

# Horticulture, Plant and Soil Sciences

College of Agriculture, Food and Environment and School of Human Environmental Sciences

The Horticulture, Plant and Soil Sciences degree program is designed to provide students with the knowledge and skills needed for a career in the production and management of plants and soils for food, fiber, forage, oil, recreation, landscaping and the enhancement of the human environment. Graduates have the technical and scientific skills as well as the communication, computational, leadership, and interpersonal capabilities necessary to function effectively as professionals. Careers are as diverse as they are challenging. Each Option prepares graduates for specific professional opportunities.

### Options

Students pursuing a Horticulture, Plant and Soil Sciences degree may choose from the following Options:

- Horticulture Enterprise Management
- Turfgrass Science
- Crops and Livestock
- Crop, Soil and Horticulture Science

### Graduation Requirements

Students must complete a minimum of 120 semester credit hours with at least 45 credit hours from courses at the 300 level or above. A 2.0 grade-point standing (on a 4.0 scale) is necessary and remedial courses may **not** be counted toward the total hours required for the degree. In addition to the UK Core and college requirements, students must select an Option with the assistance of an advisor and fulfill the area's program requirements.

### Plan of Study

As a horticulture, plant and soil sciences major you are required to develop an acceptable **Plan of Study** during your sophomore year for your junior and senior years. The plan must be signed by your advisor and returned to the Office of Academic Programs.

If you are an upper division transfer student (from another university or from another UK college or department) then you will submit your plan during the first semester you are enrolled in the program.

Consult your academic advisor in developing your Plan of Study.

### College Required Hours

\*GEN 100 Issues in Agriculture ..... 3

**Subtotal: College Required hours** ..... **3**

*\*Required for all first semester Freshmen. Students who transfer into the College and have already completed the UK Core U.S. Citizenship requirement are not required to take GEN 100.*

### UK Core Requirements

See the *UK Core* section of the *2013-2014 Undergraduate Bulletin* for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

#### I. Intellectual Inquiry in Arts and Creativity

Choose one course from approved list ..... 3

#### II. Intellectual Inquiry in the Humanities

Choose one course from approved list ..... 3

#### III. Intellectual Inquiry in the Social Sciences

Recommended:

CLD 102 The Dynamics of Rural Social Life ..... 3

#### IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences

CHE 105 General College Chemistry I ..... 4

CHE 111 Laboratory to Accompany General Chemistry I ..... 1

#### V. Composition and Communication I

CIS/WRD 110 Composition and Communication I ..... 3

#### VI. Composition and Communication II

CIS/WRD 111 Composition and Communication II ..... 3

#### VII. Quantitative Foundations

MA 123 Elementary Calculus and Its Applications ..... 4

#### VIII. Statistical Inferential Reasoning

STA 210 Making Sense of Uncertainty:  
An Introduction to Statistical Reasoning ..... 3

#### IX. Community, Culture and Citizenship in the USA

GEN 100 Issues in Agriculture ..... 3

#### X. Global Dynamics

Choose one course from approved list ..... 3

**UK Core hours** ..... **33**

### Graduation Writing Requirement

After attaining sophomore status, students must complete a Graduation Writing Requirement course. Please see your academic advisor for courses that meet this requirement.

**Graduation Writing Requirement hours** ..... **3**

In addition, the student must submit a proposed plan of study for the junior and senior years.

### Premajor Requirements

CHE 105 General College Chemistry I ..... 4

CHE 107 General College Chemistry II ..... 3

CHE 111 Laboratory to Accompany General Chemistry I ..... 1

CHE 113 Laboratory to Accompany General Chemistry II ..... 2

MA 123 Elementary Calculus and Its Applications ..... 4

WRD 203 Business Writing ..... 3

**Subtotal: Premajor hours** ..... **17**

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# Horticulture, Plant and Soil Sciences • 2

Students choose one of four Options in the Horticulture, Plant and Soil Science program—Horticulture Enterprise Management; Turfgrass Science; Crops and Livestock; and Crop, Soil and Horticulture Science. All students take the Major Requirements listed below. Then, depending on their Option, take specific courses and 21 hours of Specialty Support courses, some of which may be specified. Option requirements follow Major Requirements.

## Major Requirements

PLS 104 Plants, Soils, and People: A Science Perspective .....	3
PLS 210 The Life Processes of Plants .....	3
<b>or</b>	
†BIO 150 Principles of Biology I .....	
<b>and</b>	
†BIO 152 Principles of Biology II .....	6
PLS 220 Introduction to Plant Identification .....	3
PLS 366 Fundamentals of Soil Science .....	4
PLS 386 Plant Production Systems .....	4
PLS 395 Special Problems in Plant and Soil Science .....	
<b>or</b>	
PLS 399 Experiential Learning in Plant and Soil Science .....	3
PLS 404 Integrated Weed Management .....	4
PLS 470G Soil Nutrient Management .....	3
PLS 490 Topics in Plant and Soil Science .....	3
†Students in the Crop, Soil and Horticulture Science Option take BIO 150/152.	
<b>Subtotal: Major hours</b> .....	<b>30-33</b>

## Options

### Horticulture Enterprise Management Option

PLS 100 An Introduction to Horticulture Professions .....	1
PLS 440 Plant Propagation .....	3
PLS 465 Greenhouses and Controlled Environments .....	3
PLS 520 Fruit and Vegetable Production .....	4
PPA 400G Principles of Plant Pathology .....	3
Select <b>9</b> credit hours from the following courses:	
PLS 320 Woody Horticultural Plants .....	4
PLS 330 Herbaceous Horticultural Plants I .....	2
PLS 332 Herbaceous Horticultural Plants II .....	2
PLS 352 Nursery Production .....	3
PLS 451 Landscape Management and Arboriculture .....	3
PLS 515 Turf Management .....	3
PLS 525 Greenhouse Floral Crop Management .....	3
Other PLS courses with consent of advisor .....	
<b>Subtotal: Option hours</b> .....	<b>23</b>

### Specialty Support Requirements

Select <b>21</b> hours of courses with consent of advisor .....	21
<b>Subtotal: Specialty Support</b> .....	<b>21</b>

### Electives

Elective courses should be selected by the student to lead to the minimum total of 120 hours required for graduation.

<b>Subtotal: Electives</b> .....	<b>minimum of 1</b>
<b>TOTAL HOURS:</b> .....	<b>120</b>

### Turfgrass Science Option

PLS 514 Grass Taxonomy and Identification .....	3
PLS 515 Turf Management .....	3
PPA 400G Principles of Plant Pathology .....	3
Select additional <b>9</b> credit hours of PLS courses .....	9
<b>Subtotal: Option hours</b> .....	<b>18</b>

### Specialty Support Requirements

ENT 320 Horticultural Entomology .....	3
CHE 226 Analytical Chemistry .....	
<b>or</b>	
CHE 236 Survey of Organic Chemistry .....	3
Select additional <b>15</b> credit hours of specialty support .....	
in consultation with academic advisor .....	15
<b>Subtotal: Specialty Support</b> .....	<b>21</b>

### Electives

Elective courses should be selected by the student to lead to the minimum total of 120 hours required for graduation.

<b>Subtotal: Electives</b> .....	<b>minimum of 1</b>
<b>TOTAL HOURS:</b> .....	<b>120</b>

### Crops and Livestock Option

PLS 510 Forage Management and Utilization .....	3
Select <b>15</b> credit hours of additional PLS courses .....	15
<b>Subtotal: Option hours</b> .....	<b>18</b>

### Specialty Support Requirements

CHE 236 Survey of Organic Chemistry .....	3
Earn a minor in Animal Science .....	18

### Minor in Animal Sciences

#### Prerequisites

Note that several classes in both Group A and Group B have prerequisites beyond ASC 101. These are indicated in parenthesis following the courses below. Students taking the minor are responsible for satisfying the prerequisites.

#### Minor Requirements

ASC 101 Domestic Animal Biology .....	3
ASC 102 Applications of Animal Science .....	3

Additional Course Work .....

At least **9 credit hours** must be selected from the list that follows (Groups A and B). At least one course must be selected from Group A and one course from Group B.

#### Group A

ASC 300 Meat Science .....	4
ASC 325 Animal Physiology ( <i>BIO 152 and CHE 107/113</i> ) .....	3
ASC 362 Animal Genetics .....	4
ASC 364 Reproductive Physiology .....	
of Farm Animals ( <i>CHE 230 or 236</i> ) .....	4
ASC 378 Animal Nutrition and Feeding ( <i>CHE 230 or 236</i> ) .....	4

#### Group B

ASC 340 Poultry Production .....	2
ASC 404G Sheep Science ( <i>ASC 300, 362, 364</i> ) .....	4
ASC 406 Beef Cattle Science ( <i>ASC 300, 362, 364</i> ) .....	4
ASC 408G Swine Production ( <i>ASC 378</i> ) .....	2
ASC 410G Equine Science ( <i>ASC 362, 364</i> ) .....	3
ASC 420G Dairy Cattle Science ( <i>ASC 362, 364</i> ) .....	3

**Total Hours Required** .....

**15**  
Additional specialty support classes may be selected in consultation with your academic advisor for a total of 21 hours in specialty support.

<b>Subtotal: Specialty Support</b> .....	<b>21</b>
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# Horticulture, Plant and Soil Sciences • 3

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## Electives

Elective courses should be selected by the student to lead to the minimum total of 120 hours required for graduation.

**Subtotal: Electives** ..... **minimum of 1**

**TOTAL HOURS:** ..... **120**

## Crop, Soil and Horticulture Science Option

Select **18** hours of PLS courses with consent of advisor ..... **18**

**Subtotal: Option hours** ..... **18**

## Specialty Support Requirements

CHE 226 Analytical Chemistry

or

CHE 230 Organic Chemistry I

or

CHE 236 Survey of Organic Chemistry ..... 3

STA 291 Statistical Methods ..... 3

Select additional **15** credit hours from following list or other science courses selected with consent of advisor:

BIO 304 Principles of Genetics ..... 4

BIO 308 General Microbiology ..... 3

BIO 315 Introduction to Cell Biology ..... 4

BIO 430G Plant Physiology ..... 4

EES 220 Principles of Physical Geology ..... 4

PHY 211 General Physics ..... 5

PHY 213 General Physics ..... 5

CHE 231 Organic Chemistry Laboratory I ..... 1

CHE 232 Organic Chemistry II ..... 3

CHE 233 Organic Chemistry Laboratory II ..... 1

**Subtotal: Specialty Support** ..... **21**

## Electives

Elective courses should be selected by the student to lead to the minimum total of 120 hours required for graduation.

**Subtotal: Electives** ..... **minimum of 1**

**TOTAL HOURS:** ..... **120**