

# PLANT SCIENCE AND LANDSCAPE TECHNOLOGY (PST)

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## **PST-1301 Horticultural Botany** **3 Credits**

Focus on practical skills and technologies essential for horticultural plant propagation and production. Cultural and sustainable production practices will be examined. Students will apply scientific knowledge of plant development, nutrition, and growth regulation. Environmental aspects of irrigation, chemical application, and soil conservation will be evaluated.

*Lecture: 2 hours. Laboratory: 3 hours*

*Prerequisite(s): ENG-0995 Applied College Literacies, or appropriate score on English Placement Test; or departmental approval. Note: ENG-0990 Language Fundamentals II taken prior to Fall 2021 will also meet prerequisite requirements.*

## **PST-1311 Deciduous Woody Landscape Plants** **3 Credits**

Covers the correct identification, cultural requirements, potential and correct uses of deciduous trees and shrubs in the landscape.

*Lecture: 2 hours. Laboratory: 3 hours*

*Prerequisite(s): ENG-0995 Applied College Literacies, or appropriate score on English Placement Test; or departmental approval. Note: ENG-0990 Language Fundamentals II taken prior to Fall 2021 will also meet prerequisite requirements.*

## **PST-1321 Evergreens, Groundcovers, and Herbaceous Landscape Plants** **3 Credits**

Covers the cultural requirements, growth habits, potential and correct landscape uses of herbaceous annuals, perennials, hardy bulbs, groundcovers, and evergreen trees and shrubs.

*Lecture: 2 hours. Laboratory: 3 hours*

*Prerequisite(s): ENG-0995 Applied College Literacies, or appropriate score on English Placement Test; or departmental approval. Note: ENG-0990 Language Fundamentals II taken prior to Fall 2021 will also meet prerequisite requirements.*

## **PST-1331 Plant Propagation** **3 Credits**

Introduction to the techniques used to create new food and ornamental plant crops.

*Lecture: 1 hour. Laboratory: 6 hours*

*Prerequisite(s): PST-1301 Horticultural Botany, or concurrent enrollment; or departmental approval.*

## **PST-1351 Plant Production** **3 Credits**

Exploration of production and marketing of ornamental and food plant materials. Emphasis on basic greenhouse, garden center, small farm, and nursery operations from off season planning, crop timing, pest management, marketing, production, harvesting, and selling. Alternative growing methods including hydroponics, high tunnel aeroponics and other soil-less methods.

*Lecture: 1 hour. Laboratory: 6 hours*

*Prerequisite(s): PST-1301 Horticultural Botany, or concurrent enrollment, or departmental approval.*

## **PST-1380 Introduction to Tree Care** **2 Credits**

Introduction to the tree care trade and occupation. Emphasis on introductory tree care techniques, technologies and industry standards.

*Lecture: 1 hour. Laboratory: 3 hours*

*Prerequisite(s): PST-1411 Equipment Operations & Safety or concurrent enrollment, and PST-1311 Deciduous Woody Landscape Plants, or concurrent enrollment, or department approval.*

## **PST-1400 Garden Center and Nursery Management** **3 Credits**

An in-depth study of the management skills needed to successfully operate a garden center or a wholesale nursery growing establishment, including management of employees, inventory, suppliers, clients, and legal and regulatory environment. Emphasis placed on ensuring management practices are environmentally sustainable and use the most current technologies available.

*Lecture: 3 hours*

*Prerequisite(s): ENG-0995 Applied College Literacies, or appropriate score on English Placement Test; or departmental approval. Note: ENG-0990 Language Fundamentals II taken prior to Fall 2021 will also meet prerequisite requirements.*

## **PST-1411 Equipment Operations and Safety** **2 Credits**

An overview of common horticultural hand tools, power tools, and large equipment. Emphasis on safe operation with hands-on practice and basic preventative maintenance on each machine.

*Lecture: 1 hour. Laboratory: 3 hours*

*Prerequisite(s): None.*

*OAN Approved: CTAN Approved: Career Technical Assurance Guide CTHOR003.*

## **PST-1420 Landscape Practices** **3 Credits**

Study of and practical experience in proper techniques of landscape maintenance and installation. Included are proper pruning, planting, preparation mulching, fertilizing, water management, and soil preparation techniques.

*Lecture: 2 hours. Laboratory: 3 hours*

*Prerequisite(s): PST-1411 Equipment Operations and Safety, or departmental approval.*

*OAN Approved: CTAN Approved: Career Technical Assurance Guide CTHOR002.*

## **PST-1441 Introduction to Landscape Design** **3 Credits**

Introductory principles and processes of landscape design. Emphasis on understanding how to read and interpret professional blueprints as well as creating basic landscape designs. Topics include aesthetic and environmental systems analysis and the development of basic site and landscape design projects. Preparation of various landscape designs provides exposure to design theories applicable to the use of landform, vegetation, water and structural landscape elements.

*Lecture: 2 hours. Laboratory: 3 hours*

*Prerequisite(s): PST-1311 Deciduous Woody Landscape Plants, or PST-1321 Evergreens, Groundcovers, and Herbaceous Plants, or departmental approval.*

**PST-1450 Landscape Design - CAD**

**3 Credits**

An introduction to the operational components of landscape design software, including the methods and procedures to develop the types of drawings typically used for landscape design/sales presentations and construction implementation at a residential scale, from initial file set-up to printing the completed drawings.

*Lecture: 2 hours. Laboratory: 3 hours*

*Prerequisite(s): PST-1441 Introduction to Landscape Design and IT-1090 Computer Applications.*

**PST-1510 Landscape Contracting**

**3 Credits**

In-depth study of major business principles involved across the green industry including material and labor estimation, management of employees, work sites, inventory, and clients, contract and labor laws, and accounting principles. Principles learned can be applied to both service-based and supply-based green industry business models.

*Lecture: 3 hours*

*Prerequisite(s): MATH-1190 Algebraic and Quantitative Reasoning, or qualified Math placement; or departmental approval.*

**PST-1600 Irrigation and Drainage**

**2 Credits**

Provides an operational knowledge of the theory, design, installation, and maintenance of landscape irrigation and drainage systems.

*Lecture: 1 hour. Laboratory: 3 hours*

*Prerequisite(s): MATH-1190 Algebraic and Quantitative Reasoning, or appropriate Math placement score; or departmental approval.*

**PST-1806 Special Topics: Agricultural Management**

**2 Credits**

The course represents a Youth Outreach Project that focuses on young people interested in the business aspect of Horticulture. The course trains students in understanding how to apply basic business skills towards the growth and proper management in the Horticulture or Agricultural industries.

*Lecture: 1 hour*

*Other Required Hours: Practicum: Students will spend a minimum of 7 hours per week gaining experience in working on one of the 5 Green Corps Learning Farms.*

*Prerequisite(s): None.*

**PST-1820 Independent Study/Research in Plant Science and Landscape Technology**

**1-3 Credits**

Directed individual study. Study/research title and specific content arranged between instructor and student. May be repeated for a maximum of six credits of different topics.

*Lecture: 1-3 hours*

*Prerequisite(s): Departmental approval, and instructor approval, and ENG-0995 Applied College Literacies, or appropriate score on English Placement Test. Note: ENG-0990 Language Fundamentals II taken prior to Fall 2021 will also meet prerequisite requirements.*

**PST-2310 Soil Technology**

**3 Credits**

Examination of the critical role soil plays in horticulture, agriculture, and construction. Emphasis on soil testing, analysis, and building healthier soils.

*Lecture: 2 hours. Laboratory: 3 hours*

*Prerequisite(s): CHEM-1000 Everyday Chemistry, or concurrent enrollment; or BIO-1060 Environment, Ecology, and Evolution or concurrent enrollment; and ENG-0995 Applied College Literacies; or appropriate score on English Placement Test. Note: ENG-0990 Language Fundamentals II taken prior to Fall 2021 will also meet prerequisite requirements.*

**PST-2321 Plant Pest Diagnostics**

**3 Credits**

In-depth study of Integrated Pest Management tactics as used in the green industry to provide a sustainable approach to care of plants in the agricultural, nursery, and landscape environment.

*Lecture: 2 hours. Laboratory: 3 hours*

*Prerequisite(s): PST-1311 Deciduous Woody Landscape Plants or concurrent enrollment, or PST-1321 Evergreens, Groundcovers or concurrent enrollment, and Herbaceous Landscape Plants; or departmental approval.*

**PST-2370 Introduction to Turfgrass**

**2 Credits**

Study of lawn maintenance and installation including nutrient management, spraying, mowing, irrigation, selection and establishment, weed and pest identification, and diagnosis of disorders as pertains to commercial, residential, and municipal applications.

*Lecture: 1 hour. Laboratory: 3 hours*

*Prerequisite(s): PST-1311 Deciduous Woody Landscape Plants.*

**PST-2381 Arboriculture**

**3 Credits**

Theoretical and practical approach to tree climbing and pruning techniques according to industry standards. Emphasizes safe tree climbing techniques and the use of tree risk assessments.

*Lecture: 2 hours. Laboratory: 3 hours*

*Prerequisite(s): PST-1380 Introduction to Tree Care, or departmental approval.*

**PST-2431 Planting Design**

**3 Credits**

Emphasis on the design relationships of plants to their optimum and intended environments. Basic and advanced planning design principles and techniques that address the aesthetic, environmental and engineering uses of plant material. Preparation of various design project drawing types and a personal palette including woody and herbaceous materials for more complex landscape design solutions,

*Lecture: 2 hours. Laboratory: 3 hours*

*Prerequisite(s): PST-1441 Introduction to Landscape Design, or departmental approval: Faculty may require samples of previous work to determine skill level.*

**PST-2480 Arboriculture Practices**

**3 Credits**

Advanced approach to tree care techniques used in the tree care industry including introductory tree rigging and protection.

*Lecture: 2 hours. Laboratory: 3 hours*

*Prerequisite(s): PST-2381 Arboriculture, or departmental approval.*

**PST-2820 Independent Advanced Study/Research in Plant Science**

**1-3 Credits**

Directed individual advanced study. Study/research title and specific content arranged between instructor and student (see Credit Schedule of classes for current offerings). May be repeated for a maximum of six credits of different topics.

*Lecture: 1-3 hours*

*Prerequisite(s): Departmental approval, and instructor approval, and ENG-0995 Applied College Literacies, or appropriate score on English Placement Test. Note: ENG-0990 Language Fundamentals II taken prior to Fall 2021 will also meet prerequisite requirements.*

**PST-2950 Field Experience**

**3 Credits**

Field experience in students occupational objectives in plant science, landscaping and/or horticulture. Student and employer follow training agreement as developed by student, employer and supervising faculty.

*Other Required Hours: Field Experience: 36 hours per week.*

*Prerequisite(s): Departmental approval: satisfactory completion of coursework deemed sufficient to prepare student for entry level work in chosen work area.*