

---

## Crop Science (CRPSCI)

### **CRPSCI 001**                      **Intro to Plant Science**                      (3)

*Class Hours: 36 Lecture | 54 Laboratory*

*Transfers to: UC/CSU*

*C-ID: AG-PS 106L*

Introduction to Plant Science

CRPSCI 001 is designed to provide students with a working knowledge of plant science including structure, growth process, propagation, physiology, growth media, biological competitors, and post-harvest factors of food, fiber and ornamental plants. Techniques of research, exploration of plant growth and identification of economical crops will be included.

### **CRPSCI 002**                      **Plant Science Theory**                      (3)

*Class Hours: 54 Lecture*

*Transfers to: UC/CSU*

*C-ID: AG-PS 104*

Plant Science Theory

CRPSCI 002 is designed to provide students with a working knowledge of plant science including structure, growth process, propagation, physiology, growth media, biological competitors, and post-harvest factors of food, fiber and ornamental plants. Techniques of research, exploration of plant growth and identification of economical crops will be included.

### **CRPSCI 006**                      **Intro to Precision Agriculture**                      (3)

*Class Hours: 36 Lecture | 54 Laboratory*

*Transfers to: CSU*

Introduction to Precision Agriculture

CRPSCI 006 provides students with an introduction to precision agriculture. An overview of the technological tools and processes that are used will provide students with the ability to converse knowledgeably with precision ag specialists or technicians. It will also be valuable to managers and supervisors who want a broad view of precision ag in order to make a decision on usefulness or value of precision ag.

### **CRPSCI 007**                      **Advanced Precision Agriculture**                      (3)

*Class Hours: 36 Lecture | 54 Laboratory*

*Transfers to: CSU*

Advanced Precision Agriculture

CRPSCI 007 provides an in depth study into precision agriculture, including: vehicle navigation and guidance, remote sensing, yield monitoring, site-specific crop management, and variable rate technology. Additional topics include: methods of applying agrichemicals, sprayer calibration, site-specific fertilizer management, soil and tissue testing, integrated pest management and soil amendments. Subjects such as electrical, hydraulics and instrumentation will be covered as they apply to the precision agriculture industry.

### **CRPSCI 008**                      **App of Geospatial Technology**                      (3)

*Class Hours: 36 Lecture | 54 Laboratory*

*Transfers to: UC/CSU*

Applications of Geospatial Technology

CRPSCI 008 surveys the uses and applications of geospatial technologies in agriculture and related fields. The course focuses on GPS (Global Positioning System) and GIS (Geographic Information Systems) for data collection, navigation, recordkeeping, remote imagery, and analysis. Students gain hands-on experience using industry grade GIS software and GPS hardware.

---

**CRPSCI 017 Control & Sensor Systems in Ag (3)**

*Class Hours: 36 Lecture | 54 Laboratory*

*Transfers to: CSU*

Control and Sensor Systems in Ag

CRPSCI 017 allows students to discover how modern agriculture uses technology to grow more food sustainably with concepts of sensors and control systems. In this hands-on course, students will learn about GPS, GIS, telemetry, hydraulics, pneumatics, electronics, and programming fundamentals, then apply these technologies to precision agriculture systems including autoguidance, agricultural drones, variable-rate applications, smart irrigation, and livestock monitoring.

**CRPSCI 018 Precision Ag Software (3)**

*Class Hours: 36 Lecture | 54 Laboratory*

*Transfers to: CSU*

Precision Ag Software

CRPSCI 018 provides students with skills in the use of GIS (Geographic Information Systems) and FMIS (Farm Management Information Systems) software. Specific competencies include import/export, use of analytical tools, prescriptions, and creation of interpretative maps. Creation of an interactive web-based map and use of scripting or programming language such as Python are also covered.

**CRPSCI 019 California Water (3)**

*Class Hours: 54 Lecture*

*Transfers to: UC/CSU*

California Water

CRPSCI 019 is an interdisciplinary examination of California's water use and management with an historical emphasis on the politics and conflict arising from water scarcity. Instruction in the fundamentals of irrigation application and measurement systems will be provided. Included will be a study of the basic irrigation systems: flood, sprinkler, micro, sub-irrigation and their variations. California's water systems and water quality problems will be reviewed.

**CRPSCI 021 Orchard Production (3)**

*Class Hours: 36 Lecture | 54 Laboratory*

*Transfers to: UC/CSU*

Orchard Production

CRPSCI 021 will cover the production practices and systems for developing and maintaining a productive orchard. Topics, as applied to all permanent crops, will include the following: soil, water and salinity management; planning and evaluation of an orchard; genetic considerations; growth, development, and physiology; nutrient and water interactions; and pest management. The UC production manuals will be used a textbook for course content. Lab exercises will focus on application of technology in orchard production practices.

**CRPSCI 023 Row Crop Production (3)**

*Class Hours: 36 Lecture | 54 Laboratory*

*Transfers to: CSU*

Row Crop Production

CRPSCI 023 covers the production systems and practices for a row crop production field. Varietal differences, transplant operations, cultural practices, irrigation, physiological and pest problems, harvesting and handling, and production costs will be covered. Content will be based on University of California publications. Lab activities provides hands-on experience with geospatial, sensor, and control technologies as applied to row crop production.

---

**CRPSCI 032 Weeds and Poisonous Plants (3)**

*Class Hours: 36 Lecture | 54 Laboratory*

*Transfers to: CSU*

Weeds and Poisonous Plants

CRPSCI 032 is the study of the classification, identification, and life cycle of common and poisonous weeds in California production areas and grasslands and their effects on animals and humans including management practices such as prevention, and mechanical, biological, and chemical control methods. Weeds establishment and chemical resistance will also be discussed. Laboratory required.

**CRPSCI 036 Fertilizers and Soil Amendment (3)**

*Class Hours: 36 Lecture | 54 Laboratory*

*Transfers to: CSU*

Fertilizers and Soil Amendments

CRPSCI 036 is the study of the composition, value, selection, and use of fertilizer materials and soil amendments within the context of soil, plant, and fertilizer relationships. Application practices currently being used in California will be discussed.

**CRPSCI 044 Economic Entomology (3)**

*Class Hours: 36 Lecture | 54 Laboratory*

*Transfers to: UC/CSU*

Economic Entomology

CRPSCI 044 explores the diverse and evolutionary advanced world of insects and mites, leading to a fundamental understanding of applied insect and mite ecology and taxonomy. Emphasis is placed on arthropod species of economic importance to humans. This class will delve into the morphology, taxonomy, identification, life cycles, hosts, habitat relationships, and control methods of these organisms. Students will actively engage in hands-on learning through the collection and labeling of specimens and laboratory activities designed to provide a collaborative and supportive space that explores the fascinating interactions between insects, mites, and agriculture. Collection and labeling of specimens will be required. Laboratory required. Recommended for Pest Control Advisors' licensing.

**CRPSCI 045 California Pest Control Laws (2)**

*Class Hours: 36 Lecture*

*Transfers to: CSU*

California Pest Control Laws and Regulations

CRPSCI 045 covers the laws and regulations concerning pest control in California. This course is intended to cover the material needed to pass the laws and regulations section for the California Department of Pesticide Regulations Pest Control Adviser examination.

**CRPSCI 046 Integrated Pest Management (3)**

*Class Hours: 36 Lecture | 54 Laboratory*

*Transfers to: CSU*

Integrated Pest Management

CRPSCI 046 studies the origin, history, and management measures for insect, plant pathogen, weed, and other pests of field crops, pest biology and life cycles are studied to demonstrate the use of various Integrated Pest Management (IPM) technologies for economic crop production. Pesticide regulations, application, formulations, and materials for specific uses are covered.

**CRPSCI 049 Directed Study (1 - 2)**

*Class Hours: 108 Laboratory*

Directed Study

CRPSCI 049 is designed for students who wish to undertake special projects related to a particular field. Students, under instructor guidance and acknowledgement, may pursue individual exploration after completing or while currently enrolled in at least one course in the department of directed study.

---