

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

# BIOENGINEERING

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

GENERAL EDUCATION REQUIREMENTS			
<b>Fundamental Studies</b>			
Academic Writing (AW)	ENGL 101		3
Professional Writing (PW)	ENGL 393		3
Oral Communication (OC)			3
<b>Distributive Studies</b>			
History/Social Sciences (HS*)			3
History/Social Sciences (HS*)			3
Humanities (HU*)			3
Humanities (HU*)			3
Scholarship in Practice (SP*) out of major			3
<b>I-Series Courses</b>			
I-Series (IS*)			0/3
I-Series (IS*)			0/3
<b>Diversity</b>			
Understanding Plural Societies (UP*)			0/3
Understanding Plural Societies (UP*) OR Cultural Competency (CC*)			0/3
MAJOR REQUIREMENTS			
<b>Basic Sciences</b>			
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)			3
PHYS 260 and PHYS 261 - Gen Physics II & Lab (NL)			3 & 1
MATH 140 - Calculus I (MA/AR)			4
MATH 141 - Calculus II			4
MATH 241 - Calculus III			4
MATH 246 - Differential Equations			3
<b>Engineering Sciences</b>			
ENES 100 - Intro to Eng Design (SP)			3
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 371 - Bioengineering Math & Stats		3
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 330 - Cell Biology and Physiology		4
<b>Technical Requirements</b>		
Biological Science Elective I (BSCI 2xx) **		3 or 4
Biological Science Elective II**		3
Breadth Elective **		3

Requirements for Graduation:		
<input type="checkbox"/>	Final 30 credits must be earned at UMD	
<input type="checkbox"/>	15 of the final 30 credits must be earned at the 300-400 level	
<input type="checkbox"/>	12 of the final 30 credits must be upper level major coursework	
<input type="checkbox"/>	A minimum 2.00 cumulative UM GPA and satisfactory completion of all degree requirements are required for graduation	
<input type="checkbox"/>	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 ENGL 393)	
<input type="checkbox"/>	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)

For Degree Clearance Only	
Degree: B.S. BIOE	Advisor: _____
Date: _____	Credits/ GPA: _____

# Bioengineering Four Year Academic Plan

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

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

Year 1	Fall		
Gateway requirements include: ENGL 101, CHEM 135, MATH 141, PHYS 161 and an approved Distributive Studies course. (Directly admitted freshman must pass and complete these courses and ENES 100 by 45 UM credits.)	Course	Credit	Grade
	ENES 100	3	
	CHEM 135	3	
	CHEM 136	1	
	MATH 140 (AR)	4	
	BIOE 120	3	
	BIOE 121	1	
	<b>Total</b>	<b>15</b>	

Spring		
Course	Credit	Grade
ENES102 (SP)	3	
MATH 141	4	
PHYS 161 (NS)	3	
ENGL 101 (AW)	3	
Humanities (HU)*	3	
<b>Total</b>	<b>16-17</b>	

Year 2	Fall		
	Course	Credit	Grade
	CHEM 231	3	
	CHEM 232	1	
	MATH 241	4	
	BIOE 241	3	
	PHYS 260 and PHYS 261 (NL)	3 & 1	
	Scholarship in Practice (SP)*	3	
	<b>Total</b>	<b>18</b>	

Spring		
Course	Credit	Grade
BIOE 221	1	
BIOE 232	3	
BIOE 371	3	
MATH 246	3	
Bio. Science Elec. I (BSCI 2xx)	4	
Hist & Social Sciences (HS)*	3	
<b>Total</b>	<b>17</b>	

Year 3	Fall		
	Course	Credit	Grade
	BIOE 331	3	
	BIOE 372	3	
	BSCI 330	4	
	BIOE Foundational I	3	
	BIOE Elective I	3	
	<b>Total</b>	<b>16</b>	

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

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

Spring		
Course	Credit	Grade
BIOE 486	3	
BIOE Elective IV	3	
Bio. Science Elective II	3	
ENGL 393 (PW)	3	
Hist & Social Sciences (HS)*	3	
<b>Total</b>	<b>15</b>	

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