



THE DEPARTMENT OF HORTICULTURE AND LANDSCAPE ARCHITECTURE

MISSION AND PROGRAMS

Our mission is to discover, apply, and disseminate knowledge and technology and to develop leaders in horticulture and landscape architecture. Our focus is to solve problems for people, agriculture, and the environment, and to improve policy making and public education while developing a workplace conducive to scholarship and creativity fostered by teamwork and individual diversity. Only then can excellence be achieved in the fulfillment of our mission. Our goal is to achieve increased professional satisfaction and to become recognized leaders in the state, the nation, and the world in serving agriculture, science, and society.

Three departmental majors are offered at Colorado State University -- horticulture, landscape architecture, and landscape horticulture. Within the horticulture and landscape horticulture majors, students specialize in one of several concentrations.

HORTICULTURE

In horticulture, the concentrations are floriculture, horticultural business management, horticultural food crops, horticultural science, horticultural therapy, and viticulture and enology.

The **floriculture concentration** is designed to provide an understanding of the environmental/plant relationships required to produce quality greenhouse-grown products. Courses in the production, use, and marketing of cut flowers, bedding and pot plants, and foliage plants complement an array of classes within the Department of Horticulture and Landscape Architecture and across the campus. Valuable “hands-on” experience can be gained through practicum programs involving production and marketing. Students completing the floriculture concentration have the opportunity to enter a number of floriculture-related professions including: greenhouse production, all phases of retail and wholesale floral business, greenhouse supply sales, greenhouse construction and computerized environmental control, plant breeding, and plant research.

The **horticultural business management concentration** provides the opportunity to gain the broadest horticultural background available within the department, and at the same time, participate in key business courses in the College of Business. Students may expand their specific horticultural interests or take an array of horticulture courses which can lead to more job opportunities in the future. Horticultural business students have the background to manage any horticulture business or market associated products, including the operation of garden centers, nurseries, fruit and vegetable production operations, greenhouses, or floral products outlets. Opportunities also exist in the sale of facilities, equipment, and supplies involved in all aspects of horticulture. Positions as buyers of horticulture products within the U.S. or international businesses are possible.

Students electing the **horticultural food crops concentration** focus their studies on systems related to production of fruits and vegetables. Specific areas include fruit production, vegetable production, irrigation practices, soil fertility, propagation, breeding, and related plant pest management courses.

Horticultural scientists conduct research to discover new information about plant growth, development, and environmental response. Applied knowledge from such studies leads to new plant varieties and production methods. Undergraduates choosing the **concentration in horticultural science** receive a solid foundation in the basic sciences and agricultural sciences leading to technical and scientific careers in laboratory, greenhouse, or field research. Work may be in the public or private sector. Exceptional students participate in individual research projects overseen by a qualified professor. Horticultural science graduates often continue their education to the master’s or doctoral level.

Horticultural therapy is a professional practice that uses the cultivation of plants and gardening activities to improve the mental and physical health of its participants. The **horticultural therapy concentration** combines horticulture courses with the study of therapy/human sciences, leading to careers in health care and human services. Horticultural therapy students gain the skills necessary to establish, manage and work in a range of program types such as mental health, vocational, correctional, rehabilitative, wellness, educational, community-based and long term care.

The **viticulture and enology concentration** is designed to give students a background in food crop production with a focus on grapes and their processing into wine. Students gain practical experience through required internships, which are in grape production and wine-making. This is accomplished via one or more internships at a winery and/or vineyard. Students take background courses in science and pest identification and management as well as food safety and plant nutrition. Students completing the concentration have the opportunity to enter industry as an assistant grower or wine maker.

LANDSCAPE ARCHITECTURE

Landscape architecture is a licensed professional discipline concerned with the planning and spatial design of landscapes. Its practitioners work at all scales — from that of the home garden or entry terrace to corporate sites, parks, greenways, communities, mines, national parks and forests — to plan, design, and specify changes to existing natural- and human-dominated areas of land. These changes may include ecological restoration of disturbed land, human development, and settlement of land, or further improvements and beautification of occupied land.

At the core of the profession, knowledge gained in the arts and sciences enables landscape architects to recommend appropriate forms of human engagement with the landscape. To understand the interactions between people and land, students of landscape architecture learn to understand the nature of the Earth's past and present physical and biological systems and their behavior, together with the nature of humans, individuals, and communities. Course work in behavioral, natural, and social sciences, design theory and history, spatial design communication, data processing technology, construction practices and administration, and professional practice provides students with the skills, knowledge, and values to plan and design landscapes.

Embodied in the ethics of landscape architecture is the ecological notion of the deep interrelatedness of all living things on the planet with the environments that sustain them, including humans and their settlements. Landscape architects, therefore, tend to take the “long view” of most issues associated with human land use, looking fully at the sweep of time that has formed the landscape as a guide to recommending landscape change. The long view, of course, applies at all scales.

Most landscape architects find employment in firms offering professional planning and design services to corporations, governments, institutions, and individuals. In these firms there is often a high degree of collaboration with natural and social scientists, architects, engineers, city planners, and others in the preparation of plans and designs. Landscape architects also represent the interests of landowners in specifying construction of improvements to their land. They observe construction progress to assure that it is proceeding according to plan, advising the owner of discrepancies in quality and quantity of the contracted work. Landscape architects may be self-employed in these activities. A great many also find work in the public sector in municipal and regional open space, parks or planning agencies, national parks, national forests, and other federal land management agencies. Those who go on to pursue a second professional degree at the master's or Ph.D. level will also find academic and research employment opportunities.

LANDSCAPE HORTICULTURE

The **landscape business** concentration focuses on horticulture and business. Students completing this concentration will also earn a minor in business through the College of Business. This concentration will most benefit those individuals desiring sales and management opportunities in our profession.

Students in the **landscape design and contracting concentration** focus on the use of plants in outdoor and indoor spaces for optimum living, working, and recreation. This concentration offers opportunities for students who can combine applied art and science courses in designing landscapes for residential, commercial, and small-scale public properties. Courses in this concentration include design principles, graphics, grading, construction methods, and the creative use of plant materials. Therefore, elective high school courses in art, design, or drawing are recommended.

The **nursery and landscape management concentration** provides extensive training in landscape plant nomenclature, culture, and use. Supporting courses are in pest management, soils, business management, and horticulture. The curriculum also develops skills needed for starting and managing a personally owned nursery and/or

landscape management firm. Nursery specialists propagate and produce trees, shrubs, groundcovers, and herbaceous perennials for the landscape industry.

Managing employees, materials, and money in the landscape and nursery industry are all aspects of this profession. Professional management of landscapes is one aspect of this industry which is in high demand due to modern lifestyles. The nursery and garden center businesses are strong, and prospects for future prosperity are high. The nursery, landscape management, arboriculture, and botanic garden-arboreta industries provide most of the career options. Graduates typically receive positions as propagators, superintendents, managers, and salespersons. Positions as community foresters or plant diagnosticians are also possible.

The thriving turfgrass industry offers management opportunities ranging from sod production to the establishment and maintenance of private and public grounds. Turfgrass managers are supervisors for golf courses, ski resorts, sports fields, and for park departments. Other employment opportunities include the management of industrial and institutional grounds, highway reclamation, and erosion control. Graduates completing the **turf management concentration** command some of the highest salaries in professional agriculture. Studies in this concentration focus on the production and maintenance of ornamental and functional turfgrass areas. Two turf-oriented courses are supplemented by classes in nursery and landscape management, plant and soil science, business management, and irrigation design.

The Interdisciplinary Studies Program in Organic Agriculture

Organic food and fiber production is the fastest-growing sector of the agricultural industry and provides many opportunities for students interested in horticultural crops such as fruit and vegetables. It is fueled by consumer demand in both North America and Europe. The **Interdisciplinary Studies Program in Organic Agriculture** at Colorado State University provides a unique opportunity to study the science of organic production. The program builds on a base of fundamental agriculture courses with additional course work in methods, management and marketing of organic products.

An outline of the requirements for each of the majors and concentrations may be found in the University *General Catalog*. Checksheets listing course requirements are also available from the Department of Horticulture and Landscape Architecture office, faculty advisers or on-line at <http://hla.colostate.edu>. Key advisers for the department majors are:

Harrison G. Hughes, Horticulture, 210 Shepardson Building, Phone: 970-491-7050

Brad Goetz, Landscape Architecture, B104 Natural Environmental Sciences Building, Phone: 970-491-7690

James E. Klett, Landscape Horticulture, 219 Shepardson Building, Phone: 970-491-7179

DEGREE REQUIREMENTS — The bachelor of science degree requires a minimum of 120 semester credits, including a minimum of 27 credits in horticulture courses in the horticulture or landscape horticulture major and 42 credits in upper-division (300-400 level) courses. The landscape design and contracting concentration requires a minimum of 125 credits and the landscape architecture major requires a minimum of 132 credits. The minimum cumulative grade point average for graduation is 2.0 (2.0 = C) computed only for courses attempted at Colorado State University.

1. Basic Competencies
 - A. Intermediate Writing (CO 150)
 - B. Mathematics (3 credits)
2. Additional Communication (3 credits)
 - A. Oral Communication OR
 - B. Advanced Writing
3. Foundations and Perspectives
 - A. Biological/Physical Sciences (7 credits, including laboratory)
 - B. Arts/Humanities (6 credits)
 - C. Social/Behavioral Sciences (3 credits)
 - D. Historical Perspectives (3 credits)
 - E. Global and Cultural Awareness (3 credits)
4. Depth and Integration* – Each major must include courses that develop:
 - A. Course(s) designated by major that build on Core competencies
 - B. Course(s) designated by major that build upon foundations of knowledge and intellectual perspectives in Core Category 3 in an integrative and complementary way
 - C. Senior capstone experience designated by major

* This category is met by a minimum of two upper-division courses that total at least five credits.

Refer to the All-University Core Curriculum (AUCC) in the *General Catalog* for a list of specific courses and other requirements and explanations concerning the AUCC. Students receiving degrees from Colorado State University must complete a minimum of 30 credits in residence. Also, of the last 30 credits earned immediately preceding graduation, no more than 15 credits may be completed at other accredited colleges and universities.

TRANSFER CREDIT - A maximum of 64 semester credits may be transferred from an accredited two-year college. After a transfer student is admitted and the transcript is evaluated by the Degree and Transfer Evaluation Office, a copy of the transfer evaluation report is forwarded to the student and to the department. A review of the evaluation is possible if the student makes the request during the first semester of enrollment after receiving the evaluation report. Please note that courses completed at two-year schools which carry similar titles to 300- and 400-level courses at Colorado State University are not considered equivalent; credit earned at a two-year college may not be used to clear 300- and 400-level here at our university. Often these courses will be considered elective courses at Colorado State University. In planning their program, transfer students frequently wish to make course substitutions within their concentration. If the student's adviser concurs, these recommended substitutions should be submitted for approval in writing during the first semester of residence. "Exception" forms are available in the Horticulture and Landscape Architecture Office, 111 Shepardson.

Currently enrolled students wishing to take courses off campus, during summer session, interim term, etc., must counsel with their advisers as to the appropriateness of the off-campus course and its application to degree requirements. It is the student's responsibility to have an official transcript forwarded to the Degree and Transfer Evaluation Office.

INDEPENDENT STUDY - Junior and senior students are encouraged to enroll in HORT 495 or LAND 495A-B, Independent Study, and to conduct research work under faculty direction. Since the research often continues throughout the school year, students should consult with their advisers regarding enrollment and course credit.

FINANCIAL ASSISTANCE - INTERNSHIPS FOR UNDERGRADUATES - Horticulture/Landscape Horticulture students may arrange through their adviser to enroll in HORT 487 Internship, and engage in off-campus professional work for one semester, earning credits toward their degree while receiving on-the-job experience. During recent years, horticulture and landscape horticulture students have participated in this program working in nurseries and greenhouses, in the Cooperative Extension Service, with seed companies, landscape contractors and other commercial firms, and in research. Internship information may be obtained from the office staff in 111 Shepardson or on-line at <http://hla.colostate.edu>.

SCHOLARSHIPS AND FINANCIAL AID - Students are encouraged to seek information concerning scholarships and other financial aid for which they may be eligible. Not all scholarships are based on need, and many are defined as to major, class standing, residence, 4-H experience, etc. Contact the Financial Aid Office, Room 103, Centennial Hall, (formerly Administration Annex Building) 970-491-6321 or go on-line at www.sfs.colostate.edu for university scholarship information and www.agsci.colostate.edu/forstudents/scholarship/scholmain.htm for College of Agricultural Sciences scholarship information.

WORK-STUDY PROGRAM AND DEPARTMENTAL EMPLOYMENT - The work-study program provides part-time, on-campus employment for students with documented financial and/or merit-based need. Work-study applications must be completed during the spring of the preceding year, and students must reapply for each succeeding year. Students who wish to begin the program in the spring semester must apply as early in the fall semester as possible. For more information, contact the coordinator, Janeen Sivon, Office of Student Employment, Room 133, Student Services Building, phone 970-491-5714. In addition to the work-study program, there are limited employment opportunities in departmental laboratories, greenhouses, and studios. For other University-wide employment, contact the Office of Student Employment at the address given above.

CAREER PLACEMENT - The number of yearly graduates in the Department of Horticulture and Landscape Architecture at Colorado State University has been stable in recent years, and employment opportunities are varied and plentiful. The department is placing increased emphasis on career counseling and placement. Senior students are encouraged to confer with their advisers and other faculty regarding employment opportunities. Students are also encouraged to register with The Career Center at 116 Lory Students Center (491-5707). Announcements of employment opportunities are posted on the department's bulletin board, and the department organizes an annual Career Day in February.

DATES FOR 2009-2010 ACADEMIC YEAR

Monday, August 24	Fall classes begin	Tuesday, January 19	Spring classes begin
November 21-29	Fall recess	March 13-21	Spring recess
Friday, December 11	Classes end	Friday, May 7	Classes end
Friday, December 18	Fall semester ends	Friday, May 14	Spring semester ends

DEPARTMENT FACILITIES - The Department of Horticulture and Landscape Architecture, including offices, classrooms, and laboratories, is housed in the Shepardson Building on the main campus. The landscape architecture studios are located on the north end, first floor of the Natural and Environmental Sciences Building (NESB), south of Shepardson. Other available facilities include the University Greenhouses and classrooms located directly southwest of the NESB, the research greenhouses and extensive trial plots at the W. D. Holley Plant Environmental Research Center (PERC) on West Lake Street, the Annual Flower Trial Garden at 1401 Remington Street, and the 65-acre Horticulture Field Research Center located seven miles northeast of Fort Collins. Department faculty are also located at the four research centers as listed. Additional information about the Department of Horticulture and Landscape Architecture may be obtained from the main office, Room 111 Shepardson Building, by calling 970-491-7019 or by FAX: 970-491-7745. Please also explore our departmental web pages at: <http://hla.colostate.edu>.

**FACULTY: MEMBERS OF THE DEPARTMENT OF HORTICULTURE AND LANDSCAPE ARCHITECTURE
FACULTY TOGETHER WITH THEIR MAJOR INTERESTS ARE LISTED BELOW:**

Mike Bartolo	Vegetable crops (AVRC)	(719) 254-6312
Bill Bauerle	Ecophysiology	(970) 491-4088
Horst Caspari	Viticulture-wine grapes (OMRC)	(970) 434-3264, ext. 204
Dana Christensen	Field Research Center Manager/turfgrass breeding	(970) 482-8563
Rob Davidson	Seed potatoes, potato certification (SLVRC)	(719) 754-3594, ext. 15
Christine Dianni	Landscape architecture	(970) 491-7283
Samuel Essah	Potato production, physiology and storage (SLVRC)	(719) 754-3594
Bradley Goetz	Landscape architecture	(970) 491-7690
Rebecca Haller	Horticultural Therapy Institute	(303) 388-0500
David Holm	Potato breeding and physiology (SLVRC)	(719) 754-3594, ext. 14
Harrison Hughes	Genetics and plant breeding	(970) 491-7050
Sastry Jayanty	Post-harvest physiology-SLVRC	(719) 754-3594, ext. 11
Wei Qin Jiang	Cancer Prevention Lab	(970) 491-2985
Zach Johnson	Landscape design and contracting	(970) 491-2835
Jim Klett	Ornamentals and nursery management	(970) 491-7179
Tony Koski	Turfgrass science	(970) 491-7070
Harold Larsen	Fruit crops pathology/diseases (OMRC)	(970) 434-3264
Patrick Martin	Landscape ecology	(970) 491-7216
Joe McGrane	Landscape architecture	(970) 491-7681
Steve Menke	Enology	(970) 434-3264, ext. 202
Elizabeth Mogen	Landscape design and contracting	(970) 491-7089
Steve Newman	Greenhouse crops and stress physiology	(970) 491-7118
Merlyn Paulson	Landscape architecture	(970) 491-7594
Yaling Qian	Turfgrass science	(970) 491-7079
Frank Stonaker	Specialty Crops Coordinator	(970) 491-7068
Cecil Stushnoff	Plant stress physiology	(970) 491-7110
Henry Thompson	Human nutrition; Director/Cancer Prevention Lab	(970) 491-7748
Jorge Vivanco	Rhizosphere biology	(970) 491-7170
Steve Wallner	Department Head	(970) 491-7018
Tiffany Weir	Rhizosphere biology	(970) 491-4351
David Whiting	Master Gardener Coordinator, ornamental horticulture	(970) 491-7030
Zongjian Zhu	Cancer Prevention Lab	(970) 491-4852

RESEARCH ASSOCIATES and RESEARCH SCIENTISTS

Dayakar Badri	Rhizosphere biology	(970) 491-4266
Sara Bartels	Cancer Prevention Lab (Denver)	(303) 370-7937
Elizabeth Daeninck	Cancer Prevention Lab (Denver)	(303) 370-7937
Vanessa Fitzgerald	Cancer Prevention Lab	(970) 491-4652
Fahrettin Goktepe	Potato Breeding & Physiology (SLVRC)	(719) 754-3594
John McGinley	Cancer Prevention Lab	(970) 491-3041
Elizabeth Neil	Cancer Prevention Lab	(970) 491-2687
Mary Playdon	Cancer Prevention Lab (Denver)	(303) 370-7937
John Ray	Floriculture	(970) 491-4615
Denise Rush	Cancer Prevention Lab	(970) 491-2687
Jennifer Sells	Cancer Prevention Lab	(970) 491-2687
David Staats	Ornamentals	(970) 491-2843
Sarah Wilhelm	Turfgrass Science	(970) 491-7679
Jarrold Zacher	Cancer Prevention Lab	(970) 491-2687

OFF-CAMPUS RESEARCH CENTERS INCLUDE:

ARKANSAS VALLEY RESEARCH CENTER , Rocky Ford, CO	(719) 254-6312
SAN LUIS VALLEY RESEARCH CENTER , Center CO	(719) 754-3495
WESTERN COLORADO RESEARCH CENTER:	(970) 434-3264
Orchard Mesa Research Center , Grand Junction, CO	(970) 434-3264
Rogers Mesa Research Center , Hotchkiss, CO	(970) 872-3387

AFFILIATE FACULTY

Jorge Delgado	USDA-ARS-Soil Plant Nutrient	(970) 492-7260
Panayoti Kelaidis	Denver Botanic Gardens	(720) 419-4266
Sarada Krishnan	Denver Botanic Gardens- Director	(720) 353-1260
Harvey Lang	Floriculture	(303) 415-1466
Victor Loyola-Vargas	Plant biochemistry/Rhizosphere Biology Lab	
Daniel Manter	Plant physiology/USDA/ARS	(970) 492-7255
Karen Panter	Floriculture	(307) 766-5117
Scot Sedlacek	Cancer Prevention Lab/Clinician	(303) 321-0302
Gayle Volk	Plant physiology/development	(970) 495-3205
Pam Wolfe	Biostatistician/Cancer Prevention Lab	(720) 283-6658
Abdelouahhab Zaid	Coordinator-Date Pam Global Network-UAE University	971-3-7832334
Richard Zink	USDA	(970) 214-5322

FACULTY JOINT APPOINTMENTS

Robert Cox	Arapahoe County Extension	(303) 738-7966
Brooke Edmunds	Regional Extension Specialist/Comm. Greenhouse & Nurseries	(303) 637-8100
Barbara Fahey	Golden Extension Agent/Native Plant Master	(303) 239-9643
Fred Haberecht	Landscape Architect - Facilities	(970) 491-0162
Patrick Miller	BioAg Science & Pest Management	(970) 491-5261
Laura Pottorff	Colorado Department of Agriculture	(303) 239-4178
Laurel Potts	Eagle County Extension	(970) 328-8633
Irene Shonle	Gilpin County Extension	(303) 582-9106

Colorado State University is an equal opportunity/affirmative action institution and complies with all Federal and Colorado State Laws, regulations and executive orders regarding affirmative action requirements. The Office of Equal Opportunity is located in 101 Student Services. In order to assist Colorado State University in meeting its affirmative action responsibilities, ethnic minorities, women, and other protected class members are encouraged to apply and to so identify themselves.