

B.S. in Agricultural Engineering
130 Semester hours

Freshman (31)

ENGR 1120-Engr. Graphics and Design	3	PHYS 1211 & L – Physics	4
ENGR 1140 - Comput. Engr. Methods	2	CHEM 1212 & L - Frsh Chem II	4
ENGL 1101 - English Comp.	3	ENGL 1102 - English Comp.	3
CHEM 1211 & L - Frsh. Chem. I	4	MATH 2260 - Integral Calculus	4
MATH 2250 - Anal. Geo. & Calc.	4		
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	16		15

Sophomore (34)

ENGR 2110 - Engr. Dec. Making	3	ENGR 2130 - Dynamics	3
ENGR 2120 - Statics*	3	ENGR 2140 - Str. of Matls.	3
BIOL 1107 - Biology	4	ENGR 3160 - Fluid Mech.	3
PHYS 1212 & L - Physics	4	ENGR 2170 - Elec. Circuits	3
MATH 2500 - Calculus	3	ENGR 2920 - Engr. Design Meth.*	2
(check for special sections for engineers)		MATH 2700 - Diff. Equations	3
		(check for special sections for engineers)	
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	17		17

Junior (34)

ENGR 3140 -Thermodyn.	2	ENGR 4240 - Microcontr.	3
ENGR 3150 - Heat Transf.	3	ENGR - Option/Area	3
ENGR 4230 - Sensors/Transd.	3	ENGR - Option/Area	3
ENGR - Option/Area**	3	ENGR - Option/Area	3
ENGR - Option/Area	3	English Lit***	3
SPCM 1100 - Speech	3	Free Elective	2
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	17		17

Senior (31)

ENGR - Option/Area	3	ENGR 4920 - Engr. Design	4
ENGR - Option/Area	3	ENGR - Option/Area	3
ENGR - Option/Area	3	ENGR - Option/Area	3
Social Science****	3	Social Science****	3
Social Science****	3	Social Science****	3
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	15		16

*Competency in a computer programming language is a co-requisite for **ENGR 2120 and 2920**. **ENGR 1140** "Computational Engineering Methods" (2 semester hours) will satisfy that requirement.

**Select 15 hours of Option Courses and 15 hours of Area of Emphasis courses (see attached lists)

***Select 3 hours. The following satisfy the Cultural Diversity requirement: CMLT 2111, 2400, 2500; ENGL 2400

****The Area E social science requirement (12 hours) usually includes POLS 1101 and HIST 2111 (or 2112) in order to satisfy the Regents requirements. One of the four courses in Area E must satisfy the Cultural Diversity requirement: AFAM 2000; ANTH 1102; HIST 2051, 2221, 2601, 2701; GEOG 1101, 1103; WMST 1110; SOCI 2820

Area C (SPCM 1100 and English Lit.) and Area E (social sciences) courses may be taken any term, not necessarily in the order shown.

One semester hour of Physical Education is required in addition to the 130 hours for this degree.

**BSAE
OPTION COURSES (15 hrs.)**

Choose 15 hours (five 3-hour courses) from the following option courses:

Note: Some courses will be required for specific areas of emphasis

ENGR 3120 Spatial Data Analysis (Surveying, GIS, GPS)
ENGR 3270 Electronics I
ENGR 3300 Mechanism and Machine Kinematics
ENGR 3410 Intro. to Natural Resource Engineering
ENGR 3540 Physical Unit Operations
ENGR 3610 Structural Design
ENGR 4650 Control of Structural Environments I
ENGR 4440 Environmental Engineering Unit Operations
ENGR 3520 Mass Transport and Rate Phenomena
ENGR 4161/L Environmental Microclimatology

**BSAE
AREA OF EMPHASIS COURSES (15 hrs.)**

Electrical & Electronic Systems

Option Courses:

ENGR 3270 Electronics I
(and select four additional courses from the above list)

Required Area of Emphasis Courses (12 hrs):

~~ENGR 3210 Electrical Machines & Power Distr.~~ (course not offered due to the lack of faculty choose an elective as a replacement)
ENGR 4210 Linear Systems
ENGR 4220 Feedback Controls
ENGR 4250 Advanced Microcontrollers

Elective Area of Emphasis Courses: (Select 3 hrs.)

ENGR 4480 Instrumentation for Environmental Quality
ENGR 4540 Applied Machine Vision
ENGR 4140 Introduction to Systems Modeling

Mechanical Systems

Option Courses:

ENGR 3270 Electronics I
ENGR 3300 Mechanisms and Machine Kinematics
(and select three additional courses from the above list)

Required Area of Emphasis Courses (6 hrs.):

ENGR 4300 Mechanical Systems
~~ENGR 4340 Machine Hydraulics~~ (course not offered due to the lack of faculty choose an elective as a replacement)

ENGR 4350 Introduction to Finite Element Analysis

Elective Area of Emphasis Courses (Select 9 hrs.):

ENGR 4210 Linear Systems
ENGR 4220 Feedback Control Systems
ENGR 4250 Advanced Microcontrollers
ENGR 4940 Introduction to Systems Modeling
ENGR 4540 Applied Machine Vision

Natural Resource Management

Option Courses:

ENGR 3120 Spatial Data Analysis
ENGR 3410 Intro. to Natural Resource Engineering
(and select three additional courses from the above list)

Required Area of Emphasis Courses (6 hrs.):

ENGR 3440 Water Management
ENGR 4650 Control of Structural Environments I

Elective Area of Emphasis Courses (Select 9 hrs.):

ENGR 3420 Introduction to Soil Mechanics
ENGR 4170 Soils and Hydrology Field Trip **or** FORS 4120 Quantitative Methods in Hydrology
ENGR 4480 Instrumentation for Environmental Quality
ENGR 4140 Introduction to Systems Modeling
CRSS 3060 Soils and Hydrology
CRSS 4600 Soil Physics

Process Operations

Option Courses:

ENGR 3270 Electronics I
ENGR 3540 Physical Unit Operations
(and select three additional courses from the above list)

Required Area of Emphasis Courses (12 hrs.):

ENGR 4210 Linear Systems
ENGR 4220 Feedback Control Systems
~~ENGR 4550 Processing Plant Design~~ (course not offered due to the lack of faculty choose an elective as a replacement)
ENGR 4140 Introduction to Systems Modeling

Elective Area of Emphasis Courses (Select 3 hrs.):

~~ENGR 3210 Electrical Machines & Power Distr.~~ (course not offered due to the lack of faculty choose an elective as a replacement)
ENGR 4250 Advanced Microcontrollers
ENGR 4540 Applied Machine Vision
FDST 4010 Food Processing
FDST 4050 Food Engineering Fundamentals I
FDST 4060 Food Engineering Fundamentals II
FDST 4090 Food Quality Control
FORS 3500 Wood Properties and Utilization
MGMT 3000 Management of Organizations and Individuals
MGMT 4000 Integrated Resource Management
MGMT 4240 Quality Management
MGMT 4250 Productivity Management
POUL 4860 Poultry Processing

Structural Systems

Option Courses:

ENGR 3610 Structural Design
ENGR 4650 Control of Structural Environments I
and select three additional courses from the above list

Required Area of Emphasis Courses (6 hrs.):

ENGR 4610 Design of Light Frame Steel Structures
ENGR 4630 Design of Residential Structures

Elective Area of Emphasis Courses (select 9 hrs.):

ENGR 4660 Sustainable Building Design (**recommended** course)
ENGR 3420 Introduction to Soil Mechanics
ENGR 3440 Water Management
ENGR 4350 Introduction to Finite Element Analysis
ENGR 4220 Feedback Control Systems
ENGR 4250 Advanced Microcontrollers
~~ENGR 4330 Plastics and Composites~~ (course not offered due to the lack of faculty choose an elective as a replacement)
ENGR 4480 Instrumentation for Environmental Quality

