I. **Communications** (10 credits)
   - 3 cr. ENGL 150 (FSSS) Critical Thinking and Communication
   - 3 cr. ENGL 250 (FSSS) Written, Oral, Visual, and Electronic Composition
   - 3 cr. Comm. Elective Select one of the courses below:
     - ENGL 309 (FS) Report and Proposal Writing
     - ENGL 314 (FSSS) Technical Communication
     - MKT 343 (FS) Personal Sales
     - SP CM 212 (FSSS) Fundamentals of Public Speaking
     - AG EDS 311 (FS) Presentation and Sales Strategies for Ag Audiences
   - 1 cr. LIB 160 (FSSS) Information Literacy

II. **Mathematical Sciences** (15 credits)
   - 4 cr. MATH 165 (FSSS) Calculus I
   - 4 cr. MATH 166 (FSSS) Calculus II
   - 4 cr. MATH 267 (FSSS) Elementary Differential Equations and Laplace Transforms
   - 3 cr. STAT 305 (FSSS) Engineering Statistics

III. **Biological and Physical Science Common Core** (22 credits)
   - 4 cr. CHEM 167 (FS) General Chemistry for Engineering Students or CHEM 177 and 178 (FS) General Chemistry I and II
   - 1 cr. CHEM 167L (FS) Laboratory in General Chemistry for Engineers or CHEM 177L (FS) Laboratory in General Chemistry I
   - 5 cr. PHYS 221 (FSSS) Introduction to Classical Physics I
   - 5 cr. PHYS 222 (FSSS) Introduction to Classical Physics II
   - 3 cr. BIOL 212 (FSSS) Principles of Biology II
   - 3 cr. MICRO 302 (FS) Biology of Microorganisms
   - 1 cr. MICRO 302L (FS) Microbiology Laboratory

IV. **Social Sciences and Humanities** (12 credits)
   - 3 cr. U. S. Diversity Course
   - 3 cr. International Perspective Course
   - 6 cr. Social Science and Humanities Electives (Select from departmental-approved list).

V. **Engineering Core** (23 credits)
   - R cr. ENGR 101 (FS) Engineering Orientation
   - 1 cr. A B E 110 (S) Experiencing Biological Systems Engineering
   - 3 cr. A B E 160 (FS) Engineering Problems with Computer Applications Laboratory
   - 3 cr. A B E 170 (FS) Engineering Graphics and Introductory Design
   - 3 cr. E M 274 (FSSS) Statics of Engineering
   - 3 cr. E M 324 (FSSS) Mechanics of Materials
   - 1 cr. E M 327 (FSSS) Mechanics of Materials Laboratory
   - 3 cr. M E 231 (FSSS) Engineering Thermodynamics I
   - 6 cr. Heat/Mass Transport Seq. Select one of the sequences below:
     - E M 378 & M E 436 Mechanics of Fluids & Heat Transfer
     - CH E 356 & CH E 357 Transport Phenomena I & II
VI. Biological Systems Engineering Core (26 credits)
1 cr. A B E 201 (FS) Preparing for Workplace Seminar
3 cr. A B E 216 (F) Fundamentals of Agricultural and Biosystems Engineering
2 cr. A B E 218 (S) Project Management & Design in Agricultural and Biosystems Engineering
3 cr. A B E 316 (F) Applied Numerical Methods for Agricultural and Biosystems Engineering
4 cr. A B E 363 (F) Agri-Industrial Applications of Electric Power and Electronics
3 cr. A B E 380 (S) Principles of Biological Systems Engineering
3 cr. A B E 404 (F) Instrumentation for Agricultural and Biosystems Engineering
2 cr. A B E 415 (FS) Agricultural and Biosystemss Engineering Design I
2 cr. A B E 416 (FS) Agricultural and Biosystems Engineering Design II
3 cr. A B E 480 (F) Engineering Analysis of Biological Systems

VII. Pre-Professional and Pre-Graduate Option (20 credits)
3 cr. CHEM 331 (FS) Organic Chemistry
1 cr. CHEM 331L (FS) Laboratory in Organic Chemistry
3 cr. CHEM 332 (FS) Organic Chemistry
1 cr. CHEM 332L (FS) Laboratory in Organic Chemistry
3 cr. Modeling/Sim. Elect. Select one of the courses below:
   A B E 403 (S, odd yrs) Modeling and Controls for Agricultural Systems
   I E 312 (F) Optimization
   M E 421 (F) System Dynamics and Control

Sequence I, II &II. Select 8-9 credits of 200 level or above in a two to three course sequence:
8 cr. BIOL 255 + Lab, 256 + Lab Human Physiology Sequence
8 cr. BIOL 313+Lab, 314 + Lab Molecular Biology Sequence
9 cr. BBMB 404,405, & 411 Biochemistry Sequence
9 cr. COM S 207, BCBIO 401 & 402 Bioinformatics Sequence
9 cr. MGMT 310, 313, 414 or 419 Management Sequence
9 cr. JL MC 201, 202 & 347 Science Writing Sequence
9 cr. POL S 215, 319, & 320 Political Science Sequence
9 cr. A B E 388, AGRON 342, ME 484 Globalization Sequence
1 cr A B E 273 CAD for Process Facilities and Land Use Planning
1 cr A B E 418 Fundamentals of Engineering Review

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