

HORTICULTURE - BS

This program offers hands-on training in horticulture and landscape management, preparing students for diverse careers and advanced studies in life sciences.

This degree is structured to provide students with hands-on training, knowledge, and skills needed for producing, improving, managing, and marketing fruit, nut, vegetable, landscape, floral, and other ornamental crops or designing, building, and maintaining residential or small-scale commercial landscapes. This degree also prepares students for undertaking graduate studies so that they can pursue science, technology, research, and development-focused careers in life sciences. Career prospects range from managing the production of horticultural crops in fields and in controlled environments, managing landscape businesses for growing communities, designing sustainable residential landscapes of the future, working with clientele in botanic and community gardens to enhance urban environments, to growing and marketing fruits, nuts, and vegetables, including those for healthier lifestyles. Former students have become leaders in the horticulture industry or entrepreneurs owning their horticultural crop production, greenhouse, nursery, or landscape operations. Several others work in upper management of large corporations, facilitate the implementation and development of new horticultural products and production services, serve in educational institutions, government agencies, or community service organizations, or travel the world developing, improving, and marketing future horticultural crops.

Program Requirements

First Year

		Semester Credit Hours
Fall		
BIOL 101	Botany	4
or BIOL 111	or Introductory Biology I	
HORT 281	Professions in Horticulture	1
Language, philosophy and culture (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture)		3
Mathematics (MATH or STAT prefix required) (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#mathematics)		3
Social and behavioral sciences (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences)		3
Semester Credit Hours		14
Spring		
HORT 201	Horticultural Science and Practices ¹	3
HORT 202	Horticultural Science and Practices Laboratory	1
Communication (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication)		3
Creative arts (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts) ²		3

Government/Political science (<https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science>) 3

Mathematics (MATH or STAT prefix required) (<https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#mathematics>) 3

Semester Credit Hours 16

Second Year

Fall

CHEM 119 Fundamentals of Chemistry I 4

ECCB 205 Fundamentals of Ecology 3

ENTO 201 General Entomology 3

American history (<https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history>) 3

Government/Political science (<https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science>) 3

Semester Credit Hours 16

Spring

CHEM 222 Elements of Organic and Biological Chemistry
or CHEM 227 or Organic Chemistry I 3

HORT 326 Plant Propagation 4

Select one of the following: 3

GENE 310 Principles of Heredity

GENE 320/
BIMS 320 Biomedical Genetics

HORT 404 Plant Breeding

SCSC 304 Plant Breeding and Genetics

Directed electives ^{2,3} 5

Semester Credit Hours 15

Third Year

Fall

HORT 315 Issues in Horticulture ⁴ 3

SCSC 301 Soil Science 4

Horticultural Crop Production

Select one of the following: 3

HORT 319 Fruit and Nut Production

HORT 325 Vegetable Crop Production

HORT 411 Hydroponic and Soilless Crop Production

HORT 418 Nut Culture

HORT 419 Viticulture and Small Fruit Culture

HORT 420 Concepts of Wine Production

HORT 423 Tropical Horticulture

HORT 431 Nursery Production and Management

Plant Identification/Characterization

Select one of the following: 3

HORT 306 Trees and Shrubs for Sustainable Built Environments

HORT 308 Plants for Sustainable Landscapes

Directed electives ^{2,3} 3

Semester Credit Hours 16

Spring

HORT 313	Introduction to Plant Physiology	3
PLPA 301	Plant Pathology	3
PLPA 303	Plant Pathology Laboratory	1
Horticulture Crop Production		
Select one of the following:		
HORT 425	Horticulture Landscape Installation	3
HORT 426	International Floriculture Marketing	3
HORT 428	Greenhouse Technology & Sustainable Crop Production Systems	3
HORT 431	Nursery Production and Management	3
HORT 460	Landscape Estimating, Bidding, and Operations	3
Directed electives ^{2,3}		6
Semester Credit Hours		16

Fourth Year**Fall**

HORT 481	Seminar ⁵	2
Horticulture Elective		
HORT 300-499 (https://catalog.tamu.edu/undergraduate/course-descriptions/hort/) ⁶		
American history (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		
Directed electives ^{2,3}		6
Semester Credit Hours		14

Spring

High Impact Learning		
Select one of the following: ⁴		
HORT 400	Field Studies in Horticulture	1
HORT 484	Internship	1
HORT 485	Directed Studies	1
HORT 491	Research	1
Communication (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication)		
Horticulture Elective		
HORT 300-499 (https://catalog.tamu.edu/undergraduate/course-descriptions/hort/) ⁶		
Directed electives ^{2,3}		6
Semester Credit Hours		13
Total Semester Credit Hours		120

undergraduate/course-descriptions/agec/); AGLS 101; AGSM 125, AGSM 201, AGSM 435, AGSM 300-499 (<https://catalog.tamu.edu/undergraduate/course-descriptions/agsm/>); ALEC 370, ALEC 371, ALEC 425, ALEC 478; ALED 339, ALED 340, ALED 341, ALED 344, ALED 426, ALED 440, ALED 441, ALED 494; ANSC 307, ANSC 487/FSTC 487; ATMO 201; BESC 201, BESC 204, BESC 300-499 (<https://catalog.tamu.edu/undergraduate/course-descriptions/besc/>); BICH 410, BICH 411; BIOL 112, BIOL 113, BIOL 206, BIOL 213, BIOL 349, BIOL 401; CHEM 300-499 (<https://catalog.tamu.edu/undergraduate/course-descriptions/chem/>); COMM 203, COMM 205, COMM 210; COSC 253, COSC 354; ECCB 205, ECCB 215, ECCB 351, ECCB 408; ECON 202, ECON 203; ENGL 320; ENTO 201, ENTO 300-499 (<https://catalog.tamu.edu/undergraduate/course-descriptions/ento/>); FINC 409; FSTC 201, FSTC 324, FSTC 470/ANSC 470, FSTC 485; GENE 310, GENE 411/SCSC 411; HMGD 201, HMGD 300-499 (<https://catalog.tamu.edu/undergraduate/course-descriptions/hmgt/>); ISTM 209; MGMT 209, MGMT 300-499 (<https://catalog.tamu.edu/undergraduate/course-descriptions/mgmt/>); MKTG 300-499 (<https://catalog.tamu.edu/undergraduate/course-descriptions/mktg/>); NUTR 300/FSTC 300, NUTR 485; PHIL 314; PHYS 100-499 (<https://catalog.tamu.edu/undergraduate/course-descriptions/phys/>); RWF 322, RWF 411; SCSC 105, SCSC 205, SCSC 300-499 (<https://catalog.tamu.edu/undergraduate/course-descriptions/scsc/>); SPAN 101, SPAN 102, SPAN 201, SPAN 202, UGST 181, or hours to be selected with approval by the student's academic advisor and the associate department head from 100-400-level courses in ACCT (<https://catalog.tamu.edu/undergraduate/course-descriptions/acct/>), AGCJ (<https://catalog.tamu.edu/undergraduate/course-descriptions/agcj/>), AGECE (<https://catalog.tamu.edu/undergraduate/course-descriptions/agec/>), AGLS (<https://catalog.tamu.edu/undergraduate/course-descriptions/agls/>), ALEC (<https://catalog.tamu.edu/undergraduate/course-descriptions/alec/>), ANTH (<https://catalog.tamu.edu/undergraduate/course-descriptions/anth/>), ARTS (<https://catalog.tamu.edu/undergraduate/course-descriptions/arts/>), BESC (<https://catalog.tamu.edu/undergraduate/course-descriptions/besc/>), COMM (<https://catalog.tamu.edu/undergraduate/course-descriptions/comm/>), ECCB (<https://catalog.tamu.edu/undergraduate/course-descriptions/eccb/>), ECON (<https://catalog.tamu.edu/undergraduate/course-descriptions/econ/>), ENDS (<https://catalog.tamu.edu/undergraduate/course-descriptions/ends/>), ENTO (<https://catalog.tamu.edu/undergraduate/course-descriptions/ento/>), EPSY (<https://catalog.tamu.edu/undergraduate/course-descriptions/epsy/>), FINC (<https://catalog.tamu.edu/undergraduate/course-descriptions/finc/>), FSTC (<https://catalog.tamu.edu/undergraduate/course-descriptions/fstc/>), GENE (<https://catalog.tamu.edu/undergraduate/course-descriptions/gene/>), GEOG (<https://catalog.tamu.edu/undergraduate/course-descriptions/geog/>), HLTH (<https://catalog.tamu.edu/undergraduate/course-descriptions/hlth/>), HMGD (<https://catalog.tamu.edu/undergraduate/course-descriptions/hmgt/>), HORT (<https://catalog.tamu.edu/undergraduate/course-descriptions/hort/>), INST (<https://catalog.tamu.edu/undergraduate/course-descriptions/inst/>), ISTM (<https://catalog.tamu.edu/undergraduate/course-descriptions/istm/>), KINE (<https://catalog.tamu.edu/undergraduate/course-descriptions/kine/>), LAND (<https://catalog.tamu.edu/undergraduate/course-descriptions/land/>), MEPS (<https://catalog.tamu.edu/undergraduate/course-descriptions/meps/>), MGMT (<https://catalog.tamu.edu/undergraduate/course-descriptions/mgmt/>), MKTG (<https://catalog.tamu.edu/undergraduate/course-descriptions/mktg/>), NUTR (<https://catalog.tamu.edu/undergraduate/course-descriptions/nutr/>), PBSI (<https://catalog.tamu.edu/undergraduate/course-descriptions/pbsi/>), RWF ([¹ For all HORT majors and minors, a C or better is required in HORT 201.](https://catalog.tamu.edu/undergraduate/</p>
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² The Graduation requirements include a requirement for 3 hours of International and Cultural Diversity (<https://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/>) courses and 3 hours of Cultural Discourse (<https://catalog.tamu.edu/undergraduate/general-information/degree-information/cultural-discourse-requirements/>) courses. A course satisfying a Core category, a college/department requirement, or a free or directed elective can be used to satisfy this requirement. See academic advisor.

³ Hours to be selected from among the following AGECE 105, AGECE 216, AGECE 223, AGECE 300-499 (<https://catalog.tamu.edu/>

course-descriptions/rwfm/), SCSC (<https://catalog.tamu.edu/undergraduate/course-descriptions/scsc/>), SCMT (<https://catalog.tamu.edu/undergraduate/course-descriptions/scmt/>), SOCI (<https://catalog.tamu.edu/undergraduate/course-descriptions/soci/>), SPAN (<https://catalog.tamu.edu/undergraduate/course-descriptions/span/>), SPED (<https://catalog.tamu.edu/undergraduate/course-descriptions/sped/>), STAT (<https://catalog.tamu.edu/undergraduate/course-descriptions/stat/>).

⁴ This course fulfills a writing intensive course requirement.

⁵ This course fulfills a communications requirement.

⁶ Hours to be selected based on the emphasis area chosen in consultation with the student's academic advisor.