to Grad School 4/29/02
Xper Memo 12-04

Office of the Registrar
FORM 40 REV. 2/99

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

SCHOOL DOCUMENT NO. 29-01

GRADUATE COUNCIL DOCUMENT NO. _____

DEPARTMENT Biomedical Engineering DATE SUBMITTED 2/28/02 DATE EFFECTIVE S-2003

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

PURPOSE

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

EXISTING:

Subject Abbreviation BME
Course Number 695

PROPOSED:

Subject Abbreviation BME
Course Number 654

SEMESTERS OFFERED
Check All That Apply.

Summer	Fall	Ag Winter	Spring
☐	☐	☐	☑

Proposed Title Flow Cytometry
Variable Title Yes ☐ No ☑

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

CROSS LISTED COURSES
BMS 633

CREDIT TYPE
1. Fixed Credit: Cr. Hrs. 2
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	Class Hours	FTE	Instructional Type	Class Hours	FTE	Instructional Type	Class Hours	FTE
Primary			Auto-tutorial			Thesis		
Secondary			Ind. Study			Observation		
Laboratory			Clinic			Matls Based		
Lab. Prep.			Experiential					

CAMPUS(ES) INVOLVED

Calumet	☐
Fort Wayne	☐
Indianapolis	☐
North Central	☐
West Lafayette	☑
Off Campus	☐

COURSE DESCRIPTION (PREREQUISITES INCLUDED):
Theory and application of cell counting and characterization technologies including flow cytometry. Optical, fluidic, laser and detection systems, sample preparation, and multi-parameter data processing.

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 Apr.for Faculty. C.D.Sutton,Chair #962 4/26/02	Date
Indianapolis Department Head	Date	Indianapolis School Dean	Date	Undergrad Curriculum Committee	Date
North Central Department Head	Date	North Central Vice Chancellor	Date	Date Approved by Graduate Council	
West Lafayette Department Head 4/8/02	Date	West Lafayette School Dean 24 April 02	Date	Graduate Council Secretary	Date
Graduate Area Committee Convener	Date	Graduate Dean	Date	West Lafayette Registrar	Date

OFFICE OF THE REGISTRAR

Engineering Faculty Document #29-01
February 27, 2002

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 654/BMS 633 Flow Cytometry: Techniques and Application Module

A. Course Description

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

Theory and application of cell counting and characterization technologies including flow cytometry. Optical, fluidic, laser and detection systems, sample preparation, and multi-parameter data processing.

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 engineering students with fundamental knowledge of and practical experiences with state-of-the-art tools and techniques used in the development of in vitro cellular- and tissue- based systems for application in biomedical engineering research. Students are exposed to basic principles and key issues of working with such biological and physiological systems including methods involving qualitative and quantitative analyses.

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: J.Paul Robinson

Technical Assitant: Kathy Ragheb

Course Objectives:

This module will provide a strong engineering based background of the technologies involved in cell counting and identification used in pathology and hematology systems. The course will provide 10 lectures, which will cover all of the basic technologies, used in flow cytometry–optical systems, fluidic systems, lasers and detection systems, sample preparation and application and multiparameter data processing. The laboratory component will ensure the student fully understands how the instrumentation operates in the regular clinical and research settings. The student will participate in sample preparation, running samples, analyzing the data and interpreting the results.

Course Content:

Week 1: *Blood Borne Pathogens Training* - Introduction to pipetting and spectrofluorometry
Week 2: Light scatter and fluorescence in flow cytometry
Week 3: Blood collection, preparation and immunophenotyping
Week 4: Kinetics of cell function and data analysis
Week 5: DNA analysis and cell sorting