<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Pre-requisites</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 21000</td>
<td>Calculus I</td>
<td>Pre: Math 19500 (C min.)</td>
<td>4 cr.</td>
</tr>
<tr>
<td>Math 21200</td>
<td>Calculus II</td>
<td>Pre: Math 21000 (C min.)</td>
<td>4 cr.</td>
</tr>
<tr>
<td>Math 21300</td>
<td>Calculus III</td>
<td>Pre: Math 21200 (C min.)</td>
<td>4 cr.</td>
</tr>
<tr>
<td>Math 39100</td>
<td>Differential Equations</td>
<td>Pre: Math 20500</td>
<td>3 cr.</td>
</tr>
<tr>
<td>Math 34600</td>
<td>Elements of Linear Algebra</td>
<td>Pre: Math 20000</td>
<td>3 cr.</td>
</tr>
<tr>
<td>BME 50100</td>
<td>Cell and Tissue Mechanics</td>
<td>Pre: ME 30000 or ChE 31000, Bio 32100</td>
<td>3 cr. (Spring Only)</td>
</tr>
<tr>
<td>BME 50200</td>
<td>Cell and Tissue Transport</td>
<td>Pre: ME 35600 or ChE 34100, Bio 32100</td>
<td>3 cr. (Fall Only)</td>
</tr>
<tr>
<td>BME 50300</td>
<td>Cell and Tissue Biomaterial Interactions</td>
<td>Pre: ME 30000 or ChE 31000, Bio 32100</td>
<td>3 cr. (Spring Only)</td>
</tr>
<tr>
<td>BME 50500</td>
<td>Image and Signal Processing in Biomedicine</td>
<td>Pre: BME 42000 or EE 25900 and EE 30600 &amp; EE 33000</td>
<td>4 cr. (Fall Only)</td>
</tr>
<tr>
<td>BME 51000</td>
<td>Experimental Methods in BME</td>
<td>Pre: BME 22000, ME 33000, Eng 21007</td>
<td>3 cr. (Spring Only)</td>
</tr>
<tr>
<td>BME 46000</td>
<td>BME Senior Design</td>
<td>Pre: BME 50200, BME 50500</td>
<td>3 cr. (Fall Only)</td>
</tr>
<tr>
<td>ChE 22900</td>
<td>Chemical Engineering Thermo I</td>
<td>Pre: Chem 10410 (C min.), Phys 20700 (Cmin.)</td>
<td>3 cr. (Fall Only)</td>
</tr>
<tr>
<td>ChE 34100</td>
<td>Transport Phenomena I</td>
<td>Pre: Math 39100 (C min.) &amp; ChE 22900</td>
<td>3 cr. (Fall Only)</td>
</tr>
<tr>
<td>BME 40500</td>
<td>Biomedical Transducers and Instrumentation</td>
<td>Pre: BME 20500</td>
<td>4 cr. (Fall Only)</td>
</tr>
<tr>
<td>BME 40900</td>
<td>Biomedical Circuits with Lab</td>
<td>Pre/Co: BME 20500</td>
<td>3 cr. (Spring Only)</td>
</tr>
<tr>
<td>BME 41000</td>
<td>Engineering Mechanics I</td>
<td>Pre: Phys 20700 (C min.) &amp; Math 20200 (C min.)</td>
<td>3 cr. (Spring Only)</td>
</tr>
<tr>
<td>BME 42000</td>
<td>Engineering Mechanics II</td>
<td>Pre: Phys 20700 &amp; ChE 32000</td>
<td>3 cr. (Spring Only)</td>
</tr>
<tr>
<td>BME 44000</td>
<td>BME Senior Design</td>
<td>Pre: BME 50200, BME 50500</td>
<td>3 cr. (Fall Only)</td>
</tr>
</tbody>
</table>

**Engineering Electives**

BME 59003 BME Indep. Study (3cr)
BME 59001 BME Indep. Study (1cr)
BME 51000 Microfl. Dvcs. Biotech
BME I3000 Neur Engr & App Bioel
BME I3110 Bioluid Mechds
BME 42000 Orig. Transp. Pharm’kin
BME 53000 Biomedical Imaging
Csc 1020 Intro to Computing
ChE 33000 ChE Thermo II
ChE 34200 Transport II
EE 33000 Electromagnetics
Engr 10100 Engr Design (1cr)
Engr 4200 Continuum Mechanics
Engr I1100 Engineering Analysis
Engr I7500 Poroloelasticity
ME 14500 CAD (2cr)
ME 24700 Engineering Mechs II
ME 32200 Cmptr Medals in Engr.
ME 37100 Cmptr-Aided Design

**Math 10100**

General Chemistry I
Pre: Math 19500 (C min.)
4 cr.

**Chem 10301**

General Chemistry I
Pre: Math 19500 (C min.)
4 cr.

**Chem 10401**

General Chemistry II
Pre: Math 19301 (C min.)
4 cr.

**Chem 21000**

Applied Chemistry for BIM
Pre: Chem 10410; (engineering majors only)
3 cr. (Fall Only)

**Chem 32002**

Biochemistry I
Pre: Chem 26100, Chem 26300 (Pre-med Student)
4 cr.

**Bio 10100**

Foundations of Biology I
Pre: Math 19500 (C min.)
4 cr.

**BME 40500**

Biomedical Transducers and Instrumentation
Pre: BME 20500
4 cr. (Fall Only)

**BME 50100**

Cell and Molecular Biology
Pre: BME 10100, Bio 32100 & Chem 21000
4 cr.

**BME 50300**

Cell and Tissue Biomaterial Interactions
Pre: ME 30000 or ChE 31000, Bio 32100
3 cr. (Spring Only)

**BME 50500**

Biomedical Transducers and Instrumentation
Pre: BME 42000 or EE 25900 and EE 30600 & EE 33000
4 cr. (Spring Only)

**BME 51000**

Experimental Methods in BME
Pre: BME 22000, ME 33000, Eng 21007
Pre/Co: Bio 22900
3 cr. (Spring Only)

**BME 50100**

Biomedical Transducers and Instrumentation
Pre: BME 20500 or Engr 24000, ME 24600
Pre/Co: Math 34600
3 cr. (Fall Only)

**ME 46000**

BME Senior Design II
Pre: BME 46000
3 cr. (Spring Only)

**Chem 10500**

Cell and Tissue Biomaterial Interactions
Pre: ME 30000 or ChE 31000, Bio 32100
3 cr. (Spring Only)

**Chem 32002**

Biochemistry I
Pre: Chem 26100, Chem 26300 (Pre-med Student)
4 cr.

**Bio 10100**

Foundations of Biology I
Pre: Math 19500 (C min.)
4 cr.

**Engl 11000**

Freshman Composition
Pre: Math 19500 (C min.)
3 cr.

**BME 10100**

Introduction to BME
Pre/Co: Math 21200
4 cr.

**BME 20500**

Boioelectrical Circuits with Lab
Pre/Co: Phys 20800 (C min.)
3 cr. (Spring Only)

**BME 46000**

BME Senior Design II
Pre: BME 46000
3 cr. (Spring Only)

**Chem 32000**

Biochemistry I
Pre: Chem 26100, Chem 26300 (Pre-med Student)
4 cr.

**Bio 10100**

Foundations of Biology I
Pre: Math 19500 (C min.)
4 cr.

**Engl 21007**

Writing for Engineering
Pre: Engl 11000 or FIQWS
3 cr.

**Liberal Arts**

3 cr.

**Total Credits: 129**

1. The latest version of the curriculum sheet supersedes any curriculum and pre/co-requisite information in the Undergraduate Bulletin or online.
2. “C” Passing Grade Requirement: Courses in shaded area require a minimum passing grade of “C”.
3. Skills tests: Certain students may be required to pass CUNY Assessment Tests in one or more subjects within 1 or 2 years of admission.
4. Liberal Arts Electives: BME students must take Engr 30000 Social, Economic, and Cultural Impact of Biomedical Technology (3 credits), as well as five approved courses (15 credits), of which at least one (3 credits) must be at the 2000 level or higher. They should satisfy each of the Flexible Core (Pathways) liberal arts requirements in the Creative Expression (CE), World Cultures & Global Issues (WCGI), Individual & Society (IS), and U.S. Experience (US) areas. Prior courses in these four areas from other colleges can satisfy the electives. See cuny.cuny.edu/engineering/pathways for details and the Pathways course lists. A prior degree may remove the requirement of all four courses.
5. Pre-med Curriculum: Pre-med students must take the Organic Chemistry sequence (Chem 26100, 26200, 26300) as the Technical Electives, which increases the total credits by 2. Chem 32002 Biochemistry is then taken in place of Chem 21000, and Chem 26100 & 26300 replace Chem 21000 as a pre-requisite for Bio 22900.
6. Other Graduation Requirements: Apply for graduation during registration for the last semester. Minimum GPA of 2.00. Minimum QPA of zero. Residency Requirement: 30 credits of 3000-level or higher Biomedical Engineering courses taken at CCNY.
7. Program Changes: Substitution of other courses for required courses must be approved by the Chair of the Biomedical Engineering Department (ST-401), and Associate Dean of the Office of Undergraduate Affairs (ST-209).
8. Transfer students who have completed Engr 23000 (Thermodynamics) must complete ME 35600 (Fluid Mechanics) instead of ChE 34100 (Transport Phenomena I).