

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

# CHEMICAL ENGINEERING

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

GENERAL EDUCATION REQUIREMENTS			
<b>Fundamental Studies</b>			
Academic Writing (AW)	ENGL 101		3
Professional Writing (PW)	ENGL 39X		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
CHEM 241 and 242 - Organic Chemistry II & Lab			3 & 1
PHYS 161 - General Physics I (NS)			3
PHYS 260 and 261 - Gen Physics II & Lab (NL)			3 & 1
PHYS 270 and 271 - Gen Physics III & Lab			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

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

\*\* For technical elective guidelines, see:

[www.chbe.umd.edu/undergraduate/electives](http://www.chbe.umd.edu/undergraduate/electives)

MAJOR REQUIREMENTS		
BIOE 120 - Biology for Engineers		3
CHBE 101 - Intro to Chem & Biom. Eng		3
CHBE 250 - Comp Methods Chem & Bio		3
CHBE 301 - Chem & Biomolec Thermo		3
CHBE 302 - Chem & Biomolec Thermo II		3
CHBE 333 - Comm Skills for Eng		1
CHBE 410 - Statistics & Experimental Design		3
CHBE 422 - Chem & Biomolec Trans.		3
CHBE 424 - Chem & Biomolec Trans. II		3
CHBE 426 - Chem & Biomolec Sep. Processes		3
CHBE 437 - Chem & Biomolec Eng Lab		3
CHBE 440 - Chem Kinetics & Reactor		3
CHBE 442 - Chem Eng Systems Analysis		3
CHBE 444 - Process Eng Econ & Design I		3
CHBE 446 - Process Eng Econ & Design II		3
ENMA 300 or CHEM 457		3
CHBE 4XX - Elective **		3
CHBE 4XX - Elective **		3
CHBE 4XX - Elective **		3
Technical Requirements		
BCHM 461 & BCHM 462 or BCHM463		6 or 3
CHEM 272 - Gen Bioanalytical Chem Lab		2

**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

**For Degree Clearance Only**

Degree: B.S. CHBE

Advisor: \_\_\_\_\_

Date: \_\_\_\_\_

Credits/GPA: \_\_\_\_\_

# Chemical and Biomolecular Engineering Four Year Academic Plan

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

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

Year 1	Fall		
<a href="https://lep.umd.edu/">https://lep.umd.edu/</a>	Course	Credit	Grade
	ENES100 (SP)	3	
	MATH 140 (AR)	4	
	CHEM 135	3	
	CHEM 136	1	
	Humanities (HU)*	3	
	<b>Total</b>	<b>14</b>	

Spring		
Course	Credit	Grade
CHBE 101	3	
MATH 141	4	
PHYS 161 (NS)	3	
ENGL 101 (AW)	3	
BIOE 120	3	
<b>Total</b>	<b>16</b>	

Year 2	Fall		
	Course	Credit	Grade
	MATH 241	4	
	CHEM 231	3	
	CHEM 232	1	
	PHYS 260 and PHYS 261 (NL)	3 & 1	
	CHBE 250	3	
	CHBE 301	3	
	<b>Total</b>	<b>18</b>	

Spring		
Course	Credit	Grade
MATH 246	3	
PHYS 270 and PHYS 271	3 & 1	
CHEM 241	3	
CHEM 242	1	
CHBE 302	3	
ORAL COMM (OC)	3	
<b>Total</b>	<b>17</b>	

Year 3	Fall		
	Course	Credit	Grade
	CHBE 410	3	
	CHBE 422	3	
	CHBE 440	3	
	CHEM 272	2	
	Professional Writing (PW)	3	
	Scholarship in Practice (SP)*	3	
	<b>Total</b>	<b>17</b>	

Spring		
Course	Credit	Grade
BCHM 461** or 463	3	
ENMA 300 or CHEM 457	3	
CHBE 424	3	
CHBE 426	3	
CHBE 333	1	
Humanities (HU)*	3	
<b>Total</b>	<b>16</b>	

Year 4	Fall		
	Course	Credit	Grade
	CHBE 437	3	
	CHBE 442	3	
	CHBE 444	3	
	Tech Elective (see advisor)**	3	
	Hist & Social Sciences (HS)*	3	
	<b>Total</b>	<b>15</b>	

Spring		
Course	Credit	Grade
CHBE 446	3	
Tech Elective (see advisor)**	3	
Tech Elective (see advisor)**	3	
Hist & Social Sciences (HS)*	3	
<b>Total</b>	<b>12</b>	

\*All students must complete two Distributive Studies courses that are approved for I-series courses. The Understanding Plural Societies (UP) and Cultural Competence (CC) courses may also fulfill Distributive Studies categories.

\*\* Students selecting BCHM 461 must complete BCHM 462 as their approved outside technical elective.