

PLANT SCIENCE AND LANDSCAPE TECHNOLOGY (PST)

PST-1300 Horticultural Botany **3 Credits**

[This course is crosslisted as BIO-1300. Credit can only be earned once for either course.] Plant structure and diversity is examined through the study of the cells, tissues, and organs of plants, as well as their life cycles and reproduction. The physiology of plants is explored through the study of plant transport, nutrients, hormones, growth, and metabolism. Additionally, horticulturally significant bacteria, protists, and fungi are examined.

Lecture: 2 hours. Laboratory: 3 hours

Prerequisite(s): ENG-0990 Language Fundamentals II, or appropriate score on English Placement Test.

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-0990 Language Fundamentals II or appropriate score on English Placement Test.

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-0990 Language Fundamentals II, or appropriate score on English Placement Test.

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-1300 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 1300 Horticultural Botany, or concurrent enrollment, or departmental 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-0990 Language Fundamentals II, or appropriate score on English Placement Test.

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. CTAN Approved: 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. CTAN Approved: CTHOR002

PST-1431 Graphics for Landscape Design and Construction **2 Credits**

Foundation and preparatory course for graphic communication processes and methods used in landscape design and landscape construction. Production and applications of a variety of drawing types and the tools and techniques used to produce them. Types of drawings studied will include; plan, section, elevation, isometric, perspective and freehand sketching. Other graphic techniques studied will include color rendering and construction detailing.

Lecture: 1 hour. Laboratory: 3 hours

Prerequisite(s): None.

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

Foundation course for landscape design. Basic principles, elements and processes of design and their relationship to landscape design. Aesthetic, environmental and programmatic systems analysis and the development of basic site and landscape design projects. Preparation of various design drawing types and models 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 software's operational components and 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. The software programs utilized in this class are Dynascape™ design, color and sketch 3D.

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 the two major sides of landscape contracting. Study of landscape maintenance contracting business including turf-grass maintenance, fertilization services, mulching, pruning, bed maintenance, spring and fall clean up, bed edging, aerating, snow and ice removal, and other value added services. Study of landscape construction and installation contracting including the estimation process, construction documentation, permits and regulations, subcontracting, equipment and material logistics, job site management, project management, and basic landscape construction practices.

Lecture: 2 hours. Laboratory: 3 hours

Prerequisite(s): MATH-0955 Beginning Algebra or appropriate Math placement score; 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-0955 Beginning Algebra or appropriate score on Math Placement Test.

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-0990 Language Fundamentals II or appropriate score on English Placement Test.

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): PSCI-1020 Chemistry, or CHEM-1000 Everyday Chemistry, or BIO-1060 Environment, Ecology, and Evolution; and ENG-0990 Language Fundamentals II, or appropriate score on English Placement Test.

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 PST-1321 Evergreens, Groundcovers, and Herbaceous Landscape Plants; or departmental approval.

PST-2370 Introduction to Turfgrass

2 Credits

Study of lawn maintenance and installation including fertilization, 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-2380 Arboriculture

2 Credits

Study of the tree care industry including fertilization, spraying, pruning, bracing and cabling, equipment operation, climbing techniques, safe work practices, diagnosis of disorders, and client interactions.

Lecture: 1 hour. Laboratory: 3 hours

Prerequisite(s): PST-1311 Deciduous Woody Landscape Plants, and PST 1411 Equipment Operations and Safety, and HLTH 1230 Standard First Aid and Safety; 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-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-0990 Language Fundamentals II or appropriate score on English Placement Test.

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.