

BIOSYSTEMS ENGINEERING: PRE-MEDICAL, BSBE

Requirements for Students Matriculating in or before Academic Year 2018-2019. 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: 125

| 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 | Composition I ¹ | 3 |
| or ENGL 1313 | Critical Analysis and Writing I | |
| 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 | |
| HIST 1493 | American History Since 1865 | |
| POLS 1113 | American Government | 3 |
| <i>Analytical & Quantitative Thought (A)</i> | | |
| MATH 2144 | Calculus I (A) ¹ | 4 |
| MATH 2153 | Calculus II (A) ¹ | 3 |
| MATH 2163 | Calculus III ¹ | 3 |
| <i>Humanities (H)</i> | | |
| Courses designated (H) | | 6 |
| <i>Natural Sciences (N)</i> | | |
| Must include one Laboratory Science (L) course | | |
| CHEM 1515 | Chemistry II (LN) | 5 |
| BIOL 1114 | Introductory Biology (LN) | 4 |
| <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 Diversity (D) course | | |
| Select at least one International Dimension (I) course | | |
| College/Departmental Requirements | | |
| <i>Basic Science</i> | | |
| PHYS 2014 | University Physics I (LN) ¹ | 4 |
| PHYS 2114 | University Physics II (LN) ¹ | 4 |
| <i>Mathematics</i> | | |
| MATH 2233 | Differential Equations | 3 |

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|---|---|------------|
| <i>Engineering & Engineering Science</i> ² | | |
| ENGR 1332 | Engineering Design with CAD for MAE | 2 |
| ENSC 2113 | Statics ¹ | 3 |
| ENSC 2143 | Strength of Materials | 3 |
| ENSC 2213 | Thermodynamics | 3 |
| ENSC 2613 | Introduction to Electrical Science | 3 |
| ENSC 3233 | Fluid Mechanics ¹ | 3 |
| <i>Biosystems Engineering</i> | | |
| BAE 1012 | Introduction to Biosystems Engineering | 2 |
| BAE 1022 | Experimental Methods in Biosystems Engineering | 2 |
| BAE 2013 | Modeling in Biosystems Engineering ¹ | 3 |
| BAE 3033 | Advanced Biology and Material Science of Biomaterials | 3 |
| Hours Subtotal | | 38 |
| Major Requirements | | |
| <i>Common Professional School</i> | | |
| STAT 4033 | Engineering Statistics | 3 |
| or STAT 4073 | Engineering Statistics with Design of Experiments | |
| 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> | | |
| Select BAE 4000 level (Any Upper Level BAE Classes, at least 5 hrs total) | | 5 |
| CHEM 3053 | Organic Chemistry I | 3 |
| CHEM 3153 | Organic Chemistry II | 3 |
| CHEM 3112 | Organic Chemistry Laboratory | 2 |
| MICR 2123 | Introduction to Microbiology | 3 |
| BIOL 1604 | Animal Biology | 4 |
| BIOC 3653 | Survey of Biochemistry | 3 |
| or MICR 3033 | Cell and Molecular Biology | |
| Hours Subtotal | | 44 |
| Total Hours | | 125 |

¹ Courses that must be completed prior to admission to professional school.

² Complete ENSC 2113 Statics, ENSC 3233 Fluid Mechanics, and 2 other ENSC courses prior to admission to Professional School.

Other Requirements

- Admission to Professional School is required.
- Refer to the OSU Catalog corresponding to your matriculation date for detailed admission requirements.
- A minimum grade of 'C' is required in each course that is a prerequisite for a major course.

- 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 2024.