



BIOSYSTEMS ENGINEERING

ENVIRONMENT & NATURAL RESOURCES OPTION

Course Plan
2024-2025
125 Hours

Year 1

16 Credit Hours

BAE 1011
Intro to Biosystems
1 Hour

UNIV 1111
First Yr. Seminar
1 Hour

Prerequisites:
C or better in one of the following-
MATH 1613
MATH 1715
MATH 1813

MATH 2144
Calculus I
4 Hours
Note 1

MATH 2153
PHYS 2014
ENSC 2113
ENSC 2213

CHEM 1414
Gen Chemistry
4 Hours

ENSC 2213
CIVE 3833
SOIL 2124
BAE 4324

ENGL 1113
Engl Comp I
3 Hours
Notes 2, 3

ENGL 1213

HIST 1103
American Hist
3 Hours
Note 5

14 Credit Hours

BAE 1022
Exper Methods
2 Hours

MATH 2144 **PHYS 2014**
Gen. Physics I
4 Hours

BAE 3033
ENSC 2213
ENSC 2113

MATH 2144 **MATH 2153**
Calculus II
3 Hours

MATH 2163
MATH 2233
IEM 3503
ENSC 2613

ENGR 1332
Or **ENGR 1322**
Engr Design
2 Hours

ENGL 1113 **ENGL 1213**
Engl Comp II
3 Hours
Note 4

Year 2

16 Credit Hours

BAE 2013
Comp Methods
3 Hours

BIOL 1113 & BIOL 1111 or BIOL 1114 or PBIO 1404
4 Hours

BAE 3033

MATH 2153 **MATH 2163**
Calculus III
3 Hours

STAT 4033 or STAT 4073

MATH 2144 **PHYS 2014** **CHEM 1414** **ENSC 2213**
Thermodynamics
3 Hours

BAE 3213

MATH 2144 **PHYS 2014** **ENSC 2113**
Statics
3 Hours

ENSC 2143
ENSC 3233
BAE 4323

16 Credit Hours

BIOL 1113 & BIOL 1111 or BIOL 1114 or PBIO 1404
MATH 2144
PHYS 2014

BAE 3033
Biomaterials
3 Hours

BAE 4314

CHEM 1414 **CIVE 2081**
Environ. Chem.
1 Hour

MATH 2153 **MATH 2233**
Diff Equations
3 Hours

BAE 3013
BAE 3213
BAE 4324

MATH 2153 **ENSC 3233**
Fluid Mech
3 Hours

BAE 3013
BAE 3213
BAE 4314

ENSC 2113 **ENSC 2143**
Strength of Mat'l
3 Hours

BAE 4012

POLS 1113
American Gov't
3 Hours

Other Requirements:

- A minimum 2.0 Technical GPA. The Technical GPA is calculated from all BAE prefixes or substitutions to BAE courses.
- 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.

Patterned = General Education Course

Shaded = Course requires a grade of C or above

Prerequisites

Course No.
Course Name
of Hours
See Note #

Subsequent Courses

NOTES: (F)-offered in Fall, (SP)-offered in Spring

- 1) The prerequisite for MATH 2144 is to score a minimum of 75 on the Math Placement Test or by earning a minimum grade of "C" in MATH 1813 or MATH 1715 or MATH 1613.
- 2) See Academic Regulation 3.5 (<http://catalog.okstate.edu/university-academic-regulations/#english-composition>).
- 3) ENGL 1113 can be replaced with ENGL 1313(F) (Critical Analysis and Writing I).
- 4) ENGL 1213 can be replaced with ENGL 1413 or ENGL 3323.
- 5) HIST 1103 can be replaced with HIST 1483 (H) or HIST 1493 (DH).
- 6) An engineering and/or science elective to be selected from the following list: AST 2313 (F). AST 4203 (F), CIVE 3714 (F,SP), CIVE 3813 (F), CIVE 4013 (SP). Some of these courses may require specific pre-requisites.
- 7) BAE 4001 and BAE 4012 are to be taken concurrently.
- 8) At least 6 hours designated "H," 3 hours designated "S," and 3 hours designated "A," "H," "N" or "S" for a total of 12 hours. Additionally, at least one "D" course and at least one "I" course must be completed.



BIOSYSTEMS ENGINEERING

ENVIRONMENT & NATURAL RESOURCES OPTION

Course Plan
2024-2025
125 Hours

Year 3

Year 4

17 Credit Hours

MATH 2233
BAE 2013
CHEM 1414

BAE 4324
Water Quality
4 Hours

BIOL 1113 &
BIOL 1111 or
BIOL 1114 or
PBIO 1404

**NREM 3013
or NREM
4033**
3 Hours

MATH 2163

**STAT 4033 or
STAT 4073**
Engr Statistics
3 Hours

BAE 4314

MATH 2153

ENSC 2613
Elec. Science
3 Hours

BAE 3023
BAE 3213

CHEM 1414

SOIL 2124
Fund. Of Soil
Science
4 Hours

15 Credit Hours

MATH 2233
ENSC 2613

BAE 3023
Inst. & Ctrls
3 Hours

BAE 4012

MATH 2233
ENSC 3233

BAE 3013
Heat/Mass Trans
3 Hours

BAE 4012

ENSC 2213
ENSC 2613
ENSC 3233

BAE 3213
Energy & Power
3 Hours

BAE 4012

ENSC 2113

BAE 4323
GIS for Wtr Res
3 Hours

CHEM 1414
ENSC 3233

CIVE 3833
Appl'd Hydraulics
3 Hours

16 Credit Hours

BAE 4001
Prof. Practice
1 Hour
Note 7

BAE 4023

Completion or
Concurrent
Enrollment in
ENSC 2143
BAE 3013
BAE 3023
BAE 3213
BAE 4001

BAE 4012
Sr Design I
2 Hours
Note 7

BAE 4023

BAE 3033
ENSC 3233
STAT 4033 or
STAT 4073

BAE 4314
Hydrology
4 Hours

MATH 2153

IEM 3503
Engr Econ
3 Hours

**ENGR OR SCI
ELECTIVE**
3 Hours
Note 6

**Humanities
Course (H)**
3 Hours
Note 8

**International
Dimension
Course (I)**
Note 8

15 Credit Hours

BAE 4001
BAE 4012

BAE 4023
Sr Design II
3 Hours

**ENGR OR SCI
ELECTIVE**
3 Hours
Note 6

**Humanities
Course (H)**
3 Hours
Note 8

**"A," "H," "N,"
or "S" Course**
3 Hours
Note 8

**Social and
Behavioral
Sciences Course
(S)**
3 Hours | Note 8

**Diversity
Course (D)**
Note 8

MATH 2153

ENSC 2613
Elec. Science
3 Hours

BAE 3023
BAE 3213

Patterned = General Education Course

Shaded = Course requires a grade of C or above

Course No.
Course Name
of Hours
See Note #

Subsequent Courses

Prerequisites

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.