

AGRICULTURAL SCIENCE (AGRS)

AGRS 100 Practical Crop Production3 Credits

Production and adaptation of cultivated crops. Emphasis on crops grown in the western region of the United States. Growth, development, production, and use covered.

Corequisites: AGRS 100L.

AGRS 100L Practical Crop Production Laboratory1 Credit

Laboratory experiences supporting instruction in the production and adaptation of cultivated crops. Emphasis on crops grown in the western region of the United States. Growth, development, production, and use covered.

Corequisites: AGRS 100.

AGRS 101 Fermented Beverages3 Credits

Introduction to the fermented beverage industry, relationships between field produce and finished product, and basic sensory attributes and palate training. Emphasizes the wine industry, but also includes cider and beer.

Fees: Yes.

AGRS 102 Agriculture Economics3 Credits

Focus on economic principles applied to agriculture through price discovery with producer supply and consumer demand, governmental politics, rural development, and resource management.

AGRS 103 Introduction to Entomology2 Credits

Covers insect identification and classification, introduces integrated pest management concepts, and an in-depth study of selected insects of agricultural economic importance.

Corequisites: AGRS 103L.

AGRS 103L Introduction to Entomology Laboratory1 Credit

Lab component required for AGRS 103.

Corequisites: AGRS 103.

AGRS 104 Agriculture Chemistry3 Credits

Introduction to the basic concepts of chemistry. Areas covered are designed to focus on chemical concepts that a student needs for agriculture-related courses.

AGRS 105 Animal Science3 Credits

Fundamentals of livestock production. Principles of breeding, genetics, nutrition, health, and physiology of beef, sheep, swine, dairy, and horses. Focus on the animal science industry in general and each species industry in regard to history, current situation, and future.

AGRS 106 Fermentation Science2 Credits

Examination of fundamentals of microbiology and chemistry as they apply to fermented beverages, with an emphasis on the winemaking industry.

Corequisites: AGRS 106L.

AGRS 106L Fermentation Science Laboratory1 Credit

Application of fundamentals of microbiology and chemistry as they apply to fermented beverages, with an emphasis on the winemaking industry.

Corequisites: AGRS 106.

AGRS 108 Composting3 Credits

Exploration of the microbiology behind composting and procedures for various types of composting. Evaluation of the benefits of using compost in a variety of applications, including soil health and its roles in sustainable and regenerative agriculture. Covers potential hazards and regulations associated with making compost, industrial applications of composting, and employment possibilities in the composting field.

Terms Typically Offered: Fall.

AGRS 110 Integrated Pest Management3 Credits

Identification and control of economically important weeds, insects, and diseases through systems approach management concepts including cultivation, chemical, and biological control mechanisms.

AGRS 118 Farm Structures and Green Houses3 Credits

Safety, hand and power tool use, farm building planning and site location, concrete, farm building design and construction, and materials of construction. Greenhouse design, systems, management, and major greenhouse crops and their cultural needs.

AGRS 125 Agricultural Machinery3 Credits

Emphasizes the safe operation, construction, purpose, maintenance, and adjustment of farm machinery.

AGRS 130 Vineyard Establishment and Management3 Credits

Exploration of vineyard establishment and winter/spring vineyard management practices. Emphasis on site selection, vineyard layout, vine varieties, soil preparation, planting methods, plant establishment and training/manipulation, and tools and equipment.

Prerequisites: AGRS 100/AGRS 100L.

Corequisites: AGRS 130L.

AGRS 130L Vineyard Establishment and Management Laboratory1 Credit

Lab component required for AGRS 130.

Corequisites: AGRS 130.

AGRS 131 Water and Irrigation: Principles and Practices2 Credits

Exploration of water, soil, and plant relationships; water quality assessment; principles of irrigation, methods, and systems.

Prerequisites: AGRS 100/AGRS 100L.

Corequisites: AGRS 131L.

AGRS 131L Water and Irrigation: Principles and Practices Laboratory1 Credit

Applications in water, soil, and plant relationships; water quality assessment; principles of irrigation, methods, and systems.

Prerequisites: AGRS 100/AGRS 100L.

Corequisites: AGRS 131.

AGRS 165 Winemaking I3 Credits

Exploration of the winemaking process, winemaking principles such as alcoholic and malo-lactic fermentations, juice additions, and winery hygiene and safety. Includes pre-harvest analyses, grape harvest, fruit processing, and filtration.

Prerequisites: AGRS 100/AGRS 100L and AGRS 106/AGRS 106L.

Corequisites: AGRS 165L.

AGRS 165L Winemaking I Laboratory1 Credit

Applications of the winemaking process, winemaking principles such as alcoholic and malo-lactic fermentations, juice additions, and winery hygiene and safety. Includes pre-harvest analyses, grape harvest, fruit processing, and filtration.

Prerequisites: AGRS 100/AGRS 100L and AGRS 106/AGRS 106L.

Corequisites: AGRS 165.

AGRS 170 Sensory Analysis3 Credits

Exploration of sensory training specific to wine production with a focus on the details of olfactory and taste transduction mechanisms. The class will focus on specific wine varietals, use of oak in winemaking, secondary fermentation, characteristics, and individual wine component threshold identification.

Prerequisites: AGRS 100/AGRS 100L and AGRS 106/AGRS 106L.

Fees: Yes.

AGRS 189 Viticulture Practicum3 Credits

Exploration of vineyard maintenance, through a combination of applied learning and work experience facilitated by experienced growers.

Prerequisites: AGRS 130/AGRS 130L.

AGRS 196 Topics1-3 Credits

Course may be taken multiple times up to maximum of 15 credit hours.

AGRS 202 Winery Operations and Marketing3 Credits

Analysis of the annual winery operations cycle (includes equipment, health, safety, and sanitation, regulatory compliance requirements, and management of waste, storage, and distribution systems), and product distribution, sales, and marketing. Includes visitation to existing winemaking businesses.

AGRS 205 Farm and Ranch Management3 Credits

Provide students with practical experience in applying principles of economics, business, marketing, and finance to the management of a farm/ranch operation.

AGRS 208 Agricultural Finance3 Credits

Emphasizes principles of finance and their application to agriculture and agribusiness, including the time value of money, net present value analysis, interest, credit lending institutions, financial statements, and financial ratios.

AGRS 210 Agricultural Marketing3 Credits

Applied study of the agricultural marketing system. Methods of marketing crops and livestock. Emphasis on hedging with futures and options.

AGRS 224 Integrated Ranch Management3 Credits

Management pertaining to the economics of a ranching enterprise. Includes principles of system management, resource inventory and management, ranch decision making, nutrition, selection, record keeping, financial management, and marketing.

AGRS 225 Feeds and Feeding4 Credits

Basic nutrients, common feeds and feed additives, anatomy of digestive systems, and basic feeding practices for beef, sheep, and dairy. Lab devoted to calculating and balancing rations to fulfill nutrient requirement of farm animals for growth, finishing, reproduction, lactation, work, and wool production. Explores least cost ratio balancing.

AGRS 230 Farm Animal Anatomy and Physiology3 Credits

Introduction to basic concepts of farm animal anatomy and physiology. Emphasizes nutrition, reproduction, immunology, and growth of the basic farm species. Anatomy and physiology is taught in the context of applying basic principles to production practices in the industry including reproductive management, livestock nutrition management, and animal health practices.

Prerequisites: AGRS 105.

AGRS 240 Introduction to Soil Science3 Credits

Formation, physical properties, chemical properties, and management of soils emphasizing conditions affecting plant growth.

Corequisites: AGRS 240L.

AGRS 240L Introduction to Soil Science Laboratory1 Credit

Formation, physical properties, chemical properties, and management of soils emphasizing conditions affecting plant growth in the lab environment.

Corequisites: AGRS 240.

AGRS 245 Winemaking II2 Credits

Exploration of wine filtration, and post-fermentation wine stewardship techniques. Also includes the principles of wine composition, wine analytical techniques, and the relevance of these analyses to winemaking decisions.

Prerequisites: AGRS 165/AGRS 165L.

Corequisites: AGRS 245L.

AGRS 245L Winemaking II Laboratory1 Credit

Applications of wine filtration, and post-fermentation wine stewardship techniques. Also includes the principles of wine composition, wine analytical techniques, and the relevance of these analyses to winemaking decisions.

Prerequisites: AGRS 165/AGRS 165L.

Corequisites: AGRS 245.

AGRS 250 Live Animal and Carcass Evaluation1 Credit

Explores meat carcass evaluation and the related yield and quality grading system. Emphasizes selection of breeding stock based on performance data. Covers comparative selection, grading, and judging of market and breeding classes of livestock based on knowledge of phenotype, performance, information, and/or carcass merit.

Prerequisites: AGRS 105.

Corequisites: AGRS 250L.

AGRS 250L Live Animal and Carcass Evaluation Laboratory2 Credits

Lab component required for AGRS 250.

Prerequisites: AGRS 105.

Corequisites: AGRS 250.

AGRS 255 Viticulture Harvest and Post-harvest Management2 Credits

Exploration of late summer and fall vineyard operations including: maturity sampling, bird netting, and fall harvest. Includes preparation of the vineyard for winter.

Prerequisites: AGRS 100/AGRS 100L.

Corequisites: AGRS 255L.

AGRS 255L Viticulture Harvest and Post-harvest Management Laboratory1 Credit

Application of late summer and fall vineyard operations including: maturity sampling, bird netting, and fall harvest. Includes preparation of the vineyard for winter.

Prerequisites: AGRS 100/AGRS 100L.

Corequisites: AGRS 255.

AGRS 260 Plant Propagation3 Credits

Theory, biology, and practical applications of plant propagation technologies. Propagation by seed, cuttings, budding, grafting, layering, and tissue culture. Propagation environment, techniques of stock plant management, and seed handling.

AGRS 265 Integrated Plant Health Management3 Credits

Multi-faceted approaches to the management of plant health through analysis of soil characteristics, nutrients, irrigation, and integrated pest management techniques for reducing pest susceptibility and enhancing crop production yield and quality.

Prerequisites: AGRS 100/AGRS 100L.

AGRS 270 Science of Winemaking2 Credits

Investigation of the scientific principles of wine production, including the physiology of grape berry development and wine grape processing.

AGRS 275 Winemaking III 3 Credits

Application of winemaking principles to develop the problem-solving skills students will need to enter the workforce. An internship in a winery setting.

AGRS 288 Livestock Practicum 3 Credits

Provides experiential learning with beef cattle, dairy cattle, swine, and sheep.

AGRS 293 Cooperative Experience 5 Credits

Employment in an agricultural production setting. Work experience in all facets of the operation. Guidance and supervision is the responsibility of the supervising employer and Coordinator of Production Agriculture. Emphasis on records, managerial decisions, and production agriculture skills.

Course may be taken multiple times up to maximum of 5 credit hours.

AGRS 296 Topics: 1-4 Credits

Course may be taken multiple times up to maximum of 15 credit hours.