THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

Effective Term: Autumn 2023

Bachelor of Science in Agriculture
Major: Sustainable Plant Systems
Specialization: Horticulture

Horticulture is the application of scientific principles to grow vegetables, fruits ornamental plants, and landscape design, as well as business principles to sell the commodities. Students will take classes in biology, greenhouse and nursery management, fruit and vegetable production, and pest management. Students in this major will complete a minimum of 121 hours outlined as follows.

General Education Requirements

Requirement	Course Options	Hours
GE Launch Seminar	**GENED 1201**	1
Writing and Information Literacy	***Student Choice***	3
Mathematical & Quantitative Reasoning/Data Analysis	Major requirement: **MATH 1130, 1148, 1150, 1151, or 1156 *** *(or Student Choice – see below)*	4-5
Literary, Visual and Performing Arts	***Student Choice***	3
Historical & Cultural Studies	***Student Choice***	3
Natural Science	Major requirement: **BIOLOGY 1113 *** *(or Student Choice – see below)*	4
Social & Behavioral Sciences	Major requirement: **AEDECON 2001** or **ECON 2001.01 *** *(or Student Choice – see below)*	3
Race, Ethnic and Gender Diversity	***Student Choice***	3
Theme**: Citizenship for a Diverse & Just World** [a]	***Student Choice***	4-6
Theme: **Student Choice** [a]	***Student Choice***	4-6
GE Reflection	**GENED 4001**	1
	Credit Hours:	**33-38**

***** Indicates a pre/corequisite course for this major that also satisfies this GE category. If a student makes an alternative selection in this GE category, **they must also complete this course.**

B.S. in Agriculture Degree Requirements

Requirement	Course Options	Hours
College & Department Survey	**FAES 1100 (0.5) & HCS 1100 (0.5)**	1
Oral Expression	**AGRCOMM 3130 or COMM 2110**	3
Additional Science	**CHEM 1110, 1210, or 1220**	5
Internship	**FAES 3191 & HCS 4191.01**	2
Minor Equiv. [b]	*See pg. 2*	15-18
	Credit Hours:	**26-29**

General Education:	**33-38**
Degree Requirements:	**26-29**
Major:	**53-54**
Open Electives:	**0-9**
Minimum Total Credit Hours:	**121**

[a] Students complete either a 4-credit course or two 3-credit courses in each of two General Education Theme areas: Citizenship for a Diverse & Just World (required), and the student's choice of available GE Themes. If any major-required courses are identified as a GE Theme course, one course in each GE Theme area may double count in the GE and major hours. Theme courses are identified with a ❖ symbol.
[b] Students in this program complete a group of courses called a minor equivalent. Declaring an additional minor is not required.
[c] Only up to 6 credits of any combination of 4193, 4998, 4999, or 4999H can count towards major electives.
[d] Review prerequisites.

Major Coursework

Course	Title	Hours
HCS 2202	Form and Function in Cultivated Plants	4
HCS 2204	Ecology of Managed Plant Systems ❖	3
HCS 2205	Ecology of Managed Plant Systems Lab	1
HCS 2260	Data Analysis and Interpretation for Decision Making	3
HCS 3200	Intro to Horticulture	3
HCS 3220	Crop Origins and Diversity	2
HCS 3310	Crop Responses to the Environment	3
HCS 3320	Plant Propagation	3
HCS 5200	Advanced Horticultural Systems (Capstone)	3
HCS 5422	Biology and Management of Weeds and Invasive Plants	3
ENR 3000	Soil Science	3
ENTMLGY 4600	Intro to Insect Sciences	1
ENTMLGY 4601	General Insect Pest Management (2)	2-3
***-or-* ENTMLGY 4000**	General Entomology (3)	
***-or-* ENTMLGY 5608**	Turfgrass Insect Pest Management (2)	
***-or-* ENTMLGY 5609**	Landscape Ornamental Pest Management (3)	
***-or-* ENTMLGY 5610**	Greenhouse Pest Management (3)	
PLNTPTH 3001	General Plant Pathology	3
PLNTPTH 3002	General Plant Pathology Lab	2
Major Electives: Select 14 credit hours from:		
HCS 2300	Introduction to Hydroponics	1
HCS 2305	Organic Gardening	1
HCS 2306	Sustainable Vegetable Production Practicum	3
HCS 2307	Sustainable Agriculture Practical Experience	2
HCS 2340.01	Woody Ornamental Plants	3
HCS 2340.02	Herbaceous Ornamental Plants	3
HCS 3380	Latino Workforce in Land Based Industries	2
HCS 3410	Sustainable Landscape Maintenance Practices	2
HCS 3420	Seed Science	3
HCS 3470	Introduction to Turfgrass Management	3
HCS 3488.01	Professional Development in Hort. And Crop Science	1-3
HCS 3521	Greenhouse Systems and Management	2
HCS/AGSYSMT 3585	Digital Agriculture ❖	3
HCS/AGSYSMT 3586	Digital Agriculture Laboratory ❖	1
HCS 4193	Individual Studies	1-3
HCS 4300	Hydroponics Crop Production	2
HCS 4301 [d]	Hydroponics Crop Production Lab	1
HCS 4520	Medicinal Plants	2
HCS 4998 [c]	Undergraduate Research	1-6
HCS 4999 [c]	Research with Distinction	1-6
HCS 4999H [c]	Honors Research with Distinction	1-6
HCS 5097.03-04 & 5797.03-04	Study Abroad Predeparture & Study Abroad	4

Continued on pg. 2

HCS 5306	Sustainable Vegetable Production Practicum	3
HCS 5325	Plant Genetics	3
HCS 5450	Vegetable Crop Production and Physiology	3
HCS 5460	Fruit Crop Physiology and Production	3
HCS 5621	Physiology of Cultivated Plants	3
HCS 5622[d]	Biochemical Processes in Cultivated Plants	3
HCS 5625[d]	Applied Plant Biotechnology	2
HCS 5825[d]	Plant Breeding	2
HCS 5887	Introduction to Experimental Design	3
	Credit Hours:	**53-54**

Minor Equivalent (15-18 hours)

Select 15-18 credits from <u>one</u> of the groups below (courses selected as major elective options cannot also count in the minor equivalent):

Group A: Production and Management

Course	Title	Hours
AEDECON 3101	Principles of Agribusiness Management	3
AEDECON 3102	Principles of Agribusiness Marketing	3
AEDECON 3160	Human Resource Management in Small Business	3
AGSYSMT 2240	Basic Metal Fabrication for Agriculture	3
AGSYSMT 3232	Engines and Power Transmission	3
HCS/AGSYSMT 3585	Digital Agriculture ❖	3
HCS/AGSYSMT 3586	Digital Agriculture Laboratory ❖	1
AGSYSMT 5560	UAS and Remote Sensing in Agriculture	3
BUSMHR 2210	Personal Leadership & Team Effectiveness	3
BUSML 3150	Foundations of Marketing	3
CONSCI 2910	Consumer Problems and Perspectives	3
CSHSPMG 3910	Customer Experience Management	3
CONSYSM 2205	Introduction to Construction Systems Management	3
CONSYSM 2241	Construction Materials and Methods II	3
CONSYSM 2440	Construction Surveying and Site Development	4
ENR 3001	Soil Science Laboratory	1
ENR 3700	Intro to Spatial Information for ENR	3
ENR 5272	Turfgrass Soils	3
ENR 5279	Urban Soils and Ecosystem Services	3
ENTMLGY 5500	Biological Control of Arthropod Pests	3
ENTMLGY 5600	Integrated Pest Management	3
ENTMLGY 5800	Pesticide Science	3
PLNTPTH 5110	Ecology and Management of Pathogens and Insects Affecting Trees in Forest and Urban Environments	3
PLNTPTH 5120	Diseases of Ornamental Plants	2
PLNTPTH 5150	Diseases of Vegetable and Fruit Crops	2
PLNTPTH 5603	Plant Disease Management	3
Group B: Research		
CHEM 2310 [d]	Introductory Organic Chemistry	4
BIOCHEM 4511	Introduction to Biological Chemistry	4
EEOB 3310.01 or 3310. 02	Evolution	4
EEOB 3410	Ecology	4
ENR 5268	Soils and Climate Change	3
GEOG 5900	Weather, Climate, & Global Warming	3

<u>Policies and General Requirements for Degree</u>

- A minimum of **121** total credit hours. Remedial coursework (English 1109; EDUTL 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1010; Mathematics 1040, 1050, 1073, 1074, 1075) do not count toward the 121-hour minimum requirement for the BS degree.
- A minimum of 30 semester hours of credit earned through regular course enrollment at this University, and regular course enrollment in the last semester in the College of Food, Agricultural, and Environmental Sciences.
- A cumulative point-hour ratio of at least <u>2.00</u> on <u>all</u> coursework completed at The Ohio State University as well as at least a 2.00 in the <u>major</u>.
- If a major-required course or major elective is a GE Theme course, two 3-4 cr courses (no more than one per theme area) is permitted to double count in the GE and major hours. GE Theme courses are indicated with a ❖ symbol.
- Students are encouraged to participate in education abroad opportunities. Consult with your advisor for how education abroad credit applies to your degree or consider the CFAES Global Option.
- Students must complete a minimum of 40 hours in major/major supporting coursework with at least 12 hours taken from the academic unit(s) offering the major at OSU in the baccalaureate program.
- Courses required in the major (including major supporting courses and major electives) may **<u>not</u>** be taken pass/non-pass.
- Coursework taken as open electives may include a maximum of 4 credit hours of physical activity courses (all 1139-1197 courses), and a maximum of 4 credit hours of campus music organizations.
- A college maximum of six hours of individual studies courses (x193) can be applied toward graduation; some majors may have a lower maximum.
- Students of CFAES must complete an internship of 1-2 hours as a requirement for degree. Any additional internship credit hours may count towards major hours (consult with your advisor). A college maximum of six hours of internship credit can be applied toward graduation; some majors may have a lower maximum.
- A maximum of three credits of 3488 can be applied toward graduation although some majors may have a lower maximum. A cumulative point-hour ratio of 2.0 is required to register for 3488 credit.
- Credit hours for 4999 ("with Research Distinction") and 4999H ("with Honors Research Distinction") are repeatable to maximum of six hours.
- **An application for degree must be submitted online at least two semesters prior to the intended graduation term. Application found at: https://students.cfaes.ohio-state.edu/academics/undergraduate/graduation**

<u>Policies and General Requirements for Minors/Minor Equivalent</u>

- The minor/minor equivalent must contain a minimum of 12 credit hours distinct from the major and/or additional minors (i.e., if a minor requires more than 12 credit hours, a student is permitted to overlap those hours beyond 12 with the major or with another minor).
- A 2.00 cumulative point-hour ratio is required in the minor/minor equivalent with a minimum C- grade for any course to be listed in the minor or minor equivalent (includes transfer credit).
- For programs requiring a minor: minors should be declared by the time students complete 60 hours.
- A student is permitted to count up to 6 credit-hours of transfer and/or EM credit in the minor or minor equivalent.
- Coursework graded Pass/Non-Pass cannot count in the minor. No more than 3 credit-hours of course work graded S/U may count toward the minor. Maximum of 3 credit-hours of xx93 are allowed to count in the minor.

THE OHIO STATE UNIVERSITY
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4-Year Course Plan
B.S. in Agriculture
Major: Sustainable Plant Systems
Specialization: Horticulture

This model plan of study is presented as a suggested path to graduate in four years. It is intended to be a useful guide; however, each student is unique and should review the Degree Requirements for their catalog year and work with their advisor to develop an individualized course plan that best fits their personal academic background and goals.

NOTE: This sheet should not be used in isolation. To graduate in a timely manner, students must consult their academic advisor on a regular basis.

Freshman Year	**Autumn Semester**			**Spring Semester**		
Benchmarks	**Course/Requirement**	**Course Name**	**Hours**	**Course/Requirement**	**Course Name**	**Hours**
-Complete Math requirement *-Complete at least one science* *-Complete GE WIL*	FAES 1100	College Survey	.5	CHEM 1110, 1210, or 1220	General Chemistry	5
	HCS 1100	Dept Survey	.5	GE Hist. & Cultural Studies		3
	GE Math	*See options*	4-5	GE WIL		3
	HCS 2204 ❖ [b] & 2205	Ecology of Managed Plant Systems❖ & Lab	4	HCS 2202	Form and Function in Cultivated Plants	4
	GE Lit, Vis and Perf Arts		3	GENED 1201	GE Launch Seminar	1
	Minor Equiv. Elective		3			
Hours: 31						
		Total:	**15**		**Total:**	**16**
Sophomore Year	**Autumn Semester**			**Spring Semester**		
Benchmarks	**Course/Requirement**	**Course Name**	**Hours**	**Course/Requirement**	**Course Name**	**Hours**
-Complete three science courses by the end of this year *-Begin to consider an internship location*	HCS 3200	Intro to Horticulture	3	Major Elective		3
	GE Nat Sci: BIOLOGY 1113	Energy Transfer and Development	4	HCS 2260	Data Analysis	3
	Major Elective		2-3	HCS 3310	Crop Responses to Environ.	3
	GE R.E. & G. Diversity		3	HCS 3320	Plant Propagation	3
Hours: 61	GE Theme Choice #1 [b]		3-4	GE SBS: AEDECON 2001	Prin. of Food & Res. Econ.	3
		Total:	**15**		**Total:**	**15**
Junior Year	**Autumn Semester**			**Spring Semester**		
Benchmarks	**Course/Requirement**	**Course Name**	**Hours**	**Course/Requirement**	**Course Name**	**Hours**
-Apply to graduate *-Complete internship by end of the summer* *-Half of major hours to be completed by the end of the year*	GE Theme Choice #2 [b] (or Open Elective)		3	Open Elective		2
	ENTMLGY 4600	Intro to Insect Science	1	ENR 3000	Soil Science	3
	ENTMLGY 4601	General Insect Pest Management	2	AGRCOMM 3130	Oral Expression	3
	GE Citizenship #1 [b]		3-4	HCS 3220	Crop Origins and Diversity	2
	PLNTPTH 3001 & 3002	General Plant Pathology & Lab	5	Major Elective		3
				GE Citizenship #2 [b] (or Open Elective)		3
Hours: 91						
		Total:	**14-15**		**Total:**	**16**
Summer	Conduct Internship (Enroll in FAES 3191)					
Senior Year	**Autumn Semester**			**Spring Semester**		
Benchmarks	**Course/Requirement**	**Course Name**	**Hours**	**Course/Requirement**	**Course Name**	**Hours**
-Meet graduation requirements *-Meet with a Career Services Advisor*	HCS 4191	Internship	2	HCS 5200	Advanced Horticultural Systems (Capstone)	3
	Minor Equiv. Elective		3	Major Elective		3
	HCS 5422	Biology & Mgmt. of Weeds	3	Minor Equiv. Elective		3
	Major Elective		3	Minor Equiv. Elective		3-4
	Minor Equiv. Elective		3	Open Elective		2-3
	GENED 4001	GE Reflection	1			
		Total:	**15**		**Total:**	**15**
					Total credit hours for Bachelor of Science Degree:	**121**

[a] One possible course from approved GE list or major requirement that has multiple options, as outlined in corresponding Degree Requirements document.
[b] Students complete either a 4-credit course or two 3-credit courses in each of two General Education Theme areas: Citizenship for a Diverse & Just World (required), and the student's choice of available GE Themes. If any major-required courses are identified as a GE Theme course, one course in each GE Theme area may double count in the GE and major hours. Theme courses are identified with a ❖ symbol.

Degree requirements and course offerings are subject to change. This page was last updated on: 5/24/23

4-Year Completion Checklist

Freshman Year	**Autumn Semester**			**Spring Semester**		
Benchmarks	**Course/Requirement**		✓	**Course/Requirement**		✓
☐ *Complete Math requirement*	FAES 1100					
	HCS 1100					
☐ *Complete at least one science*						
☐ *Complete GE WIL*						
Hours: _____	*Notes:*			*Notes:*		
Sophomore Year	**Autumn Semester**			**Spring Semester**		
Benchmarks	**Course/Requirement**		✓	**Course/Requirement**		✓
☐ *Complete three science courses by the end of this year*						
☐ *Begin to consider an internship location*						
Hours: _____	*Notes:*			*Notes:*		
Junior Year	**Autumn Semester**			**Spring Semester**		
Benchmarks	**Course/Requirement**		✓	**Course/Requirement**		✓
☐ *Apply to graduate*						
☐ *Complete internship by end of the summer*						
☐ *Half of major hours to be completed by the end of the year*						
Hours: _____	*Notes:*			*Notes:*		
Senior Year	**Autumn Semester**			**Spring Semester**		
Benchmarks	**Course/Requirement**		✓	**Course/Requirement**		✓
☐ *Meet graduation requirements*						
☐ *Meet with a Career Services Advisor*						
Hours: _____	*Notes:*			*Notes:*		

Total credit hours for Bachelor of Science Degree:	**121**

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