

# Biological Engineering B.S.B.E.

## Biological Engineering B.S.B.E. Eight-Semester Degree Program

The Bachelor of Science in Biological Engineering program is eligible for students who want to participate in an Eight Semester Degree Program. See the Eight-Semester Degree Policy (<http://catalog.uark.edu/undergraduatecatalog/academicregulations/eightsemesterdegreecompletionpolicy>) for more details. The plan below lists a semester-by-semester sequence of courses to finish the degree in eight semesters. University core courses for engineering are listed at the bottom of this page. Students may submit a maximum of four (4) hours of "D" in BENG Courses for their degree.

Some courses are not offered every semester, so students who deviate from the suggested sequence must pay careful attention to course scheduling and course pre-requisites.

First Year	Units	
	Fall	Spring
GNEG 1111 Introduction to Engineering I	1	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013)	3	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture)	3	
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405)	4	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034)	4	
GNEG 1121 Introduction to Engineering II		1
ENGL 1033 Technical Composition II or ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023)		3
Freshman Engineering Science Elective <sup>1</sup>		4
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505)		4
HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) or HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123) or PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003)		3
Year Total:	15	15

Second Year	Units	
	Fall	Spring
BENG 2632 Biological Engineering Design Studio	2	
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603)	4	
Sophomore Science Elective <sup>2</sup>	4	
BIOL 1543 Principles of Biology (ACTS Equivalency = BIOL 1014 Lecture)	3	
BIOL 1541L Principles of Biology Laboratory (ACTS Equivalency = BIOL 1014 Lab)	1	

MEEG 2003 Statics	3	
BENG 2643 Biological Engineering Methods I		3
MATH 2584 Elementary Differential Equations		4
BIOL 2013 General Microbiology (ACTS Equivalency = BIOL 2004 Lecture)		3
BIOL 2011L General Microbiology Laboratory (ACTS Equivalency = BIOL 2004 Lab)		1
MEEG 2403 Thermodynamics or CHEG 2313 Thermodynamics of Single-Component Systems		3
Social Science Elective (from University Core list)		3
Year Total:	17	17

Third Year	Units	
	Fall	Spring
BENG 3653 Global Bio-Energy Engineering	3	
BENG 3733 Transport Phenomena in Biological Systems	3	
BENG 3663 Biological Engineering Methods II	3	
Choose one:		4
CHEM 3603 Organic Chemistry I & CHEM 3601L Organic Chemistry I Laboratory		
CHEM 2613 Organic Physiological Chemistry (ACTS Equivalency = CHEM 1224 Lecture) & CHEM 3601L Organic Chemistry I Laboratory		
CVEG 3213 Hydraulics or MEEG 3503 Mechanics of Fluids or CHEG 2133 Fluid Mechanics	3	
BENG 3723 Unit Operations in Biological Engineering		3
BENG 3113 Measurement and Control for Biological Systems		3
CVEG 3223 Hydrology		3
Biological Elective		3
Technical Elective		3
Year Total:	16	15

Fourth Year	Units	
	Fall	Spring
BENG 4812 Senior Biological Engineering Design I	2	
BENG 4831 Biological Engineering Professionalism	1	
BENG 4743 Food and Bio-Product Systems Engineering	3	
BENG 4933 Sustainable Watershed Engineering	3	
Humanities Elective (from University Core list)	3	
Social Science Elective (from University Core list)	3	
BENG 4823 Senior Biological Engineering Design II		3
BENG 4663 Sustainable Biosystems Designs		3
Technical Elective (Engineering)		3
Fine Arts Elective (from University Core list)		3
Social Science Elective (from University Core list)		3
Technical Elective		3

Year Total: 15 18

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Total Units in Sequence: 128

- <sup>1</sup> The Freshman Engineering Science Elective must be chosen from either CHEM 1123/CHEM 1121L or PHYS 2074.
- <sup>2</sup> The Sophomore Science Elective must be: PHYS 2074 if CHEM 1123/CHEM 1121L was chosen as the Freshman Engineering Science Elective; or CHEM 1123/CHEM 1121L if PHYS 2074 was chosen as the Freshman Engineering Science Elective. That is, both courses are required for the degree.