

HORT - HORTICULTURAL SCIENCES (HORT)

HORT 201 Horticultural Science and Practices

Credits 3. 3 Lecture Hours. (AGRI 1315, AGRI 1415*, HORT 1301, HORT 1401*) Horticultural Science and Practices. Structure, growth and development of horticultural plants from a practical and scientific approach; environmental effects, basic principles of propagation, greenhouse and outdoor production, nutrition, pruning and chemical control of growth, pest control and branches of horticulture.

HORT 202 Horticultural Science and Practices Laboratory

Credit 1. 3 Lab Hours. (HORT 1101, AGRI 1115, HORT 1401*, AGRI 1415*) Horticultural Science and Practices Laboratory. Methods and practices related to production of horticultural crops; practical exercises in greenhouse and field. **Prerequisite:** HORT 201 or registration therein.

HORT 203 Floral Design

Credits 3. 2 Lecture Hours. 2 Lab Hours. Principles of design illustrated with the use of floral materials; floral design elements and techniques including color, form, line and texture; history and utilization of floral art in society.

HORT 281 Professions in Horticulture

Credit 1. 1 Lecture Hour. Comprehensive view of the opportunities in the science, technology and art of horticultural sciences and potential career paths; sub-disciplines by crop (fruit, vegetable, viticulture, nut, ornamental crops, floral crops, controlled environment and urban horticulture) and approach (research, technology, biotechnology, mechanization, genetics, genomics, and breeding, phenomics, landscaping, production, sustainability, floral design, indoor farming, and entrepreneurship); examination of the national and international scope and economic, environmental and health impacts of horticulture; major horticultural regions in Texas; interactions with representatives and leaders of various horticultural industries; featured horticulture innovations presented by inventors; development of an online professional profile, such as LinkedIn.

HORT 291 Research

Credits 1 to 3. 1 to 3 Other Hours. Research conducted under the direction of faculty member in horticulture. May be repeated 2 times for credit. **Prerequisites:** Freshman or sophomore classification and approval of instructor.

HORT 301 Garden Science

Credits 3. 3 Lecture Hours. Identification, propagation, soil management, fertilization, growth control and protection of common garden plants: indoor ornamentals, landscape ornamentals, fruits and vegetables; special topics include home landscaping, container gardens, bonsai, herbs and medicinal plants and hobby greenhouse management; overview of the effects of organic and non-organic practices on the garden ecosystem. **Prerequisites:** Junior or senior classification, or approval of instructor.

HORT 302 Garden Science Lab

Credit 1. 3 Lab Hours. Practical activities in identification, propagation, fertilization, media preparation, soil management, irrigation and protection of indoor ornamentals, landscape ornamentals, fruits and vegetables common in gardens in Texas. Organic and non-organic methods.

HORT 306 Trees and Shrubs for Sustainable Built Environments

Credits 3. 2 Lecture Hours. 2 Lab Hours. Better known woody ornamental trees and shrubs; identification, morphology, classification, nomenclature and adaptability for use in landscape environments. **Prerequisite:** BIOL 101, BIOL 111, BIOL 113, HORT 201, HORT 301, LAND 101, or RENR 205, or approval of instructor.

HORT 308 Plants for Sustainable Landscapes

Credits 3. 2 Lecture Hours. 2 Lab Hours. Identification and use of indigenous and introduced landscape plants; plants for special uses in urban environments; emphasis on plants' ornamental attributes, cultural requirements, and adaptability in urban and suburban environments. **Prerequisite:** BIOL 101, BIOL 111, BIOL 113, HORT 201, HORT 301, LAND 101, or RENR 205, or approval of instructor.

HORT 313 Introduction to Plant Physiology

Credits 3. 3 Lecture Hours. Study of principal life processes of higher plants; influence of environmental factors on these processes; agricultural and ecological significance of life processes of plants. **Prerequisite:** BIOL 101, BIOL 111 or BIOL 113 and CHEM 222 or CHEM 227.

HORT 315 Issues in Horticulture

Credits 3. 3 Lecture Hours. Analysis of contemporary economic, technological, environmental, human resource, and regulatory issues that impact the way global horticultural firms compete; emphasis on problem recognition and analysis of managerial decisions by firms throughout the entire horticultural supply chain. **Prerequisites:** HORT 201, HORT 202, and junior or senior classification.

HORT 319 Fruit and Nut Production

Credits 3. 2 Lecture Hours. 3 Lab Hours. Rootstocks, cultivars, identification, site selection, pollination, pruning, fruit thinning, dormancy, orchard culture management, irrigation, pest control, harvesting and post harvest physiology of temperate fruit and nut species. **Prerequisite:** HORT 201.

HORT 325 Vegetable Crop Production

Credits 3. 2 Lecture Hours. 3 Lab Hours. Origin, nutritive value, economic importance, botany and cultural practices of the major vegetable crops. Lab activities include organic and non-organic production of major vegetable crops.

HORT 326 Plant Propagation

Credits 3. 2 Lecture Hours. 3 Lab Hours. Principles, practices and techniques followed in the sexual and asexual propagation of horticultural plants: seed technology and seed propagation, rooting and propagation of cuttings, graftage and budding systems, layering and propagation by specialized plant structures, biotechnology and tissue culture systems for micropropagation. **Prerequisites:** Grade of D or better in HORT 201 or approval of instructor.

HORT 328 Wild Edible, Cultivated and Poisonous Herbs

Credits 3. 3 Lecture Hours. Identification, reported uses and cultivation of popular garden herbs, historically useful herbs and wild edible and poisonous herbs; the history of phytomedicinal herbs and the role of horticulture in the advent of select modern pharmaceuticals and nutraceuticals; native Texas wild edible and culturally-useful herbs; reported uses and efficacy of essential oils of herbal plants; propagation and production of cultivated herbs and wild edible plants. **Prerequisites:** HORT 201 or approval of instructor.

HORT 332 Horticulture Landscape Graphics

Credits 3. 2 Lecture Hours. 2 Lab Hours. Graphic representation of landscape design; demonstrations of technique; examination of drawing examples and drawing production; basic hand graphics techniques for visual-thinking and presentation-quality landscape drawings. **Prerequisite:** Junior or senior classification.

HORT 335 Sociohorticulture

Credits 3. 3 Lecture Hours. Horticulture as it relates to humans through people-plant interactions; use of horticulture to improve quality of life; awareness and appreciation of the economic, environmental, social and health benefits of plants. **Prerequisite:** Junior classification.

HORT 360 Landscapes of Sustainable Built Environments

Credits 3. 3 Lecture Hours. Construction and maintenance considerations for landscapes in urban sustainable environments, including green roofs, bioretention cells, rain gardens, and living walls; how to maximize benefits of each system, current trends in regulatory and permitting processes of green infrastructure, and the development of industry-wide guidelines versus standards. **Prerequisites:** Grade of C or better in HORT 201 or concurrent enrollment, or junior or senior classification.

HORT 400 Field Studies in Horticulture

Credits 1 to 3. 1 to 9 Other Hours. History of garden design and the development of the field of Ornamental Horticulture; designs of famous designers Capability Brown and Gertrude Jekyll; pastoral and formal design themes; plant selection and placement from an artistic and functional design perspective; European manipulation of plant form. **Prerequisites:** HORT 201 or HORT 301 and approval of instructor.

HORT 404 Plant Breeding

Credits 3. 2 Lecture Hours. 2 Lab Hours. Application of genetics and other sciences to breeding and improvement of horticultural crops; methods and special techniques employed. Offered in even numbered years. Only one of the following will satisfy the requirements for a degree: HORT 404 or SCSC 304. **Prerequisite:** HORT 201, SCSC 205, or GENE 302, or approval of instructor.

HORT 411 Hydroponic and Soilless Crop Production

Credits 3. 2 Lecture Hours. 2 Lab Hours. Principles, practices, and techniques exploring the science and management of controlled environment crop production using hydroponics and other soil-less cultivation methods; construction and maintenance of hydroponic systems and the growth of crops in a research and commercial production setting. **Prerequisites:** HORT 201 and junior or senior classification.

HORT 416 Understanding Wine - From Vines to Wines and Beyond

Credits 3. 3 Lecture Hours. Facets of wine in the United States and around the world; the history of wine, grape growing and winemaking, types of wine, wine etiquette, beer and spirits, sensory evaluation, wine marketing, and winery tasting room and event management. **Prerequisites:** Must be 21 years of age; junior or senior classification or approval of instructor.

HORT 418 Nut Culture

Credits 3. 3 Lecture Hours. Orchard management, native grove development, cultivars, fruit setting, soils, nutrition, propagation, pest control, harvesting, shelling, storage and marketing of temperate tree nut crops grown in the U.S. with major emphasis on pecans. Offered in odd numbered years. **Prerequisite:** HORT 319 or approval of instructor.

HORT 419 Viticulture and Small Fruit Culture

Credits 3. 3 Lecture Hours. Classic winegrape culture in Europe and U.S. are taught; influence of climate, soil, cultivar, rootstock, canopy and management is presented; nutrition, water, spacing, trellis, pruning, IPM and harvest are integrated for quality yields; culture of muscadines, berries, figs and persimmons are taught. Offered in even numbered years. **Prerequisite:** HORT 201 or approval of instructor.

HORT 420 Concepts of Wine Production

Credits 3. 3 Lecture Hours. Classic wine grapes of the world and where they are produced; evaluation of wine style and quality through formal laboratory tastings. **Prerequisites:** HORT 201 or FSTC 201; must be 21 years of age; junior or senior classification.

HORT 421 Enology

Credits 3. 2 Lecture Hours. 3 Lab Hours. Provides a basic understanding of each step of the wine making process; emphasis on home and small scale commercial wine production as related to Texas conditions. **Prerequisites:** Must be 21 years of age; junior or senior classification.

HORT 423 Tropical Horticulture

Credits 3. 3 Lecture Hours. Production, processing and marketing of coffee, bananas, cacao, mango, cashew, pineapple, coconut and root and tuber crops; recent significant developments in plant breeding and cultural practices. Offered in odd numbered years. **Prerequisites:** HORT 201 or approval of instructor.

HORT 425 Horticulture Landscape Installation

Credits 3. 2 Lecture Hours. 3 Lab Hours. Principles and practices of grading, drainage and construction of residential and small commercial landscapes; cost and bid estimation; soil preparation; transplanting operations; control of landscape diseases and pests; estimating maintenance requirements of landscape installations. **Prerequisite:** HORT 201 or approval of instructor.

HORT 426 International Floriculture Marketing

Credits 3. 2 Lecture Hours. 2 Lab Hours. Importance, cost, and opportunities in marketing floral products, fresh cut flowers, flowering potted plants, foliage plants, and bedding/garden plants; topics include: world production areas, economic value, species grown, marketing channels, retail environments, current/future consumers, postharvest handling, promotion/advertising, perceived/added value, marketing trends and employment opportunities. **Prerequisites:** HORT 201; junior or senior classification.

HORT 428 Greenhouse Technology & Sustainable Crop Production Systems

Credits 3. 2 Lecture Hours. 2 Lab Hours. Greenhouse Technology & Sustainable Crop Production Systems. Technology used to operate and manage energy efficient greenhouses for sustainable production of crops; greenhouse structures, equipment and automation; heating, cooling and ventilating systems; environmental computerized controls; environmental inputs as they affect plant physiological processes and influence plant growth and development including temperature and light, root substrates, water quantity and quality, irrigation efficiency, fertilization sources and integrated pest management; sustainable crop production systems and practices for hydroponics, plug production, photoperiodic crops, vernalization and lighting technology to produce vegetative and reproductive plant products; scheduling, controlling growth, harvesting and marketing practices for commercially important, high quality, high value crops. **Prerequisite:** HORT 201 and junior or senior classification, or approval of instructor.

HORT 429 Floriculture Crop Production

Credits 3. 2 Lecture Hours. 2 Lab Hours. Production of floriculture crops in the greenhouse environment; scheduling and controlling crop growth for target market periods; specific flowering crops will be used as models to demonstrate potted flowering plant, cut flower, and garden plant production systems; hands-on crop production experience in lab. **Prerequisite:** HORT 201 or approval of instructor.

HORT 431 Nursery Production and Management

Credits 3. 2 Lecture Hours. 2 Lab Hours. Container, field and protected culture production of ornamental nursery plants (shrubs, trees, ground covers, bedding plants and herbaceous perennials); retail and wholesale nursery-site selection and development, financing, niche-marketing, personnel and labor management; wholesale nursery production cycles and systems, storage and shipping. **Prerequisites:** Grade of C or better in HORT 201 or approval of instructor.

HORT 432 Horticulture Landscape Design

Credits 3. 2 Lecture Hours. 2 Lab Hours. Application of the principles and elements of design to planning and developing both exterior residential landscape designs and interior commercial designs. **Prerequisites:** HORT 332 or concurrent enrollment; HORT 306 or concurrent enrollment, or HORT 308; or approval of instructor.

HORT 435 Urban Horticulture

Credits 3. 3 Lecture Hours. Introduction to urban horticulture and its role in community development and well-being; emphasis on career opportunities and the roles of the urban horticulture programmer. Offered in odd numbered years. **Prerequisite:** Junior or senior classification.

HORT 440 International Horticulture

Credits 3. 3 Lecture Hours. Examines the source of horticultural commodities; shows how geography, culture, politics, and history influence our markets, gardens and kitchens; educates students on interpreting different garden styles. **Prerequisites:** HORT 201 or HORT 301 and approval of instructor.

HORT 442 Horticulture Landscape Design II

Credits 3. 2 Lecture Hours. 2 Lab Hours. Computer-aided-drafting (CAD) to produce site layout, grading and planting plan, and construction details for small-scale landscape design; advanced design principles and practices in their historical context, includes design and drafting of hardscape details, manipulation of earth forms, ecological urban park design to traditional garden design. **Prerequisites:** HORT 432; HORT 306 or HORT 308, or concurrent enrollment, or approval of instructor.

HORT 446 Commercial Fruit and Vegetable Processing

Credits 3. 2 Lecture Hours. 3 Lab Hours. Pilot plant and laboratory operations pertaining to processed fruits, vegetables and beverages; new product development emphasized via individual laboratory projects. **Prerequisite:** FSTC 311.

HORT 450 Processing Coffee and High-Value Horticultural Crops

Credits 3. 3 Lecture Hours. Examination of the principles behind coffee processing and other high-value food crops including cultivation; different unit processing operations; methods for preservation; packaging and marketing strategies; and a processing plant visit. **Prerequisite:** Junior or senior classification or approval of instructor.

HORT 451 Retail Floristry

Credits 3. 2 Lecture Hours. 3 Lab Hours. Principles of floral design in a commercial shop enterprise; aspects of design in vase arrangements, personal flowers, sympathy flowers and flowers for special occasions; production costs and profit analysis, selling techniques and customer relations; term project required. **Prerequisite:** HORT 203 or approval of instructor.

HORT 452 Floral Design: Weddings and Personal Flowers

Credits 3. 2 Lecture Hours. 3 Lab Hours. Basic principles of floral design as applied to wedding work; design principles and mechanics as applied to corsages, headpieces, hand bouquets and ceremony and reception decorations; history of wedding traditions; selling and pricing weddings. **Prerequisite:** HORT 203 or HORT 451 or approval of instructor.

HORT 453 Floral Art

Credits 2. 1 Lecture Hour. 2 Lab Hours. Advanced study of floral design as an art form in contrast to a commercial florist operation; interpretive expression of design principles and color stressed along with international design styles. **Prerequisites:** HORT 203.

HORT 454 Special Event Design and Production

Credits 2. 1 Lecture Hour. 2 Lab Hours. Role of event planners, production managers, designers, and decorators within traditional event management practices; analyze how artistic components are used in visual styling to achieve a specific purpose; impact of collaborative planning, effective research, and strong communication skills, social psychological and economic influences as they relate to event planning. **Prerequisite:** Junior or senior classification.

HORT 460 Landscape Estimating, Bidding, and Operations

Credits 3. 2 Lecture Hours. 2 Lab Hours. Landscape estimating, bidding and sales processes; business structures, insurance and bonding requirements and business management; overhead costing structures and management; case study involves bidding from a set of landscape plans and specifications. **Prerequisites:** Junior or Senior classification.

HORT 481 Seminar

Credits 2. 2 Lecture Hours. Advanced preparation for the transition from college to the work environment including career investigation, presentation techniques and practice, resume and e-portfolio preparation, and professional development and career advancement; required of all senior students in horticulture. **Prerequisite:** Junior or senior classification.

HORT 484 Internship

Credits 1 to 9. 1 to 9 Other Hours. On-the-job experience program in the student's area of horticultural specialization. May be taken three times for credit. **Prerequisites:** Sophomore, junior or senior classification; approval of instructor; 2.0 GPR in major and overall.

HORT 485 Directed Studies

Credits 1 to 4. 1 to 4 Other Hours. Special problems and projects in any area of horticulture. **Prerequisite:** Junior or senior classification or approval of department head.

HORT 489 Special Topics in...

Credits 1 to 4. 0 to 4 Lecture Hours. 0 to 4 Lab Hours. Selected topics in an identified area of horticultural science. May be repeated for credit. **Prerequisite:** Approval of instructor.

HORT 491 Research

Credits 1 to 3. 1 to 3 Other Hours. Research conducted under the direction of faculty member in horticulture. May be repeated 2 times for credit. Registration in multiple sections of this course are possible within a given semester provided that the per semester credit hour limit is not exceeded. **Prerequisites:** Junior or senior classification and approval of instructor.