

PURDUE UNIVERSITY
REQUEST FOR ADDITION, DELETION,
OR REVISION OF A COURSE

SCHOOL DOCUMENT NO. 31-01

GRADUATE COUNCIL DOCUMENT NO. 05-2e

Spring 2006

DEPARTMENT Biomedical Engineering

DATE SUBMITTED 12/9/04

DATE EFFECTIVE 9/7/05

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

PURPOSE

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

EXISTING:

PROPOSED:

SEMESTERS OFFERED

Subject Abbreviation BME
Course Number 658

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Course Number 658

Check All That Apply.

Summer Fall Ag Winter Spring

Proposed Title Cell And Tissue Culture: Techniques And Application Module

Variable Title Yes No

Abbreviated Title Cell Cult Tech App Mod

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

CROSS LISTED COURSES

BMS 635

CREDIT TYPE

1. Fixed Credit: Cr. Hrs. 2.0
2. Variable Credit Range:
Minimum Cr. Hrs _____
(Check One) To _____ Or _____
Maximum Cr. Hrs _____
3. Equivalent Credit: Yes No
4. Thesis Credit: Yes No

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

Department _____
Instructor _____

Instructional Type

Primary 1
Secondary _____
Laboratory 4
Lab. Prep. _____

Class Hours

2.0

FTE

Instructional Type

Auto-tutorial _____
Ind. Study _____
Clinic _____
Experiential _____

Class Hours

FTE

Instructional Type

Thesis _____
Observation _____
Matrix Based _____

Class Hours

FTE

CAMPUS(ES) INVOLVED

Calumet
Fort Wayne
Indianapolis
North Central
West Lafayette
Off Campus

COURSE DESCRIPTION (PREREQUISITES INCLUDED):

~~Prerequisite: Permission of the Instructor Required~~ Admission by consent of instructor.

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.

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	<i>Robert C. Montgomery</i> 12/13/04 Undergrad Curriculum Committee _____ Date
<i>Kenneth J. ...</i> 12/21/04 North Central Department Head _____ Date	North Central Vice Chancellor _____ Date	APPROVED 2/17/05 Date Approved by Graduate Council _____
<i>Greg R. ...</i> 12/10/04 West Lafayette Department Head _____ Date	<i>Leah H. ...</i> 12/10/04 West Lafayette School Dean _____ Date	<i>Margaret D. ...</i> 5/9/05 Graduate Council Secretary _____ Date
<i>Andrea ...</i> 2/17/05 Graduate Area Committee Convener _____ Date	<i>John K. ...</i> 12/22/04 Graduate Dean _____ Date	<i>Debra ...</i> Assistant Registrar _____ Date

OFFICE OF THE REGISTRAR

MAY 18 2005

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

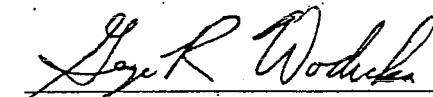
This course has been offered three times on an experimental basis and has received a high level of student interest. This course provides students with the opportunity to learn the biophysics and engineering basis of state-of-the-art bioinstrumentation, such as flow cytometry, that is used for both qualitative 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 C.D. Sutton


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