

# Agriculture

## AG 101

### Crop Production I Field Crops W/ Lab • 4.0 Credits

This course covers introduction to principles of crop production, including crop growth, development, yield and quality. Emphasis is placed on applying technology advances in agronomy to active crop-production situations, including basic soils, climate, crop physiology, and breeding. Major field and forage crops grown in the Columbia Basin and Washington state will be covered. Production practices such as planting, maintenance, storage techniques and harvesting will also be covered. \$35 science fee.

## AG 102

### Introduction to Animal Science W/ Lab • 5.0 Credits

Introductory Animal Science including the history, philosophy, and theory of animal husbandry. Types and breeds of livestock, terminology, methods, management systems, techniques of animal and poultry production, and consumer impact are discussed. \$35 science fee.

## AG 107

### Agriculture Safety • 3.0 Credits

This course is an overview of various hazards associated with agriculture. Hazards examined include machinery, controlled spaces, pesticides, and other items in the agricultural workplace. The course also covers identifying safety hazards, applying procedures, analyzing safety rules and regulations. Emphasis will be placed on safety and worker protection in the agricultural workplace, agricultural pesticide uses and applications, chemical safety, and waste hazards associated with pesticides and fertilizer use. Safety standards for agriculture identified by the Washington State Administration codes (WAC 296-307) will be covered. \$35 science fee.

## AG 117

### Agriculture Mechanics and Machinery W/ Lab • 4.0 Credits

This course emphasizes agriculture equipment including tractors, planters, harvesters and balers used in modern agriculture. The course also covers economic factors, operation principles, adjustments and maintenance of commonly used machines. Maneuvering, attaching, detaching, and using implements will be covered. \$35 science fee.

## AG 140

### Weed Science W/ Lab • 4.0 Credits

The course provides a background on weed identification, biology, distribution of weeds, interference in crops, and weed ecology. Weed control by preventive, cultural, biological, mechanical, and chemical means. The course also covers herbicide terminology, equipment calibration, and dosage calculations. \$35 science fee.

## AG 181

### Irrigation Principles and Management W/ Lab • 4.0 Credits

This course focuses on elements of irrigation including methods, management and the irrigation industry in the Columbia Basin. The course covers irrigation methods, systems, efficiencies, equipment, and their relationship to soils and plants. The course will also cover water scheduling, flow measurement, and irrigation management. Water supply, quality, and issues will also be discussed. \$35 science fee.

## AG 199

### Special Studies • 1.0–20.0 Credits

A class used to explore new coursework. \$35 science fee.

## AG 201

### Soils W/ Lab • 5.0 Credits

Formerly AG 201, BIO 201, BIOL 201

A general background and understanding of soils, soil formation processes, soil origins with an emphasis on soil origins in the Pacific Northwest, soil taxonomy, organic matter, water relationships, pH, and biological relationships. This course is cross-listed with BIOL 201. Students completing AG 201 may not receive graduation credit for BIOL 201. \$35 science fee. **Prerequisite: This course is cross-listed with BIOL 201. Students completing AG 201 may not receive graduation credit for BIOL 201.**

## AG 205

### Crop Pests and Diseases W/ Lab • 4.0 Credits

This course provides an overview of pests, diseases, and nematodes common in the crops of Washington. The course will focus on identification of pests and diseases, study of life cycles, control and management strategies of pests, diseases, and nematodes. The course will cover basic principles of plant pathology, entomology, and nematology. \$35 science fee.

## AG 210

### Applied Agriculture Research • 2.0 Credits

In the lab, students are directly involved in conducting agricultural research as a member of a research team led by a faculty member. Students have the opportunity to collect and analyze agricultural and environmental data that will be used to make management decisions. Upon completion of this course, students prepare a research paper summarizing their results and present this paper at a scientific meeting or seminar. The lab provides an opportunity for students to be directly involved in a research project. \$35 science fee.

## AG 221

### Introduction to Precision Agriculture • 3.0 Credits

This course will provide an introduction to Precision Agriculture technologies, covering both the applications and the different technologies (e.g. geographic information systems (GIS), global positioning systems (GPS), remote sensing systems, variable rate application, drones etc.) that make precision farming possible. This course covers the introductory use of each of these tools in the processes of a precision farming system. Economic and environmental benefits will also be discussed. \$35 science fee.

## AG 222

### Advanced Precision Agriculture W/ Lab • 4.0 Credits

This course covers unmanned aerial systems (UAS) usage in precision agriculture, including platforms, history and commercial applications. Processes of precision agriculture such as data collection, data analysis, and analysis application will be emphasized. This course also covers Federal Aviation Administration (FAA) regulatory framework, privacy issues, and navigation. \$35 science fee. **Prerequisite: Completion of AG 221 with a 2.0 or higher.**

## AG 232

### Crop Production II Fruit & Veg Production W/ Lab • 4.0 Credits

This course is designed to provide students with an in-depth understanding of the principles and practices of sustainable fruit and vegetable crop production. Students will learn about soil fertility management, stand establishment, environmental modification, and pest management. \$35 science fee.

## AG 250

### GPS and GIS Applications W/ Lab • 4.0 Credits

This course applies Global Positioning Systems (GPS) and Geographic Information Systems (GIS) applications such as agriculture, surveying, aviation etc. The course will focus on basics of cartography, geography,

# Agriculture

map projections, and coordinate systems. Emphasis is on data collection using GPS, transfer data, process field data, analysis, storage/retrieval of data, generating reports and or maps using imaging software. Students will utilize hands-on computer exercises with real farm data to provide a practical experience. \$35 science fee. **Prerequisite: Completion of AG 221 with a 2.0 or higher.**

## AG 252

### Insects of Economic Importance W/ Lab • 5.0 Credits

Formerly AG 252, BIO 252, BIOL 252

A study designed to introduce students to the breadth and diversity of the science of entomology and an in-depth study of insects including: their diversity; the basics of systematic entomology; insect societies; insect physiology and structures; their ecological relationships with their physical and biotic environments; their population and community level ecology; their effects on human welfare through applied disciplines of medical and agricultural entomology; and the methods by which humans attempt to manage insect populations. \$35 science fee. **Prerequisite: This course is cross-listed with BIOL 252. Students completing AG 252 may not receive graduation credit for BIOL 252.**

## AG 289

### Agriculture Business Concepts • 5.0 Credits

Designed to address issues pertinent to the agricultural community including global competition for markets, water rights and the environment, agricultural co-ops, immigration, foreign trade, fiscal policy, and working with government agencies. It is intended as a capstone course to bring together several concepts related to agriculture business. \$35 science fee.

## AG 297

### Agriculture Internship • 3.0 Credits

This course is designed to provide students with major-related, supervised, evaluated practical training work experiences in a community agency, business, or industrial firm. The course involves the application and practice of skills and principles learned in the classroom and in real-world situations. Students will also evaluate agricultural careers and an overview of the types of agricultural employment. Students are graded on the basis of documented learning acquired through hands-on experiences in an actual work setting. \$35 science fee.

## AG 299

### Special Studies • 1.0–20.0 Credits

A class used to explore new coursework. \$35 science fee.

## AG 310

### Ag Operations and Supply Chain Management • 5.0 Credits

Formerly AG 310, AG 404, AMGT 310, AMGT 404, HCAD 310, HCAD 404

This course focuses on the operations level of management within an organization or enterprise. The course highlights the importance of the ongoing daily nature of organizational functionality through areas including capacity planning, inventory management, quality control, and supply chain management. Students are tasked with collaboratively examining an assigned company's operations within their preferred academic and career interests in an empowered student-led process resulting in a comprehensive presentation of information. This course is cross-listed with AMGT 310 and HCAD 310. Students completing AG 310 may not receive graduation credit for AMGT 310 or HCAD 310. Class must be passed with a 2.0 or better to count for BAS Applied Management degree. \$35 science fee **Prerequisite: Acceptance into a BAS/BSN program, completion of a two-year degree or equivalent, or instructor approval.**

## AG 340

### Ag Information Technology and Applications • 5.0 Credits

Formerly AG 340, AG 402, AMGT 340, AMGT 402, HCAD 315, HCAD 402, NRS 315

This course focuses on the information resource of management. The course promotes proficiency with technology and its essential business applications. Students build proficiency in this course through planning for, and creation of business technology with coding of an algorithm, establishing and managing customer contact by leveraging publication templates and by creating an online presence with accompanying use of social media and search engine optimization. This class is cross-listed with AMGT 340, HCAD 315, and NRS 315. Students completing AG 340 may not receive graduation credit for AMGT 340, HCAD 315 or NRS 315. Class must be passed with a 2.0 or better to count for BAS Applied Management degree. \$35 science fee **Prerequisite: Acceptance into a BAS/BSN program, completion of a two-year degree or equivalent, or instructor approval.**

## AG 430

### Fundamentals of Agriculture Financial Management • 5.0 Credits

Formerly AG 430, AMGT 430

This course covers basic financial tools and principles including short-term and long-term financial and investment decisions. Topics include financial statement analysis, the time value of money, capital budgeting, the cost of capital, dividend policies, and working capital. A final project is to apply course concepts to a business related to their career choice. This course is cross-listed with AMGT 430. Students completing AG 430 may not receive graduation credit for AMGT 430. Class must be passed with a 2.0 or better to count for BAS Applied Management degree. \$35 science fee **Prerequisite: Completion of AMGT 400 with a minimum grade of 2.0 and acceptance into a BAS/BSN program, completion of a two-year degree or equivalent, or instructor approval.**

## AG 470

### Agriculture Management Internship • 1.0–10.0 Credits

Formerly AG 470, AMGT 470

This course is designed to provide students with major-related, supervised, evaluated practical training work experiences which may be paid or voluntary. Students are graded on the basis of documented learning acquired through hands-on new experiences in an actual work setting. This course is cross-listed with AMGT 470. Students completing AG 470 may not receive graduation credit for AMGT 470. Instructor permission is required to enroll. \$35 science fee. **Prerequisite: Acceptance into a BAS/BSN program, completion of a two-year degree or equivalent, and instructor approval, and AMGT 400 with a grade of 0.7 or better.**

## AG 480

### Agriculture Management Capstone • 5.0 Credits

Formerly AG 480, AMGT 480, HCAD 480

This course provides the opportunity for students to demonstrate that they have learned the material and concepts from the program and can apply it in the real world. It provides students the opportunity to do a comprehensive analysis of an on-going business or organization and develop a long range, strategic plan including implementation and recommendations for change or to explore the development of a new entrepreneurial venture and measure its feasibility in a comprehensive manner. This course is cross-listed with AMGT 480 and HCAD 480. Students completing AG 480 may not receive graduation credit for AMGT 480 or HCAD 480. Class must be passed with a 2.0 or better to count for BAS Applied Management degree. \$35 science fee **Prerequisite: Completion of AMGT 300; AG or AMGT or HCAD 310; AMGT 320; AMGT or HCAD 330; and AMGT 400. Completion of or concurrent enrollment in AG or AMGT 340 or HCAD or NRS 315; AMGT 360;**

# Agriculture

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and AG or AMGT 430. All prerequisites must be passed with a 2.0 or better.