

NAME: \_\_\_\_\_

# BIOENGINEERING

UID: \_\_\_\_\_    A.A.    A.S.    Post-Bac

## GENERAL EDUCATION REQUIREMENTS

### Fundamental Studies

Academic Writing (AW)	ENGL 101		3
Professional Writing (PW)	ENGL 39X		3
Oral Communication (OC)			3
Mathematics (MA)	MATH 140		4
Analytic Reasoning (AR)	MATH 140		0

### Distributive Studies

History/Social Sciences (HS*)			3
History/Social Sciences (HS*)			3
Humanities (HU*)	ENES 200		3
Humanities (HU*)			3
Natural Sciences No Lab (NS)	PHYS 161		3
Natural Sciences w/Lab (NL)	PHYS 260/PHYS 261		4
Scholarship in Practice (SP*) in major	ENES 100		3
Scholarship in Practice (SP*) out of major			3

### Big Question Courses

Big Question (SCIS*)	ENES 200		0
Big Question (SCIS*)			0/3

### Diversity

Understanding Plural Societies (UP*)			0/3
Understanding Plural Societies (UP*) OR Cultural Competency (CC*)			0/3

## MAJOR REQUIREMENTS

### Basic Sciences

CHEM 135-Chem Engr or 131 & 134 -Fund & Prin			3/3&1
CHEM 136 - Chemistry Lab for Eng			1
CHEM 231 and 232 - Organic Chemistry I & Lab			3 & 1
PHYS 161 - General Physics I (NS)			0
PHYS 260 and PHYS 261 - Gen Physics II & Lab (NL)			0
MATH 140 - Calculus I (MA/AR)			0
MATH 141 - Calculus II			4
MATH 241 - Calculus III			4
MATH 243 - Intro to Linear Algebra & Diff Equations			4
BIOE 246 - Diff Equations for Bioengineering			3

### Engineering Sciences

ENES 100 - Intro to Eng Design (SP)			0
ENES 102 - Mechanics I			3

## MAJOR REQUIREMENTS

BIOE 120 - Biology for Engineers			3
BIOE 121 - Biology for Eng Lab			1
BIOE 221 - Intro to Bioengineering Major			1
BIOE 232 - Biological Thermodynamics			3
BIOE 241 - Biocomputation Methods			3
BIOE 331 - Biofluids			3
BIOE 340 - Modeling Phys. & Lab			4
BIOE 372 - Biostatistics			3
BIOE 457 - Biomedical Elect. & Instrumentation			4
BIOE Foundational I			3
BIOE Foundational II			3
BIOE Elective I			3
BIOE Elective II			3
BIOE Elective III			3
BIOE Elective IV			3
BIOE 485 - Capstone I			3
BIOE 486 - Capstone II			3
BSCI 331 & 332 - Cell Biology & Physiology/Lab			3 & 1
ENES 200 - Tech & Consequences (HU/SCIS)			0

### Technical Requirements

Biological Science Elective I (BSCI 2xx) **			3 or 4
Biological Science Elective II**			3
Breadth Elective **			3

### Requirements for Graduation:

- Final 30 credits must be earned at UMD
- 15 of the final 30 credits must be earned at the 300-400 level
- 12 of the final 30 credits must be upper level major coursework
- A minimum 2.00 cumulative UM GPA and satisfactory completion of all degree requirements are required for graduation
- Students matriculating after Fall 2012 must have a 2.0 minimum GPA for all degree requirements, minor requirements, and undergraduate certificate requirements  
*(Major courses are defined as: departmental courses, basic sciences, engineering sciences, specified degree tracks, technical requirements/ technical electives and Professional Writing (PW))*
- A minimum of 120 credits is required to earn the degree

\* May satisfy more than one requirement. See [www.gened.umd.edu](http://www.gened.umd.edu)

\*\* See Bioengineering Advisor for appropriate electives: [www.bioe.umd.edu](http://www.bioe.umd.edu)

# Bioengineering Graduation Plan

Name: \_\_\_\_\_

UID: \_\_\_\_\_

Current Engineering Students: <https://eng.umd.edu/services/academic-policies>

Prospective Engineering Students: <https://lep.umd.edu/>

Year 1	Fall		
	Course	Credit	Grade
	ENES 100 (SP)	3	
	CHEM 135	3	
	CHEM 136	1	
	MATH 140 (AR)	4	
	ENGL 101 (AW)	3	
	<b>Total</b>	<b>14</b>	

Spring			
	Course	Credit	Grade
	BIOE 241	3	
	MATH 141	4	
	PHYS 161 (NS)	3	
	BIOE 120	3	
	BIOE 121	1	
	Hist & Social Sciences (HS)*	3	
	<b>Total</b>	<b>17</b>	

Year 2	Fall		
	Course	Credit	Grade
	CHEM 231	3	
	CHEM 232	1	
	MATH 241	4	
	MATH 243	4	
	PHYS 260 and PHYS 261 (NL)	3 & 1	
	BIOE 221	1	
	<b>Total</b>	<b>17</b>	

Spring			
	Course	Credit	Grade
	BIOE 232	3	
	ENES 102	3	
	BIOE 246	3	
	Bio. Science Elec. I (BSCI 2xx)	4	
	ENES200 (HU/SCIS)	3	
	<b>Total</b>	<b>16</b>	

Year 3	Fall		
	Course	Credit	Grade
	BIOE 331	3	
	BIOE 372	3	
	BSCI 331 and BSCI 332	3 & 1	
	BIOE Foundational I	3	
	Oral Communication (OC)	3	
	<b>Total</b>	<b>16</b>	

Spring			
	Course	Credit	Grade
	BIOE 340	4	
	BIOE 457	4	
	BIOE Foundational II	3	
	BIOE Elective I	3	
	Scholarship in Practice (SP)*	3	
	<b>Total</b>	<b>17</b>	

Year 4	Fall		
	Course	Credit	Grade
	BIOE 485	3	
	BIOE Elective II	3	
	BIOE Elective III	3	
	Breadth Elective	3	
	Humanities (HU)*	3	
	<b>Total</b>	<b>15</b>	

Spring			
	Course	Credit	Grade
	BIOE 486	3	
	BIOE Elective IV	3	
	Bio. Science Elective II	3	
	Professional Writing (PW)	3	
	Hist & Social Sciences (HS)*	3	
	<b>Total</b>	<b>15</b>	

\*Students must complete two Distributive Studies courses that are approved for Big Question courses. To complete all requirements following this plan, the Understanding Plural Societies (UP) and Cultural Competence (CC) courses must also fulfill Distributive Studies categories.

\*\*Transfer students entering between Fall 2024-Spring 2026 should default to the 23-S24 plan