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	•	
English Composition		
_	ulation 3.5 (http://catalog.okstate.edu/ c-regulations/#english-composition)	
ENGL 1113	Composition I	3
or ENGL 1313	Critical Analysis and Writing I	
Select one of the following:		
ENGL 1213	Composition II	
ENGL 1413	Critical Analysis and Writing II	
ENGL 3323	Technical Writing	
American History &	Government	
Select one of the fo	ollowing:	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
Analytical & Quantit	ative Thought (A)	
MATH 2144	Calculus I (A)	4
MATH 2153	Calculus II (A)	3
Humanities (H)		
Courses designated	d (H)	6
Natural Sciences (N		
Must include one L	aboratory Science (L) course	
CHEM 1414	General Chemistry for Engineers (LN)	4
PHYS 2014	University Physics I (LN)	4
Select four hours fr	rom the following:	4
BIOL 1113	Introductory Biology (N)	
& BIOL 1111	and Introductory Biology Laboratory (LN)	
BIOL 1114	Introductory Biology (LN)	
PBIO 1404	Plant Biology (LN)	
Social & Behavioral	Sciences (S)	
Any course designa	ated (S)	3
Additional General E	ducation	
Courses designated (A), (H), (N), or (S)		3
Hours Subtotal		43
Diversity (D) & Inte	rnational 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) Mathematics MATH 2163 Calculus III 3 MATH 2233 Differential Equations 3 Engineering & Engineering Science ENGR 1332 Engineering Design with CAD for MAE 2 ENSC 2113 Statics 3 ENSC 2113 Statics 3 ENSC 2213 Thermodynamics 3 ENSC 22613 Introduction to Electrical Science 3 ENSC 223 Fluid Mechanics 3 Biosystems Engineering BAE 1011 Introduction to Biosystems Engineering 1 BAE 1022 Experimental Methods in Biosystems 2 Engineering BAE 2013 Computational Methods in Biosystems 3 Engineering BAE 3033 Advanced Biology and Material Science of 3 Biomaterials Hours Subtotal Advanced Biology and Material Science of 3 Biomaterials Hours Subtotal School STAT 4033 Engineering Statistics with Design of Experiments EM 3503 Engineering Economic Analysis 3 AF 3013 Heat and Mass Transfer in Biological 3 Systems BAE 3013 Energy and Power in Biosystems 3 Engineering BAE 4001 Professional Practice in Biosystems 2 Engineering BAE 4001 Professional Practice in Biosystems 3 Engineering BAE 4012 Senior Engineering Design Project I 2 BAE 4023 Senior Engineering Design Project I 2 BAE 4024 Machinery for Production and Processing 4 BAE 4283 Bioprocess Engineering (or) 3 BAE 4214 Design Hydrology 4 BAE 4283 Bioprocess Engineering (or) 3 BAE 4214 Machinery for Production and Processing 4 BAE 4215 Plant-Environment Interactions PLNT 4123 Plant-Environment Interactions PLNT 4143 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	College/Departmen	tal Requirements	
MATH 2163 Calculus III 3 MATH 2233 Differential Equations 3 Engineering & Engineering Science ENGR 1332 Engineering Design with CAD for MAE 2 ENSC 2113 Statics 3 ENSC 213 Strength of Materials 3 ENSC 2143 Strength of Materials 3 ENSC 2213 Thermodynamics 3 ENSC 2613 Introduction to Electrical Science 3 ENSC 3233 Fluid Mechanics 3 Biosystems Engineering BAE 1011 Introduction to Biosystems Engineering 1 BAE 1022 Experimental Methods in Biosystems Engineering 2 Engineering BAE 2013 Computational Methods in Biosystems 3 Engineering BAE 3033 Advanced Biology and Material Science of 3 Biomaterials 3 Hours Subtotal 3 Major Requirements Common Professional School STAT 4033 Engineering Statistics with Design of Experiments IEM 3503 Engineering Statistics with Design of Experiments IEM 3503 Engineering Economic Analysis 3 BAE 3013 Heat and Mass Transfer in Biological Systems BAE 3023 Instruments and Controls 3 BAE 3023 Instruments and Controls 3 BAE 3023 Energy and Power in Biosystems 2 Engineering BAE 4001 Professional Practice in Biosystems 3 Engineering BAE 4012 Senior Engineering Design Project I 2 BAE 4023 Senior Engineering Design Project I 3 Specific Professional School ENSC 2123 Elementary Dynamics 3 BAE 4413 Food Engineering Oesign Project II 3 Specific Professional School ENSC 2123 Elementary Dynamics 3 BAE 4224 Machinery for Production and Processing 4 BAE 4283 Bioprocess Engineering (or) 3 BAE 4284 Bioprocess Engineering (or) 3 BAE 4413 Food Engineering Select one of the following: 9 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	UNIV 1111		1
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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	BAE 4224	Machinery for Production and Processing	4
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	BAE 4314	Design Hydrology	4
Select one of the following: 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	BAE 4283	Bioprocess Engineering (or)	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	BAE 4413	Food Engineering	
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 one of the fo	llowing:	3
HORT 4963 Horticulture Physiology ENVR 4033 Ecology of Invasive Species NREM 3013 Applied Ecology and Conservation MICR 2123 Introduction to Microbiology BIOL 3204 Physiology	PLNT 4123	Plant-Environment Interactions	
ENVR 4033 Ecology of Invasive Species NREM 3013 Applied Ecology and Conservation MICR 2123 Introduction to Microbiology BIOL 3204 Physiology	PLNT 4443	Cropping Systems	
NREM 3013 Applied Ecology and Conservation MICR 2123 Introduction to Microbiology BIOL 3204 Physiology	HORT 4963	Horticulture Physiology	
MICR 2123 Introduction to Microbiology BIOL 3204 Physiology	ENVR 4033	Ecology of Invasive Species	
BIOL 3204 Physiology	NREM 3013	Applied Ecology and Conservation	
, , , , , , , , , , , , , , , , , , , ,	MICR 2123	Introduction to Microbiology	
Select 6 hours from upper level BAE or AST courses. 6	BIOL 3204	Physiology	
	Select 6 hours from	upper level BAE or AST courses.	6

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; onefourth 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.