**DEPARTMENT OF BIOMEDICAL ENGINEERING**

**2010 – 2012 Technical Area/Track 2**

**Cellular and Biomolecular Engineering**

**Fall 3**

- **BME 221**
  Measurement and Instrumentation Lab
  - BME 113L
  - BME 314
  - BME 311
  - BME 333T & 335

- **BME 251**
  Biomedical Image, Signal and Transport Process Lab
  - M 427K
  - BME 221

- **BME 348**
  Biomedical Image, Signal and Transport Process Lab
  - BME 343
  - BME 113L

- **BME 370**
  Principles of Engineering Design
  - BME 348
  - BME 251
  - BME 353 & 365S

- **BME 371**
  Biomedical Engineering Design Project
  - BME 370
  - BME 335

**Spring 4**

- **BME 343**
  BME Signal Systems Analysis
  - BME 113L
  - BME 314
  - BME 311
  - M 427K

- **BME 365R**
  Quantitative Engr. Physiology I
  - BIO 205/6L
  - BME 333
  - BME 314
  - CH 369
  - M 427K
  - PHY 303L & 103N

- **BME 353**
  Transport Phenomena in Living Systems
  - BME 113L
  - BME 314
  - BME 316
  - CH 369

- **BME 352**
  Engineering Biomaterials
  - BME 314
  - BME 221 or Full Major Seq
  - Spring Only

- **BME 339**
  Biomedical Engineering
  - BIO 311C
  - CH 355(M)
  - CH 369
  - Fall Only

- **GOV 310L**
  Social & Behavioral Sci from Approved List
  - Masterworks of Literature
  - VAPA

**The following rules apply for Technical Electives:**

* Six credit hours can be any combination of the following. Please choose two:

<table>
<thead>
<tr>
<th>BME 344</th>
<th>Biomechanics</th>
</tr>
</thead>
<tbody>
<tr>
<td>BME 342</td>
<td>Biomechanics of Human Movement</td>
</tr>
<tr>
<td>BME 354</td>
<td>Molecular Sensors and Nanodevices for BME Applications</td>
</tr>
<tr>
<td>BME 379</td>
<td>Tissue Engineering</td>
</tr>
</tbody>
</table>

**The remaining three credit hours must be in Biomedical Engineering. Please choose one:**

<table>
<thead>
<tr>
<th>Bio 325</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>M 427K</td>
<td>T</td>
</tr>
<tr>
<td>CH 320L</td>
<td>T</td>
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</tbody>
</table>

**OR**

<table>
<thead>
<tr>
<th>Bio 328N &amp; 128L</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH 328M &amp; 128K</td>
<td>T</td>
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</tbody>
</table>

**Must choose two from the following for a total of six hours:**

<table>
<thead>
<tr>
<th>BME 342</th>
<th>Biomechanics of Human Movement</th>
</tr>
</thead>
<tbody>
<tr>
<td>BME 344</td>
<td>Biomechanics</td>
</tr>
<tr>
<td>BME 354</td>
<td>Molecular Sensors and Nanodevices for BME Applications</td>
</tr>
<tr>
<td>BME 379</td>
<td>Tissue Engineering</td>
</tr>
<tr>
<td>BME 377</td>
<td>Graduate Course (3 hrs)</td>
</tr>
</tbody>
</table>

**Legend**

- **T** = Technical Elective
- **B** = Basic Sequence
- **M** = Major Sequence
- **S** = Supporting Course
- **T** = Technical Area
- **C** = Core Curriculum
- **U.S. His.** = U.S. History Course from Approved List
- **VAPA** = Visual & Performing Arts from Approved List

Revised: 2/18/2013; SCD
### Fall 1
- **BME 102L** Principles of Biomedical Engineering
- **BME 303** Introduction to Programming
- **CH 328M or CH 320M** Organic Chemistry I
- **CH 302** Principles of Chemistry II
- **B CH 204** Introduction to Chemical Practice
- **BIO 20(5/6)L** Introduction to Embedded Systems
- **E E 319K** Introduction to Electrical Circuits
- **PHY 303K** Engineering Physics I
- **PHY 103M** Engineering Physics II Lab
- **M 408D** Sequences, Series, Multivariable Calculus
- **M 408C** Differential and Integral Calculus

### Spring
- **B BIO 205L** Cell & Mol. Biol.
- **B BIO 206L** Structure & Function of Organisms
- **B CH 369** Physical Chemistry and Thermodynamics
- **B M 408D** Sequences, Series, Multivariable Calculus
- **M BME 314** Engineering Foundations of BME
- **B CH 302** Principles of Chemistry II
- **CH 301** ALEKS +70
- **CH 204** (CH 328M)
- **CH 302** (CH 328M)
- **CH 301** ALEKS +80
- **CH 204** (CH 328M)
- **CH 302** (CH 328M)

### Fall 2
- **B E E 319K** Introduction to Electrical Circuits
- **B M 427K** Advanced Calculus for Applications
- **B CH 302** Principles of Chemistry II
- **CH 301** (CH 328M)
- **CH 204** (CH 328M)

### Spring
- **B CH 369** Physical Chemistry and Thermodynamics
- **M BME 314** Engineering Foundations of BME
- **B BIO 205L** Cell & Mol. Biol.
- **B BIO 206L** Structure & Function of Organisms
- **B CH 369** Physical Chemistry and Thermodynamics
- **B CH 302** Principles of Chemistry II
- **CH 301** ALEKS +70
- **CH 204** (CH 328M)
- **CH 302** (CH 328M)

### Fall 3
- **B M 427K** Advanced Calculus for Applications
- **B CH 302** Principles of Chemistry II
- **CH 301** ALEKS +70
- **CH 204** (CH 328M)
- **CH 302** (CH 328M)

### Spring
- **B CH 369** Physical Chemistry and Thermodynamics
- **M BME 314** Engineering Foundations of BME
- **B BIO 205L** Cell & Mol. Biol.
- **B BIO 206L** Structure & Function of Organisms
- **B CH 369** Physical Chemistry and Thermodynamics
- **B CH 302** Principles of Chemistry II
- **CH 301** ALEKS +70
- **CH 204** (CH 328M)
- **CH 302** (CH 328M)

### Fall 4
- **B CH 302** Principles of Chemistry II
- **CH 301** ALEKS +70
- **CH 204** (CH 328M)
- **CH 302** (CH 328M)

### Spring
- **B CH 302** Principles of Chemistry II
- **CH 301** ALEKS +70
- **CH 204** (CH 328M)
- **CH 302** (CH 328M)