning while fulfilling its intended ABET objective(s).

3. After completing TABLE 2, briefly define or explain how the course outcomes or objectives will be evaluated within the context of the departmental assessment program in the space below:

   Is linked to BMET 491 which meets course objectives or outcomes # 10 and #4

Submitted by: [Signature] Date: 2/19/08
### TABLE 2 - MATRIX OF EXPECTED COURSE OUTCOMES

(Suggestion - while completing Table 2, place a copy of the ABET outcomes from Table 1 along side for easy cross referencing.)

<table>
<thead>
<tr>
<th>PRINCIPLES OF UNDERGRADUATE LEARNING - “Require All Students to Demonstrate An Ability to”</th>
<th>TECHNOLOGY OUTCOMES - TAC CRITERIA #1: items (a) to (k)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(a) - Express ideas and facts effectively in written formats</td>
<td>a b c d e f g h i j k</td>
</tr>
<tr>
<td>1(b) - Comprehend, interpret, and analyze texts</td>
<td></td>
</tr>
<tr>
<td>1(c) - Communicate orally in one-on-one and group settings</td>
<td></td>
</tr>
<tr>
<td>1(d) - Solve problems that are quantitative in nature</td>
<td></td>
</tr>
<tr>
<td>1(e) - Make efficient use of information resources and technology for personal and professional needs</td>
<td></td>
</tr>
<tr>
<td>2(a) - Analyze complex issues and make informed decisions</td>
<td>a b c d e f g h i j k</td>
</tr>
<tr>
<td>2(b) - Synthesize information in order to arrive at reasoned conclusions</td>
<td></td>
</tr>
<tr>
<td>2(c) - Evaluate the logic, validity, and relevance of data</td>
<td></td>
</tr>
<tr>
<td>2(d) - Solve challenging problems</td>
<td></td>
</tr>
<tr>
<td>2(e) - Use knowledge and understanding to generate and explore new questions</td>
<td>a b c d e f g h i j k</td>
</tr>
<tr>
<td>3(a) - Apply knowledge to enhance personal lives</td>
<td>a b c d e f g h i j k</td>
</tr>
<tr>
<td>3(b) - Apply knowledge to meet professional standards and competencies</td>
<td>a b c d e f g h i j k</td>
</tr>
<tr>
<td>3(c) - Apply knowledge to further the goals of society</td>
<td>a b c d e f g h i j k</td>
</tr>
<tr>
<td>4(a) - Demonstrate substantial knowledge and understanding of at least one field of study</td>
<td>a b c d e f g h i j k</td>
</tr>
<tr>
<td>4(b) - Compare and contrast approaches to knowledge in different disciplines</td>
<td>a b c d e f g h i j k</td>
</tr>
<tr>
<td>4(c) - Modify their approach to an issue or problem based on the contexts and requirements of particular situations</td>
<td>a b c d e f g h i j k</td>
</tr>
<tr>
<td>5(a) - Compare and contrast the range of diversity and universality in human history, societies, and ways of life</td>
<td>a b c d e f g h i j k</td>
</tr>
<tr>
<td>5(b) - Analyze and understand the interconnectedness of global and local concerns</td>
<td>a b c d e f g h i j k</td>
</tr>
<tr>
<td>5(c) - Operate with civility in a complex social world</td>
<td>a b c d e f g h i j k</td>
</tr>
<tr>
<td>6(a) - Make informed and principles choices regarding conflicting situations in their personal and public lives and to foresee the consequences of these choices</td>
<td>a b c d e f g h i j k</td>
</tr>
<tr>
<td>6(b) - Recognize the importance of aesthetics in their personal lives and to society</td>
<td>a b c d e f g h i j k</td>
</tr>
</tbody>
</table>
PURDUE UNIVERSITY
REQUEST FOR ADDITION, EXPIRATION,
OR REVISION OF AN UNDERGRADUATE COURSE
(100-400 LEVEL)

DEPARTMENT: Engineering Technology
EFFECTIVE SESSION: 4086

INSTRUCTIONS: 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/type
- Change in course attributes (department head signature only)
- Change in instructional hours
- Change in course description
- Change in coursequisites
- Change in semesters offered (department head signature only)
- Transfer from one department to another

PROPOSED:
Subject Abbreviation: BMET
Course Number: 490
Long Title: Project Planning and Design
Short Title: Proj. Plan and Design

EXISTING:
Subject Abbreviation
Course Number

TERMS OFFERED:
Check All That Apply:
- Summer
- Fall
- Spring

CAMPUS(ES) INVOLVED:
Calumet
Cont Ed
Ft. Wayne
Tech Statewide
- Indianapolis
N. Central
W. Lafayette

Abbreviated title will be entered by the Office of the Registrar if omitted. (22 CHARACTERS ONLY)

CREDIT TYPE
1. Fixed Credit: Cr. Hrs: 
2. Variable Credit Range: Minimum Cr. Hrs: 
   (Check One) To or
   Maximum Cr. Hrs: 
3. Equivalent Credit: Yes, No 
4. Thesis Credit: Yes, No

INSTRUCTIONAL TYPE
Lecture: Minutes Per Mtg 
Recitation: 
Presentation: 
Laboratory: 
Lab Prep: 
Studio: 
Distance: 
Clinic: 
Experimental: 
Research: 
Ind. Study: 
Pract/Obser:

MEETINGS PER WEEK
50
1

WEEKS OFFERED
15

% OF CREDIT ALLOCATED

DELIVERY METHOD
Asyn. Or Syn.

DELIVERY MEDIUM (Audio, Internet, Live, Text-Based, Video)

Cross-Listed Courses

COURSE DESCRIPTION (INCLUDE REQUISITES):
P: three 300 or 400 level BMET courses. Students are expected to prepare an individual design in collaboration with industry and/or the clinical setting. This course will introduce the applications of project management to the student's design. Topics include project scope, scheduling, resource limitations, stakeholder interactions, delivery and quality assurance.

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 Department Head: Date
North Central Chancellor: Date

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

OFFICE OF THE REGISTRAR