B.S. in Agricultural Engineering – Fall 2010 and After

Year One

Fall Semester		**Spring Semester**	
Course	**Credit Hours**	**Course**	**Credit Hours**
ENGR 1120 Graphics and Design	3	ENGR 1140 Comp. Methods	2
ENGR 2100 Principles of Systems Engr.	3	ENGR 2110 Engr. Dec. Making	3
ENGL 1101 English Comp. I	3	ENGL 1102 - English Comp. II	3
CHEM 1211 & L Chemistry I	4	MATH 2260 - Integral Calculus	4
MATH 2250 Calculus I	4	PHYS 1211 & L Physics I	4
Total Credit Hours	**17**	**Total Credit Hours**	**16**

Year Two

Fall Semester		**Spring Semester**	
Course	**Credit Hours**	**Course**	**Credit Hours**
ENGR 2120 Statics	3	ENGR 2170 Electrical Circuits	3
BIOL 1107 & L Biology I	4	ENGR 2920 Engr. Design Meth.	2
PHYS 1212 & L Physics II	4	ENVE 3510 Modeling, Stat. Analysis	3
MATH 2500 – Calculus III	3	MATH 2700 Diff. Equations	3
Major Related Elective*	3	POLS 1101 Political Science	3
		Social Science Elective	3
Total Credit Hours	**17**	**Total Credit Hours**	**17**

***Major Related Elective:** Select from ANTH 1102 Introduction to Anthropology, FANR 2200 International Issues in Natural Resources & Conservation, or GEOG 1125 Resources, Society & the Environment

Year Three

Fall Semester		**Spring Semester**	
Course	**Credit Hours**	**Course**	**Credit Hours**
ENGR 3140 Thermodynamics	2	ENGR 4140 Systems Modeling	3
ENGR 3150 Heat Transfer	3	ENGR Area Course	3
ENGR 3160 Fluid Mechanics	3	ENGR Area Course	3
ENGR 2180 Intro Model Dyn. Syst.	3	ENGR Area Course	3
ENGR Area Course**	3	World Language & Culture	3
World Language & Culture	3		
Total Credit Hours	**17**	**Total Credit Hours**	**15**

Year Four

Fall Semester		**Spring Semester**	
Course	**Credit Hours**	**Course**	**Credit Hours**
ENGR Area Course	3	ENGR 4920 Engr. Design	4
ENGR Area Course	3	ENGR Area Course	3
ENGR Area Course	3	ENGR Area Course	3
SPCM 1100 Intro Public Speaking	3	ENGR Area Course	3
HIST 2111/2112 American History	3	World Language & Culture	3
Total Credit Hours	**15**	**Total Credit Hours**	**16**

** **BSAE AREA OF EMPHASIS COURSES** -- **30 credit hours**. Required Area of Emphasis Courses (21 hours) and 9 hours of Elective Area courses (see attached lists)

ELECTRICAL & ELECTRONIC SYSTEMS

Required Area of Emphasis Courses (21 hours):

ENGR 3270	Electronics I	ENGR 4240	Intro Microcontrollers
ENGR 4210	Linear Systems	ENGR 4250	Advanced Microcontrollers
ENGR 4220	Feedback Controls	ENGR 4270	Electronics II
ENGR 4230	Sensors & Transducers		

Elective Area of Emphasis Courses: (Select 9 hours):

ENGR 3520	Mass Transport and Rate Phenomena	ENGR 4540	Applied Machine Vision
ENGR 3540	Physical Unit Operations	ENGR 4650	Control Structural Environments
ENGR 4260	Introduction to Nanoelectronics	ENGR 4660	Sustainable Building Design
ENGR 4310	Embedded Robotics	ENGG 4620	Biomedical Imaging

MECHANICAL SYSTEMS

Required Area of Emphasis Courses (21 hours):

ENGR 2130	Dynamics	ENGR 4300	Mechanical Systems
ENGR 2140	Strength of Materials	ENGR 4340	Machine Hydraulics
ENGR 3270	Electronics I	ENGR 4350	Intro to Finite Element Analysis
ENGR 3300	Mechanisms & Machine Kinematics		

Elective Area of Emphasis Courses (Select 9 hours):

ENGR 3520	Mass Transport and Rate Phenomena	ENGR 4250	Advanced Microcontrollers
ENGR 3540	Physical Unit Operations	ENGR 4310	Embedded Robotics
ENGR 3610	Structural Design	ENGR 4490	Renewable Energy Engineering
ENGR 4210	Linear Systems	ENGR 4540	Applied Machine Vision
ENGR 4220	Feedback Control Systems	ENGR 4650	Control Structural Environments
ENGR 4230	Sensors & Transducers	ENGR 4660	Sustainable Building Design
ENGR 4240	Intro Microcontrollers		

NATURAL RESOURCE MANAGEMENT

Required Area of Emphasis Courses (21 hours):

ENGR 2140	Strength of Materials	ENGR 4440	Environ. Engr Unit Operations
ENGR 3120	Spatial Data Analysis	ENGR 4650	Control Structural Environments
ENGR 3410	Intro. to Natural Resource Engineering	ENGR 4660	Sustainable Building Design
ENGR 3440	Water Management		

Elective Area of Emphasis Courses (Select 9 hours):

ENGR 3420	Introduction to Soil Mechanics	ENGR 4240	Intro Microcontrollers
ENGR 3520	Mass Transport and Rate Phenomena	ENGR 4450	Environ Engr Remediation Dsgn
ENGR 3610	Structural Design	ENGR 4700L	Hydrology, Geology & Soils GA
ENGR 4161/L	Environmental Microclimatology	CRSS 4600	Soil Physics
ENGR 4171	Ocean & Atmospheric Dynamics	CRSS 3060	Soils and Hydrology **or**
ENGR 4230	Sensors & Transducers		WASR 4500 Quant. Method Hydrol.

STRUCTURAL SYSTEMS

Required Area of Emphasis Courses (21 hrs):

ENGR 2140	Strength of Materials	ENGR 4630	Design of Residential Structures
ENGR 3420	Introduction to Soil Mechanics	ENGR 4650	Control Structural Environments
ENGR 3610	Structural Design	ENGR 4660	Sustainable Building Design
ENGR 4610	Design of Light Frame Steel Structures		

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

ENGR 3120	Spatial Data Analysis (Surveying, GIS, GPS)	ENGR 4210	Linear Systems
ENGR 3300	Mechanism and Machine Kinematics	ENGR 4220	Feedback Control Systems
ENGR 3410	Intro. to Natural Resource Engineering	ENGR 4350	Intro Finite Element Analysis
ENGR 3440	Water Management	ENGR 4440	Environ. Engr. Unit Operations
ENGR 3520	Mass Transport and Rate Phenomena		

PROCESS OPERATIONS

Required Area of Emphasis Courses (21 hours):

ENGR 2140	Strength of Materials	ENGR 4220	Feedback Control Systems
ENGR 3270	Electronics I	ENGR 4230	Sensors & Transducers
ENGR 3540	Physical Unit Operations	ENGR 4240	Intro Microcontrollers
ENGR 4210	Linear Systems		

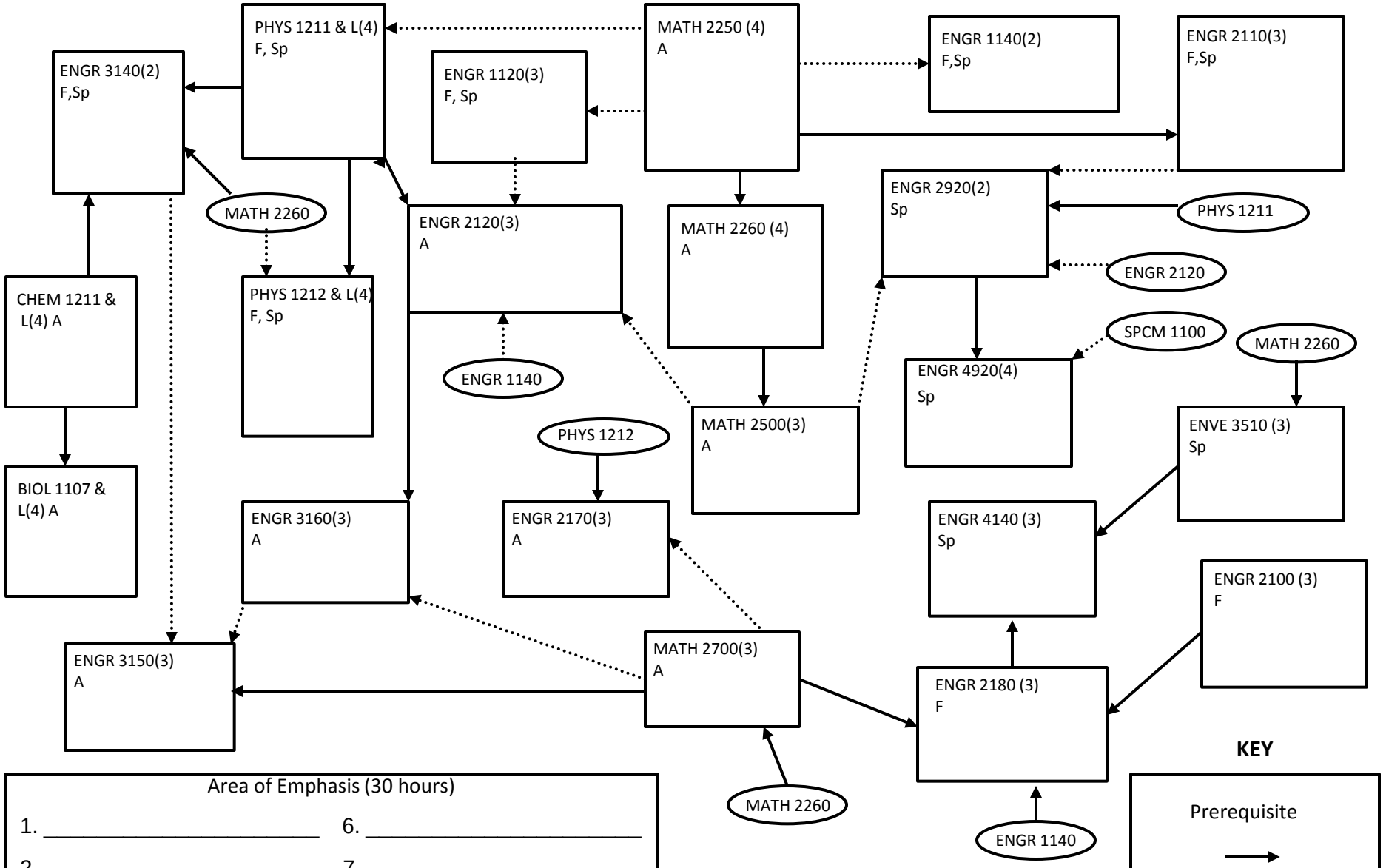
Elective Area of Emphasis Courses (Select 9 hours):

ENGR 4250	Advanced Microcontrollers	FDST 4090	Food Quality Control
ENGR 4350	Intro to Finite Element Analysis	FORS 3500	Wood Properties and Utilization
ENGR 4490	Renewable Energy Engineering	MGMT 3000	Mgmt. of Organizations & Individuals
ENGR 4540	Applied Machine Vision	MGMT 4000	Integrated Resource Management
FDST 4010	Food Processing	MGMT 4240	Quality Management
FDST 4050	Food Engineering Fundamentals I	MGMT 4250	Productivity Management
FDST 4060	Food Engineering Fundamentals II	POUL 4860	Poultry Processing

Name_____

BSAE Flow Chart Fall 2010 and Beyond

Area of Emphasis_____



Area of Emphasis (30 hours)

1. _____ 6. _____
2. _____ 7. _____
3. _____ 8. _____
4. _____ 9. _____
5. _____ 10. _____

MAJOR RELATED ELECTIVE

ANTH 1102 or FANR 2200 or GEOG 1125

KEY

Prerequisite →

Pre or Co-requisite ⇢

Course shown elsewhere ⬭

ENGLISH (6)

ENGL 1101(3)
A

↓

ENGL 1102(3)
A

HUMANITIES & THE ARTS (3)

SPCM 1100

WORLD LANGUAGES & CULTURE (9)*

1._____

2._____

3._____

SOCIAL SCIENCES (9)*

1._____

2._____

3._____

•Select **one** course to satisfy Cultural Diversity requirement

HIST 2111 or HIST 2112 Satisfies History Requirement

POLS 1101 Satisfies US and GA Constitution Requirement