

**Undergraduate Curriculum in Biological Systems Engineering  
Food & Bioprocess Engineering Option**

2024-2025 Catalog

Total Credits 128

**First Year (32 cr.)**

| <b>Semester 1 (16 cr.)</b> |  | <b>Semester 2 (16 cr.)</b> |   |
|----------------------------|--|----------------------------|---|
| R                          | Engr 1010 Orientation (FS)             | 1                          | ABE 1100 Experiencing BSE (S)                   |
| 3                          | ABE 1700 Graphics and Design (FS)      | 3                          | ABE 1600 Engineering Problems (S)               |
| 4                          | Chem 1670 General Chemistry (FS)       | 4                          | Math 1660 Calculus II (FSSS)                    |
| 1                          | Chem 1670L General Chemistry Lab (FS)  | 4                          | Phys 2310 Classical Physics I (FSSS)            |
| 4                          | Math 1650 Calculus I (FSSS)            | 1                          | Phys 2310L Classical Physics I Lab (FS)         |
| 3                          | Engl 1500 Crit. Think. and Comm.(FSSS) | 3                          | Engl 2500 Writ/Oral/Vis/Elec Composition (FSSS) |
| 1                          | Lib 1600 Information Literacy (FSSS)   |                            |   |

**Second Year (31 cr.)**

| <b>Semester 3 (16 cr.)</b> |   | <b>Semester 4 (15 cr.)</b> |  |
|----------------------------|---|----------------------------|--|
| 3                          | ABE 2160 Fund. Ag. and Biol. Engineering (F)    | 2                          | ABE 2180 Project Mgmt/Design Ag & Bio Engr (S) |
| 3                          | CE 2740 Statics of Engineering (FSSS)           | 1                          | ABE 2010 Preparing for the Workplace (FS)      |
| 3                          | Biol 2120 Principles of Biology II (FS)         | 1                          | ABE 2730 2D Auto CAD (FS)                      |
| 3                          | Chem 2310 Elementary Org. Chemistry (FSSS)      | 3                          | M E 2310 Thermodynamics (FSSS)                 |
| 1                          | Chem 2310L Elementary Org. Chemistry Lab (FSSS) | 4                          | Math 2670 Differential Equations (FSSS)        |
| 3                          | → U. S. Cultures & Communities Elective         | 3                          | Micro 3020 Biology of Microorganisms (FSSS)    |
|                            |   | 1                          | Micro 3020L Microbiology Lab (FS)              |

**Third Year (32 cr.)**

| <b>Semester 5 (16 cr.)</b> |   | <b>Semester 6 (16 cr.)</b> |   |
|----------------------------|---|----------------------------|---|
| 3                          | ABE 3160 Applications and Syst Modeling (FS)  | 4                          | ABE 3630 Electric Power and Electronics (FS)  |
| 3                          | ABE 3780 Mechanics of Fluids (FS)             | 3                          | ABE 3800 Principles of BSE (S)                |
| 3                          | FSHN 3110 Food Chemistry (F)                  | 3                          | ABE 4690 Grain Processing and Handling (S)    |
| 1                          | FSHN 3110L Food Chemistry Lab (F)             | 3                          | EM 3240 Mechanics of Materials (FSSS)         |
| 3                          | STAT 3050 Engineering Statistics (FSSS)       | 3                          | I E 3050 Engineering Economic Analysis (FSSS) |
| 1                          | → Lab Elective ( <i>ABE 3780L preferred</i> ) |                            |   |
| 3                          | → Communication Elective (FSSS)               |                            |   |

**Fourth Year (33 cr.)**

| <b>Semester 7 (17 cr.)</b> |  | <b>Semester 8 (16 cr.)</b> |   |
|----------------------------|--|----------------------------|---|
| 2                          | ABE 4150 Ag & Biosystems Engr. Design I (FS)       | 2                          | ABE 4160 Ag & Biosystems Engr. Design II (FS) |
| 3                          | ABE 4040 Instrumentation for Ag and Bio Engr (F)   | 3                          | ABE 4510 Food and Bioprocess Engineering (S)  |
| 3                          | A B E 4500 Emerging Tech. in Biomanufacturing (F)  | 4                          | M E 4360 Heat Transfer (FSSS)                 |
| 3                          | A B E 4800 Engineering Analysis of Bio Systems (F) | 3                          | → SS/H Elective (FSSS)                        |
| 3                          | → Option Elective (F)                              | 3                          | → SS/H Elective (FSSS)                        |
| 3                          | → International Perspectives Elect. (FSSS)         |                            |   |

*\*Please check the current catalog and Schedule of Classes for most recent offerings*