

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

2023-2024 Catalog

Total Credits 128

First Year (32 cr.)

| Semester 1 (16 cr.) | | Semester 2 (16 cr.) | | | |
|----------------------------|-----------|------------------------------|---|-----------|---------------------------------------|
| R | Engr 101 | Orientation (FS) | 1 | A B E 110 | Experiencing BSE (S) |
| 3 | A B E 170 | Graphics and Design (FS) | 3 | A B E 160 | Engineering Problems (S) |
| 4 | Chem 167 | General Chemistry (FS) | 4 | Math 166 | Calculus II (FSSS) |
| 1 | Chem 167L | General Chemistry Lab (FS) | 4 | Phys 231 | Classical Physics I (FSSS) |
| 4 | Math 165 | Calculus I (FSSS) | 1 | Phys 231L | Classical Physics I Lab (FS) |
| 3 | Engl 150 | Crit. Think. and Comm.(FSSS) | 3 | Engl 250 | Writ/Oral/Vis/Elec Composition (FSSS) |
| 1 | Lib 160 | Information Literacy (FSSS) | | | |

Second Year (31 cr.)

| Semester 3 (16 cr.) | | Semester 4 (15 cr.) | | | |
|----------------------------|-----------|--------------------------------------|---|------------|---------------------------------------|
| 3 | A B E 216 | Fund. Ag. and Biol. Engineering (F) | 2 | A B E 218 | Project Mgmt/Design Ag & Bio Engr (S) |
| 3 | C E 274 | Statics of Engineering (FSSS) | 1 | A B E 201 | Preparing for the Workplace (FS) |
| 3 | Biol 212 | Principles of Biology II (FS) | 1 | A B E 273 | 2D Auto CAD (FS) |
| 3 | Chem 231 | Elementary Org. Chemistry (FSSS) | 3 | M E 231 | Thermodynamics (FSSS) |
| 1 | Chem 231L | Elementary Org. Chemistry Lab (FSSS) | 4 | Math 267 | Differential Equations (FSSS) |
| 3 | → | U. S. Diversity Elective (FSSS) | 3 | Micro 302 | Biology of Microorganisms (FSSS) |
| | | | 1 | Micro 302L | Microbiology Lab (FS) |

Third Year (32 cr.)

| Semester 5 (17 cr.) | | Semester 6 (16 cr.) | | | |
|----------------------------|------------|--|---|-----------|--------------------------------------|
| 3 | A B E 316 | Applications and Systems Modeling (FS) | 4 | A B E 363 | Electric Power and Electronics (FS) |
| 3 | A B E 378 | Mechanics of Fluids (FS) | 3 | A B E 380 | Principles of BSE (S) |
| 3 | FS HN 311 | Food Chemistry (F) | 3 | A B E 469 | Grain Processing and Handling (S) |
| 1 | FS HN 311L | Food Chemistry Lab (F) | 3 | E M 324 | Mechanics of Materials (FSSS) |
| 3 | STAT 305 | Engineering Statistics (FSSS) | 3 | I E 305 | Engineering Economic Analysis (FSSS) |
| 3 | → | Communication Elective (FSSS) | | | |
| 1 | → | Lab Elective (ABE 378L preferred) | | | |

Fourth Year (33 cr.)

| Semester 7 (17 cr.) | | Semester 8 (15 cr.) | | | |
|----------------------------|------------|--|---|-----------|--------------------------------------|
| 2 | A B E 415 | Ag & Biosystems Engr. Design I (FS) | 2 | A B E 416 | Ag & Biosystems Engr. Design II (FS) |
| 3 | A B E 404 | Instrumentation for Ag and Bio Engr (F) | 3 | A B E 451 | Food and Bioprocess Engineering (S) |
| 3 | A B E 450X | Emerging Tech. in Biomanufacturing (F) | 4 | M E 436 | Heat Transfer (FSSS) |
| 3 | A B E 480 | 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*