

BIOSYSTEMS ENGINEERING: BIOSYSTEMS ENGINEERING, BSBE

Requirements for Students Matriculating in or before Academic Year 2024-2025. 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: 120

Code	Title	Hours
General Education Requirements		
<i>English Composition</i>		
See Academic Regulation 3.5 (http://catalog.okstate.edu/university-academic-regulations/#english-composition)		
ENGL 1113 or ENGL 1313	Composition I Critical Analysis and Writing I	3
Select one of the following:		3
ENGL 1213	Composition II	
ENGL 1413	Critical Analysis and Writing II	
ENGL 3323	Technical Writing	
<i>American History & 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 & Quantitative Thought (A)</i>		
MATH 2144	Calculus I (A)	4
MATH 2153	Calculus II (A)	3
<i>Humanities (H)</i>		
Courses designated (H)		6
<i>Natural Sciences (N)</i>		
Must include one Laboratory Science (L) course		
CHEM 1414	General Chemistry for Engineers (LN)	4
PHYS 2014	University Physics I (LN)	4
Select four hours from the following:		4
BIOL 1113 & BIOL 1111	Introductory Biology (N) and Introductory Biology Laboratory (LN)	
BIOL 1114	Introductory Biology (LN)	
PBIO 1404	Plant Biology (LN)	
<i>Social & Behavioral Sciences (S)</i>		
Any course designated (S)		3
<i>Additional General Education</i>		
Courses designated (A), (H), (N), or (S)		3
Hours Subtotal		43
Diversity (D) & International Dimension (I)		
May be completed in any part of the degree plan		
Select at least one (D) course		
Select at least one International Dimension (I) course		

College/Departmental Requirements

UNIV 1111	First Year Seminar (or other approved first year seminar course)	1
<i>Mathematics</i>		
MATH 2163	Calculus III	3
MATH 2233	Differential Equations	3
<i>Engineering & Engineering Science</i>		
ENGR 1332	Engineering Design with CAD for MAE	2
ENSC 2113	Statics	3
ENSC 2143	Strength of Materials	3
ENSC 2213	Thermodynamics	3
ENSC 2613	Introduction to Electrical Science	3
ENSC 3233	Fluid Mechanics	3
<i>Biosystems Engineering</i>		
BAE 1011	Introduction to Biosystems Engineering	1
BAE 1022	Experimental Methods in Biosystems Engineering	2
BAE 2013	Computational Methods in Biosystems Engineering	3
BAE 3033	Advanced Biology and Material Science of Biomaterials	3
Hours Subtotal		33
Major Requirements		
<i>Common Professional School</i>		
STAT 4033 or STAT 4073	Engineering Statistics Engineering Statistics with Design of Experiments	3
IEM 3503	Engineering Economic Analysis	3
BAE 3013	Heat and Mass Transfer in Biological Systems	3
BAE 3023	Instruments and Controls	3
BAE 3213	Energy and Power in Biosystems Engineering	3
BAE 4001	Professional Practice in Biosystems Engineering	1
BAE 4012	Senior Engineering Design Project I	2
BAE 4023	Senior Engineering Design Project II	3
<i>Specific Professional School</i>		
ENSC 2123	Elementary Dynamics	3
BAE 4224	Machinery for Production and Processing	4
BAE 4314	Design Hydrology	4
BAE 4283	Bioprocess Engineering (or)	3
BAE 4413	Food Engineering	
Select one of the following:		3
PLNT 4123	Plant-Environment Interactions	
PLNT 4443	Cropping Systems	
HORT 4963	Horticulture Physiology	
ENVR 4033	Ecology of Invasive Species	
NREM 3013	Applied Ecology and Conservation	
MICR 2123	Introduction to Microbiology	
BIOL 3204	Physiology	
Select 6 hours from upper level BAE or AST courses.		6

Hours Subtotal	44
Total Hours	120

Other Requirements

- A minimum 2.0 Technical GPA. The Technical GPA is calculated from all BAE prefixes or substitutions to BAE courses.
- A grade of "C" or better is required in following courses: BAE 2013, BAE 3013, BAE 3023, BAE 3033, BAE 3213, ENSC 2113, ENSC 2143, ENSC 2213, ENSC 2613, ENSC 3233.
- Students are required to complete the Fundamentals of Engineering (FE) exam prior to graduation.
- A minimum of 40 semester credit hours and 100 grade points must be earned in courses numbered 3000 or above.
- A 2.00 GPA or higher in upper-division hours.

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 2030.