

# PLANT & SOIL SCIENCES (PLSS)

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## **PLSS 110 Introduction to Plant Science 3 Hours**

Principles of plant growth and development are applied to agriculture.

*Recent Term(s) Offered: fall 2026*

## **PLSS 209 Floral Design I: Elements and Principles of Floral Design 3 Hours**

Principles and elements of floral design; the use of floral materials, design techniques, and elements including line, form, texture, and color; emphasis on the history and use of floral art in business and society.

*Recent Term(s) Offered: fall 2026*

## **PLSS 301 Sustainable Landscape Plants 2 Hours**

Identification, recognition and use of deciduous trees, shrubs and herbaceous plants in the landscape. Introduction to evergreen shrubs and trees as well as fall flowering bulbs and perennials are included.

**Prerequisite(s):** PLSS 110 (may be taken concurrently)

**Corequisite(s):** PLSS 302

*Recent Term(s) Offered: fall 2026*

## **PLSS 302 Sustainable Landscape Plants Laboratory 1 Hour**

A laboratory course correlated with PLSS 301.

**Corequisite(s):** PLSS 301

*Recent Term(s) Offered: fall 2026*

## **PLSS 309 Floral Design II: Advanced Techniques in Floral Design 3 Hours**

Advanced principles of floral design as applied to a commercial floral shop enterprise. Production cost and profit analysis, selling techniques, and customer relations are considered concurrently with design.

**Prerequisite(s):** PLSS 209

*Recent Term(s) Offered: fall 2026*

## **PLSS 310 Integrated Pest Management 3 Hours**

Identification and management of insects, diseases and weeds of major importance in agronomic crops, turfgrasses and landscape plantings.

**Prerequisite(s):** PLSS 110 and CHEM 105

*Recent Term(s) Offered: None*

## **PLSS 313 Turfgrass Use and Ecology 3 Hours**

A study of turfgrass, including adaption, identification, uses and fundamental principles essential for establishing and maintaining quality turf in lawns and recreation areas. Note: Permission of instructor may be required.

**Prerequisite(s):** PLSS 110

*Recent Term(s) Offered: fall 2026*

## **PLSS 316 Greenhouse Systems: Function and Care 2 Hours**

Structures, equipment, and maintenance of greenhouse facilities and an introduction to basic techniques for growing floriculture crops.

**Corequisite(s):** PLSS 317

*Recent Term(s) Offered: fall 2026*

## **PLSS 317 Greenhouse Systems: Function and Care Lab 1 Hour**

A laboratory course correlated with HORT 316.

**Corequisite(s):** PLSS 316

*Recent Term(s) Offered: fall 2026*

## **PLSS 320 Environmental Plant Physiology 3 Hours**

Effects of various physiological and environmental factors on crop production are discussed.

**Prerequisite(s):** PLSS 110 and BIOL 120 and (CHEM 105 or CHEM 120)

*Recent Term(s) Offered: fall 2026*

## **PLSS 330 Wedding Floral Artistry and Design 3 Hours**

Principles and elements of floral design as applied to wedding planning and design. Includes production cost and profit analysis and marketing techniques.

**Prerequisite(s):** PLSS 209

*Recent Term(s) Offered: fall 2026*

## **PLSS 340 Greenhouse Cultivation and Crop Management 3 Hours**

Commercial greenhouse production of floriculture crops, focusing on the production of bedding plants, potted flowering plants, foliage plants and other non-floriculture crops including but not limited to hemp and tobacco transplants.

**Prerequisite(s):** PLSS 316 and PLSS 317

*Recent Term(s) Offered: None*

## **PLSS 350 Introduction to Soils 3 Hours**

A basic study of soil properties and processes emphasizing soil management and its application to agriculture.

**Prerequisite(s):** (CHEM 105 and CHEM 106) or (CHEM 120 and CHEM 121)

*Recent Term(s) Offered: fall 2026*

## **PLSS 351 Soils Laboratory 1 Hour**

A laboratory course correlated with AGRO 350. Laboratory exercises and experiences to supplement lecture topics.

**Prerequisite(s):** AGRO 350 (may be taken concurrently)

*Recent Term(s) Offered: spring 2026; fall 2026*

## **PLSS 352 Nutrient Management 3 Hours**

Soil reactions of elements essential for plant growth and development, sources and manufacture of fertilizer materials, use of fertilizers and lime, use of sound management practices are stressed.

**Prerequisite(s):** PLSS 350 and PLSS 110

*Recent Term(s) Offered: fall 2026*

## **PLSS 392 Irrigation Strategies for Green Spaces 3 Hours**

Instruction in the design, selection, care, operation, and management of irrigation systems for commercial, industrial, and residential turfgrass and landscape settings. Discussion will include signs and symptoms of plant water deficit stress, soil characteristics and moisture, environmental monitoring, and irrigation technology.

*Recent Term(s) Offered: None*

## **PLSS 407 Plant Propagation 3 Hours**

Plant propagation is studied and practiced as an art and a science.

Sexual and asexual techniques include propagation by seed, cuttings, grafting, layering, division and tissue culture.

**Prerequisite(s):** PLSS 110 (may be taken concurrently)

*Recent Term(s) Offered: None*

## **PLSS 409 Weed Ecology and Management 2 Hours**

Identification of prominent weed species; relationship of weeds to crop production problems; control measures, both physical and chemical, are presented.

**Prerequisite(s):** CHEM 107 and (PLSS 320 and PLSS 350)

**Corequisite(s):** PLSS 410

*Recent Term(s) Offered: fall 2026*

**PLSS 410 Weed Ecology and Management Laboratory 1 Hour**

A laboratory course correlated with PLSS 409.

**Corequisite(s):** PLSS 409

*Recent Term(s) Offered: fall 2026*

**PLSS 413 Turf Application Systems & Pest Management 3 Hours**

Study of turfgrass pests and control strategies with emphasis on safe pesticide use. Includes calibration and operation of application equipment and hands-on training in effective, environmentally responsible practices.

**Prerequisite(s):** (PLSS 110)

**Restriction(s):** Enrollment limited to students with a semester level of Junior.

*Recent Term(s) Offered: None*

**PLSS 418 Crop Disease Management 3 Hours**

Introduction to common plant pathogens and diseases of agronomically important field and forage crops, turf, vegetables, and ornamentals; Topics include control measures, newly discovered diseases, and plant-pathogen interactions. Note: Permission of instructor may be required.

**Prerequisite(s):** PLSS 110 and BIOL 120 and PLSS 350

*Recent Term(s) Offered: None*

**PLSS 419 Principles of Fruit, Vegetable, and Viticulture Production 3 Hours**

Production of fruit, vegetables, and grapes (wine and table) that are particularly suited for Kentucky, considering variety selection, management, harvesting, processing, and marketing. Note: Permission of instructor may be required.

**Prerequisite(s):** PLSS 110 (may be taken concurrently)

*Recent Term(s) Offered: None*

**PLSS 420 Floral Business Management 3 Hours**

Principles of floral shop management, including sourcing, purchasing, distributing, marketing and selling floricultural products. Note: Permission of instructor required.

**Restriction(s):** Enrollment is limited to students in Floristry (1769)

*Recent Term(s) Offered: None*

**PLSS 422 Grain Crops Production 3 Hours**

Distribution, improvement, morphology, culture, harvesting and utilization of field crops are presented.

**Prerequisite(s):** PLSS 320 and PLSS 350

*Recent Term(s) Offered: fall 2026*

**PLSS 425 Forage Crop Management 3 Hours**

Familiarizes students with grass and legume forage crops. Crops will be considered from the standpoint of pasture, hay, and silage crops, along with discussions of forage physiology and nutrient cycling.

**Prerequisite(s):** PLSS 110 and PLSS 350 and BIOL 120

*Recent Term(s) Offered: fall 2026*

**PLSS 452 Soil Ecosystems 3 Hours**

Soil microbial populations and systems and their influence on plant nutrition, soil organic matter, its decomposition and other soil microbial biochemical processes are presented.

**Prerequisite(s):** PLSS 350

*Recent Term(s) Offered: None*

**PLSS 454 Soil and Water Conservation 3 Hours**

Economic utilization of land for agricultural, recreation and public purposes based on location and capability characteristics; interpretation and application of soil survey information for best interests in crop production, conservation, public and industrial use; practice in designing land use maps are stressed.

**Prerequisite(s):** PLSS 350

*Recent Term(s) Offered: None*

**PLSS 457 Soil Formation and Classification 2 Hours**

Soil origin; classification schemes; profile description, mapping and interpretation of soil survey information emphasizing Kentucky soils, are discussed. Note: Permission of instructor may be required.

**Prerequisite(s):** PLSS 350

**Corequisite(s):** PLSS 458

*Recent Term(s) Offered: None*

**PLSS 458 Soil Formation and Classification Laboratory 1 Hour**

A laboratory course correlated with PLSS 457.

**Corequisite(s):** PLSS 457

*Recent Term(s) Offered: None*

**PLSS 459 Techniques in Physical Soil Description 3 Hours**

Field descriptions of soils in the southeastern U.S. based upon observations of several local soil series and their relationship to the online web soil survey. Training is provided for students seeking governmental positions in the soil science discipline. Off campus travel to field sites and a soil judging contest in the southeast region.

**Prerequisite(s):** AGRO 350

**Restriction(s):** Enrollment is limited to students in Agricultural Technology Mgt (205), Agriculture (508) or Agriculture (605)

*Recent Term(s) Offered: fall 2026*

**PLSS 475 Selected Topics in Plant and Soil Sciences 1-3 Hours**

(repeatable max of 12 hrs)

Special topics acquaint advanced undergraduate students with scientific developments of current interest in agriculture. Appropriate topic titles are assigned. Lecture and assignments vary with credit. May be repeated with change in content. Note: Consent of instructor required.

*Recent Term(s) Offered: None*

**PLSS 476 Selected Topics in Horticulture 1-3 Hours**

Special topics acquaint advanced undergraduate students with scientific developments of current interest in agriculture. Appropriate topic titles are assigned. Lecture and assignments vary with credit. May be repeated with change in content. Note: Consent of instructor required.

*Recent Term(s) Offered: None*