**PURDUE UNIVERSITY**

**REQUEST FOR ADDITION, DELETION, OR REVISION OF A COURSE**

**DEPARTMENT:** Biomedical Engineering  
**DATE SUBMITTED:** 12/9/04  
**DATE EFFECTIVE:** 3/1/05

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

- **PURPOSE:**
  - 1. Deletion of a course
  - 2. New course with supporting documents
  - 3. Add existing course offered at another campus
  - 4. Change in course number at same level
  - 5. Downgrading of course level
  - 6. Upgrading of course level
  - 7. Change in course title
  - 8. Change in semesters offered
  - 9. Change in course credit type
  - 10. Change in course attributes
  - 11. Change in instructional hours
  - 12. Change in prerequisites
  - 13. Change in description of course content
  - 14. Transfer of course from one dept. to another

**EXISTING:**

<table>
<thead>
<tr>
<th>Subject Abbreviation</th>
<th>Course Number</th>
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<tr>
<td>BME</td>
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**PROPOSED:**

<table>
<thead>
<tr>
<th>Subject Abbreviation</th>
<th>Course Number</th>
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<tr>
<td>BME</td>
<td>695 658</td>
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**Proposed Title:** Cell And Tissue Culture: Techniques And Application Module  
**Variable Title:** Yes  
**Abbreviated Title:** Cell Cult Tech App Mod

**CROSS LISTED COURSES**

| BMS | 635 |

**CREDIT TYPE**

1. Fixed Credit: Cr. Hrs. 2.0  
2. Variable Credit Range: Minimum Cr. Hrs. (Check One)  
3. Maximum Cr. Hrs.  
4. Equivalent Credit: Yes  
5. Thesis Credit: Yes  
6. Instructional: Type  
7. FTE  
8. Instructional: Type  
9. FTE

**COURSE ATTRIBUTES:** Check All That Apply.

- 1. Pass/Not Pass Only
- 2. Repeatable for Credit
- 3. Available for Credit by Examination
- 4. Designator Required
- 5. Special Fees
- 6. Approval Required for Enrollment

**INSTRUCTIONAL BASED:**

- Primary: 20
- Secondary:  
- Laboratory:  
- Lab. Prep.:

**CLASS AND FTE:**

<table>
<thead>
<tr>
<th>Instructional Type</th>
<th>Class Hours</th>
<th>FTE</th>
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<tr>
<td>Primary</td>
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<td>Secondary</td>
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<td>Laboratory</td>
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<td>Lab. Prep.</td>
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<td>Auto-tutorial</td>
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<td>Ind. Study</td>
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<td>Clinic</td>
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<td>Experiential</td>
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<td>Thesis</td>
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<td>Observation</td>
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<td>Labs Based</td>
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**CAMPUS(S) INVOLVED:**

- Calumet
- Fort Wayne
- Indianapolis
- North Central
- West Lafayette
- Off Campus

**COURSE DESCRIPTION (PREREQUISITES INCLUDED):**

This intensive laboratory module is designed to provide students from various disciplines (e.g., life science and engineering) with practical, hands-on experiences in the area of cell and tissue culture. Students are taught the principles of culturing cells and tissues in vitro and have the opportunity to apply state-of-the-art culturing techniques to both 2-dimensional and 3-dimensional culture systems. Specific methodologies focus on both qualitative and quantitative analysis of fundamental cell behavior, including proliferation, differentiation, migration, and adhesion.

**APPROVED:**

- Undergrad Curriculum Committee: 12/9/04
- Calumet Undergrad Curriculum Committee: Date
- Calumet Department Head: Date
- Calumet School Dean: Date
- Fort Wayne Department Head: Date
- Fort Wayne School Dean: Date
- Fort Wayne Chancellor: Date
- Indianapolis Department Head: Date
- Indianapolis School Dean: Date
- Undergrad Curriculum Committee: Date
- North Central V ice Chancellor: Date
- West Lafayette Department Head: Date
- West Lafayette School Dean: Date
- Graduate Area Committee: Date
- Graduate Dean: Date
- Graduate Council Secretary: Date

**APPROVED 2/17/05**

Date Approved by Graduate Council

**OFFICE OF THE REGISTRAR**

MAY 18, 2005

- Calumet Undergrad Curriculum Committee
- Calumet Department Head
- Calumet School Dean
- Fort Wayne Department Head
- Fort Wayne School Dean
- Fort Wayne Chancellor
- Indianapolis Department Head
- Indianapolis School Dean
- North Central Vice Chancellor
- West Lafayette Department Head
- West Lafayette School Dean
- Graduate Area Committee
- Graduate Dean
- Graduate Council Secretary
- Office of the Registrar
To: Faculty of the Schools of Engineering
From: Department of Biomedical Engineering
Subject: New Graduate Level Course

The Department of Biomedical Engineering has approved the following new course. Approval of the Faculty of the Schools of Engineering is requested.

BME 658/ BMS 635 Cell and Tissue Culture: Techniques and Application Module

A. Course Description

Sem. 2, Class 3, Lab 8, cr. 2 (5 wks)
Prerequisite: Permission of the Instructor Required

Principles and practices of culturing cells and tissues within 2D and 3D systems in vitro. Qualitative and quantitative analysis of fundamental cell behavior including proliferation, differentiation, migration, and adhesion.

B. Reason

This course has been offered three times on an experimental basis and has received a high level of student interest. This course provides students with the opportunity to learn the biophysics and engineering basis of state-of-the-art bioinstrumentation, such as flow cytometry, that is used for both qualitative and quantitative analyses of cellular and physiological systems. At the same time students gain an understanding of and practical experience with the fundamental cellular properties (phenotype and function) and how they can be exploited for such analyses in both clinical and research settings.

APPROVED FOR THE FACULTY
OF THE SCHOOLS OF ENGINEERING
BY THE COMMITTEE ON
FACULTY RELATIONS
CFR Minutes #962
Date 4/26/02
Chairman CFR: [Signature]

George R. Wodicka
Head and Professor
Department of Biomedical Engineering
Supporting Documentation:

Instructor: Sherry L. Voytik-Harbin
Technical Assistant: Beverly Waisner

Course Objectives:

This intensive laboratory module is designed to provide students from various disciplines (e.g., life science and engineering) with practical, hands-on experiences in the area of cell and tissue culture. Students will be taught the principles of culturing cells and tissues in vitro and will have the opportunity to apply state-of-the-art culturing techniques to both 2-dimensional and 3-dimensional culture systems. Specific methodologies will focus on both qualitative and quantitative analysis of fundamental cell behavior including proliferation, differentiation, migration, and adhesion.

Course Content:

Week 1: Introduction to Cell and Tissue Culture
Week 2: Cell Cycle and Growth Curve
Week 3: Cell Proliferation
Week 4: 3D Cell Culture
Week 5: Cell Differentiation