



BIOSYSTEMS ENGINEERING

ENVIRONMENT & NATURAL RESOURCES OPTION

Course Plan
2021-2022
123 Hours

Year 1

16 Credit Hours

BAE 1012
Intro Biosystems
2 Hours

BAE 1022

MATH 2144
Calculus 1
4 Hours
Note 1

MATH 2153
PHYS 2014
BAE 2013
ENSC 2113
ENSC 2213

BIOL 1114 or
PBIO 1404
4 Hours

BAE 2013
BAE 3033

HIST 1103
American Hist
3 Hours
Note 2

ENGL 1213

ENGL 1113
Engl Comp 1
3 Hours
Note 3, 4

18 Credit Hours

BAE 1022
Exper Methods
2 Hours

BAE 1012

MATH 2153
Calculus II
3 Hours

MATH 2144

MATH 2163
IEM 3503

PHYS 2014
Gen. Physics I
4 Hours

MATH 2144

BAE 3033
PHYS 2114
ENSC 2213
ENSC 2113

CHEM 1414
Gen Chemistry
4 Hours

ENSC 2213
CIVE 3833

ENGL 1213
Engl Comp II
3 Hours
Note 5

ENGL 1113

ENGR 1332
Engr Design
2 Hours

Patterned = General Education Course

Shaded = Course requires a grade of C or above

Course No.	Subsequent Courses
Course Name	
# of Hours	
See Note #	

Prerequisites

Year 2

16 Credit Hours

BIOL 1114
MATH 2144

BAE 2013
Modeling
3 Hours

MATH 2153

MATH 2163
Calculus III
3 Hours

STAT 4033
or **4073**

PHYS 2014

PHYS 2114
Gen. Physics II
4 Hours

ENSC 2613

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

15 Credit Hours

MATH 2144
BIOL 1114
PHYS 2014

BAE 3033
Biomaterials
3 Hours

BAE 4314

MATH 2153

MATH 2233
Diff Equations
3 Hours

POLS 1113
American Gov't
3 Hours

MATH 2153
ENSC 2113

ENSC 3233
Fluid Mech
3 Hours

BAE 3013
BAE 3213
BAE 4314
CIVE 3833

MATH 2153
PHYS 2114

ENSC 2613
Elec. Science
3 Hours

BAE 3023
BAE 3213

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.

NOTES:

- 1) MATH 2144 needs to be preceded with a minimum score of 75 on the Math Placement Test or with MATH 1513 and MATH 1813, respectively.
- 2) HIST 1103 can be replaced with HIST 1483 (H) or HIST 1493 (DH)
- 3) See Academic Regulation 3.5 (<http://catalog.okstate.edu/university-academic-regulations/#english-composition>)
- 4) ENGL 1113 can be replaced with ENGL 1313 Critical Analysis and Writing I.
- 5) ENGL 1213 can be replaced with ENGL 1413 or ENGL 3323.
- 6) At least 6 hours designated "H", 3 hours designated "S", and 3 hours designated "H", "S", "A" or "N" (A total of 12 hours). Of these, 3 hours need to meet the International Dimension "I" and 3 hours need to meet the Diversity Component "D".
- 7) BAE 4001 and BAE 4012 are to be taken concurrently



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Course Plan
2021-2022
123 Hours

Year 3

17 Credit Hours

PBIO 1404
or
BIOL 1114

NREM 3013
Applied Ecology
3 Hours

ENSC 2143
Strength of Mat'l
3 Hours

BAE 4012

ENSC 2113
Prereq for
SOIL 2124 is
CHEM 1414
Prereq for
CIVE 3714 is
ENSC 2143

**SOIL 2124 or
CIVE 3714**
4 Hours

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

BAE 4314

MATH 2163

GEOL 1114
Phys. Geology
4 Hours

MATH 1483
or 1513

15 Credit Hours

MATH 2233
ENSC 2613

BAE 3023
Inst. & Ctrl's
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

MATH 2153

IEM 3503
Engr Econ
3 Hours

CHEM 1414
ENSC 3233

CIVE 3833
Appl'd Hydraulics
3 Hours

Year 4

13 Credit Hours

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

BAE 4001
Prof. Practice
1 Hours

BAE 4023

BAE 3033
ENSC 3233
STAT 4073

BAE 4314
Hydrology
4 Hours

BAE 4324

*"A", "H", "N",
or "S" Course*
3 Hours
Note 6

*"H", "I", "D"
Course*
3 Hours
Note 6

13 Credit Hours

*"S", "I", "D"
Course*
3 Hours
Note 6

BAE 4001
BAE 4012

BAE 4023
Engr. Design II
3 Hours

CIVE 3843
or
BAE 4314

BAE 4324
Water Quality
4 Hours

*"H", "I", "D"
Course*
3 Hours
Note 6

Master's Programs:

Criteria for admission to the Graduate College to pursue the Master of Science include:

1. Receive a B.S. degree from an accredited institution
 2. Academic performance in undergraduate work at a level that indicates a high probability of success in a graduate program requiring a 3.0/4.0 minimum grade point average
- Or further information, contact the School or the Office of the Dean of Engineering.

A flexible study plan is designed to meet each student's individual goals.

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 2027.