



COLLEGE OF  
**AGRICULTURE  
+ FOOD SCIENCES**

FLORIDA AGRICULTURAL AND MECHANICAL UNIVERSITY

## Agricultural Sciences Program Requirements

(General B.S. Degree in Agricultural Sciences)

Students must select two concentrations

### FRESHMAN YEAR (30 Credits)

<b>ENC 1101</b> Freshman Comm. Skills I	3
<b>AGG 2004</b> Intro to Agricultural Sciences	1
<b>SLS 1101</b> First Year Experience	2
<b>Computer Literacy Course</b>	3
<b>African American History</b> (AMH 2091, AFA 3104, or AFA 2000)	3
<b>BOT 1010</b> Elementary Botany	3
<b>Total</b>	<b>15</b>

<b>ENC 1102</b> Freshman Comm. Skills II	3
<b>BSC 1010</b> General Biology I	3
<b>BSC 1010L</b> General Biology I Lab	1
<b>AGG 2050</b> Intro to Biotechnology	2
<b>Humanities General. Education. Core Requirement</b>	3
<b>MAC 1105</b> College Algebra	3
<b>Total</b>	<b>15</b>

### SOPHOMORE YEAR (30 Credits)

<b>BSC 1011</b> General Biology II	2
<b>BSC 1011</b> General Biology II Lab	2
<b>CHM 1025</b> Fundamentals of Chemistry	4
<b>ECO 2013</b> Principles of Economics I	3
<b>MAC 1114</b> Alg. & Trig. Functions	3
<b>Total</b>	<b>14</b>

<b>Civics Requirement</b> (AMH 2010, AMH 2020, POS 2041)	3
<b>CHM 1045</b> General Chemistry I	3
<b>CHM 1045</b> General Chemistry I Lab	1
<b>Humanities Gen. Ed. Elective</b>	3
<b>AEB 2104</b> Economics of Agriculture	3
<b>FOS 3042</b> Intro to Food Science	3
<b>Total</b>	<b>16</b>

### JUNIOR YEAR (30 Credits)

<b>STA 2023</b> Intro to Probability & Statistics I	3
<b>ANS 3006</b> Intro to Animal Science	3
<b>Concentration 1</b>	3
<b>Concentration 2</b>	3
<b>Free Elective 1</b>	3
<b>Total</b>	<b>15</b>

<b>HOS 3012C</b> Horticulture Science	3
<b>ENY 3004</b> General Entomology	3
<b>Concentration 1</b>	3
<b>Concentration 2</b>	3
<b>Elective Ag. Science Course 1</b>	3
<b>Total</b>	<b>15</b>

### SENIOR YEAR (30 Credits)

<b>Elective Ag. Science Course 2</b>	3
<b>Elective Ag. Science Course 3</b>	3
<b>Concentration 1</b>	3
<b>Concentration 2</b>	3
<b>Free Elective 2</b>	3
<b>Total</b>	<b>15</b>

<b>Elective Ag. Science Course 4</b>	3
<b>Concentration 1</b>	3
<b>Concentration 2</b>	3
<b>Free Elective 3</b>	3
<b>Free Elective 4</b>	3
<b>Total</b>	<b>15</b>

**Total Completed Hours** 120

**Effective Summer 2022**

\***Available Concentrations:** Agribusiness, Animal Science, Plant Science, Soil Science, Biological Systems Engineering, Food Science, Entomology, Grape and Wine Science.

\***Elective Agricultural Science Course** is any course offered by the Agricultural Science Academic programs.

**Free Electives** are selected by the student in consultation with their advisor

**Concentrations can be completed by taking 12 credit hours in the identified area.**

**Currently the approved concentrations in this degree are:**

Agribusiness                  Animal Science                  Biological Systems Engineering                  Entomology  
 Food Science                  Plant Science                  Soil Science                  Grape & Wine Science

**CONCENTRATION IN AGRIBUSINESS**

*The Agribusiness concentration offers students the basic courses in applied economics, business management with emphasis in agricultural industry. The student will have some preparation for a career in many of the agricultural-oriented business and financial institutions.*

<b>AEB 3143</b> - Agricultural Finance	<b>3</b>
<b>AEB 3300</b> - Marketing of Agric. Prods	<b>3</b>
<b>AEB 3315</b> – Agric. Comm. Marketing & Risk Management	<b>3</b>
<b>AEB 3450</b> Intro. Nat. Res. & Envrl. Econ	<b>3</b>

<b>AEB 4152</b> - Farm Business Analysis	<b>3</b>
<b>AEB 4261</b> - Agricultural Policy	<b>3</b>
<b>AEB 4524</b> Quantitative Methods of Agribusiness Decisions	<b>3</b>
<b>AEB 4816</b> - Survey Research Method for Economists	<b>3</b>

**CONCENTRATION IN ANIMAL SCIENCE**

*The Animal Science concentration offers students the basic courses so that they may obtain an overview of the biology, production, management and care of animals which permits the safe, nutritious and economical production of animals for food and recreational purposes, without compromising the environment or jeopardizing the health and wellbeing of the animals and the supporting communities.*

<b>ANS 3244</b> Beef Cattle Production	<b>3</b>
<b>ANS 3264</b> Swine Science	<b>3</b>
<b>ANS 3273</b> Small Ruminant Management	<b>3</b>
<b>ANS 3311</b> Reproduction. of Farm Animals	<b>3</b>
<b>ANS 3463</b> Feeds & Feeding	<b>3</b>

<b>ANS 3614</b> Meats	<b>3</b>
<b>ANS 384</b> Genetics of Domestic. Animals	<b>3</b>
<b>ANS 4291C</b> Incubation & Breeding	<b>3</b>
<b>ANS 4445</b> Animal Nutrition	<b>4</b>
<b>VME 4117</b> Animal Sanitation and Disease Control	<b>3</b>

**CONCENTRATION IN BIOLOGICAL SYSTEMS ENGINEERING**

*The Biological Systems Engineering concentration offers students the basic courses in Biological Systems. The student will get prepared for a career in many of the applied agricultural engineering sectors including but not limited to USDA, Timber Processing and Food Processing Industries*

**Mandatory Classes:**

<b>ABE 1002</b> Terminology & Concepts in Biological Engineering	<b>1</b>
<b>ABE 1010</b> Introduction to Biological Systems Engineering	<b>2</b>

<b>ABE 3650</b> Engineering Properties of Biological Materials	<b>3</b>
<b>ABE 3614 &amp; 3614L</b> Bio-Thermodynamics & Lab	<b>3</b>

**Plus, one of the two following Courses:**

<b>ABE 3212</b> Nat. Res. Cons. Engineering	<b>3</b>	<b>ABE 4812</b> – Fd & Bioproc. Engineering	<b>3</b>
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### CONCENTRATION IN ENTOMOLOGY

The **Entomology** concentration offers students the basic courses that provide students with scientific knowledge of insects and their interactions with people and the environment. Students will gain a better understanding of crop protection, forensic science and productivity of the food and agricultural industries

ENY 2001E Insects, People & Environment	3
ENY 2006E Global Integrated Pest Management.	3
ENY 2570 Prin. of Environmental Entomology	3
ENY 3004L General Entomology Laboratory	1

ENY 3661C Medical Entomology	3
ENY 3222 Gen. Household Pests, Rodents, and Control	4
ENY 3701C Forensic Entomology	3
ENY 4150 Systematic Entomology	3

### CONCENTRATION IN FOOD SCIENCES

This concentration offers students the basic courses to obtain an overview of the application of science to foods and the changes that occur in them as humans use them in a safe and sustainable manner to support enjoyment and life.

FOS 2002 Food and People	3
FOS 3410 Principles of Food Engineering	3
FOS 4222C Food Microbiology & Safety	4
FOS 4321C Food Analysis	4

FOS 4425 Food Manufactg & Storage	3
FOS 4454C Food Fermentation	3
HUN 2401 Nutrition	3
HUN 3510 Community Nutrition	3

### Concentration in Grape and Wine Science

This concentration imparts a unique blend of scientific knowledge and practical skills tailored and applicable to grape cultivation and winemaking. This concentration prepares students for diverse career opportunities in the dynamic and competitive grape and wine industries.

**Mandatory Course: FRC 3801** Introduction to Viticulture – 3 Credits

Plus, nine credits from any of the following courses listed below:

AGG 2050 Introduction to Biotechnology	3
FOS 4222C Food Microbiology and Safety	4
FOS 4454C Food Fermentations	3

AGG 2050 Intro. to Biotechnology Lab	1
FRC 4811 Viticulture Genetics and Physiology	3

### CONCENTRATION IN PLANT SCIENCES

The **Plant Science** concentration offers students the basic courses so that they may obtain an overview of the application of science to plants including growth, reproduction, evolution, and adaptation, as well as the use of plants for food, fiber, and ornamental purposes

AGR 3210 Field Crop Science	3
AGR 3232 Pasture and Range Management	3
AGR 4512 Plant Ecology	3
AGR 4430C GIS and Rem. Sensing	3

BOT 1010L Elementary Botany Lab	1
BOT 3503 Plant Physiology	3
FOR 3093 Forestry. in Rural & Urb. Env.	3
GIS 1040 Introduction to GIS	3

### CONCENTRATION IN SOIL SCIENCE

The **Soil Science** concentration offers students the basic courses so that they may obtain an overview of the formation, classification, mapping, physical, chemical, biological, and fertility properties of soils and their relation to the proper use and management of soils.

**Mandatory Course: SWS 3022** – Nature and Properties of soils 3 credits

Plus, nine credits from any of the following courses in Soil Science listed below:

SWS 3022L Nature and Properties of Soil Lab	1
SWS 3211 Soil and Water Conservation	3
SWS 4131C Fertility and Fertilizers	3
SWS 4427C Soil and Plant Analysis	3

SWS 4602C Environmental Soil Physics	3
SWS 4732C Soil Survey	3
AGR 4430 – GIS & Remote Sensing	3