

# Chemical Engineering B.S.Ch.E.

## Chemical Engineering B.S.Ch.E. Eight-Semester Degree Program

The following section contains the list of courses required for the Bachelor of Science in Chemical Engineering degree. Not all courses are offered every semester, so students who deviate from the suggested sequence must pay careful attention to course scheduling and course prerequisites. Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Policy (<http://catalog.uark.edu/undergraduatecatalog/academicregulations/eightsemesterdegreecompletionpolicy/>) in the Academic Regulations chapter for university requirements of the program. Entering freshmen will be required to participate in selected Freshman Engineering Student Services.

First Year	Units	
	Fall	Spring
MATH 24004 Calculus I (ACTS Equivalency = MATH 2405) (Satisfies General Education Outcome 2.1) <sup>1</sup>	4	
CHEM 14103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture)	3	
ENGL 10103 Composition I (ACTS Equivalency = ENGL 1013) (Satisfies General Education Outcome 1.1)	3	
GNEG 11101 Introduction to Engineering I	1	
Fine Arts Core Elective (satisfies General Education Outcome 3.1) <sup>2</sup>	3	
Select one of the following to satisfy General Education Outcome 4.2:		
HIST 20003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) or HIST 20103 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) or PLSC 20003 American National Government (ACTS Equivalency = PLSC 2003)	3	
MATH 25004 Calculus II		4
CHEM 14203 University Chemistry II (ACTS Equivalency = CHEM 1424 Lecture)		3
CHEM 14201 University Chemistry II Laboratory (ACTS Equivalency = CHEM 1424 Lab)		1
ENGL 10303 Technical Composition II (ACTS Equivalency = ENGL 1023) (Satisfies General Education Outcome 1.2)		3
GNEG 11201 Introduction to Engineering II		1
PHYS 20304 University Physics I (ACTS Equivalency = PHYS 2034) (Satisfies General Education Outcome 3.4)		4
Year Total:	17	16

Second Year	Units	
	Fall	Spring
MATH 25804 Elementary Differential Equations	4	

CHEM 36053 Organic Chemistry I	3	
CHEM 36051 Organic Chemistry I Laboratory	1	
CHEG 21103 Introduction to Chemical Engineering I	3	
PHYS 20404 University Physics II (ACTS Equivalency = PHYS 2044 Lecture) (Satisfies General Education Outcome 3.4)	4	
MATH 26004 Calculus III		4
CHEM 36203 Organic Chemistry II	3	
CHEM 36201 Organic Chemistry II Laboratory	1	
CHEG 21303 Fluid Mechanics or CHEG 213H3 Honors Fluid Mechanics	3	
CHEG 23103 Thermodynamics of Single-Component Systems or CHEG 231H3 Honors Thermodynamics of Single-Component Systems	3	
Social Sciences State Minimum Core Elective (Satisfies General Education Outcomes 3.3 and 4.1) <sup>3</sup>	3	
Year Total:	15	17

Third Year	Units	
	Fall	Spring
CHEM 38103 Elements of Biochemistry or CHEM 481H3 Honors Biochemistry I	3	
CHEG 31404 Heat and Mass Transfer	4	
CHEG 33203 Thermodynamics of Multi-Component Systems or CHEG 332H3 Honors Thermodynamics of Multi-Component Systems	3	
Select one of the following to satisfy General Education Outcome 3.3:		
ECON 21403 Basic Economics: Theory and Practice or ECON 21003 Principles of Macroeconomics (ACTS Equivalency = ECON 2103)	3	
Humanities State Minimum Core Elective (Satisfies General Education Outcomes 3.2 and 5.1) <sup>4</sup>	3	
CHEG 37103 Chemical Engineering Materials Technology		3
CHEG 33303 Chemical Engineering Reactor Design or CHEG 333H3 Honors Chemical Engineering Reactor Design		3
CHEG 32503 Chemical Engineering Computer Methods		3
CHEG 32303 Chemical Engineering Laboratory I		3
Social Sciences State Minimum Core Elective (Satisfies General Education Outcome 3.3) <sup>5</sup>		3
Technical Elective		3
Year Total:	16	18

Fourth Year	Units	
	Fall	Spring
CHEG 41603 Separation Processes or CHEG 416H3 Honors Separation Processes	3	

CHEG 44103 Chemical Engineering Design I or CHEG 441H3 Honors Chemical Engineering Design I	3	
CHEG 48103 Chemical Process Safety or CHEG 481H3 Honors Chemical Process Safety	3	
Advanced Science Elective	3	
Technical Elective	3	
CHEG 43302 Chemical Engineering Laboratory II		2
CHEG 44203 Automatic Process Control or CHEG 442H3 Honors Automatic Process Control	3	
Satisfies General Education Outcome 6.1:		
CHEG 44403 Chemical Engineering Design II or CHEG 444H3 Honors Chemical Engineering Design II	3	
Advanced Science or Chemical Engineering Elective	3	
Chemical Engineering Elective	3	
Year Total:	15	14

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**Total Units in Sequence: 128**

<sup>1</sup> Students have demonstrated successful completion of the learning indicators identified for learning outcome 2.1, by meeting the prerequisites for MATH 24004.

<sup>2</sup> The Fine Arts Elective courses which satisfy General Education Outcome 3.1 include: ARCH 10003, ARHS 10003, COMM 10003, DANC 10003, LARC 10003, MUSC 10003, MUSC 100H3, MUSC 10103, MUSC 101H3, MUSC 13303, THTR 10003, THTR 10103, or THTR 101H3.

<sup>3</sup> The Social Sciences Elective courses which satisfy General Education Outcomes 3.3 and 4.1 include: ANTH 10203, COMM 10203, HDFS 14003, HDFS 24103, HIST 11193, HIST 11293, HIST 20903, HUMN 111H4, HUMN 211H4, INST 28103, INST 281H3, PLSC 20103, PLSC 28103, PLSC 281H3, RESM 28503, SOCI 10103, SOCI 201H3, or SOCI 20103.

<sup>4</sup> The Humanities Elective courses which satisfy General Education Outcomes 3.2 and 5.1 include: CLST 10003, CLST 100H3, CLST 10103, HUMN 112H4, PHIL 20003, PHIL 200H3, PHIL 21003.

<sup>5</sup> The Social Sciences Elective courses which satisfy General Education Outcome 3.3 include: AGECE 11003, AGECE 21003, ANTH 10203, COMM 10203, ECON 21003, ECON 22003, ECON 21403, EDST 20003, HDFS 14003, HDFS 24103, HDFS 26003, HIST 11193, HIST 111H3, HIST 11293, HIST 112H3, HIST 20003, HIST 20103, HIST 20903, HUMN 111H4, HUMN 211H4, INST 28103, INST 281H3, PLSC 20003, PLSC 20103, PLSC 21003, PLSC 28103, PLSC 281H3, PSYC 20003, RESM 28503, SOCI 10103, SOCI 201H3, SOCI 20103. Note, courses cannot be counted twice in degree requirements.