BIOLOGICAL SYSTEMS ENGINEERING CURRICULUM
BIOENVIRONMENTAL ENGINEERING OPTION
A total of 127.5 credits required for graduation
(2009-2011 Catalog)

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. Bioenvironmental Engineering Option (20 credits)

3 cr.	Chem 231 (FS)	Elementary Organic Chemistry
1 cr.	Chem 231L (FS)	Laboratory in Elementary Organic Chemistry
2 cr.	Chem 211 (FS)	Quantitative and Environmental Analysis
2 cr.	Chem 211 L (FS)	Quantitative and Environmental Analysis Laboratory
3 cr.	C E 326 (FS)	Principles of Environmental Engineering
3 cr.	A E 431 (F)	Design and Evaluation of Soil and Water Conservation Systems

Select 3 credits from the following:

3 cr.	A E 436 (Alt. S)	Design and Evaluation of Soil and Water Monitoring Systems
3 cr.	C E 421 (F)	Environmental Biotechnology
3 cr.	C E 428 (S)	Water and Wastewater Treatment Plant Design
4 cr.	En Sci 381 (F)	Environmental Systems

Select 3 credits from the following:

3 cr.	Biol 312 (FSS)	Ecology
3 cr.	TSM 310 (S)	Total Quality Improvement
3 cr.	A E 388 (F)	Sustainable Engineering and International Development
3 cr.	A E 406 (Alt. F)	Applied Computational Intelligence for Agricultural & Biological Systems
3 cr.	Ch E 406 (F)	Environmental Chemodynamics
3 cr.	Agron 405 (Alt. S)	Environmental Biophysics (Biometeorology)