December 15, 2015

MEMORANDUM

TO: Darryl Pines  
   Dean, A. James Clark School of Engineering

FROM: Elizabeth Beise  
       Associate Provost for Academic Planning and Programs

SUBJECT: Proposal to Modify the Ph.D. in Bioengineering (PCC log no. 15014)

The proposal to modify the Ph.D. in Bioengineering has been administratively approved. A copy of the proposal is attached.

The change is effective Spring 2016. Please ensure that the change is fully described in the Graduate Catalog and in all relevant descriptive materials.

MDC/Enclosure

cc: Andrew Harris, Chair, Senate PCC Committee  
    Barbara Gill, Office of Enrollment Management  
    Reka Montfort, University Senate  
    Erin Taylor, Division of Information Technology  
    Pam Phillips, Institutional Research, Planning & Assessment  
    Anne Turkos, University Archives  
    Linda Yokoi, Office of the Registrar  
    Alex Chen, Graduate School  
    William Fourney, A. James Clark School of Engineering  
    William Bentley, Department of Bioengineering
THE UNIVERSITY OF MARYLAND, COLLEGE PARK
PROGRAM/CURRICULUM/UNIT PROPOSAL

• Please email the rest of the proposal as an MSWord attachment
  to pcc-submissions@umd.edu.

• Please submit the signed form to the Office of the Associate Provost
  for Academic Planning and Programs, 1119 Main Administration Building, Campus.

College/School
Please also add College/School Unit Code-First 8 digits: 012032001320101
Unit Codes can be found at: https://hypreprod.umd.edu/Html_Reports/units.htm

Department/Program:
Please also add Department/Program Unit Code-Last 7 digits: 012032001322501

Type of Action (choose one):
- Curriculum change (including informal specializations)  New academic degree/award program
- Curriculum change for an LEP Program  New Professional Studies award iteration
- Renaming of program or formal Area of Concentration  New Minor
- Addition/deletion of formal Area of Concentration  Request to create an online version of an existing program
- Suspend/delete program

Italics indicate that the proposed program action must be presented to the full University Senate for consideration.

Summary Of Proposed Action: BIOE PhD Program modification

Increase BIOE 608 (1-credit seminar) requirement from 1 to 3 (one per semester over three semesters) to provide adequate exposure to bioengineering research topics. Modify elective requirement from 2 restricted and 3 unrestricted to 1 restricted and 4 unrestricted to add flexibility.

Departmental/Unit Contact Person for Proposal: Tracy Chung

APPROVAL SIGNATURES - Please print name, sign, and date. Use additional lines for multi-unit programs.

1. Department Committee Chair JOHN P. FISHER
2. Department Chair WILLIAM E. BENTLEY
3. College/School PCC Chair
4. Dean PETER KOFMAN
5. Dean of the Graduate School (if required)
6. Chair, Senate PCC
7. University Senate Chair (if required)
8. Senior Vice President and Provost
1. Current (old) requirements

2. Proposed (new) requirements

<table>
<thead>
<tr>
<th>Current Course Requirements</th>
<th>Current credits</th>
<th>Proposed Course Requirements</th>
<th>Proposed credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core courses</td>
<td>9 credits</td>
<td>Core courses</td>
<td>9 credits</td>
</tr>
<tr>
<td>BIOE 601</td>
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<td>BIOE 601</td>
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<td>BIOE 604</td>
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<td>BIOE 604</td>
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<tr>
<td>BIOE 612</td>
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<td>BIOE 612</td>
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</tr>
<tr>
<td>Elective courses</td>
<td>15 credits (5 courses)</td>
<td>Elective courses</td>
<td>15 credits (5 courses)</td>
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<tr>
<td>2 restricted electives</td>
<td></td>
<td>1 restricted elective</td>
<td></td>
</tr>
<tr>
<td>3 unrestricted electives</td>
<td></td>
<td>4 unrestricted electives</td>
<td></td>
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<tr>
<td>Program credits</td>
<td>21 credits</td>
<td>Program credits</td>
<td>23 credits</td>
</tr>
<tr>
<td>BIOE 605 (1 credit)</td>
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<td>BIOE 605 (1 credit)</td>
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<td>BIOE 606 (1 credit)</td>
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<td>BIOE 606 (1 credit)</td>
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<tr>
<td>BIOE 608 (1 credit)</td>
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<td>BIOE 608 (1 credit x 3 semesters)</td>
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<tr>
<td>BIOE 899 (6 credits x 3 semesters)</td>
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<td>BIOE 899 (6 credits x 3 semesters)</td>
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</tbody>
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3. Identification of and rational for the changes

The proposed curriculum changes are to course requirements only.

BIOE 608 is the one-credit departmental seminar meeting. PhD students have always been expected to attend weekly seminar throughout their graduate career. The implementation of the three credits (1 credit registered in three semesters) is to ensure attendance can be monitored and maintained.

The elective course requirement is being changed to allow for more flexibility in elective choices, since bioengineering is a highly disciplinary field. A restricted elective is defined as a short list of specialized courses with “BIOE” prefix, taught by a primary BIOE faculty member. The Graduate Studies Committee reviews and approves courses for inclusion on this list. An unrestricted elective is any graduate-level technical course that the advisor approves the student to take.

4. Sample program under the proposed requirements

Semester 1
BIOE 601 (3 credits)
BIOE 604 (3 credits)
BIOE 612 (3 credits)
BIOE 605 (1 credit)

Semester 2
BIOE 606 (1 credit)
Restricted Elective (3 credits)
Unrestricted Elective 1 (3 credits)
Unrestricted Elective 2 (3 credits)

Semesters 3 through 10
BIOE 608 (1 credit) (x3)
BIOE 898 (1 credit) (when needed)
BIOE 899 (6 credits) (x3, post-candidacy)
Unrestricted Elective (3 credits) (x2)
5. No prerequisite structure is defined for the new requirements. If an elective requires a prerequisite, then it is upon the student to ensure/demonstrate that he/she has met the prerequisite to the instructor or offering department.
6. No new courses are being approved for this proposal.
7. No courses are being deleted from the program requirements.
8. No other departments will be impacted.
9. Students enrolled in the program prior to the effective date may complete their program under the old requirements if they wish.