

# UNIVERSITY FACULTY SENATE FORMS

## Academic Program Approval

This form is a routing document for the approval of new and revised academic programs. Proposing department should complete this form. For more information, call the Faculty Senate Office at 831-2921.

**Submitted by:** Jill Higginson  
phone number 302.831.6622

**Department:** Mechanical Engineering  
email address higginson@udel.edu

**Action:** modify MINOR in Biomedical Engineering

(Example: add major/minor/concentration, delete major/minor/concentration, revise major/minor/concentration, academic unit name change, request for permanent status, policy change, etc.)

**Effective term** 13F  
(use format 04F, 05W)

**Current degree** Biomedical Engineering MINOR  
(Example: BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

**Proposed change leads to the degree of:** Biomechanical Engineering MINOR  
(Example: BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

**Proposed name:** MINOR in Biomechanical Engineering  
Proposed new name for revised or new major / minor / concentration / academic unit  
(if applicable)

### Revising or Deleting:

**Undergraduate major / Concentration:** \_\_\_\_\_  
(Example: Applied Music – Instrumental degree BMAS)

**Undergraduate minor:** Biomechanical Engineering  
(Example: African Studies, Business Administration, English, Leadership, etc.)

**Graduate Program Policy statement change:** \_\_\_\_\_  
(**Must attach** your Graduate Program Policy Statement)

**Graduate Program of Study:** \_\_\_\_\_  
(Example: Animal Science: MS Animal Science: PHD Economics: MA Economics: PHD)

**Graduate minor / concentration:** \_\_\_\_\_

**Note: all graduate studies proposals must include an electronic copy of the Graduate Program Policy Document, highlighting the changes made to the original policy document.**

**List new courses required for the new or revised curriculum. How do they support the overall program objectives of the major/minor/concentrations)?**

None. We propose to limit the currently approved list of courses which satisfy the requirements of the minor in biomechanical engineering.

**Explain, when appropriate, how this new/revised curriculum supports the 10 goals of undergraduate education: <http://www.ugs.udel.edu/gened/>**

No change.

**Identify other units affected by the proposed changes:**

(Attach permission from the affected units. If no other unit is affected, enter "None")

Students who major in Biomedical Engineering will now be eligible for a minor in Biomechanical Engineering.

**Describe the rationale for the proposed program change(s):**

(Explain your reasons for creating, revising, or deleting the curriculum or program.)

With the approval of a new major in Biomedical Engineering, there has been confusion about which degrees are supported by which programs. Therefore, we propose that

(1) the minor administered by the department of Mechanical Engineering is renamed to Biomechanical Engineering, and

(2) the list of allowable courses be limited to MEEG courses (with exceptions acceptable on a case-by-case basis, such as when no MEEG courses are available for a particular student's schedule)

This proposal has several advantages:

(1) allows MEEG to control the curriculum

(2) students in biomechanical minor will actually take MEEG courses with biomechanical content (enabling a more focused curriculum)

(3) students in biomedical major are eligible for minor (currently ineligible due to identical name)

## Program Requirements:

(Show the new or revised curriculum as it should appear in the Course Catalog. If this is a revision, be sure to indicate the changes being made to the current curriculum and **include a side-by-side comparison** of the credit distribution before and after the proposed change.)

## ORIGINAL CATALOG DESCRIPTION

### MINOR IN BIOMEDICAL ENGINEERING

This minor is offered through the Department of Mechanical Engineering. To enroll in this minor program, the student must have permission of the Chair of Mechanical Engineering, who will assign the student a minor advisor. To qualify for a Minor in Biomedical Engineering, students must complete at least 21 credits in accordance with the requirements specified below. Additional courses for satisfying these requirements may be approved by the Department. A minimum grade of C- must be achieved in each course qualifying for the minor. For inquiries regarding the Biomedical Engineering Minor, contact the Mechanical Engineering department at (302) 831-2421 or [info@me.udel.edu](mailto:info@me.udel.edu).

CURRICULUM		CREDITS
Course Requirements		
1. All students must take the following three courses:		
<u>BISC 207</u>	Introductory Biology I	4
or		
<u>BISC 208</u>	Introductory Biology II (by advanced placement or transfer credit only)	4
<u>MATH 243</u>	Analytic Geometry and Calculus C	4
<u>PHYS 201</u>	Introductory Physics I	4
or		
<u>PHYS 207</u>	Fundamentals of Physics I	4
2. And one of the following courses:		
<u>BISC 306</u>	General Physiology	3
<u>BISC 401</u>	Molecular Biology of the Cell	3
<u>KAAP 220</u>	Anatomy and Physiology	3
3. And two of the following courses (note: these courses may have prerequisites beyond those required for the minor)*:		
<u>MEEG 482</u>	Clinical Biomechanics	3
<u>MEEG 483</u>	Orthopaedic Biomechanics	3
<u>MEEG 484</u>	Biomaterial and Tissue Engineering	3
<u>MEEG 485</u>	Control of Human Movement	3
<u>MEEG 486</u>	Cell and Tissue Transport	3
<u>MEEG 612</u>	Biomechanics of Human Movement	3
<u>ELEG 471</u>	Mathematical Physiology	3

\*Independent study, Senior Research and additional courses for satisfying this requirement can be approved by the minor advisor.

**Note: Additions are shown in RED text. Omissions are shown with strike-through marks.**

## **MINOR IN ~~BIOMEDICAL~~ BIOMECHANICAL ENGINEERING**

This minor is offered through the Department of Mechanical Engineering. To enroll in this minor program, the student must have permission of the Chair of Mechanical Engineering, who will assign the student a minor advisor. To qualify for a Minor in ~~Biomedical~~ Biomechanical Engineering, students must complete at least 21 credits in accordance with the requirements specified below. Additional courses for satisfying these requirements may be approved by the Department. A minimum grade of C- must be achieved in each course qualifying for the minor. For inquiries regarding the ~~Biomedical~~ Biomechanical Engineering Minor, contact the Mechanical Engineering department at (302) 831-2421 or [info@me.udel.edu](mailto:info@me.udel.edu).

### CURRICULUM

### CREDITS

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\*Independent study, Senior Research and additional MEEG courses for satisfying this requirement can be approved by ~~the~~ a representative from the committee of minor advisors.

**ROUTING AND AUTHORIZATION:** (Please do not remove supporting documentation.)

Department Chairperson *S. Arden* Date *Nov 19, 2012*  
Dean of College *tunde ogunmakin* Date *DEC 10, 2012*  
Chairperson, College Curriculum Committee *Joyce J. Butler* Date *Dec 11, 2012*  
Chairperson, Senate Com. on UG or GR Studies \_\_\_\_\_ Date \_\_\_\_\_  
Chairperson, Senate Coordinating Com. \_\_\_\_\_ Date \_\_\_\_\_  
Secretary, Faculty Senate \_\_\_\_\_ Date \_\_\_\_\_  
Date of Senate Resolution \_\_\_\_\_ Date to be Effective \_\_\_\_\_  
Registrar \_\_\_\_\_ Program Code \_\_\_\_\_ Date \_\_\_\_\_  
Vice Provost for Academic Affairs & International Programs \_\_\_\_\_ Date \_\_\_\_\_  
Provost \_\_\_\_\_ Date \_\_\_\_\_  
Board of Trustee Notification \_\_\_\_\_ Date \_\_\_\_\_