Biological Systems Engineering Flowchart, 2017-2018 (128 credits)
Open Option

**SEMESTER**

1. **ENGR 101** Orientation 1 cr F/S
   - **ABE 170** Engr Graphics 3 cr F/S
   - **ENGL 150** Crit Thinking 3 cr F/S/S
   - **LIB 160** Lib Instruction 1 cr F/S/S
   - **MATH 165** Calc I 4 cr F/S/S
   - **CHEM 167** Engr Chem 4 cr F/S

2. **ABE 110** Exp ABE 1 cr S
   - **ABE 160** Engr Prob Solving 3 cr F/S/S
   - **ENGL 250** Composition 3 cr F/S/S
   - **MATH 166** Calc II 4 cr F/S/S
   - **PHYS 221** Class Phys I 5 cr F/S/S

3. **ABE 216** Fund of ABE 3 cr F
   - **BIOL 212** Gen Biol II 3 cr F/S/S
   - **US Diversity** 3 cr F/S/S
   - **EM 274** Stat of Engr 3 cr F/S/S
   - **CHEM Sequence I w/ lab** 4 cr

4. **ABE 218** Mgmt & Dsn 2 cr S
   - **A B E 273** 2D AutoCAD 1 cr F/S
   - **MATH 267** Diff Eq w/ Laplace 4 cr F/S/S
   - **A B E 201** Work Prep 1 cr F/S/S
   - **ME 231** Thermodynamics 3 cr F/S/S

5. **A B E 316** Apld Num Methods 3 cr F/S
   - **MICRO 302L** Lab 1 cr F/S
   - **MICRO 302** Biol of Micro 3 cr F/S/S
   - **EM 378** Mech of Fluids 3 cr F/S/S
   - **STAT 305** Engr Stat 3 cr F/S/S

6. **ABE 380** Principles of BSE 3 cr S
   - **Sequence Elect I** 3 cr
   - **A B E 363** Ag Elect Power 3 cr F/S
   - **EM 324** Mech of Matl 3 cr F/S/S
   - **TE 305** Engr Econ 3 cr F/S/S

7. **A B E 415** Ag Engr Dsn I 2 cr F/S
   - **ABE 480** Engr An of Biol Sys 3 cr F
   - **A B E 404** Instrumentation 3 cr F
   - **Sequence Elect II** 3 cr
   - **SS & H Elective** 3 cr S or better

8. **A B E 416** Ag Engr Dsn II 2 cr F/S
   - **Sequence Elect III** 3 cr
   - **A B E 451** Food Engr 3 cr S
   - **M E 436** Heat Transfer 4 cr F/S/S
   - **E M 327** Lab 1 cr F/S/S

**LEGEND**

- **Pre-Requisite**: Course
- **Co-Requisite**: Course
- **Basic Program**: Check with your adviser or go to the ABE Website for more information regarding electives.
- **Semesters Offered**
  - F = Fall Session
  - S = Spring Session
  - SS = Summer Session

This Flowchart is only a guide. For more detailed information, including prerequisites and co-requisites, see the ISU catalog.