

**Departmental/Program Major Courses (51 credits)**

- \_\_\_\_\_ (4) ABE 20100 Material and Energy Balances in Biological Engineering
- \_\_\_\_\_ (3) ABE 20200 Thermodynamics in Biological Engineering
- \_\_\_\_\_ (2) ABE 22600 Biotechnology Lab I ([\*satisfies COA Biological Science requirement\*](#))
- \_\_\_\_\_ (1) ABE 29000 Sophomore Seminar ([\*satisfies UCC & COA Science, Technology & Society requirement\*](#))
- \_\_\_\_\_ (3) ABE 30100 Modeling and Computational Tools in Biological Engineering
- \_\_\_\_\_ (1) ABE 30200 Biochemical Laboratory Techniques for Biological Engineering
- \_\_\_\_\_ (3) ABE 30300 Physical Chemistry in Biological Engineering
- \_\_\_\_\_ (3) ABE 30400 Biological Engineering Laboratory
- \_\_\_\_\_ (3) ABE 30700 Momentum Transfer in Biological Engineering
- \_\_\_\_\_ (3) ABE 30800 Heat and Mass Transfer in Biological Engineering
- \_\_\_\_\_ (3) ABE 37000 Reaction Kinetics in Biological Engineering
- \_\_\_\_\_ (3) ABE 45700 Unit Operations in Biological Engineering
- \_\_\_\_\_ (3) ABE 46000 Sensors and Process Control
- \_\_\_\_\_ (1) ABE 49000 Professional Practice in Agricultural and Biological Engineering
- \_\_\_\_\_ (3) ABE 55700 Biological Engineering Process Design I
- \_\_\_\_\_ (3) ABE 55800 Biological Engineering Process Design II
- \_\_\_\_\_ (9) [Biological Engineering Selectives](#)

**Other Department/Program Course Requirements (77-79 credits)**

- \_\_\_\_\_ (2) ENGR 13100 Transforming Ideas to Innovation I ([\*satisfies UCC Information Literacy requirement\*](#))
- \_\_\_\_\_ (2) ENGR 13200 Transforming Ideas to Innovation II
- \_\_\_\_\_ (4) BIOL 22100 Introduction to Microbiology ([\*satisfies COA Biological Science requirement\*](#))
- \_\_\_\_\_ (3) BIOL 23100 Biology of the Living Cell or BME 29500 Cell Biology for Biomedical Engineers  
([\*satisfies COA Biological Science requirement\*](#))
- \_\_\_\_\_ (3) BCHM 30700 Biochemistry
- \_\_\_\_\_ (3) CHE 32000 Statistical Modeling and Quality Enhancement ([\*satisfies COA Statistics requirement\*](#))
- \_\_\_\_\_ (3) CHM 11510 General Chemistry I ([\*satisfies a UCC Science & COA Chemistry requirement\*](#))
- \_\_\_\_\_ (1) CHM 11520 (Preferred) or CHM 11530 General Chemistry I Laboratory
- \_\_\_\_\_ (3) CHM 11610 General Chemistry II ([\*satisfies a UCC Science & COA Chemistry requirement\*](#))
- \_\_\_\_\_ (1) CHM 11620 General Chemistry II Laboratory (*in-person lab required*)
- \_\_\_\_\_ (4) CHM 25700 Organic Chemistry
- \_\_\_\_\_ (3) CS 17700 Programming with Multiple Options or CS 15900 C Programming (3 credits)
- \_\_\_\_\_ (4) MA 16500 Analytic Geometry & Calculus I (or (5) MA 16100)  
([\*satisfies UCC Quantitative Reasoning & COA Calculus requirements\*](#))
- \_\_\_\_\_ (4) MA 16600 Analytic Geometry & Calculus II (or (5) MA 16200) ([\*satisfies COA Additional math or science requirement\*](#))
- \_\_\_\_\_ (4) MA 26100 Multivariate Calculus
- \_\_\_\_\_ (4) MA 26200 Linear Algebra and Differential Equations
- \_\_\_\_\_ (4) PHYS 17200 Modern Mechanics
- \_\_\_\_\_ (3) [Economics Selective](#) ([\*satisfies UCC Human Cultures: Behavioral/Social Sci requirement\*](#))
- \_\_\_\_\_ (3) [Human Cultures: Humanities Selective](#) ([\*satisfies UCC Human Cultures: Humanities requirement\*](#))
- \_\_\_\_\_ (6) [Humanities or Social Science Selective](#)
- \_\_\_\_\_ (3) [Humanities or Social Science Selective](#) (30000+ level)
- \_\_\_\_\_ (3) [Oral Communication Selective](#) ([\*satisfies UCC Oral Communication requirement\*](#))
- \_\_\_\_\_ (3-4) [Written Communication Selective](#) ([\*Written Communication requirement\*](#))
- \_\_\_\_\_ (3) [Written or Oral Communication Selective](#) (20000+ level)
- \_\_\_\_\_ [International Understanding](#) (6 credits - may be met with UCC or COA Core Requirements)

**Electives (0-1 credits)**

- \_\_\_\_\_ (0-1) \_\_\_\_\_

129 semester credits required for degree completion. 2.0 Graduation GPA required for Bachelor of Science degree. The student is ultimately responsible for knowing and completing all degree requirements. The myPurduePlan powered by Degree Works is the knowledge source for specific requirements and completion.

**Suggested Arrangement of Courses**

Note that course placement is dependent upon both pre-requisite requirements as well as limited offering terms

Please see your academic advisor for other options creating your personalized plan of study

(ABE courses are ONLY offered in Fall or Spring terms as listed – not both)

<b>PRE-ABE Curriculum – must earn C- or higher in all Pre-ABE courses</b>					
<b>Credits</b>	<b>Fall 1st Year</b>	<b>Prerequisite</b>	<b>Credits</b>	<b>Spring 1st Year</b>	<b>Prerequisite</b>
3	<b>CHM 11510*</b>	pre/co: MA 16100/16500	3	<b>CHM 11610</b>	CHM 11510
1	<b>CHM 11520<sup>‡</sup></b>	pre/co: CHM 11510	1	<b>CHM 11620<sup>‡§</sup></b>	Pre/co: CHM 11610
2	<b>ENGR 13100*</b>		2	<b>ENGR 13200</b>	ENGR 13100
4-5	<b>MA 16500* or MA 16100</b>	min. ALEKS score=85	4-5	<b>MA 16600 or MA 16200</b>	MA 16100/16500 (≥ C-)
3	<a href="#"><u>Economics Selective</u></a>		4	<b>PHYS 17200*</b>	pre/co: MA 16100/16500
3-4	<a href="#"><u>Written Communication Selective*</u></a>		3	<a href="#"><u>Oral Communication Selective*</u></a>	
<b>16-18</b>			<b>17-18</b>		

<b>Credits</b>	<b>Fall 2nd Year</b>	<b>Prerequisite</b>	<b>Credits</b>	<b>Spring 2nd Year</b>	<b>Prerequisite</b>
4	<b>ABE 20100<sup>†</sup></b>	CHM 11600, MA 16200/16600	3	<b>ABE 20200<sup>†</sup></b>	ABE 20100, MA 26100
2	<b>ABE 22600<sup>†</sup></b>		4	<b>BIOL 22100</b>	BIOL 23100, CHM 11600
1	<b>ABE 29000<sup>†</sup></b>		3	<b>CHE 32000</b>	ABE 20100, CHM 25700, pre/co: MA 26100 (≥ C-)
3	<b>BIOL 23100<sup>†</sup> or BME 29500<sup>†</sup></b>	Pre BIOL 11100, CHM 11500	4	<b>CS 17700</b>	
4	<b>CHM 25700</b>	CHM 11600	4	<b>MA 26200</b>	MA 26100 (≥ C-)
4	<b>MA 26100</b>	MA 16200/16600 (≥ C-)			
<b>18</b>			<b>18</b>		

<b>Credits</b>	<b>Fall 3rd Year</b>	<b>Prerequisite</b>	<b>Credits</b>	<b>Spring 3rd Year</b>	<b>Prerequisite</b>
3	<b>ABE 30100<sup>†</sup></b>	pre/co: ABE 30700 CS 15900 or CS 17700	3	<b>ABE 30400<sup>†</sup></b>	ABE 30700, CHE 32000, pre/co: ABE 30800, ABE 3700, ABE 45700
1	<b>ABE 30200<sup>†</sup></b>	ABE 22600, pre/co: BCHM 30700	3	<b>ABE 30800<sup>†</sup></b>	ABE 30700, pre/co: ABE 30400, ABE 37000, ABE 45700
3	<b>ABE 30300<sup>†</sup></b>	ABE 20200, CHM 25700, or CHM 25500/CHM 25501 pre/co: ABE 30700	3	<b>ABE 37000<sup>†</sup></b>	ABE 30700, pre/co: BIOL 22100 CHM 25700, pre/co: ABE 30400, ABE 30800, ABE 45700
3	<b>ABE 30700<sup>†</sup></b>	ABE 20200, MA 26200 pre/co: ABE 30100, ABE 30300	3	<b>ABE 45700<sup>†</sup></b>	ABE 30700, pre/co: ABE 30400, ABE 30800, ABE 37000
3	<b>BCHM 30700</b>	CHM 25700	3	<a href="#"><u>Biological Engineering Selective</u></a>	
3	<a href="#"><u>Written or Oral Communication Selective (20000+)</u></a>				
<b>16</b>			<b>15</b>		

<b>Credits</b>	<b>Fall 4th Year</b>	<b>Prerequisite</b>	<b>Credits</b>	<b>Spring 4th Year</b>	<b>Prerequisite</b>
3	<b>ABE 46000<sup>†</sup></b>	MA 26200 (≥ C-)	3	<b>ABE 55800<sup>†</sup></b>	ABE 55700
1	<b>ABE 49000<sup>†</sup></b>	ABE 29000	3	<a href="#"><u>Biological Engineering Selective</u></a>	
3	<b>ABE 55700<sup>†</sup></b>	ABE 30400, ABE 30800, ABE 37000, ABE 45700	3	<a href="#"><u>Human Cultures: Humanities Selective</u></a>	
3	<a href="#"><u>Biological Engineering Selective</u></a>		3	<a href="#"><u>Humanities or Social Science Selective</u></a>	
3	<a href="#"><u>Humanities or Social Science Selective</u></a>		3	<a href="#"><u>Humanities or Social Science Selective (30000+)</u></a>	
0-1	<b>Elective</b>				
<b>13-14</b>			<b>15</b>		

\* Fulfills University [Undergraduate Core Curriculum \(UCC\) Requirement](#)

<sup>‡</sup> May take CHM 11520 (preferred) or CHM 11530, but CHM 11620 is required for degree completion

<sup>§</sup> Fulfills FYE selective for Biological Engineering

<sup>†</sup> Indicates Fall only course

<sup>‡</sup> Indicates Spring only course

[International Understanding](#) (6 credits) may be met with UCC or COA Core Requirements).