PLANT SCIENCES

https://plantsciences.calpoly.edu/

The department offers a Bachelor of Science degree in Plant Sciences with three concentrations: Environmental Horticultural Science, Fruit and Crop Science, and Plant Protection Science. Each concentration provides a strong scientific foundation and prepares students for diverse and rewarding careers.

Experiential Learning Opportunities and Facilities

The Plant Sciences Department has production fields, orchards, greenhouses, laboratories, and an arboretum for instruction in plant biotechnology, pest management (insects, pathogens, and weeds), postharvest technology, food and ornamental plant production, and landscape horticulture. All of these facilities are on, or within easy walking distance, of the campus core.

Students have hands-on opportunities in the production and marketing of landscape and ornamental plants as well as fruit, vegetable and forage crops at the two departmental facilities for teaching and research, the Environmental Horticulture Unit and the Crops Unit.

The Environmental Horticulture Unit includes greenhouses, shade houses, outdoor production pads, landscaped gardens beds, and the Leaning Pine Arboretum. The Arboretum is an outdoor teaching laboratory with an extensive selection of plants adapted to Mediterranean climates, including a large California native plant collection. The Crops Unit covers a wide area including production areas of citrus, avocados, olives, deciduous fruit and nut trees, and berries for instructional and research use. The department also maintains areas for annual vegetable and forage crops, and certified organic vegetable production. The Crops Unit also houses the hydroponic vegetable production facility and a fruit and vegetable processing line.

Students are encouraged to gain experience by participating in Enterprise courses, working on the Department's production units, or seeking research experience with Plant Sciences faculty or research centers on campus.

Enterprise courses are run under faculty supervision but are student operated. These courses provide students with a “no risk” glimpse of commercial plant production. The department offers Enterprise courses in the production of many different commodities. Available marketing outlets range from wholesaling to industry partners and area supermarkets to direct marketing at local farmers’ markets, garden centers, florist shops, and through campus outlets. The Department supports co-curricular activities for its students, including two student clubs: the Crops Club and the Horticulture Club. Student teams in flower judging, floral design and the landscape industry continue to place or win at national championships.

Undergraduate Programs

- Plant Sciences (BS) (https://catalog.calpoly.edu/agriculture-food-environmental-sciences/plant-sciences/plant-sciences-bs/)

Undergraduate Minors

- Crop Science Minor (https://catalog.calpoly.edu/agriculture-food-environmental-sciences/plant-sciences/crop-science-minor/)
- Fruit Science Minor (https://catalog.calpoly.edu/agriculture-food-environmental-sciences/plant-sciences/fruit-science-minor/)
- Horticulture Minor (https://catalog.calpoly.edu/agriculture-food-environmental-sciences/plant-sciences/horticulture-minor/)
- Plant Protection Minor (https://catalog.calpoly.edu/agriculture-food-environmental-sciences/plant-sciences/plant-protection-minor/)
- Sustainable Agriculture Minor (https://catalog.calpoly.edu/agriculture-food-environmental-sciences/plant-sciences/sustainable-agriculture-minor/)

PLSC Courses

PLSC 1101 Orientation to Plant Sciences (1 unit)
Term Typically Offered: F
CR/NC

Discussion of careers in Plant Sciences, department curriculum, and field, orchard, and greenhouse operations. Introduction to student and professional organizations. Discussion of advising and academic resources. Credit/No Credit grading only. 1 lecture. Formerly PLSC 101.

PLSC 1110 People, Pests, and Plagues (4 units)
Term Typically Offered: F, SP
2026-28 or later catalog: GE Area 5B
2026-28 or later catalog: GE Area 5C
2020-26 catalogs: GE Area B2
2020-26 catalogs: GE Area B3

Introduction to the science of entomology, including insect identification, biology, ecology, and evolution. Insects as beneficials, disease vectors, and crop pests and their interactions with humans, including roles in human culture and history. Not open for major credit in Plant Sciences or Wine and Viticulture, Viticulture concentration. 3 lectures, 1 activity. Fulfills GE Areas 5B and 5C (GE Areas B2 and B3 for students on the 2020-26 catalogs). Formerly PLSC 110.

PLSC 1120 Principles of Plant Sciences (2 units)
Term Typically Offered: F, SP
Concurrent: PLSC 1120L.

Introduction to applied plant sciences. Basic plant classification, anatomy, growth, and physiology, including effects of environmental conditions, soil and media properties, and biotic and abiotic factors affecting commercial plant production. 2 lectures. Formerly PLSC 120.

PLSC 1120L Principles of Plant Sciences Lab (1 unit)
Term Typically Offered: F, SP
Concurrent: PLSC 120 or PLSC 1120.

Introductory laboratory in applied plant sciences. Basic plant classification, anatomy, growth, and physiology, including effects of environmental conditions, soil and media properties, and biotic and abiotic factors affecting commercial plant production. 1 laboratory.

PLSC 1123 Introduction to Sustainable Site Horticulture (3 units)
Term Typically Offered: SP
Sustainability Focused
Recommended: BOT 121 and PLSC 120 or BOT 1121 and PLSC 1120.

Scientific and hands-on introduction to planting, caring for, and managing sustainable horticultural spaces. Plant health care, pruning, soils, irrigation, and stormwater management in the landscape. Equipment operation, safety, and materials. Field trip required. 2 lectures, 1 laboratory. Formerly PLSC 123.

PLSC 1124 Plant Propagation (3 units)
Term Typically Offered: SP
Prerequisite: BOT 121 and PLSC 120 or BOT 1121 and PLSC 1120.

Plant propagation principles and practices, including analysis of why and how techniques work. Discussion of current commercial horticulture propagation trends. Hands-on propagation experience. 2 lectures, 1 laboratory. Formerly PLSC 124.

PLSC 1132 Introduction to Fruit Crop Production (4 units)
Term Typically Offered: SP
Prerequisite: PLSC 1120L.

Orchard design and development, cultural practices and physiological responses of perennial fruit crops. Practices, propagation, harvest and postharvest practices and strategies to maximize sustainability of California fruit crops. 3 lectures, 1 activity. Formerly PLSC 132.

PLSC 1150 California Row Crop Production (4 units)
Term Typically Offered: F
Corequisite: PLSC 120 or PLSC 1120.

Botany, growth characteristics, pests, and harvesting methods for the most important row crops grown in California. Production practices from tillage to harvest for important forages, grains, and vegetable crops. Current issues in agriculture important to the row crop industry. Field trip required. 3 lectures, 1 laboratory. Formerly PLSC 190.

PLSC 1175 Beekeeping (3 units)
Term Typically Offered: F, SP

Introduction to honeybee biology and apiculture. Exploration of the life cycle of honeybees, biogeography, and evolution of beekeeping. Equipment, techniques, management practices, pollination ecology, economic practices, and current issues within beekeeping. 2 lectures, 1 laboratory. Formerly PLSC 175.

PLSC 2200 Special Problems for Undergraduates (1-3 units)
Term Typically Offered: F, SP, SU
Prerequisite: Consent of instructor.

Individual investigation, research, studies, or surveys of selected problems. Report required. Repeatable up to 3 units. Formerly PLSC 200.

PLSC 2205 Orchard and Vegetable Enterprise Project (2 units)
Term Typically Offered: F, SP
CR/NC

Hands-on experience in the production, management, marketing, and sales of fruit and vegetable crops. Activities required to successfully grow, harvest, and market orchard and vegetable crops. Credit/No Credit grading only. 1 lecture, 1 activity. Formerly PLSC 205.

PLSC 2212 Environmental Horticulture Enterprise Project (2 units)
Term Typically Offered: F, SP
CR/NC
Recommended: PLSC 120 or PLSC 1120.

Hands-on experience in all aspects of ornamental horticulture production. Planning, controlled environment growing and selling. Field trip required. Credit/No Credit grading only. 1 lecture, 1 activity. Formerly PLSC 212.

PLSC 2225 Floral Design (3 units)
Term Typically Offered: F, SP

Fundamentals of theory, techniques, and skills currently practiced in the floral industry. Appropriate utilization of current sales and business practices in a florist setting. Beginning and advanced techniques and skills for construction of floral designs. 1 lecture, 2 laboratories. Formerly PLSC 225.

PLSC 2232 Basic Viticulture (3 units)
Term Typically Offered: F, SP
Prerequisite: One of the following: PLSC 120, PLSC 1120, BOT 121 or BOT 1121; one of the following: CHEM 124, CHEM 1120, CHEM 127, or CHEM 1122; and SS 120 or SS 1120.

Fundamentals of grape growing, with emphasis on wine grapes. Fundamentals of vine anatomy and physiology, development and phenology, trellising systems, soils, climatic factors, vineyard establishment, grafting, irrigation, fertility, harvest practices, pruning, major pests, and major varieties and rootstocks. Course may be offered in classroom-based or online format. 3 lectures. Crosslisted as PLSC 2232/WVIT 2233. Formerly PLSC 232/WVIT 232.

PLSC 2234 Introduction to Plant Materials (3 units)
Term Typically Offered: F
Recommended: BOT 121 or BOT 1121.

Systematic introduction to herbaceous and woody landscape plants. Responsible plant selection and management, including plant identification, cultural requirements, and landscape uses. Featuring common California native and non-native plants. 2 lectures, 1 laboratory. Formerly PLSC 233.

PLSC 2244 Precision Farming (3 units)
Term Typically Offered: SP
Corequisite: PLSC 132 or PLSC 1132; and PLSC 190 or PLSC 1150.

Introduction to precision agriculture technologies. Review of the development and utilization of GIS, GPS, remote sensing, and variable rate technology for site-specific management. Economic and environmental benefits of site-specific versus whole field management. Field trip required. 2 lectures, 1 laboratory. Formerly BRAE/PLSC 244.

PLSC 2270 Special Topics (1-3 units)
Term Typically Offered: TBD
Prerequisite: Consent of instructor.

Directed group study of special topics. The Class Schedule will list topic selected. Repeatable up to 6 units. 1 to 3 lectures. Formerly PLSC 270.

PLSC 2333 Greenhouse Vegetable Enterprise Project (2 units)
Term Typically Offered: SP
CR/NC
Recommended: PLSC 333 or PLSC 3333.

Production, management, and sales of a variety of hydroponically-grown greenhouse vegetables. Credit/No Credit grading only. 1 lecture, 1 activity. Replaced PLSC 334.

PLSC 3301 Horticultural Production Techniques (3 units)
Term Typically Offered: SP
Sustainability Focused
Prerequisite: PLSC 120 or PLSC 1120.

Principles of plant growth in the production horticulture industry, with an emphasis on sustainability. Substrates, nutrient management, irrigation, plant growth regulators, containers, and cultural techniques. Current technology and innovations. Field trip required. 2 lectures, 1 laboratory. Replaced PLSC 245.

PLSC 3304 Introduction to Plant Breeding (3 units)
Term Typically Offered: F, SP
Prerequisite: One of the following: BOT 121, BOT 1121, PLSC 120, or PLSC 1120; and STAT 218 or STAT 1110.

Principles of qualitative and quantitative genetics useful in the development of new plant varieties. Procedures for the creation of genetic variability, testing procedures, and selection schemes for development of improved plant types. 3 lectures. Formerly PLSC 304.

PLSC 3313 Agricultural Entomology (3 units)
Term Typically Offered: F, SP
Prerequisite: One of the following: BOT 121, BOT 1121, PLSC 120, or PLSC 1120.

Science of entomology relating to agriculturally important insects. Biology, ecology, and identification of insects and mites and their management in horticulture, field crops, and landscapes. Integration of sustainable pest control practices. 2 lectures, 1 laboratory. Formerly PLSC 313.

PLSC 3315 Principles of Organic Crop Production (3 units)
Term Typically Offered: SP
2026-28 or later: Upper-Div GE Area 2/5
2020-26 catalogs: Upper-Div GE Area B
Prerequisite: Junior standing; completion of GE Area 1 with grades of C- or better (GE Area A for the 2020-26 catalogs); completion of GE Area 2 with a grade of C- or better (GE Area B4 for the 2020-26 catalogs); and completion of GE Area 5 (GE Areas B1 to B3 for the 2020-26 catalogs).

Origins, application, regulation, and technology of organic crop production. Theoretical and practical issues surrounding organic crop production from a cross-disciplinary perspective. History of the organic movement, current regulation and certification, and field management practices and technologies. Features industry guest lecturers. Field trip required. 2 lectures, 1 activity. Crosslisted as AG/PLSC 3315. Fulfills GE Areas Upper-Division 2 or Upper-Division 5 (GE Area Upper-Division B for students on the 2020-26 catalogs). Formerly AG/PLSC 315.

PLSC 3321 Weed Biology and Management (4 units)
Term Typically Offered: F, SP
Prerequisite: One of the following: BOT 121, BOT 1121, PLSC 120, or PLSC 1120.

Weed ecology, biology, physiology, and implications for management. Identification of weeds and invasive plant species in agricultural and managed ecosystems. Organic, cultural, biological, physical/mechanical, and chemical methods and their integrated pest management (IPM) uses. 3 lectures, 1 laboratory. Formerly AEPS 321.

PLSC 3323 Plant Pathology (3 units)
Term Typically Offered: F, SP
Prerequisite: BOT 121 or BOT 1121.

Comprehensive study of plant pathology. Plant disease impact on California's agriculturally important crops. Plant disease diagnosis, integrated and sustainable practices for disease management. 2 lectures, 1 laboratory. Formerly BOT/PLSC 323.

PLSC 3329 Plants, Biotechnology, and the Media (3 units)
Term Typically Offered: F
2026-28 or later: Upper-Div GE Area 2/5
2020-26 catalogs: Upper-Div GE Area B
Prerequisite: Junior standing; completion of GE Area 1 with grades of C- or better (GE Area A for the 2020-26 catalogs); completion of GE Area 2 with a grade of C- or better (GE Area B4 for the 2020-26 catalogs); and one of the following: BIO 111, BIO 114, BIO 161, BIO 1111, BIO 1114, BIO 1151, BOT 121, BOT 1121, PLSC 120, or PLSC 1120.

Agriculture as applied biology and its impact on civilization. Application of technology to increase the efficiency of food production. Genetics and biotechnology; culminating in an assessment of genetically engineered foods, the myths, the controversy, and the science. 2 lectures, 1 activity. Fulfills GE Areas Upper-Division 2 or Upper-Division 5 (GE Area Upper-Division B for students on the 2020-26 catalogs). Formerly PLSC 329.

PLSC 3331 Advanced Viticulture - Fall (4 units)
Term Typically Offered: F
Prerequisite: One of the following: PLSC 232, PLSC 2232, WVIT 233, or WVIT 2233.

Advanced viticulture theory and practice, with an emphasis on fall season activities. Identification of rootstocks, wine and table grapes, species taxonomy and diversity, and breeding for grapevine improvement. Field trips may be required. Course may be offered in classroom-based or online format. 3 lectures, 1 laboratory. Crosslisted as PLSC/WVIT 3331. Formerly PLSC/WVIT 331.

PLSC 3332 Sustainable Site Design and Systems (3 units)
Term Typically Offered: F
Sustainability Focused
Prerequisite: PLSC 123 or PLSC 1123.

Artistic and mechanical systems in sustainable site horticulture. Elements of site design and planning. Hands-on work with irrigation systems and sustainable construction materials. Field trip required. 2 lectures, 1 laboratory. Formerly PLSC 332.

PLSC 3333 Greenhouse Vegetable Production (2 units)
Term Typically Offered: F
Prerequisite: PLSC 120 or PLSC 1120; and SS 221 or SS 2221.

Development, practices, history, and future of hydroponic crop production in greenhouses. Commercial applications, research applications, production problems, growing and maintaining transplants in greenhouses, and use of nutrient solutions. Field trip required. 1 lecture, 1 activity. Formerly PLSC 333.

PLSC 3334 Advanced Plant Materials (3 units)
Term Typically Offered: SP
Prerequisite: PLSC 233 or PLSC 2234.

Systematic study of herbaceous and woody landscape plants, with emphasis on uncommon or newly-introduced species, including plant identification, cultural requirements, and assessment of invasiveness. Featuring California native and non-native plants. 2 lectures, 1 laboratory. Replaced PLSC 234.

PLSC 3337 Advanced Viticulture - Spring (4 units)
Term Typically Offered: SP
Prerequisite: One of the following: PLSC 232, PLSC 2232, WVIT 233, or WVIT 2233; and PLSC/WVIT 331 or PLSC/WVIT 3331.

Advanced viticulture theory and practices with emphasis on spring activities. Vine source/sink relations, factors impacting yield and berry composition, the role environmental conditions on vine physiology, and canopy management. Field trips required. Course may be offered in classroom-based or online format. 3 lectures, 1 laboratory. Crosslisted as PLSC 3337/WVIT 3333. Formerly PLSC 337/WVIT 333.

PLSC 3339 Internship in Plant Sciences (1-12 units)
Term Typically Offered: F, SP, SU
CR/NC
Prerequisite: Consent of instructor.

Career experience with with an approved agricultural/horticultural firm. Apply and develop production and managerial skills and abilities. Repeatable up to 12 units. Credit/No Credit grading only. Formerly PLSC 339.

PLSC 3340 Principles of Greenhouse Environments (3 units)
Term Typically Offered: SP
Prerequisite: PLSC 245 or PLSC 3301.

Analysis of problems and practices affecting the commercial horticulturist. Analysis and operation of greenhouses and related equipment stressing the effect of environment on plant growth. Field trip required. 2 lectures, 1 laboratory. Formerly PLSC 340.

PLSC 3351 Experimental Techniques and Analysis (3 units)
Term Typically Offered: F
Prerequisite: Junior standing; MATH 118 or MATH 1006; and STAT 218 or STAT 1110.

Design and evaluate plant science experiments in both academic and commercial settings. Design principles, statistical tests and assumptions, and ethical use of data. Data handling and analysis. 2 lectures, 1 laboratory. Formerly PLSC 351.

PLSC 3360 Advanced Fruit Crop Production (4 units)
Term Typically Offered: TBD
Prerequisite: PLSC 132 or PLSC 1132.

Systematic study of California tree fruit, nut crops, and small fruit crops, with emphasis on environmental, physiological, and biological factors affecting their sustainable growth, production, and management. 3 lectures, 1 activity. Formerly PLSC 360.

PLSC 3444 Climate Smart Agriculture (3 units)
Term Typically Offered: SP
2026-28 or later: Upper-Div GE Area 2/5
2020-26 catalogs: Upper-Div GE Area B
Sustainability Focused
Prerequisite: Junior standing; completion of GE Area 1 with grades of C- or better (GE Area A for the 2020-26 catalogs); completion of GE Area 2 with a grade of C- or better (GE Area B4 for the 2020-26 catalogs); one of the following: BIO 114, BIO 1114, BOT 121, or BOT 1121; and SS 120 or SS 1120.

Contribution of the agricultural sector to climate change. Impacts of climate change on agriculture. Evaluation of climate change mitigation and adaptation strategies for sustainable crop production. Field and laboratory assessment of climate smart agricultural practices. Field trip required. 2 lectures, 1 laboratory. Crosslisted as PLSC/SS 3444. Fulfills GE Areas Upper-Division 2 or Upper-Division 5 (GE Area Upper-Division B for students on the 2020-26 catalogs).

PLSC 4400 Special Problems for Advanced Undergraduates (1-3 units)
Term Typically Offered: F, SP, SU
Prerequisite: Consent of instructor.

Individual investigation, research, studies, or surveys of selected problems. Report required. Repeatable up to 3 units. Formerly PLSC 400.

PLSC 4406 Advanced Weed Management (4 units)
Term Typically Offered: SP
Prerequisite: PLSC 321 or PLSC 3321; or graduate standing.

Sustainable weed and invasive plant management technologies. Ecology and biology of weeds and invasive plants. Environmental fates and plant metabolism of herbicides. Physiological mechanisms of herbicide action and weed resistance. Invasive plant management in wildland/semi-managed ecosystems. 4 lectures. Formerly PLSC 406.

PLSC 4410 Crop Physiology (3 units)
Term Typically Offered: SP
Prerequisite: One of the following: BIO 263, BIO 2253, PLSC 120, or PLSC 1120; and BOT 121 or BOT 1121; or graduate standing.

Ecological and physiological factors associated with the production of crop plants. Physiological and biochemical processes that explain the mechanisms of whole plant performance and responses to biotic and abiotic factors under managed environment conditions. 3 lectures. Formerly PLSC 410.

PLSC 4420 Organic Crop Production Systems (3 units)
Term Typically Offered: F
Prerequisite: Junior standing; one of the following: BOT 121, BOT 1121, PLSC 120, or PLSC 1120; and SS 120 or SS 1120.

Systems approach to organic crop management, soil fertility and plant nutrition, and crop and pest management, including current regulations and modern technologies implemented in industry. Intended for students with a background in plant sciences. Field trip required. 2 lectures, 1 activity. Formerly PLSC 420.

PLSC 4421 Postharvest Technology (3 units)
Term Typically Offered: SP
Prerequisite: Junior standing; and PLSC 120 or PLSC 1120; or graduate standing.

Effects of production, harvest and postharvest practices on the postharvest physiology of plants of importance to applied plant science. Effects on commodity quality, food safety and shelf-life. 2 lectures, 1 laboratory. Formerly PLSC 421.

PLSC 4425 Arboriculture (2 units)
Term Typically Offered: SP
Prerequisite: PLSC 123 or PLSC 1123; and one of the following: NR 208, NR 2208, PLSC 234, or PLSC 3334.

Scientific theory and practice for the selection, planting, and management of urban trees. Ecosystem benefits, inventories, diagnostics, regulations, scheduling care, safety, climbing. 1 lecture, 1 laboratory. Formerly PLSC 425.

PLSC 4427 Disease and Pest Control Systems for Ornamental Plants (4 units)
Term Typically Offered: SP
Prerequisite: PLSC 120 or PLSC 1120; PLSC 313 or PLSC 3313; PLSC 321 or PLSC 3321; and PLSC 323 or PLSC 3323; or graduate standing.

Recognition, prevention, and control of diseases, insect/mite pests, and weeds that impact commercial ornamental plants in the greenhouse or landscape. Integrated pest management strategies presented, including biological, cultural, and safe and proper pesticidal controls. Laboratory emphasizes monitoring, problem-solving, and application of appropriate pest control measures. 2 lectures, 2 activities. Formerly PLSC 427.

PLSC 4428 Advanced Plant Pathology (3 units)
Term Typically Offered: F
Prerequisite: BOT/PLSC 323 or PLSC 3323. Corequisite: STAT 218 or STAT 1110.

Discussions of disease development, effect of pathogens on plant function, breeding for disease resistance, plant defense mechanisms, epidemiology and disease management, diagnosis techniques, and career opportunities in the field of plant pathology. 2 lectures, 1 laboratory. Formerly PLSC 428.

PLSC 4431 Integrated Pest Management for Insects (3 units)
Term Typically Offered: SP
Prerequisite: PLSC 313 or PLSC 3313; or graduate standing.

Principles of integrated insect pest management focusing on cultural, chemical, and genetic methods. Partial coverage of sustainable pest management options necessary for agriculture careers and state licensing. 2 lectures, 1 laboratory. Formerly PLSC 431.

PLSC 4437 Sustainable Landscape Management (3 units)
Term Typically Offered: F
Prerequisite: PLSC 123 or PLSC 1123.

Sustainable management of private and public spaces, parks, arboreta, and botanical gardens. Plan reading, cost estimating, and proposals for the sustainable installation and management of a site. Employee development, safety, and liability issues. Field trip required. 2 lectures, 1 laboratory. Formerly PLSC 437.

PLSC 4441 Biological Control for Pest Management (3 units)
Term Typically Offered: F
Prerequisite: PLSC 313 or PLSC 3313; or graduate standing.

Principles of biological control of arthropods and weeds, and the use of beneficial arthropods in ecological pest management. Partial coverage of sustainable pest management options necessary for agriculture careers and state licensing. 2 lectures, 1 laboratory. Formerly PLSC 441.

PLSC 4450 Current Issues in the Strawberry Industry (1 unit)
Term Typically Offered: SP
Prerequisite: PLSC 120 or PLSC 1120. Corequisite: BOT 121 or BOT 1121.

Current issues in the California strawberry industry. Issues may include production techniques, pest management, labor, food safety, water quality, breeding, postharvest handling, automation, marketing, processing, and organics. Field trip required. Repeatable up to 4 units. Half-semester course. 1 seminar. Formerly PLSC 450.

PLSC 4451 Current Issues in Organic Agriculture (2 units)
Term Typically Offered: SP
Prerequisite: One of the following: NR 324, NR 3324, PLSC 315, PLSC 3315, PLSC 420, or PLSC 4420.

Students will explore organic food system concepts through reading and discussion and take a deeper dive into specific issues facing California organic industry through a series of guest seminars and online synchronous discussions. Seminars will be provided by organic producers, consultants, certifiers, and policy professionals. Repeatable up to 4 units. Course offered in hybrid format with classroom-based and online learning. 2 activities.

PLSC 4461 Senior Project I (1 unit)
Term Typically Offered: F, SP
Prerequisite: Senior standing; completion of GE Area 1A with a grade of C- or better (GE Area A2 for the 2020-26 catalogs); STAT 218 or STAT 1110; and consent of instructor.

Identify a problem related to plant sciences, then develop a project proposal to address it. Establish an advisor contract. Learn to present results. 1 lecture. Formerly PLSC 461.

PLSC 4462 Senior Project II (1 unit)
Term Typically Offered: F, SP, SU
Prerequisite: PLSC 461 or PLSC 4461; and consent of instructor.

Completion of formal written report under advisor supervision. Formerly PLSC 462.

PLSC 4470 Special Advanced Topics (1-3 units)
Term Typically Offered: TBD
Prerequisite: Consent of instructor.

Directed group study of special topics for advanced students. The Class Schedule will list topic selected. Repeatable up to 6 units. 1 to 3 lectures. Formerly PLSC 470.

PLSC 4471 Special Advanced Laboratory (1-3 units)
Term Typically Offered: TBD
Prerequisite: Consent of instructor.

Directed group laboratory study of special topics for advanced students. The Class Schedule will list topic selected. Repeatable up to 6 units. 1 to 3 laboratories. Formerly PLSC 471.

PLSC 5500 Individual Study in Plant Sciences (1-6 units)
Term Typically Offered: F, SP, SU
Prerequisite: Consent of instructor.

Advanced independent study planned and completed under the direction of a member of the Plant Sciences faculty. Repeatable up to 6 units. Formerly PLSC 500.

PLSC 5570 Special Advanced Topics (1-4 units)
Term Typically Offered: TBD
Prerequisite: Graduate standing and consent of instructor.

Directed group study of special topics for advanced students. The Class Schedule will list topic selected. Repeatable up to 4 units. 1 to 4 seminars. Formerly PLSC 570.

PLSC 5599 Thesis (1-6 units)
Term Typically Offered: F, SP
Prerequisite: Graduate standing and consent of instructor.

Systematic research of a topic in plant sciences, such as crop science, fruit science, environmental horticulture science, or plant protection science. Thesis to describe the problem and its significance, methodology, results, data analysis, discussion and conclusion. Enrollment required every semester in which facilities are used or advisement is received. Repeatable up to 6 units. Formerly PLSC 599.