

BIOLOGICAL & AGRICULTURAL ENGINEERING

KANSAS STATE UNIVERSITY

Bachelor of Science in Biological and Agricultural Engineering

130 hours required for graduation

MACHINERY OPTION

Freshman		Sem.
Fall Semester	COURSE	hrs.
DEN 015	New Student Orientation	0
CHM 210	Chemistry I	4
ECON 110	Principles of Macroeconomics.....	3
MATH 220	Analytic Geometry and Calculus I	4
SPCH 105	Public Speaking 1A	2
BAE 200	Intro. to Biol. and Agric. Engg. Tech.....	2
BAE 020	Engineering Assembly.....	0
		15

Freshman		Sem.
Spring Semester	COURSE	hrs.
MATH 221	Analytic Geometry and Calculus II	4
ENGL 100	Expository Writing I	3
CHM 230	Chemistry II	4
BIOL 198	Principles of Biology.....	4
BAE 020	Engineering Assembly	0
		15

Sophomore		Sem.
Fall Semester	COURSE	hrs.
MATH 222	Analytic Geometry and Calculus III	4
PHYS 213	Engineering Physics I.....	5
ME 212	Engineering Graphics	2
	Humanities or Social Science Electives ^a	3
BAE 350	Agricultural Machinery Systems	2
BAE 351	Agricultural Machinery Systems Lab	1
BAE 020	Engineering Assembly.....	0
		17

Sophomore		Sem.
Spring Semester	COURSE	hrs.
MATH 240	Elementary Differential Equations.....	4
PHYS 214	Engineering Physics II.....	5
BAE 500	Properties of Biological Materials.....	2
CE 333	Statics	3
DEN 275	Intro to Personal & Professional Develop	1
CIS 209	C/C++ Programming for Engineers.....	3
BAE 020	Engineering Assembly	0
		18

Junior		Sem.
Fall Semester	COURSE	hrs.
CE 533	Mechanics of Materials.....	3
ME 512	Dynamics.....	3
CHM 350	General Organic Chemistry	3
STAT 490	Statistics for Engineers.....	1
	Humanities or Social Science Electives ^a	3
	Biology Elective	3
BAE 020	Engineering Assembly.....	0
		16

Junior		Sem.
Spring Semester	COURSE	hrs.
EECE 519	Electric Circuits and Control.....	4
ME 571	Fluid Mechanics	3
ME 513	Thermodynamics I.....	3
ME 533	Machine Design I	3
CE 522 ^d	Soil Mechanics I	3
BAE 020	Engineering Assembly	0
		16

Senior		Sem.
Fall Semester	COURSE	hrs.
BAE 535	Fund of Structures and Environ Engg	3
BAE 651	Air Pollution Engineering	
	or	
BAE 530	Natural Resource Engineering (Spring semester course, if taken, use 3 hr Tech Elective in the fall)	
	or	
BAE 575	Fundamentals of Agric. Process Engineering ..	3
ENGL 415	Written Communication for Engineers ^c	3
BAE 536	Agricultural Engineering Design I	2
	Technical Electives.....	3
IMSE 530	Engineering Economic Analysis	2
BAE 020	Engineering Assembly.....	0
		16

Senior		Sem.
Spring Semester	COURSE	hrs.
BAE 640	Instrumentation and Control for Bio Sys	3
BAE 636	Agricultural Engineering Design II.....	2
	(or approved capstone course)	
BAE 650	Energy and Biofuel Engineering.....	3
	Machinery Technical Elective.....	6
	Humanities or Social Science Electives ^a	3
BAE 020	Engineering Assembly	0
		17

^aHumanities & social science electives are to be selected from the approved list and need not be taken in order listed in the curriculum (2 courses must be 300 level or above).

^bTechnical, science, and biology electives are to be chosen with the advice and approval of the faculty advisor and department head.

^cPrerequisites for Written Communication for Engineers (ENGL 415) must be met from Expository Writing I or II. If both ENGL 100 and ENGL 200 must be taken, the additional 3 hours do not count towards the 130 hours required for graduation.

^dStudents may take either CE 522 (3) or AGRON 305 (4)