HORTICULTURE - B.A.H.

College of Applied and Technical Studies
www.kent.edu/cats

About This Program

Cultivate your green thumb with Kent State's horticulture program. Our Bachelor of Applied Horticulture degree provides hands-on training in plant cultivation, landscape design, and sustainable practices. With experienced faculty, cutting-edge facilities, and real-world experience, you'll gain the skills needed to succeed in the horticulture industry. Enroll now and bring your love of plants to life. Read more...

Contact Information

- **Sheren Farag** | sfaragmo@kent.edu | 330-337-4270
- Speak with an Advisor
- Chat with an Admissions Counselor

Program Delivery

- **Delivery:**
  - In person
- **Location:**
  - Salem Campus

Example of Possible Careers and Salaries*

Farmers, ranchers, and other agricultural managers

- -6.5% decline
- 952,300 number of jobs
- $68,090 potential earnings

First-line supervisors of construction trades and extraction workers

- 4.8% about as fast as the average
- 685,000 number of jobs
- $67,840 potential earnings

Landscaping and groundskeeping workers

- 10.1% much faster than the average
- 1,188,000 number of jobs
- $31,730 potential earnings

* Source of occupation titles and labor data comes from the U.S. Bureau of Labor Statistics' Occupational Outlook Handbook. Data comprises projected percent change in employment over the next 10 years; nation-wide employment numbers; and the yearly median wage at which half of the workers in the occupation earned more than that amount and half earned less.

Admission Requirements

The university affirmatively strives to provide educational opportunities and access to students with varied backgrounds, those with special talents and adult students.

First-Year Students on the Kent Campus: First-year admission policy on the Kent Campus is selective. Admission decisions are based upon cumulative grade point average, strength of high school college preparatory curriculum and grade trends. Students not admissible to the Kent Campus may be administratively referred to one of the seven regional campuses to begin their college coursework. For more information, visit the admissions website for first-year students.

First-Year Students on the Regional Campuses: First-year admission to Kent State's campuses at Ashtabula, East Liverpool, Geauga, Salem, Stark, Trumbull and Tuscarawas, as well as the Twinsburg Academic Center, is open to anyone with a high school diploma or its equivalent. For more information on admissions, contact the Regional Campuses admissions offices.

International Students: All international students must provide proof of proficiency of the English language (unless they meet specific exceptions) through the submission of an English language proficiency test score or by completing English language classes at Kent State's English as a Second Language Center before entering their program. For more information, visit the admissions website for international students.

Former Students: Former Kent State students who have not attended another institution since Kent State and were not academically dismissed will complete the re-enrollment process through the Financial, Billing and Enrollment Center. Former students who attended another college or university since leaving Kent State must apply for admissions as a transfer or post-undergraduate student.

Transfer Students: Students who attended an educational institution after graduating from high school or earning their GED must apply as transfer students. For more information, visit the admissions website for transfer students.

Admission policies for undergraduate students may be found in the University Catalog's Academic Policies.

Students may be required to meet certain criteria to progress in their program. Any progression requirements will be listed on the program's Coursework tab

Program Requirements

Major Requirements

Code	Title	Credit Hours
Major Requirements (courses count in major GPA)		
BSCI 16001	HORTICULTURAL BOTANY	3
BSCI 26002	ECOLOGICAL PRINCIPLES OF PEST MANAGEMENT	3
BSCI 26003	PLANT IDENTIFICATION AND SELECTION I	3
or BSCI 26004	PLANT IDENTIFICATION AND SELECTION II	
GEOG 16001	SOIL AND HORTICULTURAL MANAGEMENT	3
HORT 16002	INTRODUCTION TO AGROECOLOGY	3
HORT 16003	INTRODUCTION TO HORTICULTURE TECHNOLOGIES AND SENSORS	1
HORT 26001	OCCUPATIONAL REGULATIONS AND SAFETY	2
HORT 26016	IRRIGATION DESIGN AND MAINTENANCE	3
HORT 26046	LANDSCAPE DESIGN I	3
or HORT 36046	LANDSCAPE DESIGN II	
HORT 35092	HORTICULTURE PRACTICUM (ELR)	6

HORT 36014	PLANT PROPAGATION AND GREENHOUSE PRODUCTION	3
HORT 36025	PROFESSIONAL PRACTICE IN HORTICULTURE (WIC) (min C grade)	3
HORT 36092	INTERNSHIP IN HORTICULTURE (ELR)	4
HORT 46014	GARDEN CENTER AND NURSERY PRODUCTION MANAGEMENT	3
Technical Electives, choose from the following:		6
BSCI 26004	PLANT IDENTIFICATION AND SELECTION II	
HORT 16004	DRONE TECHNOLOGY FOR HORTICULTURE	
HORT 26002	EMERGING TECHNOLOGIES IN HORTICULTURE AND PLANT SYSTEMS	
HORT 26003	ARBORICULTURE AND URBAN FORESTRY MANAGEMENT	
HORT 26006	SUSTAINABLE HORTICULTURAL SYSTEMS	
HORT 26020	LANDSCAPE MANAGEMENT	
HORT 26030	TURF GRASS MANAGEMENT	
HORT 26032	GOLF COURSE MANAGEMENT	
HORT 36004	MARKET GARDEN PRODUCTION	
HORT 36005	ORCHARD PRODUCTION - DECIDUOUS AND EVERGREEN	
HORT 36195	SPECIAL TOPICS IN HORTICULTURE	
HORT 46008	FLORICULTURE AND ORNAMENTAL PLANTS	
HORT 46009	ADVANCES IN VITICULTURE PRODUCTION	
HORT 46013	INTERNET OF THINGS AND ARTIFICIAL INTELLIGENCE IN PRECISION FARMING: TECHNOLOGIES AND APPLICATIONS	
Major Electives, choose from the following:		6
BSCI 10120	BIOLOGICAL FOUNDATIONS (ELR) (KBS) (KLAB)	
GEOG 31062	FUNDAMENTALS OF METEOROLOGY	
GEOG 31080	GEOGRAPHY OF WINE	
HORT 36034	SPORTS TURF MANAGEMENT	
HORT 41096	INDIVIDUAL INVESTIGATION IN HORTICULTURE	
Additional Requirements (courses do not count in major GPA)		
ARTH 22007	ART HISTORY: RENAISSANCE TO MODERN ART (KFA)	3
BMRT 11000	INTRODUCTION TO BUSINESS	3
COMM 15000	INTRODUCTION TO HUMAN COMMUNICATION (KADL)	3
BSCI 10110 or CHEM 10030 & CHEM 10031	BIOLOGICAL DIVERSITY (ELR) (KBS) (KLAB) CHEMISTRY IN OUR WORLD (KBS) and CHEMISTRY IN OUR WORLD LABORATORY (KBS) (KLAB)	4
ESCI 21062	ENVIRONMENTAL EARTH SCIENCE (KBS)	3
ESCI 41073	GEOLOGY OF OHIO	3
GEOG 17064	GEOGRAPHY OF THE UNITED STATES AND CANADA (DIVD) (KSS)	3
PHIL 21001	INTRODUCTION TO ETHICS (DIVG) (KHUM)	3
UC 10001	FLASHES 101	1
Foreign Language [1]		4
Kent Core Composition		6
Kent Core Mathematics and Critical Reasoning		3
Kent Core Humanities and Fine Arts (minimum one course from each)		3
Kent Core Social Sciences (must be from two disciplines)		3
Kent Core Additional		3
General Electives (total credit hours depends on earning 120 credit hours, including 39 upper-division credit hours)		17
Minimum Total Credit Hours:		**120**

[1] Courses in one foreign language or American Sign Language in proficiency required. This requirement may be fulfilled by one of the following two conditions: (1) passing the first two semesters of any foreign language or American Sign Language, or (2) passing a foreign language course at the Elementary II level or above.

Graduation Requirements

Minimum Major GPA	Minimum Overall GPA
2.000	2.000

Roadmap

This roadmap is a recommended semester-by-semester plan of study for this major. However, courses designated as critical (!) must be completed in the semester listed to ensure a timely graduation.

	Semester One		**Credits**
	BSCI 10110 or CHEM 10030 *and* CHEM 10031	BIOLOGICAL DIVERSITY (ELR) (KBS) (KLAB) or CHEMISTRY IN OUR WORLD (KBS) *and* CHEMISTRY IN OUR WORLD LABORATORY (KBS) (KLAB)	4
!	BSCI 16001	HORTICULTURAL BOTANY	3
!	HORT 16003	INTRODUCTION TO HORTICULTURE TECHNOLOGIES AND SENSORS	1
	UC 10001	FLASHES 101	1
	Kent Core Requirements		6
		Credit Hours	**15**
	Semester Two		
	BMRT 11000	INTRODUCTION TO BUSINESS	3
!	BSCI 26003 or BSCI 26004	PLANT IDENTIFICATION AND SELECTION I or PLANT IDENTIFICATION AND SELECTION II	3
!	HORT 16002	INTRODUCTION TO AGROECOLOGY	3
	Technical Elective		3
	Kent Core Requirement		3
		Credit Hours	**15**
	First Summer Term		
	HORT 35092	HORTICULTURE PRACTICUM (ELR)	3
		Credit Hours	**3**
	Semester Three		
	COMM 15000	INTRODUCTION TO HUMAN COMMUNICATION (KADL)	3
!	GEOG 16001	SOIL AND HORTICULTURAL MANAGEMENT	3
!	HORT 26001	OCCUPATIONAL REGULATIONS AND SAFETY	2
	HORT 26016	IRRIGATION DESIGN AND MAINTENANCE	3
	Technical Elective		3
		Credit Hours	**14**
	Semester Four		
!	BSCI 26002	ECOLOGICAL PRINCIPLES OF PEST MANAGEMENT	3
	ESCI 21062	ENVIRONMENTAL EARTH SCIENCE (KBS)	3
!	Major Elective		3
	Kent Core Requirement		3
		Credit Hours	**12**
	Second Summer Term		
	HORT 35092	HORTICULTURE PRACTICUM (ELR)	3
		Credit Hours	**3**

	Semester Five		
	ARTH 22007	ART HISTORY: RENAISSANCE TO MODERN ART (KFA)	3
	ESCI 41073	GEOLOGY OF OHIO	3
	GEOG 17064	GEOGRAPHY OF THE UNITED STATES AND CANADA (DIVD) (KSS)	3
	HORT 26046 or HORT 36046	LANDSCAPE DESIGN I or LANDSCAPE DESIGN II	3
!	HORT 36025	PROFESSIONAL PRACTICE IN HORTICULTURE (WIC)	3
		Credit Hours	**15**
	Semester Six		
	PHIL 21001	INTRODUCTION TO ETHICS (DIVG) (KHUM)	3
	Kent Core Requirements		6
	General Electives		4
		Credit Hours	**13**
	Third Summer Term		
	HORT 36092	INTERNSHIP IN HORTICULTURE (ELR)	4
		Credit Hours	**4**
	Semester Seven		
!	HORT 36014	PLANT PROPAGATION AND GREENHOUSE PRODUCTION	3
!	Major Elective		3
	Foreign Language		4
	General Elective		3
		Credit Hours	**13**
	Semester Eight		
!	HORT 46014	GARDEN CENTER AND NURSERY PRODUCTION MANAGEMENT	3
	General Electives		10
		Credit Hours	**13**
		Minimum Total Credit Hours:	**120**

University Requirements

All students in a bachelor's degree program at Kent State University must complete the following university requirements for graduation.

NOTE: University requirements may be fulfilled in this program by specific course requirements. Please see Program Requirements for details.

Flashes 101 (UC 10001)	1 credit hour
Course is not required for students with 30+ transfer credits (excluding College Credit Plus) or age 21+ at time of admission.	
Diversity Domestic/Global (DIVD/DIVG)	2 courses
Students must successfully complete one domestic and one global course, of which one must be from the Kent Core.	
Experiential Learning Requirement (ELR)	varies
Students must successfully complete one course or approved experience.	
Kent Core (see table below)	36-37 credit hours
Writing-Intensive Course (WIC)	1 course
Students must earn a minimum C grade in the course.	
Upper-Division Requirement	39 credit hours
Students must successfully complete 39 upper-division (numbered 30000 to 49999) credit hours to graduate.	
Total Credit Hour Requirement	120 credit hours

Kent Core Requirements

Kent Core Composition (KCMP)	6
Kent Core Mathematics and Critical Reasoning (KMCR)	3
Kent Core Humanities and Fine Arts (KHUM/KFA) (min one course each)	9
Kent Core Social Sciences (KSS) (must be from two disciplines)	6
Kent Core Basic Sciences (KBS/KLAB) (must include one laboratory)	6-7
Kent Core Additional (KADL)	6
Total Credit Hours:	**36-37**

Program Learning Outcomes

Graduates of this program will be able to:

1. Define plant characteristics, use, identification, and taxonomy and differentiate between a wide range of horticulturally important plant species, including both woody and herbaceous species.
2. Apply proper safety procedures and their application in the workplace.
3. Apply principles of agroecology and sustainable horticultural practices that reduce the environmental footprint of horticultural production and contribute to long-term sustainability.
4. Articulate pest identification, taxonomy, integrated pest management (IPM), and control strategies that use ecologically sustainable approaches.
5. Discuss the integration and utilization of advanced technologies, such as sensors, drones, and artificial intelligence applications, to enhance precision farming practices in horticulture, for optimizing crop yields, resource efficiency and environmental sustainability.
6. Apply practical expertise in orchard production and management by using industry best practices to maximize fruit quality and yield.
7. Design and maintain landscapes using a range of plant materials, hardscape features and sustainable practices.
8. Apply principles and practices of growing and marketing crops on a small scale for local markets.
9. Apply principles of plant propagation, greenhouse management, and garden center/nursery operations for successful plant cultivation and sales.
10. Discuss soil science's role in horticultural production, and interpret soil test results, analyze soil conditions, and implement corrective measures for optimal plant growth.
11. Explain concepts of tree biology, identification, planting, and maintenance practices, including pruning, tree risk assessment and disease management.

Full Description

The Bachelor of Applied Horticulture degree provides students with the academic background and learning environment to further their education beyond an associate degree. This program aids students in the development of managerial expertise in various horticultural domains, including a deep understanding of plant characteristics, safety procedures in the horticultural workplace, principles of agroecology and sustainable horticultural practices, pest management and the integration of advanced technologies to enhance precision farming.

Additionally, students gain advanced knowledge in orchard production and management, landscape design and maintenance, local crop cultivation, plant propagation, greenhouse operations, soil science and tree care. This diverse skill set prepares students for a wide range of career opportunities such as landscape designers, arborists, greenhouse managers, parks or botanical garden managers, garden center managers, horticultural therapists, pest control specialists, educators/extension agents, botanist, florists and more.