

**Undergraduate Curriculum in Biological Systems Engineering
Biorenewable Resources Engineering Option**

2009-2011 Catalog

Total Credits 127.5

First Year (31.5 cr.)

Semester 1 (15.5 cr.)		Semester 2 (16 cr.)	
R	Engr101	Orientation (FS)	1 BSE 110
3	Engr 170	Graphics and Design (FS)	3 Engr 160
4	Math 165	Calculus I (FS)	4 Math 166
4	Chem 167	General Chemistry (FS)	5 Phys 221
1	Chem 167L	General Chemistry Lab (FS)	3
3	Engl 150	Crit. Think. and Comm.(FSSS)	
.5	Lib 160	Library Instruction (FSSS)	
			Experiencing BSE (S)
			Engineering Problems (FS)
			Calculus II (FS)
			Classical Physics I (FSSS)
			SS&H Elective (FSSS)

Second Year (32 cr.)

Semester 3 (17 cr.)		Semester 4 (15 cr.)	
3	EM 274	Statics of Engineering (FSSS)	1 BSE 201
3	Stat 305	Engineering Statistics (FSSS)	3 BSE 216
5	Phys 222	Classical Physics II (FSSS)	3 EM 324
3	Biol 212	Principles of Biology II (FS)	1 EM 327
3		SS&H Elective (FSSS)	3 Engl 250
			4 Math 267
			Entrepreneurship Seminar (FS)
			Fund. Ag. and Biol. Engineering (S)
			Mechanics of Materials (FSSS)
			Mechanics of Materials Lab (FSSS)
			Writ/Oral/Vis/Elec Composition (FS)
			Differential Equations (FSSS)

Third Year (31 cr.)

Semester 5 (14 cr.)		Semester 6 (17 cr.)	
4	AE 363	Electric Power and Electronics (F)	1 BSE 301
3	BSE 316	Applications and Systems Modeling (F)	3 ChE 356
3	Chem 331	Organic Chemistry (FS)	3 Micro 302
1	Chem 331L	Organic Chemistry Lab(FS)	1 Micro 302L
3	AE 388	Sustain Engr. and Int Dev (F)	3 BSE 380
			3 Chem 332
			3 ME 330
			Leadership and Ethics Seminar (FS)
			Transport Phenomena I (FS)
			Biology of Microorganisms (FS)
			Microbiology lab (FS)
			Principles of BSE (S)
			Organic Chemistry (FS)
			Thermodynamics (FS)

Fourth Year (33 cr.)

Semester 7 (16 cr.)		Semester 8 (17 cr.)	
1	BSE 401	Professionalism Seminar (FS)	2 BSE 416
3	AE 404	Instrumentation for Ag and Bio Engr (F)	3 AE(BSE) 403
2	BSE 415	Biological Systems Engr. Design I (FS)	3
3	ChE 357	Transport Phenomena II (FS)	3
3	BSE 480	Engineering Analysis of Bio Systems (F)	3
4		Biorenewable Elective I (FSSS)	3
			BSE Design II (FS)
			Process Modeling & Control for Biosys Engr (Alt. S)
			Biorenewable Elective II (FSSS)
			Diversity Elective(FSSS)
			International Perspectives Elective (FSSS)
			Communication Elective (FSSS)