# PLANT AND SOIL SCIENCE (PSSC)

See Course Description Symbols and Terms (https://catalog.csuchico.edu/academic-standards-policies/course-description-symbols-terms/) for an explanation of course description terminology and symbols, the course numbering system, and course credit units.

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>GE</th>
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<th>Typically Offered</th>
<th>Prerequisite</th>
<th>Grade Basis</th>
<th>Repeatability</th>
<th>Course Attributes</th>
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<tr>
<td>PSSC 101</td>
<td>Introduction to Plant Science</td>
<td>3</td>
<td>GE</td>
<td>Lower Division</td>
<td>Fall and spring</td>
<td>Plant structure, growth, reproduction, and responses to the environment. How humans modify plants and the environment to grow crops. 3 hours laboratory, 2 hours lecture.</td>
<td>Graded</td>
<td>You may take this course for a maximum of 3 units</td>
<td>Lower Division</td>
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<tr>
<td>PSSC 150</td>
<td>West Coast Crop Production</td>
<td>1</td>
<td></td>
<td>Lower Division</td>
<td>Inquire at department</td>
<td>A study of people, careers, crops, and systems related to crop industries in the area. An opportunity to meet with professionals and learn about the skills required for research, management, and services that support agricultural production. Meets the second half of the semester. 1 hour lecture.</td>
<td>Credit/No Credit</td>
<td>You may take this course for a maximum of 3 units</td>
<td>Lower Division</td>
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<tr>
<td>PSSC 198</td>
<td>Special Topics</td>
<td>1-3</td>
<td></td>
<td>Lower Division</td>
<td>Inquire at department</td>
<td>This course is for special topics offered for 1.0 - 3.0 units. Typically the topic is offered on a one-time-only basis and may vary from semester to semester and be different for different sections. See the class schedule for the specific topic being offered. 3 hours supervision.</td>
<td>Graded</td>
<td>You may take this course for a maximum of 3 units</td>
<td>Lower Division</td>
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<tr>
<td>PSSC 250</td>
<td>Introduction to Soil Science</td>
<td>3</td>
<td></td>
<td>Lower Division</td>
<td>Fall only</td>
<td>Soil biology, fertility, chemistry, physical properties, taxonomy and their applications to agricultural management and environmental enhancement. Relationships of soils to the world food supply and population. 3 hours laboratory, 2 hours lecture.</td>
<td>Graded</td>
<td>You may take this course for a maximum of 3 units</td>
<td>Lower Division</td>
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<tr>
<td>PSSC 266</td>
<td>California Orchard Production and Management</td>
<td>3</td>
<td></td>
<td></td>
<td>Fall only</td>
<td>An evaluation of various decisions made in the management of fruit and nut trees. Management topics include studies of climate zones, soil selection, financing, farm organization, irrigation systems, field layout, varietal selection, nutritional needs, harvesting, labor management, marketing, and budgeting. The student is required to prepare a budget and calendar of orchard operations. 3 hours laboratory, 2 hours lecture.</td>
<td>Graded</td>
<td>You may take this course for a maximum of 3 units</td>
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<tr>
<td>PSSC 274</td>
<td>Greenhouse Management</td>
<td>3</td>
<td></td>
<td>Lower Division</td>
<td>Fall only</td>
<td>Greenhouse construction, environment, and management practices, including heating and cooling, irrigation, fertilization, and pest control. 3 hours laboratory, 2 hours lecture.</td>
<td>Graded</td>
<td>You may take this course for a maximum of 3 units</td>
<td>Lower Division</td>
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<tr>
<td>PSSC 298</td>
<td>Special Topics</td>
<td>1-3</td>
<td></td>
<td>Lower Division</td>
<td>Inquire at department</td>
<td>This course is for special topics offered for 1.0 - 3.0 units. Typically the topic is offered on a one-time-only basis and may vary from semester to semester and be different for different sections. See the class schedule for the specific topic being offered. 3 hours seminar.</td>
<td>Graded</td>
<td>You may take this course for a maximum of 3 units</td>
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<tr>
<td>PSSC 299</td>
<td>Special Problems</td>
<td>1-3</td>
<td></td>
<td>Lower Division</td>
<td>Faculty permission.</td>
<td>This course is an independent study of a topic or problem and is offered for 1.0-3.0 units. Students must register with a supervising faculty member. A maximum of 6 units of special problems may be applied toward a bachelor's degree in agriculture. 9 hours supervision.</td>
<td>Credit/No Credit</td>
<td>You may take this course for a maximum of 6 units</td>
<td>Lower Division</td>
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<tr>
<td>PSSC 305</td>
<td>Introduction to Wines</td>
<td>3</td>
<td></td>
<td>Lower Division</td>
<td>Fall only</td>
<td>Grape-growing, and winemaking in California wine regions. Wine and food matching. Sensory evaluation. 1 hour discussion, 2 hours lecture.</td>
<td>Graded</td>
<td>You may take this course for a maximum of 3 units</td>
<td>Lower Division</td>
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<tr>
<td>PSSC 309A</td>
<td>Directed Work in Field and Row Crops</td>
<td>2</td>
<td>Upper Division</td>
<td>Faculty permission.</td>
<td>Fall and spring</td>
<td>Directed work and discussion on all aspects of field and row crop production practices applicable to northern California. 2 hours activity, 1 hour discussion.</td>
<td>Graded</td>
<td>You may take this course for a maximum of 4 units</td>
<td>Upper Division</td>
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PSSC 309B Directed Work in Vegetable Crops 2 Units
Typically Offered: Fall and spring
Directed work and discussion on all aspects of vegetable crop production practices applicable to northern California. 2 hours activity, 1 hour discussion. (007788)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 4 units
Course Attributes: Upper Division
PSSC 330 Rangeland Resources and Management 3 Units
Typically Offered: Fall only
A survey of North American rangeland resources and the principles of their use and management, including basic plant-animal-soil relationships and multiple uses. 3 hours lecture. (007775)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division
PSSC 340 Economic Entomology 4 Units
Typically Offered: Fall only
A survey of the structure and function of insects, leading to a fundamental understanding of applied insect ecology and taxonomy. Particular emphasis is placed on arthropod species of economic importance to humans. 3 hours laboratory, 3 hours lecture. (007797)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 4 units
Course Attributes: Upper Division
PSSC 343 Introduction to Weed Science 3 Units
Prerequisite: AGRI 331.
Typically Offered: Spring only
Identification, modes of spread, and population ecology of weeds and other invasive plant species. Biological, cultural, mechanical, and chemical control of weeds and invasive species. Methods of crop/vegetation management to control and reduce weed populations. 3 hours laboratory, 2 hours lecture. (007801)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division
PSSC 345 Horticultural Therapy 3 Units
Typically Offered: Spring only
An introductory course in horticultural production as therapy. Focus is on the therapeutic benefits available to people engaging in horticultural activities. Covers the special needs associated with elderly, veterans, children and adolescents, and people with disabilities. Overview of techniques and training requirements for therapists in garden and greenhouse activates. Applicable to students in recreation, kinesiology, nursing, psychology, and horticulture. This course fulfills a partial requirement for becoming a registered horticultural therapist. 3 hours lecture. (021807)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division
PSSC 353 Plant Protection Materials, Methods, and Regulations 3 Units
Prerequisite: CHEM 107 or CHEM 111; PSSC 250.
Typically Offered: Fall only
An examination of materials and application methods used for protecting the health of plants in a manner that is safe for the environment, applicator, and consumer. Comprises the laws and regulations, safety, application, properties, mode of action, toxicology, and environmental impacts of pesticides, fertilizers, and other materials used in agriculture. 3 hours laboratory, 2 hours lecture. (007806)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Sustainable Course
PSSC 356 Soil Quality and Health 3 Units
Prerequisite: PSSC 250 or instructor permission.
Typically Offered: Spring only
Course examines the capacity of the soil to function within natural and managed ecosystems to sustain plant/animal productivity, maintain or enhance water and air quality, and support human health and habitation. Soil quality factors include biological, physical, and chemical soil properties. 2 hours activity, 2 hours lecture. (007808)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Sustainable Course
PSSC 361 Production of Annual Crops 3 Units
Prerequisite: PSSC 101.
Typically Offered: Fall only
This course covers the requirements and cultural practices needed for maximizing yields of annual field crops. Principles affecting growth development and management will be covered. For field experience, students are advised to enroll in PSSC 309A/PSSC 309B. 3 hours laboratory, 2 hours lecture. (007810)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division
PSSC 363 Forage Crops 3 Units
Prerequisite: PSSC 101 or PSSC 330.
Typically Offered: Inquire at department
Grasses and legumes; their production and management for irrigated pastures, hay, silage, and seed. Plant characteristics and adaptation. 3 hours laboratory, 2 hours lecture. (007812)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division
PSSC 365 Sustainable Vegetable Crop Production 3 Units
Prerequisite: PSSC 101.
Typically Offered: Fall only
An experiential, field-oriented course covering origin, nutrition, environmental requirements, and management strategies for the sustainable production of vegetables. It provides students with the opportunity to appreciate the vast array of vegetables in the world and develop management skills for commercial production of vegetables in a sustainable manner. 3 hours lecture. (021404)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division
PSSC 366  Fruit and Nut Production  3 Units
Prerequisite: AGRI 333, PSSC 101.
Typically Offered: Spring only
Managing and optimizing the fruit and nut production system. Selection of planting sites and varieties, tree training and pruning, pollination, thinning, irrigation, mineral nutrition, and pest management are included. 3 hours laboratory, 2 hours lecture.  (007820)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division

PSSC 369  Seed Production  3 Units
Prerequisite: PSSC 101.
Typically Offered: Spring only
This is an overview of seed production principles and practices that involves discussion of suitable environmental and nutritional conditions, as well as specific applied methods for individual important crops to produce quality seeds for the market. The lectures provide a general overview through detailed presentations. Students will also be involved in student-led presentations and discussions on seed production practices of specific crops. Seed testing methods and identification skills will also be emphasized. 3 hours lecture.  (022195)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division

PSSC 389  Internship in Plant and Soil Science  1-6 Units
Prerequisite: Junior standing, faculty permission.
Typically Offered: Fall and spring
This course is an internship offered for 1.0-6.0 units. You must register directly with a supervising faculty member. Internship with private industry, state, federal, international, or non-profit organization. Selected topic must be in a Plant and Soil Science Option area. 0 hours independent study.  (007824)
Grade Basis: Credit/No Credit
Repeatability: You may take this course for a maximum of 15 units
Course Attributes: Upper Division

PSSC 390  Food Forever: Comparisons of Sustainable Food Production Systems  3 Units
Prerequisite: GE Oral Communication (A1); GE Written Communication (A2); GE Critical Thinking (A3); GE Mathematics/Quantitative Reasoning (B4) requirements, or consent of the instructor.
Typically Offered: Fall only
An introduction to the principles and mechanisms of integrated management of insect pests, plant pathogens, and weeds, dealing with such areas as the agro-ecosystem, population dynamics, and specific approaches to pest management. 3 hours lecture.  (007834)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Global Cultures; Sustainable Course

PSSC 392  World Food and Fiber Systems  3 Units  GC, GE
Prerequisite: GE Oral Communication (A1); GE Written Communication (A2); GE Critical Thinking (A3); GE Mathematics/Quantitative Reasoning (B4) requirements, or consent of the instructor.
Typically Offered: Spring only
A study and analysis of various world agriculture systems that provide food and fiber. Environmental, technological, socio-economic, and political factors. 3 hours lecture.  (000068)
General Education: Upper-Division Scientific Inq/Quant Reason (UDB); Agriculture, Food, and Environment Pathway; Global Studies Pathway
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division; Global Cultures; Sustainable Course

PSSC 398  Special Topics  1-3 Units
Typically Offered: Inquire at department
This course is for special topics offered for 1.0 - 3.0 units. Typically the topic is offered on a one-time-only basis and may vary from semester to semester and be different for different sections. See the class schedule for the specific topic being offered. 3 hours seminar.  (007827)
Grade Basis: Graded
Repeatability: You may take this course more than once
Course Attributes: Upper Division

PSSC 399  Special Problems  1-3 Units
Prerequisite: Upper-division standing.
Typically Offered: Fall and spring
This course is an independent study of a topic or problem and is offered for 1.0-3.0 units. Students must register with a supervising faculty member. Study/research in plant science and soil science under direct supervision of a faculty member. A maximum of 6 units may be applied toward a bachelor's degree in agriculture. 0 hours independent study.  (007828)
Grade Basis: Credit/No Credit
Repeatability: You may take this course for a maximum of 6 units
Course Attributes: Upper Division

PSSC 441  Principles of Integrated Pest Management  3 Units
Prerequisite: AGRI 331; BIOL 446, PSSC 340, or PSSC 343.
Typically Offered: Spring only
An introduction to the principles and mechanisms of integrated management of insect pests, plant pathogens, and weeds, dealing with such areas as the agro-ecosystem, population dynamics, and specific approaches to pest management. 3 hours lecture.  (007834)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division

PSSC 451  Soil Genesis and Classification  3 Units
Prerequisite: PSSC 250 or faculty permission.
Typically Offered: Spring only
An examination of the factors of soil formation, criteria and systems of soil classification. The laboratory consists of five all-day field trips. 3 hours laboratory, 2 hours lecture.  (007837)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 3 units
Course Attributes: Upper Division
PSSC 453 Soil Fertility and Plant Nutrition  
**Prerequisite:** PSSC 250 or faculty permission.  
**Typically Offered:** Fall only  
Properties of soils, fertilizers, and plant materials. Soil amendments and soil reaction effects on plants. Fertilizer usage. 3 hours laboratory, 2 hours lecture.  
(007840)  
**Grade Basis:** Graded  
**Repeatability:** You may take this course for a maximum of 3 units  
**Course Attributes:** Upper Division

PSSC 459 Crop Physiology  
**Prerequisite:** PSSC 101, PSSC 250 (or equivalents).  
**Typically Offered:** Spring only  
This course is designed to examine the yield potential of field crops in various environments. Students learn about the importance of crop physiology in crop production and breeding. Topics include canopy architecture and radiation interception, photosynthesis and respiration, carbon and nitrogen allocation, plant-water relationships, and plant response to restricted environments. The course provides practical experience using instrumentation to measure physiological processes in laboratory and field. Special emphasis includes design of field and greenhouse experiments. 3 hours laboratory, 3 hours lecture.  
(021698)  
**Grade Basis:** Graded  
**Repeatability:** You may take this course for a maximum of 4 units  
**Course Attributes:** Upper Division

PSSC 489 Internship: Plant/Soil Science  
**Prerequisite:** PSSC 389, senior/graduate standing, faculty permission.  
**Typically Offered:** Fall and spring  
Internship with private industry, state, federal, international, or non-profit organization. Selected topic must be in a PSSC option area. 9 hours supervision.  
(007861)  
**Grade Basis:** Credit/No Credit  
**Repeatability:** You may take this course for a maximum of 15 units  
**Course Attributes:** Upper Division

PSSC 498 Special Topics  
**Typically Offered:** Fall and spring  
This course is for special topics offered for 1.0-3.0 units. Typically the topic is offered on a one-time-only basis and may vary from term to term and be different for different sections. See the Class Schedule for the specific topic being offered. 3 hours seminar.  
(007864)  
**Grade Basis:** Graded  
**Repeatability:** You may take this course more than once  
**Course Attributes:** Upper Division

PSSC 499 Special Problems  
**Prerequisite:** Faculty permission.  
**Typically Offered:** Fall and spring  
This course is an independent study of special problems offered for 1.0-3.0 units. You must register directly with a supervising faculty member. 0 hours independent study.  
(007865)  
**Grade Basis:** Credit/No Credit  
**Repeatability:** You may take this course for a maximum of 6 units  
**Course Attributes:** Upper Division