

Agriculture

Overview

Agriculture is a vital component of our local, state, and national economies and offers many exciting employment opportunities. In addition to the production of a wide range of valuable agricultural commodities, the Sacramento region is home to numerous multi-national agricultural corporations and statewide governmental agencies. It is also a center for international agricultural trade and commerce.

Program Maps

A.A./A.S. Degrees

[General Agriculture A.S. Degree - Horticulture Concentration Map \(/academics/programs-and-majors/general-agriculture-as-degree-horticulture-concentration-map\)](/academics/programs-and-majors/general-agriculture-as-degree-horticulture-concentration-map)

[General Agriculture A.S. Degree - Landscape Concentration Map \(/academics/programs-and-majors/general-agriculture-as-degree-landscape-concentration-map\)](/academics/programs-and-majors/general-agriculture-as-degree-landscape-concentration-map)

[General Agriculture A.S. Degree - Welding Concentration Map \(/academics/programs-and-majors/general-agriculture-as-degree-welding-concentration-map\)](/academics/programs-and-majors/general-agriculture-as-degree-welding-concentration-map)

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[Plant-Based Nutrition and Sustainable Agriculture Certificate Map \(/academics/programs-and-majors/plant-based-nutrition-and-sustainable-agriculture-certificate-map\)](/academics/programs-and-majors/plant-based-nutrition-and-sustainable-agriculture-certificate-map)

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Career and Academic Community

[Agriculture, Food and Natural Resources \(/academics/career-and-academic-](/academics/career-and-academic-)

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Associate Degree

A.S. in General Agriculture

Agriculture is a vital component of our local, state, and national economies and offers many exciting employment opportunities. In addition to the production of a wide range of valuable agricultural commodities, the Sacramento region is home to numerous multi-national agricultural corporations and statewide governmental agencies. It is also a center for international agricultural trade and commerce. This program is designed for students majoring in Agriculture while also allowing the student to select courses that fit his/her individual needs and desires.

As a General Agriculture major, you will:

*Study a general agriculture curriculum representing all of the departments of the Cosumnes River College agriculture program including: agriculture business, horticulture, welding, veterinary technology and plant science.

*Develop your leadership and communication skills.

*Identify the agricultural career you are most interested in and build a course of study to better qualify you for a profession.

HIGHLIGHTS

*As the only community college agriculture program in the Sacramento region, the CRC General Agriculture program provides an excellent opportunity for individuals who wish to pursue a career in agriculture and receive a General Agriculture Associate of Science degree.

*The faculty in this program works closely with the five California agricultural degree offering universities to provide a quality program for students interested in agriculture business,

management and economics.

*The Sacramento region is fortunate to have some of the best high school agriculture programs in California. The faculty in the CRC Ag program works closely with these feeder schools to articulate coursework and facilitate the successful transition of agriculture students from high school to the university.

*Internships in agriculture are available for students interested in work experience opportunities.

NOTE TO TRANSFER STUDENTS: If you are interested in transferring to a four-year college or university to pursue a bachelor's degree in this major, it is critical that you meet with a CRC counselor to select and plan the courses for your major. Schools vary widely in terms of the required preparation. The courses that CRC requires for an Associate's degree in this major may be different from the requirements needed for the Bachelor's degree.

Catalog Date: August 1, 2024

Degree Requirements

COURSE CODE	COURSE TITLE	UNITS
AGB 310	Agriculture Computer Applications	3 ¹
AGB 320	Agriculture Accounting	3
AGB 321	Agriculture Economics	3
AMT 306	Small Engine Repair	3
HORT 300	Introduction to Horticulture	3
PLTS 310	Soils, Soil Management, and Plant Nutrition (3)	3
or HORT 302	Soils, Soil Management, and Plant Nutrition (3)	
ANSC 300	Introduction to Animal Science	3
PLTS 300	Introduction to Plant Science	3
WELD 100	Introduction to Welding & Safety	1.5
A minimum of 2 units from the following:		2
WEXP 498	Work Experience in (Subject) (0.5 - 4)	
Subtotal Units:		27.5

Agriculture Business

COURSE CODE	COURSE TITLE	UNITS
AGB 300	Introduction to Agriculture Business	3
AGB 330	Agriculture Sales and Communication	3
AGB 331	Agriculture Marketing	3
Agriculture Business Units:		9
Total Units:		36.5

Horticulture

COURSE CODE	COURSE TITLE	UNITS
HORT 305	Plant Identification-Fall Selections	3
HORT 312	Plant Propagation	3
Horticulture Units:		6
Total Units:		33.5

Landscape

COURSE CODE	COURSE TITLE	UNITS
HORT 320	Sustainable Landscape Construction	3
HORT 324	Sustainable Landscape Maintenance	3
Landscape Units:		6
Total Units:		33.5

Welding

COURSE CODE	COURSE TITLE	UNITS
WELD 110	Shielded Metal Arc Welding Procedures	4
Welding Units:		4
Total Units:		31.5

¹This major requires that you complete all courses in the required program plus one area of concentration.

The General Agriculture Associate in Science (A.S.) degree may be obtained by completion of the required program, plus general education requirements, plus sufficient electives to meet a 60-unit total. See CRC graduation requirements.

Student Learning Outcomes

Upon completion of this program, the student will be able to:

- PSLO 1: Demonstrate knowledge and hands-on experience in the basic concepts of all aspects of agriculture.
- PSLO 2: Demonstrate the ability to logically breakdown aspects of a project/problem and be able to resolve an issue in the agriculture industry.
- PSLO 3: Demonstrate independent & group learning expressing effective communication skills, both orally & written.
- PSLO 4: Participate in leadership opportunities to develop life-long learning traits.

Career Information

Management; Supervision; Finance; Insurance; Government; Marketing; Distribution; International Trade; Sales and Service Nursery Management and Operations; Park Maintenance; Landscape Design, Teaching, Communication; Contracting & Maintenance; Fertilizer & Insecticide Application; Research; Retail/Wholesale; Estimator; Consultant; Government Agency employee; Welding Technician; Inspection; Welding Engineering; Sculpting; Home/Handicraft & Hobby; Construction; Trucking & Automotive Some positions, however, require a four-year degree for which CRC's program is a good base for transfer.

Certificates of Achievement

Mechanized Agriculture Technician Certificate

The Mechanized Agriculture curriculum at Cosumnes River College is designed to meet the need for trained personnel in a broad range of occupational opportunities involved with or related to the Mechanized Agriculture Field.

Catalog Date: August 1, 2024

Certificate Requirements

COURSE CODE	COURSE TITLE	UNITS
CONST 103	OSHA 10 Hour Safety Training	1
AMT 303	Automotive Electrical & Electronic Systems	4
AMT 306	Small Engine Repair	3
WELD 100	Introduction to Welding & Safety	1.5
WELD 129	Gas Tungsten Arc Welding of Stainless Steel (3)	3 - 4
or WELD 113	Flux Core Arc Welding Process (4)	
WEXP 498	Work Experience in (Subject)	0.5 -4
MAT 300	Introduction to Agriculture Mechanics	3
MAT 301	Hydraulic and Pneumatic Power Systems	3
Total Units:		19 - 23.5

Student Learning Outcomes

Upon completion of this program, the student will be able to:

- PSLO 1 Demonstrate the correct tools/supplies required to diagnose/repair a malfunction.
- PSLO 2 Evaluate if the path of repair was correct by testing and/or completing a work order/report.
- PSLO 3 Explain the basic theory of the subject matter or system for the course of instruction based on industry standards.
- PSLO 4 Demonstrate basic shop safety practices.

Plant-Based Nutrition and Sustainable Agriculture Certificate

The Plant-Based Nutrition and Sustainable Agriculture Certificate Program brings farm-to-fork into the classroom. It provides the science that supports the benefits of whole plant-based foods to the health of the individual as well as the environment. Students will gain knowledge in the function of plant-based foods towards the treatment and prevention of chronic diseases. The program addresses the environmental and social concerns with strategies and principles of sustainable agriculture. Students will master the theories and skills of plant-based food preparation bringing the food to the fork and into everyday food choices.

Contact the CRC Nutrition and Foods, Horticulture, and/or Ag Counselor regarding transferable courses.

Catalog Date: August 1, 2024

Certificate Requirements

COURSE CODE	COURSE TITLE	UNITS
NUTRI 303	Plant-Based Nutrition	3
NUTRI 331	Plant-Based Food Principles and Preparation	3
HORT 313	Sustainable Agriculture	3
Total Units:		9

Student Learning Outcomes

Upon completion of this program, the student will be able to:

- PSLO 1: Demonstrate independent learning and effective communication skills.
- Demonstrate responsibility for personal action and choices.
- Communicate effectively both orally and in writing.
- PSLO 2: Explain the principles of nutrition and its effect on health.
- Relate the dietary causes of chronic diseases.
- Evaluate the role of plant-based foods on health and the environment.
- PSLO 3: Demonstrate a fundamental understanding of health behaviors on nutritional and health status.
- Schematize the effects of personal food choice on health, the environment and public policy.
- PSLO 4: Basic and advanced plant science/horticulture skills development and improvement.
- Demonstrate and apply the theories of sustainable and organic agriculture.
- Demonstrate a fundamental understanding of soils, soil development, soil building and preparation and sustainable soil management.
- Demonstrate a fundamental understanding of hydraulics and irrigation design, installation, and water management principles and practices.
- Create agriculture design concepts based on sound, sustainable soil management, water conservation, construction and maintenance, and integrated pest management best practices.
- PSLO 5: Effectively and accurately prepare and analyze raw ingredients and prepared foods.
- Evaluate food through sensory evaluation of texture, taste, color, presentation, smell and umami.
- Identify optimal cooking procedures/heat transfer to maximize nutrient content as well as the quality of the ingredients and dish as a whole.
- Analyze quality defects in cooked products and specify possible errors in techniques or ingredient selection.
- PSLO 6: Implement proper sanitary and safety techniques.
- Demonstrate appropriate food handling and sanitary techniques.
- Utilize kitchen tools/equipment appropriately.

Career Information

In restaurants, food service facilities, farms, urban farms, sustainable/organic farms, school garden, health education. Some of these career options may require more than the certificate and two years of college study. Classes beyond the associate degree may be required to fulfill some career options or for preparation for transfer to a university program.

Certificate

General Agriculture Certificate

This program is designed to prepare students for entry level employment in Agriculture.

Catalog Date: August 1, 2024

Certificate Requirements

COURSE CODE	COURSE TITLE	UNITS
AGB 300	Introduction to Agriculture Business	3
AGB 310	Agriculture Computer Applications	3
PLTS 310	Soils, Soil Management, and Plant Nutrition (3)	3

COURSE CODE	COURSE TITLE	UNITS
or HORT 302	Soils, Soil Management, and Plant Nutrition (3)	
ANSC 300	Introduction to Animal Science	3
PLTS 300	Introduction to Plant Science	3
Total Units:		15

Mechanized Agriculture Technology (MAT) Courses

MAT 299 Experimental Offering in Mechanized Agriculture Technology

Units: 0.5 - 4
Prerequisite: None.
Catalog Date: August 1, 2024

This is the experimental courses description.

MAT 300 Introduction to Agriculture Mechanics

Units: 3
Hours: 36 hours LEC; 54 hours LAB
Prerequisite: None.
Transferable: CSU
Catalog Date: August 1, 2024

This course provides an introduction to basic technical skills required throughout the agricultural and industrial areas. The course includes identification and use of tools and materials, tool sharpening and care, hot and cold metal work, plumbing and pipefitting, electric wiring fundamentals, basic carpentry and woodwork, concrete materials, mixes and estimating.

Student Learning Outcomes

Upon completion of this course, the student will be able to:

- SLO: 1 Display safe practices in both the shop and in the field.
- Become aware of shop safety practices when working with ropes, chains, electrical wiring and cold metal work.
- SLO: 2 Differentiate the basic understanding of related tools and equipment and their usage.
- Operate and maintain the tools and equipment required to complete the tasks and skills presented in class.
- Demonstrate basic technical skills in all topics as listed in the course outline.
- Design a project using processes, tools and materials related to course content.

MAT 301 Hydraulic and Pneumatic Power Systems

Units: 3
Hours: 36 hours LEC; 54 hours LAB
Prerequisite: None.
Transferable: CSU
Catalog Date: August 1, 2024

This is an introduction to the principles of hydraulics applied to farm and light industrial equipment. The course includes a study of the technical language of fluid power, including graphical symbols, industrial standards, components, and maintenance of hydraulic units.

Student Learning Outcomes

Upon completion of this course, the student will be able to:

- SLO 1: Identify and explain the various components and functions of a complete hydraulic system.
- Describe the terms fluid power, hydraulic system, and pneumatic system.
- Describe the theory and practice of compressing and and transporting gasses.
- Compare the various components and their symbols used in hydraulic and pneumatic systems in order to show how they fit into a schematic diagram.
- SLO 2: Demonstrate and practice proper safety practices in the shop and in the field.
- Become aware of shop safety practices when working with hydraulic and pneumatic systems.

MAT 499 Experimental Offering in Mechanized Agriculture Technology

Units: 0.5 - 4

Prerequisite: None.
Catalog Date: August 1, 2024

This is the experimental courses description.

Faculty

Career Education

This major is part of CRC's Career Education (CE) Program. Request assistance from Career Education by dropping us a line!

[Request CE Services](#) (~~/ACADEMICS/CAREER-EDUCATION/REQUEST-CAREER-EDUCATION-SERVICES-FORM/~~)

Scholarships

Apply for scholarships for Agriculture students:

- CRC Agriculture Ambassador Continuing Student Scholarship (\$250)

Applications open spring semester.

[Scholarships](#) (~~HTTPS://LOSRIOS.ACADEMICWORKS.COM/OPPORTUNITIES/~~)

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[CalFresh](#) (~~/STUDENT-RESOURCES/SUPPORT-SERVICES/CALFRESH/~~)