

# CHEMICAL ENGINEERING: PRE-MEDICAL, BSCH

**Requirements for Students Matriculating in or before Academic Year 2019-2020.** Learn more about University Academic Regulation 3.1 (<http://catalog.okstate.edu/university-academic-regulations/#matriculation>).

**Minimum Overall Grade Point Average: 2.00**

**Total Hours: 135**

Code	Title	Hours
<b>General Education Requirements</b>		
All General Education coursework requirements are satisfied upon completion of this degree plan		
<i>English Composition</i>		
See Academic Regulation 3.5 ( <a href="http://catalog.okstate.edu/university-academic-regulations/#english-composition">http://catalog.okstate.edu/university-academic-regulations/#english-composition</a> )		
ENGL 1113	Composition I <sup>1</sup>	3
or ENGL 1313	Critical Analysis and Writing I	
Select one of the following:		3
ENGL 1213	Composition II	
ENGL 1413	Critical Analysis and Writing II	
ENGL 3323	Technical Writing	
<i>American History &amp; Government</i>		
Select one of the following:		3
HIST 1103	Survey of American History	
HIST 1483	American History to 1865 (H)	
HIST 1493	American History Since 1865 (DH)	
POLS 1113	American Government	3
<i>Analytical &amp; Quantitative Thought (A)</i>		
MATH 2144	Calculus I (A) <sup>1</sup>	4
MATH 2153	Calculus II (A) <sup>1</sup>	3
MATH 2163	Calculus III <sup>1</sup>	3
<i>Humanities (H)</i>		
Any course designated (H) <sup>2</sup>		6
<i>Natural Sciences (N)</i>		
Must include one Laboratory Science (L) course		
CHEM 1515	Chemistry II (LN) <sup>1</sup>	5
BIOL 1114	Introductory Biology (LN) <sup>1</sup>	4
<i>Social &amp; Behavioral Sciences (S)</i>		
Any course designated (S) <sup>3</sup>		6
<b>Hours Subtotal</b>		<b>43</b>
<b>Diversity (D) &amp; International Dimension (I)</b>		
May be completed in any part of the degree plan		
Select at least one Diversity (D) course		
Select at least one International Dimension (I) course		
<b>College/Departmental Requirements</b>		
<i>Basic Science</i>		
PHYS 2014	University Physics I (LN) <sup>1</sup>	4
PHYS 2114	University Physics II (LN) <sup>1</sup>	4
BIOL 1604	Animal Biology	4
<i>Engineering</i>		

ENGR 1111	Introduction to Engineering	1
ENGR 1412	Introductory Engineering Computer Programming <sup>1</sup>	2
<i>Engineering Science</i>		
ENSC 2113	Statics	3
ENSC 2143	Strength of Materials	3
ENSC 2613	Introduction to Electrical Science	3
ENSC 2213	Thermodynamics <sup>1</sup>	3
ENSC 3233	Fluid Mechanics <sup>1</sup>	3
ENSC 3313	Materials Science	3
<i>Chemistry</i>		
CHEM 3053	Organic Chemistry I <sup>1</sup>	3
CHEM 3112	Organic Chemistry Laboratory <sup>1</sup>	2
CHEM 3153	Organic Chemistry II <sup>1</sup>	3
<b>Hours Subtotal</b>		<b>41</b>
<b>Major Requirements</b>		
<i>Mathematics</i>		
MATH 2233	Differential Equations <sup>1</sup>	3
or MATH 3263	Linear Algebra and Differential Equations	
Select one of the following:		3
STAT 2013	Elementary Statistics (A)	
STAT 2023	Elementary Statistics for Business and Economics (A)	
STAT 2053	Elementary Statistics for the Social Sciences (A)	
STAT 4013	Statistical Methods I (A)	
STAT 4033	Engineering Statistics	
STAT 4053	Statistical Methods I for the Social Sciences (A)	
STAT 4073	Engineering Statistics with Design of Experiments	
<i>Chemistry</i>		
CHEM 3433	Physical Chemistry I	3
<i>Chemical Engineering</i>		
CHE 2033	Introduction to Chemical Process Engineering <sup>1</sup>	3
CHE 2581	Chemical Engineering Seminar I <sup>1</sup>	1
CHE 3013	Rate Operations I	3
CHE 3113	Rate Operations II	3
CHE 3123	Chemical Reaction Engineering	3
CHE 3333	Introduction to Transport Phenomena	3
CHE 3473	Chemical Engineering Thermodynamics	3
CHE 3581	Chemical Engineering Seminar II	1
CHE 4002	Chemical Engineering Laboratory I	2
CHE 4112	Chemical Engineering Laboratory II	2
CHE 4124	Chemical Engineering Design I	4
CHE 4224	Chemical Engineering Design II	4
CHE 4581	Chemical Engineering Seminar III	1
CHE 4843	Chemical Process Instrumentation and Control	3
<b>Hours Subtotal</b>		<b>45</b>
<b>Controlled Electives</b>		
<i>Advanced Chemical Science</i>		

BIOL 3023	General Genetics	3
or MICR 3033	Cell and Molecular Biology	
<i>Bioengineering/Bioscience Electives</i>		
Select 3 hours of the following:		3
CHE 4283	Bioprocess Engineering	
CHE 4293	Biomedical Engineering	
CHE 5283	Advanced Bioprocess Engineering	
CHE 5293	Advanced Biomedical Engineering	
Or with approval of Chemical Engineering Advisor, select from the following:		
BAE 3113	Biological Applications in Engineering	
BAE 4413	Food Engineering	
BIOC 3223	Physical Chemistry for Biologists	
BIOC 3653	Survey of Biochemistry	
BIOC 4113	Molecular Biology	
<b>Hours Subtotal</b>		<b>6</b>
Total Hours		135

<sup>1</sup> Courses that must be completed prior to admission to professional school.

<sup>2</sup> Humanities courses - should select one from ENGL and one ART, ENGL, FLL, MUSI, PHIL or TH to also meet medical school requirements

<sup>3</sup> Social & Behavioral Sciences courses – should select from ANTH, PSYC, or SOC to also meet medical school requirements.

## Other Requirements

### Admission to Professional School (required)

- Refer to the OSU Catalog corresponding to your matriculation date for detailed admissions requirements.

### Graduation Requirements

1. A minimum GPA of 2.00 is required in all CHE, CHEM, ENGR, and ENSC coursework.
2. The major engineering design experience, capstone course, is satisfied by CHE 4124 Chemical Engineering Design I and CHE 4224 Chemical Engineering Design II.

## Additional State/OSU Requirements

- At least: 60 hours at a four-year institution; 30 hours completed at OSU; 15 of the final 30 or 50% of the upper-division hours in the major field completed at OSU.
- Limit of: one-half of major course requirements as transfer work; one-fourth of hours earned by correspondence; 8 transfer correspondence hours.
- Students will be held responsible for degree requirements in effect at the time of matriculation and any changes that are made, so long as these changes do not result in semester credit hours being added or do not delay graduation.
- Degrees that follow this plan must be completed by the end of Summer 2025.