I. **Communications (9.5 credits)**
   - 3 cr. Engl 150 (FSSS) Critical Thinking and Communication
   - 3 cr. Engl 250 (FSSS) Written, Oral, Visual, and Electronic Composition
   - 3 cr. Engl 309 (FS) Report and Proposal Writing
     or 3 cr. Engl 314 (FS) Technical Communication
     or 3 cr. CE 205 (FS) Economic Analysis and Technical Communication
     or 3 cr. Sp Cm 212 (FSSS) Fundamentals of Public Speaking
     or 3 cr. Ag Eds 311 (FS) Presentation and Sales Strategies for Ag Audiences
   - 0.5 cr. Lib 160 (FSSS) Library Instruction

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
    - 1 cr. Chem 167L (FS) Laboratory in General Chemistry for Engineers
    - 5 cr. Phys 221 (FSSS) Introduction to Classical Physics I
    - 5 cr. Phys 222 (FSSS) Introduction to Classical Physics II
    - 3 cr. Biol 212 (FS) Principles of Biology II
    - 3 cr. Micro 302 (FS) Biology of Microorganisms
    - 1 cr. Micro 302L (FS) Microbiology lab

V. **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).

VI. **Engineering Core (23 credits)**
    - R cr. Engr 101 (FS) Engineering Orientation
    - 1 cr. BSE 110 (S) Experiencing Biological Systems Engineering
    - 3 cr. Engr 160 (FS) Engineering Problems with Computer Applications Laboratory
    - 3 cr. Engr 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 330 (FS) Thermodynamics
    - 3 cr. Ch E 356 (FS) Transport Phenomena I
    - 3 cr. Ch E 357 (FS) Transport Phenomena II
VII. Biological Systems Engineering Core (26 credits)
1 cr. BSE 201 (FS) Entrepreneurship Seminar
3 cr. BSE 216 (S) Fundamentals of Agricultural and Biological Engineering
1 cr. BSE 301 (FS) Leadership and Ethics Seminar
3 cr. BSE 316 (F) Computer Applications and Systems Modeling
4 cr. A E 363 (F) Agri-Industrial Applications of Electric Power and Electronics
3 cr. BSE 380 (S) Principles of Biological Systems Engineering
1 cr. BSE 401 (FS) Professionalism Seminar
3 cr. A E 404 (F) Instrumentation for Agricultural and Biological Engineering
2 cr. BSE 415 (FS) Biological Systems Engineering Design I
2 cr. BSE 416 (FS) Biological Systems Engineering Design II
3 cr. BSE 480 (F) Engineering Analysis of Biological Systems

VIII. Pre-Professional and Pre-Graduate Option (19-20 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

Select 3 credits from:
3 cr. BSE 403 (Alt. S) Process Modeling and control for Biosystems Engineering
3 cr. A E 406 (F) Applied Computational Intelligence for Agricultural and Biological Systems

Select 8-9 credits of 200 level or above in a two to three course sequence:
8 cr. Biol 255,256 + Lab Human Physiology Sequence
8 cr. BBMB 404,405, & 451 Biochemistry Sequence
9 cr. Com S 207, BCBio 401, & 402 Bioinformatics Sequence
9 cr. Mgmt 310, 313, 414 or 419 Management Sequence
9 cr. JI MC 201, 202 & 347 Science Writing Sequence
9 cr. Pol S 215, 319, & 320 Political Science Sequence
9 cr. A E 388, Agron 342, M E 484 Globalization Sequence