ASHFORD VALLEY AGRICULTURAL COLLEGE

OFFICIAL ACADEMIC COURSE CATALOG * 2026-2027 ACADEMIC YEAR

1. Institutional Overview & Accreditation

Ashford Valley Agricultural College is an accredited, specialized undergraduate and professional institution serving California's Central Valley. Established in 1954 in Fresno County, the college operates a contiguous 420-acre commercial teaching research station dedicated to applied agricultural technologies, water conservation, and livestock sciences. The institution is accredited by the Western Association of Schools and Colleges (WASC Senior College and University Commission - WSCUC) and approved by the California Agricultural Education Council.

2. Degree & Certificate Offerings

Degree / Certificate	Award Level	Credits	Specialized Focus Areas
Precision Crop Science & Smart Irrigation	AS Degree	64 Credits	Micro-irrigation, dielectric telemetry, tree nut pomology
Livestock Operations & Animal Health	AS Degree	64 Credits	Dairy automation, ruminant nutrition, cattle breeding
Agribusiness Economics & Farm Management	BS Degree	120 Credits	Commodity hedging, SGMA water banking, farm tax law
Sustainable Agronomy & CEA	BS Degree	120 Credits	Hydroponics, saline soil remediation, biological IPM
Precision Ag Drones & Fleet Robotics	Certificate	18 Credits	FAA Part 107, multispectral NDVI, RTK tractor guidance
Post-Harvest Cold Chain & Food Safety	Certificate	18 Credits	FDA FSMA / PCQI certification, HACCP, rapid PCR testing

3. Complete Course Inventory (Sample Core Modules)

All 102 active collegiate courses blend rigorous classroom theory with mandatory field practicum sessions on the college's research farm. Below is an indicative registry of core instructional units across our six disciplinary divisions:

Code	Course Title	Units	Prerequisites
AGR-101	Introduction to California Agriculture	3 cr	None
AGR-140	Soil Physical Properties & Morphology	3 cr	AGR-101
AGR-220	Soil Chemistry & Plant Nutrition	3 cr	AGR-140
AGR-250	Central Valley Weed Ecology & Manageme	3 cr	AGR-101
AGR-280	Integrated Pest Management (IPM) & DPR	3 cr	AGR-101
AGR-299	Applied Agronomy Field Capstone	4 cr	Department Consent
AGR-310	Soil Microbiology & Mycorrhizal Ecolog	3 cr	AGR-220
AGR-335	Alkaline & Saline Soil Bioremediation	3 cr	AGR-220
AGR-350	Cover Cropping & Conservation Tillage	3 cr	AGR-140
AGR-375	Agro-Meteorology & Microclimate Analys	3 cr	GEN-105
AGR-410	Carbon Sequestration & Soil Health Ver	3 cr	AGR-310
AGR-435	Advanced Plant Pathology & Biosecurity	3 cr	AGR-280
AGR-450	Water & Nutrient Co-Management Modelin	3 cr	IRR-210
AGR-470	Organic Production Standards & Certifi	3 cr	AGR-280
AGR-485	Crop Biotechnology & Stress Physiology	3 cr	AGR-310
AGR-490	Agricultural Extension & Field Consult	3 cr	Senior Standing
AGR-495	Special Topics in Sustainable Agronomy	3 cr	Instructor Consent
AGR-499	Senior Agronomic Thesis & Defense	4 cr	Senior Standing
IRR-110	Agricultural Hydraulics & Pipe Flow	3 cr	GEN-105
IRR-120	Soil-Plant-Water Relationships	3 cr	AGR-101
IRR-210	Micro-Irrigation System Design & Emitt	3 cr	IRR-110
IRR-225	Irrigation Scheduling & CIMIS Evapotra	3 cr	IRR-120
IRR-250	Automated Drip Fertigation & Salinity	3 cr	IRR-210
IRR-310	Groundwater Hydrology & Central Valley	3 cr	IRR-120
IRR-340	Regulated Deficit Irrigation (RDI) in	3 cr	IRR-225
IRR-360	Telemetry Networks & Wireless In-Field	3 cr	MCH-102
IRR-410	Agricultural Water Law & SGMA Governan	3 cr	AGB-101
IRR-420	Large-Scale Agricultural Canal & Distr	3 cr	IRR-310
IRR-450	On-Farm Recharge (Ag-MAR) & Water Bank	3 cr	IRR-310
IRR-470	Advanced Filtration, Desalination & Br	3 cr	IRR-210
IRR-480	Pump Efficiency Testing & Energy Optim	3 cr	IRR-110
IRR-485	Sensors, Sap Flow & Stem Water Potenti	3 cr	IRR-225

4. Academic Standards & Field Practicum Protocols

A cumulative Grade Point Average (GPA) of 2.0 or higher is required for degree conferral. Practical tractor and field equipment operation courses (MCH prefix) require passing an initial Cal/OSHA safety certification and active field compliance monitoring.