REQUIREMENTS FOR THE BACHELOR OF SCIENCE
GALLOGLY COLLEGE OF ENGINEERING
THE UNIVERSITY OF OKLAHOMA

Academic Year	General Requirements		Program
For Students Entering the Oklahoma State System for Higher Education **Summer 2024 through Spring 2025**	Minimum Total Credit Hours	**126**	**Chemical Engineering - Bioengineering Option** **B164** Bachelor of Science
	Minimum Retention/Graduation Grade Point Averages:		
	Overall - Combined and OU	**2.00**	
	Major - Combined and OU	**2.00**	
	Curriculum - Combined and OU	**2.00**	

OU encourages students to complete at least hours of applicable coursework each year to have the opportunity to graduate in years.

GENERAL EDUCATION AND COLLEGE REQUIREMENTS

Courses designated as Core I, II, III, IV, or V are part of the General Education curriculum. Students must complete a minimum of 40 hours of General Education courses, chosen from the approved list, including at least one upper-division Gen. Ed. course outside of the student's major. **Courses graded P/NP will not apply.**

A grade of C or better is required in each course in the curriculum, including all prerequisite courses.

UNIVERSITY-WIDE GENERAL EDUCATION (MINIMUM 40 HOURS) AND COLLEGE REQUIREMENTS

Code	Title	Credit Hours
Core Area I: Symbolic and Oral Communication		
English Composition		
ENGL 1113	Principles of English Composition	3
ENGL 1213	Principles of English Composition	3
or EXPO 1213	Expository Writing	
Language (0-10 hours in the same language)		
This requirement can be met by two years of the same language in high school:		0-10
Beginning Course (0-5 hours)		
Beginning Course, continued (0-5 hours)		
Mathematics		
MATH 1914	Differential and Integral Calculus I (Core I) [1, 2]	4
Core Area II: Natural Science (including one laboratory)		
PHYS 2514	General Physics for Engineering and Science Majors (Core II) [2]	4
CHEM 1315	General Chemistry (Core II-Lab) [2, 3]	5
Core Area III: Social Science		
P SC 1113	American Federal Government	3
Choose one course [4]		3
Core Area IV: Arts & Humanities		
Artistic Forms		
Choose one course [4]		3
Western Culture		
HIST 1483	United States to 1865	3
or HIST 1493	United States, 1865 to the Present	
Choose one course [4]		3
World Culture		
Choose one course [4]		3
Core Area V: First-Year Experience		
ENGR 1413	Pathways to Engineering Thinking (Core V-FYE) [5]	3
Total Credit Hours		**40-50**

1 MATH 1823, MATH 2423, MATH 2433, and MATH 2443 sequence can be substituted for MATH 1914, MATH 2924, and MATH 2934.

2 Major support requirements that also satisfy University General Education requirements.

3 CHEM 1315 can be substituted with CHEM 1335 or CHEM 1425.

4 To be chosen from the University-Wide General Education Approved Course List. Three of these hours must be upper-division (3000-4000). See list in the Class Schedule.

5 Transfer students will need to meet the requirements of the first-year experience course as well as the engineering transfer course. Please see your advisor for your specific enrollment.

FREE ELECTIVES

Electives to bring total applicable hours to the minimum total required for the degree including a minimum of 40 upper-division hours.

Bachelor of Science in Chemical Engineering accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Chemical, Biochemical, Biomolecular and Similarly Named Program Criteria.

In order to progress in your curriculum in the Gallogly College of Engineering, and as a specific graduation requirement, a **grade of C** or better is required in each course in the curriculum, including all prerequisite courses.

MAJOR REQUIREMENTS

Code	Title	Credit Hours
Required Courses		
CH E 2033	Chemical Engineering Fundamentals	3
CH E 2003	Chemical Engineering Computing/Statistics	3
CH E 3113	Momentum, Heat and Mass Transfer I	3
CH E 3123	Momentum, Heat and Mass Transfer II	3
CH E 3473	Chemical Engineering Thermodynamics	3
CH E 3723	Numerical Methods for Engineering Computation	3
CH E 3333	Separation Processes	3
CH E 3432	Unit Operations Laboratory	2
CH E 4473	Kinetics	3
CH E 4262	Chemical Engineering Design Laboratory	2
CH E 4153	Process Dynamics and Control	3
CH E 4253	Process Design & Safety	3
CH E 4273	Advanced Process Design	3
CH E 3313	Structure and Properties of Materials	3
Total Credit Hours		**40**

MAJOR SUPPORT REQUIREMENTS

Code	Title	Credit Hours
Math and Science		
BIOL 1124	Intro Biol: Molecule/Cell/Phys	4
CHEM 1435	General Chemistry II: Signature Course	5
CHEM 3053	Organic Chemistry I: Biological Emphasis	3
CHEM 3152	Organic Chemistry Laboratory: Biological Emphasis	2
CHEM 3423	Physical Chemistry I	3
MATH 2924	Differential and Integral Calculus II	4
MATH 2934	Differential and Integral Calculus III	4
MATH 3113	Introduction to Ordinary Differential Equations	3
PHYS 2524	General Physics for Engineering and Science Majors	4
Technical Electives		
Technical Elective I [1]		3
Technical Elective II [1]		3
Technical Elective III [1]		3
Bioengineering Core Electives		**3**
CH E 4203	Bioengineering Principles	
or CH E 5243	Biochemical Engineering	
Additional College Requirements		
ENGR 2002	Professional Responsibilities and Skills of Engineers and Scientists	2
Total Credit Hours		**46**

1 Choose between CHEM 3653, MBIO 3813, BIOL 3103, BIOL 3113, BIOL 3333,BIOL 4843, CH E 5243, CH E 4203, CH E 5293, CH E 5373, CHEM 3753.

More information in the catalog: (http://ou-public.courseleaf.com/gallogly-engineering/chemical-biological-materials-engineering/chemical-engineering-bioengineering-bachelor-science/).

SUGGESTED SEMESTER PLAN OF STUDY

Bachelor of Science in Chemical Engineering accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the General Criteria and the Chemical, Biochemical, Biomolecular and Similarly Named Program Criteria.

In order to progress in your curriculum in the Gallogly College of Engineering, and as a specific graduation requirement, a grade of C or better is required in each course in the curriculum, including all prerequisite courses. Chemical engineering courses are sequential and usually offered only in the semester shown; note prerequisites. (Exception: CH E 5243 **is taught alternate spring semesters).**

Two college-level courses in a single world language are required; this may be satisfied by successful completion of 2 years in a single world language in high school. Students who must take a language at the University will have an additional 6-10 hours of coursework.

Courses designated as Core I, II, III, IV or V are part of the General Education curriculum. Students must complete a minimum of 40 hours of General Education courses, chosen from the approved list.

Year	FIRST SEMESTER		Hours	SECOND SEMESTER		Hours
FRESHMAN	ENGL 1113	Principles of English Composition (Core I)	3	ENGL 1213 or EXPO 1213	Principles of English Composition (Core I) or Expository Writing	3
	CHEM 1315	General Chemistry (Core II-Lab) [1]	5	CHEM 1435	General Chemistry II: Signature Course (Core II-Lab) [1]	5
	MATH 1914	Differential and Integral Calculus I (Core I) [2]	4	MATH 2924	Differential and Integral Calculus II [2]	4
	ENGR 1413	Pathways to Engineering Thinking (Core V-FYE) [3]	3	PHYS 2514	General Physics for Engineering and Science Majors (Core II)	4
		CREDIT HOURS	**15**		**CREDIT HOURS**	**16**
SOPHOMORE	MATH 2934	Differential and Integral Calculus III [2]	4	MATH 3113	Introduction to Ordinary Differential Equations	3
	PHYS 2524	General Physics for Engineering and Science Majors	4	ENGR 2002	Professional Responsibilities and Skills of Engineers and Scientists	2
	CH E 2033	Chemical Engineering Fundamentals	3	CH E 2003	Chemical Engineering Computing/Statistics	3
	CHEM 3053	Organic Chemistry I: Biological Emphasis	3	CH E 3113	Momentum, Heat and Mass Transfer I	3
	BIOL 1124	Intro Biol: Molecule/Cell/Phys	4	CHEM 3152	Organic Chemistry Laboratory: Biological Emphasis	2
				CHEM 3423	Physical Chemistry I	3
		CREDIT HOURS	**18**		**CREDIT HOURS**	**16**
JUNIOR	CH E 3123	Momentum, Heat and Mass Transfer II	3	CH E 3333	Separation Processes	3
	CH E 3473	Chemical Engineering Thermodynamics	3	CH E 3432	Unit Operations Laboratory	2
	CH E 3723	Numerical Methods for Engineering Computation	3	CH E 4473	Kinetics	3
	HIST 1483 or HIST 1493	United States to 1865 (Core IV) or United States, 1865 to the Present	3		Bioengineering Core Electives [5]	3
		Approved Elective, Social Science (Core III) [4]	3		Approved Elective, Western Culture (Core IV) [4]	3
		CREDIT HOURS	**15**		**CREDIT HOURS**	**14**
SENIOR		Technical Elective I [6]	3	CH E 3313	Structure and Properties of Materials	3
	CH E 4153	Process Dynamics and Control	3	CH E 4273	Advanced Process Design	3
	CH E 4253	Process Design & Safety	3		Approved Elective, Artistic Forms (Core IV) [4]	3
	CH E 4262	Chemical Engineering Design Laboratory	2		Approved Elective, World Culture (Core IV) [4]	3
	P SC 1113	American Federal Government (Core III)	3		Technical Elective III [7]	3
		Technical Elective II [6]	3			
		CREDIT HOURS	**17**		**CREDIT HOURS**	**15**

1 CHEM 1315 can be substituted with CHEM 1335 or CHEM 1425 (H) (Fall only). CHEM 1435 can be substituted with CHEM 1415.

2 MATH 1823, MATH 2423, MATH 2433, and MATH 2443 sequence can be substituted for MATH 1914, MATH 2924, and MATH 2934.

3 Transfer students will need to meet the requirements of the first-year experience course as well as the engineering transfer course. Please see your advisor for your specific enrollment.

4 To be chosen from the University-Wide General Education Approved Course List. Three of these hours must be upper-division (3000-4000). See list in the Class Schedule.

5 Choose between CH E 4203 or CH E 5243.

6 Choose between CHEM 3653, MBIO 3813, BIOL 3103, BIOL 3113, BIOL 3333, BIOL 4843, CH E 5243, CH E 4203, CH E 5293, CH E 5373, and CHEM 3753.

7 Technical Elective III must be related to bioengineering.