

**UNDERGRADUATE CATALOG 2004-5
DEPARTMENT OF PLANT SCIENCES**

110 Introduction to Ornamental Horticulture (3) Survey of the history, science, crafts, professions, and businesses of ornamental horticulture. Prereq: Enrollment is restricted to PSLS freshmen and transfer sophomores; open to all non-majors.

220 Basic Landscape Plants (3) Identification, classification, adaptation, culture and landscape design uses of basic ornamental trees, shrubs, and vines. Prereq: 8 hours biological sciences or consent of instructor. 2 hours and 1 lab

230 Interior Plantscaping (3) History and introduction of the interior plantscaping industry. Identification, culture, propagation, and use of plants for the commercial interior plantscape. Management of the interior environment including light, humidity, growing media, insects, and diseases. Commercial use of containers, planters, water features, and artificial plants. Prereq: 110 or consent of instructor.

231 Interior Plantscaping II (3) Commercial application of design, sales, sales proposals, plantscape management, and basic plantscape business management for the Interior Plantscaping industry. Prereq: 230 or consent of instructor.

235 Introduction to Crop Science (3) Introduction to world crops and food production systems. Emphasis on production terminology, origin and development, environmental interactions, plants and human nutrition, ecological processes of sustainability, current technology, and practices of crop production. Prereq: One year biological science. 2 hours lecture and one 2-hour lab.

280 Fundamentals of Landscape Design (3) History of landscape design as it relates to contemporary applications. Awareness and sensitivity to the landscape; basic graphic skills and design theory with an emphasis on residential landscape planning. Introduction to landform, landscape materials, and planting design. 1 hour and 2 labs.

326 Public Horticulture (3) In-depth study of the public horticulture industry. Attention given to the diversity of public horticulture institutions, career opportunities, and research. Discussion of current topics and issues. Prereq: 110 or consent of the instructor.

330 Plant Propagation (3) Physiology, methodology, and environmental requirements for propagation. Prereq: 8 hours of biological sciences or consent of instructor. 2 hours and 1lab.

334 Weed Management (3) Principles of weed interference, integrated management, herbicide selectivity and behavior, specific recommendations for various crop and non-crop situations. Prereq: Environmental and Soil Sciences 210. 2 hours and 1 lab.

340 Turfgrass Management (3) Practical turfgrass management; cultivar selection, identification, and establishment; basic applied fertility programs, mowing, and irrigation practices, and thatch and compaction control; pest identification and basic controls. Prereq: Environmental and Soil Sciences 210; 8 hours biological sciences or consent of instructor. 2 hours and 1 lab.

350 Basic Landscape Construction (3) Basic materials and detailing. Introduction to the landscape construction and contracting industry; application of landscape materials, wood, concrete and masonry construction; site drainage, and landscape grading. Prereq: 280. 2 hours and 1 lab.

360 Practicum in Landscape Construction (3) Practical experience in implementation of landscape development projects. Directed lab and field instruction in planting operations and basic landscape construction including interpreting and implementing landscape design drawings and specifications. Prereq: 350. Two three hour labs.

370 Grounds Maintenance (3) Identification and understanding of maintenance tasks; transplanting, soil amendments, growth control, irrigation, climate protection and pest control. Maintenance and use of equipment; management practices. 2 hours and 1 lab.

380 Supplemental Landscape Design Graphics (3) Refinement of graphic skills. Sketches, elevations, sections, isometric projections, and perspectives. Lettering, plan graphics, color rendering, and other visual presentation media. Prereq: 280. Two 2 hour labs.

390 Fall Herbaceous Ornamental Plants (3) Identification, culture, and landscape use of late summer and fall herbaceous ornamental plants including annuals, perennials, herbs, and ornamental grasses. Basic gardening practices and design elements using such herbaceous ornamental plants. Prereq: 110 or consent of instructor.

391 Spring Herbaceous Ornamental Plants (3) Identification, culture, and landscape use of Spring and early summer herbaceous ornamental plants including annuals, perennials, herbs, bulbs and wildflowers. Basic gardening practices and design elements using such herbaceous ornamental plants. Prereq: 110 or consent of instructor.

410 Nursery Management and Production (3) Management methods as applied to retail and wholesale nurseries and landscape contracting firms. Methods of producing liners, container and field-grown woody ornamental plants. Prereq: 220, 330, and Environmental and Soil Sciences 210. 2 hours and 1 lab.

421 Native Plants in the Landscape (3) Native plants and plant communities as a basis for landscaping and environmental restoration. Weekly lecture coupled with either an outing or service practicum of invasive exotic plant removals or planting of natives. Study and work sites will primarily be demonstration projects of the UT Environmental Landscape Design Lab. They include local schoolyard habitats, greenways, wetlands, streambanks, and shorelines. Prereq: 220, Botany 330 or consent of instructor.

427 Management and Administration of Public Horticulture Institutions (3) Management of resources in non-profit institutions, support organizations and communities. Theoretical framework and institutional mission; strategic planning and programming; financial accounting and budgeting; development and fund raising; personnel policies; volunteer development; marketing and publicity; legal issues; relationships between staff and governing boards; the use of information technology in management and governance systems; and conservation/preservation roles in community development. Prereq: 326.

429 Field Study of Public Horticulture Institutions (3) Extended 10-12 day field study of various public horticulture institutions such as botanical gardens, arboreta, historical grounds, zoos, conservatories, cemeteries, and nature preserves. Application and travel fee required. Prereq: 326.

430 Greenhouse Floral Crop Production (3) Principles of greenhouse operation and management for commercial production of floral crops. Greenhouse construction and operation, crop scheduling and cost accounting. Environmental inputs and cultural practices as they affect plant physiological processes and influence plant growth and development. Prereq: Agriculture and Natural Resources 290 or consent of instructor.

431 Physiology and Ecology in Agroecosystems (3) Plant physiology and ecology applied to crop production and management. Emphasis on plant physiology and ecology principles as they relate to crop production practices from seeding to harvesting and handling. Interaction of crops with their environment and sustainable agroecosystems. Prereq: 230. 2 hours lecture one 2-hour lab.

433 Agricultural Pesticides (3) Regulation of pesticide development, manufacture, transportation, marketing and use. Structure, use, mode of action, degradation and environmental impact of pesticides used in agriculture, forestry and related areas. Prereq: 1 year biological sciences and 1 semester chemistry. 2 hours and 1 lab.

434 Fruit and Vegetable Crops (3) Principles of production systems to counter environmental stresses and to increase productivity of warm and cool season vegetable crops, small fruit crops, and deciduous tree fruit crops. Storage of crops after harvest. Prereq: 230. 2 hours lecture and 2 hours lab.

435 Field and Forage Crops (3) Agronomic principles of crop production and management. Crop improvement, cropping systems, tillage, fertilization, pest management, harvest and utilization of major field and forage crops. Prereq: 230. 2 hours and 1 lab.

436 Plant and Garden Photography (2) Principles and techniques of photography as they relate to plants and gardens. Study of equipment options and field shooting under various weather conditions and in different seasons. Prereq: Senior standing and consent of the instructor.

437 Public Garden Operations and Management (3) An analysis of year-round operations and management of public gardens. Case studies involving time and labor management, budget development and management, implementation of volunteer programs, information dissemination methods for public outreach, management of grounds and facilities using the University of Tennessee Institute of Agriculture Gardens as a model. Prereq: 326.

440 Advanced Turfgrass Management (4) Principles and scientific basis of turfgrass culture; adaptation, ecology, physiology, soil fertility, and grass nutrition; climatic influences on grass culture; physiology of clipping and water management; design, construction, and management of golf courses; physiological influences of pest infestation and control measures. Prereq: 340 or consent of instructor. 3 hours and 1 lab.

446 Horticultural Therapy (3) Introduction to the application of horticulture as therapy for treatment, rehabilitation and/or training of individuals with disabilities. Senior standing and consent of the instructor.

450 Specialty Landscape Construction (3) Methods of design, materials, and construction techniques for specialized components of the landscape industry. Irrigation systems, outdoor lighting, garden ponds and water features.

451 Plant Tissue Culture (3) (Same as Botany 451.)

453 Principles of Plant Breeding (3) Genetic principles and techniques used in crop improvement. A consideration of breeding methods for the various types of plant reproduction systems and their application. A discussion of heritability estimation, genetic advances through selection and the theory upon which breeding methods are based. Prereq: Plant Sciences and Landscape Systems 471 and Biology 240. 2 hours lecture and one 2-hour lab.

460 Professional Practices in Landscape Construction and Management (2) Professionalism, salesmanship, proposals, bidding, estimating, specifications, and contract management in landscape services industry. Computer technology applicable to landscape construction and contracting industry. Includes presentations by industry representatives. Prereq: 350 or consent of instructor. 2 hours.

471 Statistics for Biological Research (3) Notation, descriptive statistics, probability, distributions, confidence intervals, student's t- and chi-square tests, analysis of variance, mean separation procedures, linear regression and correlation. Prereq: Mathematics 125 or equivalent. 3 hours and 1 rec.

480 Advanced Landscape Design (3) Comprehensive application of landscape design skills to a variety of project experiences with an emphasis on landscape planning and analysis, planting design, and materials estimating. Prereq: 280, 380. 2 3-hour labs.

485 Computer Aided Landscape Design (3) Overview of Computer Aided Design (CAD) as it relates to landscape design and construction. Emphasis on development of landscape design drawings through utilization of LANDCADD software. Prereq: 280, 380, and Agriculture and Natural Resources 290.

490 Seminar (1) Current topics in horticulture, crop sciences, and landscape design. Prereq: Senior Standing.

492 Internship in Horticultural and Plant Sciences (1-3) Supervised work experience with a departmentally-approved employer within the ornamental horticulture, turfgrass, production horticulture, or field crop science industry. May be repeated. Maximum of 6 credits.

493 Problems in Horticultural and Plant Sciences (1-3) Supervised individual problems relating to the plant sciences or landscape design. May be repeated. Maximum of 6 credits.

494 Professional Horticultural Communications (3) Communication for public horticulturists through written, oral, and visual media. Emphasis on communication skills using proper writing techniques and grammar for print media, brochure design using desktop publishing, slide show development, oral presentations, and video use for educational and informational presentations in Ornamental Horticulture. Prereq: Agriculture and Natural Resources 290 and senior standing.