

December 7, 2016

**TO:** The Faculty of the College of Engineering

**FROM:** The Faculty of the School of Biomedical Engineering

**RE:** Changes to Undergraduate Course, BME 48900, Senior Design Project Lab

The Faculty of the School of Biomedical Engineering has approved the following changes to this existing course. This action is now submitted to the Engineering Faculty with a recommendation for approval.


**From:** **BME 48900 Senior Design Project Lab**  
Terms offered: Fall, Lab 6, Cr. 2  
Restriction: Must be enrolled in the School of Biomedical Engineering (BME)  
Concurrent Prerequisite: BME 48800

**Description:** The biomedical engineering design process is completed starting from a preliminary system design. Students will work with their teammates to implement (e.g. build, test, iterate and evaluate) a solution to address a biomedical engineering problem statement and meet the technical specifications set forth. The resulting project design is presented and evaluated through an oral presentation, laboratory demonstration, and a final written document.

**To:** **BME 48901 Senior Design Project**  
Terms offered: Fall, Lab 8, Cr. 3  
Restriction: Must be enrolled in the School of Biomedical Engineering (BME)  
Concurrent Prerequisite: BME 49000

**Description:** The biomedical engineering design process is completed starting from a preparatory design course, BME 39000, through a preliminary system design, build and test in Senior Design Project, BME 48901. Students will work with their teammates to implement (e.g. build, test, iterate and evaluate) a solution to address a biomedical engineering problem statement and meet the technical specifications set forth. The resulting project design is presented and evaluated through an oral presentation, laboratory demonstration, and a final written document.

**Reason:** This change incorporates the material from the one credit preliminary senior project design, BME 48800, into the lab component. The original division of credits allowed flexibility across multiple semesters of senior design. However, our main mode is now the one semester senior design project lab, BME 48901, in the Fall. BME 48800 and BME 48900 will still be an option for students off sequence, but are no longer required in the plan of study.

  
George R. Wodicka  
Dane A. Miller Head and Professor  
Weldon School of Biomedical Engineering

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

Print Form

DEPARTMENT Biomedical Engineering EFFECTIVE SESSION Fall 2017

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

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> 1. New course with supporting documents | <input type="checkbox"/> 7. Change in course attributes (department head signature only)  |
| <input type="checkbox"/> 2. Add existing course offered at another campus   | <input type="checkbox"/> 8. Change in instructional hours                                 |
| <input type="checkbox"/> 3. Expiration of a course                          | <input type="checkbox"/> 9. Change in course description                                  |
| <input type="checkbox"/> 4. Change in course number                         | <input type="checkbox"/> 10. Change in course requisites                                  |
| <input type="checkbox"/> 5. Change in course title                          | <input type="checkbox"/> 11. Change in semesters offered (department head signature only) |
| <input type="checkbox"/> 6. Change in course credit/type                    | <input type="checkbox"/> 12. Transfer from one department to another                      |

**PROPOSED:**

Subject Abbreviation BME  
Course Number 48901  
Long Title Senior Design Project  
Short Title Senior Design Project

**EXISTING:**

Subject Abbreviation \_\_\_\_\_  
Course Number \_\_\_\_\_  
Long Title \_\_\_\_\_  
Short Title \_\_\_\_\_

**TERMS OFFERED**

Check All That Apply:

- Summer  Fall  Spring

**CAMPUS(ES) INVOLVED**

- |                                       |  |
|---------------------------------------|--|
| <input type="checkbox"/> Calumet      | <input type="checkbox"/> N. Central              |
| <input type="checkbox"/> Cont Ed      | <input type="checkbox"/> Tech Statewide          |
| <input type="checkbox"/> Ft. Wayne    | <input checked="" type="checkbox"/> W. Lafayette |
| <input type="checkbox"/> Indianapolis |  |

Abbreviated title will be entered by the Office of the Registrar if omitted. (30 CHARACTERS ONLY)

**CREDIT TYPE**

1. Fixed Credit: Cr. Hrs. 3  
2. Variable Credit Range:  
Minimum Cr. Hrs. \_\_\_\_\_  
(Check One) To  Or   
Maximum Cr. Hrs. \_\_\_\_\_  
3. Equivalent Credit: Yes  No

**COURSE ATTRIBUTES: Check All That Apply**

- |  |  |                                     |                                     |
|--|--|-------------------------------------|-------------------------------------|
| <input type="checkbox"/> 1. Pass/Not Pass Only               | <input type="checkbox"/> 6. Registration Approval Type | Department <input type="checkbox"/> | Instructor <input type="checkbox"/> |
| <input type="checkbox"/> 2. Satisfactory/Unsatisfactory Only | <input type="checkbox"/> 7. Variable Title             |                                     | <input type="checkbox"/>            |
| <input type="checkbox"/> 3. Repeatable                       | <input type="checkbox"/> 8. Honors                     |                                     | <input type="checkbox"/>            |
| Maximum Repeatable Credit: _____                             | <input type="checkbox"/> 9. Full Time Privilege        |                                     | <input type="checkbox"/>            |
| <input type="checkbox"/> 4. Credit by Examination            | <input type="checkbox"/> 10. Off Campus Experience     |                                     | <input type="checkbox"/>            |
| <input type="checkbox"/> 5. Special Fees                     |  |                                     |                                     |

Schedule Type	Minutes Per Mtg	Meetings Per Week	Weeks Offered	% of Credit Allocated
Lecture	_____	_____	_____	_____
Recitation	_____	_____	_____	_____
Presentation	_____	_____	_____	_____
Laboratory	200	2	16	_____
Lab Prep	_____	_____	_____	_____
Studio	_____	_____	_____	_____
Distance	_____	_____	_____	_____
Clinic	_____	_____	_____	_____
Experiential	_____	_____	_____	_____
Research	_____	_____	_____	_____
Ind. Study	_____	_____	_____	_____
Pract/Observ	_____	_____	_____	_____

Cross-Listed Courses

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

Restriction: Must be enrolled in the School of Biomedical Engineering (BME), Concurrent Prerequisite: BME 49000  
The biomedical engineering design process is completed starting from a preparatory design course, BME 39000, through a preliminary system design, build and test in Senior Design Project, BME 48901. Students will work with their teammates to implement (e.g. build, test, iterate and evaluate) a solution to address a biomedical engineering problem statement and meet the technical specifications set forth. The resulting project design is presented and evaluated through an oral presentation, laboratory demonstration, and a final written document.

**\*COURSE LEARNING OUTCOMES:**

Students will have demonstrated the ability to: Integrate and apply knowledge and skills obtained in earlier course work with new concepts and practices essential to the design and testing of a system or device to meet desired needs. Implement the engineering design process and project management within the context of relevant design constraints. Effectively communicate skills in oral and written form, both individually and as part of a team. Explain/discuss realistic design constraints, including regulatory issues, societal influences, and ethical and professional responsibilities of biomedical engineers, as related to the engineering design process.

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 _____
<i>George R. Woodruff</i> _____	<i>11/30/17</i>	West Lafayette College/School Dean _____	Date _____

West Lafayette Registrar \_\_\_\_\_ Date \_\_\_\_\_