

Table of Contents

Horticulture.....1

Horticulture

The horticulture major is administered through the School of Agricultural Sciences. The primary purpose of this major is to provide specialized academic preparation in the different content areas of production horticulture, to provide the skills required for landscape design, construction and maintenance, and to provide the technical skills needed for professional turf management. The horticulture program includes three specialized areas of study.

Production Horticulture Specialization

This specialization provides the student with the background and preparation for careers in production horticulture including vegetable, fruit and ornamental production, viticulture, garden center, greenhouse and nursery production, and tissue culture and propagation methodologies. Students may choose a general option within the program and select their upper division elective credits from a wide choice of courses throughout the School of Agricultural Sciences and the University. If interests are more specialized, students may elect the science option and specialize in a specific discipline.

Landscape Horticulture Specialization

Students selecting this specialization can prepare for interesting careers in landscaping parks, playgrounds, residential or industrial areas, road and street parkway improvement and maintenance to make the environment more pleasing and useful.

Turf Management Specialization

This specialization is intended for students interested in the technical management skills needed for professional turf management and the current strategies regarding environmental, social, political, and business issues within the turf industry.

Opportunities for individual program development within the various specializations/options may be realized through work experience, internships, special studies, and seminars; however, no more than 30 hours of such unstructured coursework may be counted toward the degree. Students in all specializations/options are urged to make use of them to meet the goals and needs of their respective programs.

Students in all specializations must complete the horticulture core. These courses are HORT 220, CSEM 240, one hour of HORT 381, and HORT 409.

Additional Fees

There may be extra expenses for field trips, manual, or supplies in some courses.

Bachelor of Science (B.S.) in Horticulture Degree Requirements

Degree Requirements	Credit Hours
University Core Curriculum Requirements ¹	39

Degree Requirements	Credit Hours
To include MATH 108, CHEM 140A, PLB 200, UNIV 101 for additional four credit hours.	
Requirements for Major in Landscape Horticulture	36
Core Requirements - HORT 220, HORT 381, HORT 409, HORT 423, HORT 424, HORT 430, HORT 432, HORT 436 or HORT 466, HORT 437	31
HORT: 300- or 400-level classes.	7
Other required courses - CSEM 240	4
CHEM 140B ²	4
Business Course ³	3
Agricultural Sciences Electives 300-and 400-Level ⁴	10
Other Electives	18
Total	120

¹ MATH 106, MATH 109, MATH 125, MATH 140 or MATH 150 may be substituted. CHEM 200 and CHEM 201 may be substituted. Any UNIV 101 may be substituted.

² CHEM 210 and CHEM 211 may be substituted.

³ Select one course from ACCT 210, ABE 333, FIN 200, FIN 300, MKTG 304, MGMT 304, MKTG 350, MGMT 350.

⁴ Choose any 300-level or 400-level from ABE, AGRI, ANS, CSEM, HORT, HTA, HND, FOR.

B.S. Horticulture - Production Horticulture (General) Specialization Degree Requirements

Degree Requirements	Credit Hours
University Core Curriculum Requirements	39
Foundation Skills: CMST 101, ENGL 101, ENGL 102, MATH 108, UNIV 101	13
Disciplinary Studies: Fine Arts, Human Health, Humanities, CHEM 140A, PLB 200, ABE 204, Social Science	23
Integrative Studies (Multicultural/Diversity)	3
Requirements for Major	38

Degree Requirements	Credit Hours
Core Requirements: HORT 220, HORT 381, HORT 409, HORT 423, HORT 424, HORT 430, HORT 432, HORT 437; HORT 436 or HORT 466	31
HORT 300- or 400-level	7
Required Courses	43
CSEM 240	4
CHEM 140A, CHEM 140B	5
Business Elective	3
Agricultural Science Elective 300- and 400-level	12
PLB 200	1
Electives	18
Total	120

B.S. Horticulture - Production Horticulture (Science) Specialization Degree Requirements

Degree Requirements	Credit Hours
University Core Curriculum Requirements	39
Foundation Skills: CMST 101, ENGL 101, ENGL 102, MATH 108, UNIV 101	13
Disciplinary Studies: Fine Arts, Human Health, Humanities, CHEM 200, PLB 200, ABE 204, Social Science	23
Integrative Studies (Multicultural/Diversity)	3
Requirements for Major	38
Core Requirements: HORT 220, HORT 381, HORT 409, HORT 423, HORT 424, HORT 430, HORT 432, HORT 437; HORT 436 or HORT 466	31
HORT 300- or 400-level classes	7
Required Courses	43
CSEM 240	4

Degree Requirements	Credit Hours
CHEM 200, CHEM 201, CHEM 202, CHEM 210, CHEM 211, CHEM 212, CHEM 340, CHEM 341, CHEM 250	15
PHYS 203A, PHYS 203B	6
MATH 108, MATH 109	3
Business Elective	3
Agricultural Sciences Elective 300- and 400-level	7
PLB 200	1
Electives	4
Total	120

B.S. Horticulture - Landscape Horticulture Specialization Requirements Degree Requirements

Degree Requirements	Credit Hours
University Core Curriculum Requirements	39
Foundation Skills: CMST 101, ENGL 101, ENGL 102, MATH 108, UNIV 101	13
Disciplinary Studies: Fine Arts, Human Health, Humanities, CHEM 140A, PLB 200, ABE 204, Social Science	23
Integrative Studies (Multicultural/Diversity)	3
Requirements for Major	48
Core Requirements: HORT 220, HORT 327, HORT 328A, HORT 381, HORT 409, HORT 430, HORT 431, or HORT 434	20
HORT 324 OR HORT 326	3
HORT 400-level	4
HORT 300- or 400-level	21
Required Courses	33
CSEM 240	4

Degree Requirements	Credit Hours
CHEM 140A, CHEM 140B	5
Business Elective	3
Agricultural Science Elective 300- and 400-level	10
PLB 200	1
Electives	10
Total	120

B.S. Horticulture - Turf Management Specialization Degree Requirements

Degree Requirements	Credit Hours
University Core Curriculum Requirements	39
Foundation Skills: CMST 101, ENGL 101, ENGL 102, MATH 108, UNIV 101	13
Disciplinary Studies: Fine Arts, Human Health, Humanities, CHEM 140A, PLB 200, ABE 204, Social Science	23
Integrative Studies (Multicultural/Diversity)	3
Requirements for Major	33
HORT 220, HORT 322, HORT 381, HORT 390 (4-6 credits), HORT 403C, HORT 409, HORT 421, HORT 422, HORT 434	26
HORT/CSEM electives: 300-400 level undergraduate classes	7
Other required courses	42
CHEM 140A, CHEM 140B	5
PLB 200	1
AGSE 318, AGSE 370, ANS 314, CSEM 240, CSEM 401, CSEM 420, CSEM 443 or CSEM 446, or CSEM 446, CSEM 447, CSEM 468, Business course	30
College of Agricultural, Life, and Physical Sciences (COAS) 300-400 level electives	6
Other general electives	6

Degree Requirements	Credit Hours
Total	120

Horticulture Minor

A minor in Horticulture is offered. A total of 15 hours of credit is required with at least 12 hours taken at the University. HORT 220 is required and at least eight hours from 300- or 400-level structured courses. The department chair or coordinating counselor must be consulted before selecting this field as a minor.

Intensive Controlled-Environmental Plant Production Certificate

Completion of the Intensive Controlled-Environmental Plant Production Certificate program will produce skilled entry-level certificate-holders with the horticultural management and production skills needed in the rapidly expanding floriculture, specialty vegetable, therapeutic cannabis, and urban and protected structure production systems industries. The certificate may be awarded on a stand-alone basis as well as serving in partial fulfillment of a B.S. in Horticulture.

Course of study

Includes a cross-section of classes that provide the student with problem solving and production skills required for intensive high value crop production systems. Candidates completing the certificate comprised of at least 30 credit hours as listed will be prepared for employment in high value crop production systems.

Intensive Controlled-Environmental Plant Production Certificate

Degree Requirements	Credit Hours
Technical Courses	
AGSE 361	3
AGSE 371	3
Production Courses	
HORT 220	4
CSEM 401	2
HORT 423	3
HORT 430	4
PLB 200	4
AGSE/CSEM/HORT 250	1
AGSE/CSEM/HORT 359	3-4

Degree Requirements	Credit Hours
Focus areas of high value crop production (choose 1)	
PLB 217	3
HORT 424	4
HORT 437	4
HORT 350	3
Total	30

Technology Fee

The School of Agricultural Sciences assesses the School of Agricultural Sciences undergraduate majors a technology fee of \$4.58 per credit hour up to 12 credit hours. The fee is charged Fall and Spring semesters.

Horticulture Courses

HORT220 - General Horticulture 220-4 General Horticulture. [IAI Course: AG 905] Introductory horticulture course that will provide students with a foundation for more advanced horticulture courses and an understanding of the growing and care of plants. The course is designed to acquaint students with the science, art and culture of producing the various horticultural crops. Prerequisite: PLB 200 or equivalent. Lab fee: \$50.

HORT225 - Genetics: Amateur Gardener 225-2 Genetics for the Amateur Gardener. An introduction to the essential principles of genetics and plant hybridization utilizing common garden and house plants.

HORT228 - Floral Arrangements 228-2 Floral Arrangements. Theory and practice in the art of flower and plant arrangement for the home, show, and special occasions. History, elements, and principles of design and the use of color. Lab Fee: \$75.

HORT238 - Home Gardening 238-2 Home Gardening. Gardening techniques for the home gardener including site selection, garden planning, utilization of compost and mulch, pest management, and container gardening. Both inorganic and organic gardening methods are discussed along with the latest recommended varieties for the small garden. Lab fee: \$25.

HORT250 - Pesticide Application 250-1 Pesticide Application. The student will learn the basic principles needed to successfully use pesticides in agricultural production systems. The use and function of application equipment to deliver pesticides in a safe and effective manner will be taught. Basic understanding of scouting, action threshold and decision making, active ingredient rotation, product formulation, and the generation, delivery and function of droplets will be covered. Course fee of \$178 is required for professional certification materials, personal safety, pesticide application resources and pest scouting equipment. Students will be required to pass Illinois pesticide application basic standards exam and at least two other specialty certifications for successful completion of the class.

HORT257 - Work Experience 257-1 to 10 Work Experience. Credit for on-campus work experience in the areas of plant and soil science, or credit through a cooperative program developed between the department and the Office of Student Work and Financial Assistance. Credit awarded based on 4

hours of work per week during the semester for each hour of credit. Special approval needed from the department. Mandatory Pass/Fail.

HORT322 - Turfgrass Management 322-3 Turfgrass Management. Principles and methods of establishing and maintaining turfgrass for lawns, recreational areas, public recreation areas, public grounds and higher-management turf. Identification of plant species, soil properties, and management pertinent to variable environments. Prerequisite: a plant biology course, HORT 220. Lab fee: \$50.

HORT323 - Indoor Tropical Plants 323-3 Principles & Practices of Interior Landscapes & Tropical Plants. Introduction to the art and science of interior plantscaping. Practical application of design principles, staging, plant identification, care and maintenance of plants in interior public spaces including: offices, shopping centers, banks, and public buildings. Indoor green (living) walls will also be explored. Hands on experience will be gained through staging and maintaining interior public areas and administrative offices of SIUC including staging and maintaining a living (green) wall. Prerequisite or co-requisite: HORT 220 or consent of instructor. Lab fee: \$150.

HORT324 - Landscape Annuals 324-3 Landscape Annuals. Identification, classification, culture, and use of herbaceous annuals or plants treated as annuals in the landscape. Prerequisite: HORT 220. Lab fee: \$50.

HORT326 - Landscape Perennials 326-3 Landscape Perennials. Identification, classification, culture and use of herbaceous perennials, hardy bulbous plants, and perennial ornamental grasses in the landscape. Prerequisite: HORT 220. Lab fee: \$50.

HORT327 - Landscape Plant Materials 327-3 Landscape Plant Materials. Identification, usage and adaptability to the landscape of woody (deciduous and evergreen) and ornamental shrubs, trees and vines. Use of plant keys. Prerequisite: HORT 220. Laboratory fee: \$10.

HORT328A - Landscape Design 328A-2 Landscape Design. Introduction to the design process and components of landscape design (plant materials, pavement, site structures, water, landform and buildings). A brief history of landscape design is also explored.

HORT328B - Landscape Design Studio 328B-2 Landscape Design Studio. Practical application of landscape design beginning with basic graphic presentation and design skills leading to a final design of a real site. Distance learning course includes short video clips of "how to do." Lab fee: \$20.

HORT333 - From the Vine to its Wine 333-3 From the Vine to its Wine. Introduction to grape growing and the making, using and appreciation of wine for pleasure, health and profit. Discover the science and art of growing, making and using wine. Participatory approach to instruction with emphasis on beginning the novice on a successful journey through the wonderful world of grapes and wine. Includes a Midwest perspective. A three-day tour of the regional industry and a Saturday tour of local establishments required. Must be 21 years of age by September 15 (prior to wine tasting exercises) of semester taken to enroll. Proof of age and signature on informed consent form required at first class meeting. Offered fall semester only. Purchase and use of required textbook mandatory. Lab fee: \$245.

HORT350 - Manage Artificial Environments 350-3 Managing Artificial Environments for Horticultural Crops. Students learn basics of intensive, high-value crop production in artificial/controlled growing environments (e.g., greenhouse, high tunnel, or other indoor environment). Course covers greenhouse structures, their basic operation & fundamental environmental management, plant growth & maintenance, diseases & pests, and crop scheduling & production of high value, intensively grown plants. Course fee of \$142 is required for supplies associated with hands-on laboratory exercises and travel expenses. Participation in six all day Saturday field trip visits to industry production facilities are required.

HORT359 - Intern Program 359-1 to 6 Intern Program. Supervised work experience program in either an agricultural agency of the government or agribusiness. Restricted to junior standing. Special approval needed from the department. Mandatory Pass/Fail.

HORT381 - HORT Seminar 381-1 to 2 (1,1) Horticulture Seminar. Discussion of special topics and/or problems in the various areas of horticulture. Prerequisite: CMST 101. Restricted to junior standing.

HORT390 - Special Studies in HORT 390-1 to 8 Special Studies in Plant and Soil Science. Assignments involving research and individual problems. Special approval needed from the department.

HORT391 - Honors in HORT 391-1 to 4 Honors in Plant and Soil Science. Independent undergraduate research sufficiently important to three hours per week of productive effort for each credit hour. Special approval needed from the department.

HORT403B - Horticultural Crop Diseases 403B-2 Horticultural Crop Diseases. A survey of major diseases of important horticultural crops in the United States. Disease identification, cycles, and management strategies will be addressed. Not for graduate credit. Prerequisite: HORT 220.

HORT403C - Turfgrass Diseases 403C-1 Turfgrass Diseases. A survey of major diseases of important turfgrasses in the United States. Disease identification, cycles, and management strategies will be addressed. Not for graduate credit. Prerequisite: HORT 220.

HORT403D - Tree Diseases 403D-1 Tree Diseases. A survey of major diseases of important tree species in the United States. Disease identification, cycles, and management strategies will be addressed. Not for graduate credit. Prerequisite: HORT 220.

HORT409 - Crop Physiology 409-3 Crop Physiology. (Same as CSEM 409) Principles of basic plant physiology. Topics include cell structure, photosynthesis, respiration, water and mineral relations, vascular transport and plant growth regulators. Prerequisites: PLB 200, CHEM 140B. Lab fee: \$50.

HORT421 - Turf Mgt Issues/Strategies 421-3 Turf Management Issues and Strategies. Issues in environment, technology, management, society, politics, business, and sports that interact with turf management. Students will utilize periodicals and other references for preparing papers addressing these issues. Prerequisite: HORT 322 or permission of instructor. Lab fee: \$25.

HORT422 - Turfgrass Science & Pro Mgmt 422-3 Turfgrass Science and Professional Management. Basic concepts of physiology, growth, and nutrition of turfgrasses and their culture. Application of turfgrass science to management of special areas, such as golf courses, athletic fields, sod farms, and to the turfgrass industry. Prerequisite: CSEM 240 and HORT 322. Lab fee: \$50.

HORT423 - Greenhouse Management 423-3 Greenhouse Management. Principles of greenhouse management controlling environmental factors influencing plant growth; greenhouses and related structures; greenhouse heating and cooling systems. Prerequisite: HORT 220. Lab fee: \$40.

HORT424 - Floriculture 424-4 Floriculture. Production, timing, and marketing of the major floricultural crops grown in the commercial greenhouse. Each student will have an assigned project. Prerequisite: HORT 220. Lab fee: \$40.

HORT428 - Advanced Landscape Design I 428-3 Advanced Landscape Design I. Development of the design process, graphics and verbal communication of landscape projects. Emphasis on large scale projects and residential design. Prerequisite: HORT 328A and 328B. Lab fee: \$25.

HORT429 - Advanced Landscape Design II 429-3 Advanced Landscape Design II. Development of the design process, graphics and verbal communication of landscape projects. Emphasis on construction details, color rendering and portfolio development. Prerequisite: HORT 428. Lab fee: \$25.

HORT430 - Plant Propagation 430-4 Plant Propagation. Fundamental principles of asexual and sexual propagation of horticultural plants. Actual work with seeds, cuttings, grafts, and other methods of propagation. Not for graduate credit. Prerequisite: HORT 220. Field trip cost approximately \$5. Lab fee: \$40.

HORT431 - Landscape Construction 431-4 Landscape Construction. An introduction course in the basic elements of landscape construction dealing with wood, concrete, masonry, and stone. Emphasis will be placed on safety, interpretation of construction drawings, specifications for specific structures, materials selection, cost estimation, site preparation, and construction techniques. Not for graduate credit. Prerequisite: HORT 220. Lab fee: \$170.

HORT432 - Garden Center & Nursery Mgmt 432-4 Garden Center and Nursery Management. Principles and practices in both fields and container production or ornamental landscape materials and the

marketing of landscape plant materials at the nursery and retail garden center. Business management or both nurseries and garden centers will be included. Not for graduate credit. Prerequisite: HORT 220. Lab fee: \$50.

HORT433 - Intro to Ag Biotechnology 433-3 to 7 Introduction to Agricultural Biotechnology. (Same as AGSE 433, ANS 433, CSEM 433, PLB 433) This course will cover the basic principles of plant and animal biotechnology using current examples; gene mapping in breeding, transgenic approaches to improve crop plants and transgenic approaches to improve animals will be considered. Technology transfer from laboratory to marketplace will be considered. An understanding of gene mapping, cloning, transfer, and expression will be derived.

HORT434 - Landscape Maintenance Operns 434-3 Landscape Maintenance Operations. Course is designed as a general introduction to landscape maintenance operations. Topics discussed include plant selection, site selection, climatic effects, planting, fertilization, pruning, diagnosis of plant problems, weed control and pest management. Emphasis given to business management practices and cost estimation skills. Not for graduate credit. Prerequisite: HORT 220.

HORT436 - Successful Fruit Growing 436-4 Successful Fruit Growing. Learn how to grow and use temperate fruit trees for your pleasure and/or economic benefit. Learn to use the basic principles of plant-environment interaction to understand and solve common problems found in the culture of tree fruit crops in the landscape, garden or orchard. Master the secrets of fruit growing through emphasis on hands-on experiential laboratories. Focus on midwest culture of tree fruit and nut crops. One-day field trip. Required textbook mandatory. Not for graduate credit. Prerequisite: HORT 220. Lab fee: \$135.

HORT437 - Vegetable Production 437-4 Vegetable Production. Culture, harvesting, and marketing of vegetables; with morphological and physiological factors as they influence the crops. Not for graduate credit. Prerequisite: HORT 220. Lab fee: \$25.

HORT439 - Landscape Design Software 439-3 Introduction to Landscape Design Software. Introduces students to a popular software program used to create landscape designs. Emphasis is on learning the software program rather than learning the design process. Prerequisite: HORT 328A and HORT 328B.

HORT462 - Sustainable Landscape Practice 462-3 Sustainable Landscape Practices. Landscape practices designed and maintained with respect to natural systems offer ecological benefits, functional solutions and aesthetic value to outdoor spaces. This course will introduce best practices and construction methods of sustainable landscape features as green roofs, green walls, and permeable pavers with an emphasis on construction details, material selection and case studies. Students will expand critical thinking skills as applied to landscape planning.

HORT463 - Plants in Ecological Landscape 463-3 Plants in the Ecological Landscape. Introduction to alternative plant selections for the urban landscape associated with use of native plants and creating edible landscapes. Emphasis is placed on site selection, whether in the ground, in containers or on a green roof, to determine best practices and appropriate plant choices in urban environments.

HORT466 - Vine & Small Fruit Culture 466-4 Vine and Small Fruit Culture. Study of the developmental patterns and environmental responses of important vine and small fruit crops; strawberries, brambles, blueberries, grapes and exotic crops. Learn to adapt these crops to profitable culture for the amateur or professional with a Midwest focus. Practical hands-on experience in the classroom and the field. Two one-day field trips required. Required textbooks mandatory. Not for graduate credit. Prerequisite: HORT 220. Lab fee: \$150.

HORT467 - Wines of the World 467-3 Wines of the World. Varieties, terroir, culture and connoisseurship. Study the impact of varieties, terroir and culture on important wines from regions around the world. Learn wine geography and its effect on wine character with practical hands-on experience and expand connoisseurship skills. A team approach to wine appellation presentations and a term project involved in the wine trade will teach industry production, marketing and networking skills. Meet once a week for 4 hours; 2 hr lecture, 2 hr lab. Meeting time arranged for convenience of majority interested in taking the class, with instructor approval. Prerequisite is successful completion of HORT 333, From the Vine to its Wine, with a grade of C or better. Must be 21 years of age prior to beginning of class to enroll.

Proof of age and signature on informed consent form required at first class meeting. Purchase and use of required textbook mandatory. Laboratory fee of \$192.

HORT469 - Organic Gardening 469-3 Organic Gardening. This class will focus on the philosophical background of organic farming, as well as the biological, environmental and social factors involved in organic food production. The student will learn the basic principles of successful organic gardening without the need to use man-made synthetic chemical sprays and fertilizers. Topics covered will include soils and organic fertilizers, composting and mulches, companion planting and crop rotation, organic cultivation of fruit, vegetable and ornamental flowers/shrubs, organic pest and disease control, permaculture, and organic garden planting design and maintenance.

HORT470 - Post Harvest Handling 470-2 Post Harvest Handling of Horticultural Commodities. Fundamental principles of post harvest physiology, handling, and evaluation of horticultural commodities will be covered. Specific details will be given on vegetable, fruit, ornamental, and floricultural commodities. Not for graduate credit. Prerequisite: HORT 220 and PLB 320. Field trip costing approximately \$30.

HORT475 - Golf Course Green Instal/Maint 475-4 Golf Course Green Installation and Maintenance. This course will focus on the requirements, installation, care and maintenance of the rooting media of golf course putting green and turfgrass on disturbed soils. Not for graduate credit. Prerequisite: CSEM 240.

HORT480 - Designing Outdoor Spaces 480-3 Designing Outdoor Spaces. This course will instruct and challenge the student to design outdoor spaces that cultivate a sense of place as related to the site and the user. The course will review fundamental landscape planning process including principles and elements of design with an emphasis on "green" decision making. Special approval needed from the department.

Horticulture Faculty

Boren, Amy, Senior Lecturer, M.S., Southern Illinois University, 1980.

Gage, Karla, Assistant Professor, Ph.D., Southern Illinois University, 2013.

Henry, Paul H., Associate Professor, Ph.D., North Carolina State University, 1991.

Jones, K. L., Professor and Chair, Ph.D., Texas A&M University, 1999.

Taylor, Bradley H., Associate Professor, Ph.D., Ohio State University, 1982.

Walters, S. Alan, Professor, Ph.D., North Carolina State University, 1996.

Emeriti Faculty

Diesburg, Kenneth, Assistant Professor, Emeritus, Ph.D., Iowa State University, 1987.

Midden, Karen L., Professor, Emeritus, M.L.A., University of Georgia, 1983.

Preece, John E., Professor, Emeritus, Ph.D., University of Minnesota, 1980.

Last updated: 03/10/2021

Southern Illinois University

Carbondale, IL 62901

Phone: (618) 453-2121

Catalog Year Statement:

Students starting their collegiate training during the period of time covered by this catalog (see bottom of this page) are subject to the curricular requirements as specified herein. The requirements herein will extend for a seven calendar-year period from the date of entry for baccalaureate programs and three years for associate programs. Should the University change the course requirements contained herein subsequently, students are assured that necessary adjustments will be made so that no additional time is required of them.