

# AGRICULTURE (DAGR)

## **DAGR\*1000 Livestock Systems Fall Only (LEC: 3, LAB: 2) [0.50]**

Students will gain an overall understanding of the livestock industries in Ontario, focusing on major production issues and future challenges. Examples from various livestock production systems will be highlighted.

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

## **DAGR\*1070 Introduction to Business Management Fall Only (LEC: 5) [0.50]**

This course introduces business management principles, functions, and processes. Students will learn about the business environment, decision-making, and the role of the organizational functions, with a particular focus on accounting principles, accounting statements, and the use of financial information.

**Restriction(s):** DAGR\*2110, DAGR\*3100

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

## **DAGR\*1090 Communications & Software Applications I Fall Only (LEC: 3, LAB: 2) [0.50]**

Students will develop written language skills and become proficient at using word processing software. Practical skills include: academic writing and research, writing business correspondence, resumes and reports.

**Restriction(s):** DAGR\*1610, DAGR\*1620, DAGR\*1720

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

## **DAGR\*1200 Applied Plant Science Fall Only (LEC: 3, LAB: 2) [0.50]**

This course covers major plant structures and their function, physiological processes, and interactions with the environment as related to applied plant management. Topics to be discussed will include: processes such as photosynthesis, respiration, transpiration, nutrient uptake and basic reproduction, basic genetic principles, basic plant breeding and genetically modified organisms (GMOs), and the relationship and importance of plant science to the agricultural and horticultural industry.

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

## **DAGR\*1300 Soil Principles Fall Only (LEC: 3, LAB: 2) [0.50]**

This course includes origin and classification of soils, identification and importance of major soil types, identification of primary and secondary nutrients and how they are supplied, composition of soil including minerals, water, air, organic matter and biological organisms and how they interact and the importance of soil as a resource.

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

## **DAGR\*1350 Agricultural Mechanization and Safety Winter Only (LEC: 3, LAB: 2) [0.50]**

The course will cover the operating principles and components of tractors and equipment for tillage, planting, application of chemicals and amendments and harvesting. The course will emphasize working safely in many aspects of the agricultural industry, including confined space, fall-protection, and lockout/tag-out procedures.

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

## **DAGR\*1600 Applied Mathematics Fall Only (LEC: 3, LAB: 2) [0.50]**

This course is designed to augment mathematics skills necessary to compete in today's business environments. Typical applications are pesticide rate conversions, percent solutions, fertilizer calculations, moisture conversion, elementary algebra and financial interest calculations. The aim is to teach students how to solve mathematical problems encountered in the day-to-day operation of agricultural and horticultural operations.

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

## **DAGR\*2000 Animal Science Winter Only (LEC: 3, LAB: 2) [0.50]**

This course includes the biological principles applicable to the animal sciences with modules on growth, carcass composition, nutrition, reproduction, lactation, genetics, health and behaviour.

**Prerequisite(s):** DAGR\*1000

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

## **DAGR\*2020 Financial Management Winter Only (LEC: 4) [0.50]**

Students will learn important concepts and techniques required to analyze financial performance and guide business decision making. A broad range of financial topics will be covered; including, business risk management programs for Ontario producers, capital budgeting decisions, financial ratios, capital cost allowance, leasing, bank reconciliation, taxation, and the time value of money.

**Prerequisite(s):** DAGR\*1070

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

## **DAGR\*2090 Communications & Software Applications II Winter Only (LEC: 3, LAB: 2) [0.50]**

Students will develop effective oral communication and presentation skills. Oral communication practical skills include: preparing and delivering a variety of formal and informal individual and group presentations, with and without technological support. Students will become proficient using spreadsheet software as a business, production and data management tool.

**Restriction(s):** DAGR\*2600, DAGR\*2620, DAGR\*2720

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

## **DAGR\*2150 Site-Specific Crop Management Fall Only (LEC: 2, LAB: 3) [0.50]**

This course is designed to introduce students to the basic principles of site-specific crop management. Topics will include map reading, data collection, data analysis - including geo-statistical methods, and an overview of current site-specific crop technology. Labs will provide hands on learning of geographic information systems (GIS) software, and global positioning (GPS) technology.

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

## **DAGR\*2170 Introduction to US Agriculture Winter Only (LEC: 1) [0.00]**

This is a required preparatory course for students who plan to participate in the upcoming US Agriculture Study Tour course, DAGR 3170. The course will introduce and familiarize students with the locations which will be visited during the one-week field trip portion of DAGR 3170 that takes place during the late summer. A pass/fail grade will be assigned upon completion of this course. Enrolment into DAGR\*2170 does not guarantee acceptance into DAGR\*3170.

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*2180 Belize Study Tour Winter Only (LEC: 2) [0.50]**

This course involves a field study of Belize which will introduce students to tropical agriculture and horticulture and international development. This will be achieved through direct interaction with producers, agriculture related businesses and horticultural facilities. Students will be given the opportunity to increase their knowledge of Belizean agricultural practices, horticultural plant uses and international development projects. The field study is a mandatory component of the course for which the student assumes the cost of transportation, food and lodging.

**Prerequisite(s):** 2.50 credits

**Restriction(s):** Instructor consent required.

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*2200 Cereal and Forage Management Winter Only (LEC: 3, LAB: 2) [0.50]**

Best management practices of small grain cereals and forages are discussed. Topic areas include the latest information on the value of small grain cereals and forages in crop rotations, physiology of small grain and forage species, intensive cereal management, crop enterprise budgeting, tillage practices, crop diagnostics, crop scouting practices, variety and species selection, soil fertility management, planting dates, row widths, seeding rates, and pest management strategies.

**Prerequisite(s):** DAGR\*1200, DAGR\*1300

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*2210 Applied Weed Science Winter Only (LEC: 3, LAB: 2) [0.50]**

Weeds will be studied in relation to agricultural practices. Principles of mechanical, cultural, biological, and chemical control will be outlined. Laboratories will include weed identification and weed control methods.

**Prerequisite(s):** DAGR\*1200

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*2220 Viticulture and Oenology Winter Only (LEC: 2, LAB: 3) [0.50]**

This course introduces students to the history of grapes and grape production in Ontario, environmental factors which affect grape production in a cool climate, and practices for establishing and managing a vineyard in the context of producing high-quality wines. It will also provide an overview of the history of winemaking, wines produced in Ontario and other wine-producing regions of the world, and an introduction to the principles and making the various standard types of wine.

**Restriction(s):** Student must be 19 years of age or older.

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*2360 Machinery Maintenance Fall Only (LEC: 1, LAB: 3) [0.50]**

This course covers basic preventive maintenance management and agricultural equipment repairs. A very practical and hands-on approach will be used, with an emphasis on the safe use of tools and shop safety.

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*3000 Beef Production Fall Only (LEC: 3, LAB: 2) [0.50]**

Beef cow-calf and feedlot operations are examined, including crossbreeding and pure breeding programs, along with management of the cow-calf herd. The feedlot sections deal with ration formulation, feedlot management, meat quality, marketing and health protection.

**Prerequisite(s):** DAGR\*2000

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*3040 Pork Production Fall Only (LEC: 2, LAB: 3) [0.50]**

This course will provide students with the opportunities to learn both the principles and the skills necessary to manage and care for swine according to industry standards.

**Prerequisite(s):** DAGR\*2000

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*3070 Introduction to Agricultural Economics & Marketing Fall Only (LEC: 3) [0.50]**

This course will provide an application of fundamental economic concepts to agriculture and an introduction to marketing systems and policy institutions related to the Canadian agriculture industry. Topics will include price determination, futures markets, agricultural commodity marketing tools, effects of government intervention, and international trade.

**Prerequisite(s):** DAGR\*1070

**Equate(s):** DAGR\*3060

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*3080 Marketing Winter Only (LEC: 3) [0.50]**

This course introduces fundamental marketing concepts involved in the distribution of goods and services from the producer to the consumer. Students will learn about concepts related to each component of the marketing mix (product, price, promotion, place), and will develop a marketing plan for a specific product or service.

**Prerequisite(s):** DAGR\*1070

**Restriction(s):** DAGR\*3120

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*3130 Sales and Sales Management Winter Only (LEC: 3) [0.50]**

This course is an overview of personal selling in today's business environment with particular emphasis on skills needed to present an effective sales presentation. Buyer motivation and behaviour will be discussed along with managing time and sales territories.

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*3170 US Agriculture Study Tour Fall Only (LEC: 2) [0.50]**

This course involves a 6-8 day field trip to the U.S. which will introduce students to agri-business in the U.S. Midwest through direct interaction with primary producers, agriculture-related businesses and enterprises. Students will be given the opportunity to speak directly with professionals in the agri-business industry to increase their knowledge of U.S. agricultural practices. An additional fee will be assessed per-student to cover the cost of transportation and accommodation. This component of the course takes place the week before the start of the classes in the fall semester. Tuition and compulsory fees will be calculated accordingly.

**Prerequisite(s):** 5.00 credits including DAGR\*2170

**Restriction(s):** Instructor consent required.

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*3180 Dairy Study Tour Fall Only (LEC: 2) [0.50]**

This course will provide students with the opportunity to see the latest in research, technology, and genetics available to the dairy industry through a five day trip which may include attending the World Dairy Expo in Madison, Wisconsin. The students may be able to attend seminars, cattle shows, examine new technology and interact with dairy producers and suppliers from around the world. Pre and post conference trips may be taken to American dairy operations and dairy research facilities. The field trip is a mandatory component of the course for which the student assumes the cost of transportation, food and lodging.

**Prerequisite(s):** 5.00 credits including DAGR\*2000

**Co-requisite(s):** DAGR\*3010 or DAGR\*3370

**Restriction(s):** Instructor consent required.

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*3200 Corn and Oilseed Management Fall Only (LEC: 3, LAB: 2) [0.50]**

Management systems for the production of corn, soybeans, canola and edible beans will be presented. Specific topics include an in-depth study of corn and soybean growth and development, field scouting, crop diagnostics and scouting practices, crop rotation effects, tillage systems, variety and species selection, row widths, seeding rates, planting dates, fertility, basic pest management strategies, and crop enterprise budgeting. Current research information is discussed on best management practices for field crop production of corn and soybean.

**Prerequisite(s):** DAGR\*1200, DAGR\*1300

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*3210 Insect and Disease Management Fall Only (LEC: 3, LAB: 2) [0.50]**

The identification, biology and control of insects and diseases of field crops are presented. Control measures and the benefits and limitations of agricultural chemicals will be examined.

**Prerequisite(s):** DAGR\*1200

**Restriction(s):** DAGR\*1200

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*3250 Fruit Production Fall Only (LEC: 2, LAB: 3) [0.50]**

Management systems for the major fruit crops in Ontario are discussed. Topics include climatic and soil conditions, cultural management, pruning and training.

**Prerequisite(s):** DAGR\*1200, (1 of DAGR\*1300, DHRT\*2230, DHRT\*3230)

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*3260 Vegetable Production Fall Only (LEC: 2, LAB: 3) [0.50]**

This course includes commercial production and management of vegetable crops grown in Ontario. Topics discussed will include site selection, soil conditions, establishment, cultural practices, harvesting, post-harvest handling and marketing.

**Prerequisite(s):** DAGR\*1200, (1 of DAGR\*1300, DHRT\*2230, DHRT\*3230)

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*3370 Dairy Production Management Fall Only (LEC: 3, LAB: 2) [0.50]**

This course provides an introduction to the underlying principles and skills necessary for modern dairy farm management. Topics include industry organizations, record keeping and data management, housing, milk quality and milking systems, herd health, nutrition and feeding systems, reproduction, and selection strategies.

**Prerequisite(s):** DAGR\*1000, DAGR\*2000

**Restriction(s):** DAGR\*3010

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*3510 Experiential Learning in Agriculture Summer, Fall, and Winter (LEC: 3) [0.50]**

Student-initiated learning opportunities can be developed as a credit course in consultation with a supervising faculty member. Details of the activities included in the program will be outlined in a learning contract initiated by the student and agreed to by the faculty supervisor prior to the commencement of the work experience.

**Prerequisite(s):** 4.00 credits, registration in the Diploma Program in Agriculture

**Restriction(s):** DAGR\*3880, DFN\*3510, DHRT\*3510

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*3900 Special Project Summer, Fall, and Winter [0.50]**

A self-directed student project focusing on a topic of academic and/or practical interest to the student. The student will identify and propose a detailed course outline to be reviewed and approved by the faculty supervisor prior to the commencement of the project. The project could include a research assignment, a literature review, a hands-on assignment with specific learning objectives and milestones for achieving these objectives.

**Prerequisite(s):** 3.00 credits, registration in the Diploma in Agriculture program, written permission of the faculty supervisor.

**Restriction(s):** DAGR\*3910, DFN\*3910, DHRT\*3910 Instructor consent required.

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*4010 Animal Health Winter Only (LEC: 3) [0.50]**

Animal production requires healthy livestock. This course is designed to emphasize animal health and welfare from different perspectives. Four pillars of good livestock production are discussed, which include: animal welfare, health and diseases in livestock, antimicrobial usage, stewardship and communication.

**Prerequisite(s):** DAGR\*2000

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*4020 Poultry Production Winter Only (LEC: 3, LAB: 2) [0.50]**

This course will provide students with the opportunity to learn both the principles and the skills necessary to manage and care for poultry according to industry standards.

**Co-requisite(s):** DAGR\*2000

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*4040 Small Ruminant Production Fall Only (LEC: 3, LAB: 2) [0.50]**

This course includes sheep and goat production (with emphasis on sheep) with examples from Ontario and around the world. The major topics include: production systems, breeding, nutrition, health and welfare and products.

**Prerequisite(s):** DAGR\*1000, DAGR\*2000

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*4090 Leadership Winter Only (LEC: 3) [0.50]**

This course is designed to introduce students to basic leadership principles and skills. Topics include: leadership styles; employee behaviour and motivation; group and interpersonal dynamics; ethics; human relations; power and influence; organizational structure and culture; as well as an introduction to change management.

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*4100 Commodity Marketing Winter Only (LEC: 3) [0.50]**

This course provides an understanding of commodity and currency price risks for agricultural commodities, with a focus on corn and soybeans in Ontario. It includes the practical use of instruments that are available to deal with these risks and the development of an applied risk management strategy.

**Prerequisite(s):** DAGR\*2020

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*4150 Renewable Energy and Agriculture Winter Only (LEC: 3, LAB: 2) [0.50]**

This course will introduce students to the current energy situation, energy use in agriculture, the impacts of energy production and use on the environment, and renewable energy opportunities for the rural community. Types of bioenergy crops will be described, including agronomic, handling, storage, transportation and end-use issues. Heat and power production technologies and how these integrate into agriculture and rural communities will be discussed. Environmental assessment, economics, and market opportunities of renewable energy production and use will be explored.

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*4180 Dairy Herd Management Fall and Winter (LEC: 2, LAB: 3) [0.50]**

This course is designed to give students the skills necessary to manage the daily operations of a cattle herd. These skills will include monitoring the health of calves and cows, proper milking techniques, breeding techniques, and hoof trimming. Using real herd production data, students will analyze the current production and management practices on cattle operations to identify areas of improvement. Using on farm data and observation, students will recommend changes to the operation including immediate (eg. culling, breeding decisions) and longer term plans (updating facilities or expansion) to improve operation efficiency and profit.

**Prerequisite(s):** DAGR\*2000

**Co-requisite(s):** DAGR\*3010 or DAGR\*3370

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*4190 Ruminant Nutrition Winter Only (LEC: 3, LAB: 2) [0.50]**

This course expands on ruminant nutrition principles. Students will learn to develop practical and economical rations and feeding programs for ruminant livestock with emphasis on dairy cattle.

**Prerequisite(s):** 1 of DAGR\*3000, DAGR\*3010, DAGR\*3370, DAGR\*4040

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*4200 Cropping Systems Winter Only (LEC: 2, LAB: 2) [0.50]**

Current and emerging crop production systems will be compared and evaluated in relationship to soil productivity, environmental awareness and the agricultural economy. Climate and weather and their impact on crop production is examined. Specialized production systems will be included.

**Prerequisite(s):** DAGR\*1200

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*4210 Crop Diagnostics and Recommendations Winter Only (LEC: 2, LAB: 2) [0.50]**

This course provides a comprehensive study of weeds, insects and diseases of field crops. Case studies are used to develop problem-solving skills. Pest management control strategies are identified. Students will develop the skills and knowledge to assist in over-the-counter and on-farm pest management recommendations.

**Prerequisite(s):** DAGR\*2210 or DAGR\*3210

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*4220 Organic Production Winter Only (LEC: 2, LAB: 2) [0.50]**

This course provides a study of the basic concepts of organic agricultural production, including production techniques in field and greenhouse crops and farm animals, produce certification, and marketing.

**Prerequisite(s):** DAGR\*1000, DAGR\*1200, DAGR\*1300

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*4350 Farm Structures and Environment Winter Only (LEC: 3) [0.50]**

Students will be provided with basic engineering principles related to the construction of livestock facilities and their environment. Students will gain a basic understanding of how to initiate the planning of a livestock structure as well as environmental control systems, including ventilation and manure storage. Environmental regulations concerning manure storage and handling will be discussed.

**Prerequisite(s):** Minimum of 5.00 credits, including DAGR\*1600

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*4370 Advanced Topics in Dairy Production Winter Only (LEC: 3, LAB: 2) [0.50]**

Students will undertake in-depth studies in specific areas of modern dairy production including nutrition, milk quality, reproduction, and genetics.

**Prerequisite(s):** DAGR\*3370

**Restriction(s):** DAGR\*4120

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*4600 Human Resource Management Winter Only (LEC: 3) [0.50]**

Students will learn the principles and practical applications of human resource management and interacting with people from an employee and employer perspective. Topics will include legal and healthy workplaces, designing work, recruiting and managing people.

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*4610 Business Project Winter Only (LEC: 4) [0.50]**

Students will identify a viable product or service related to the Agriculture or Horticulture industry, and will undertake a comprehensive study of the operational and financial aspects of a business designed to sell that product. Students will acquire basic information about the product, define their business and develop a business plan.

**Prerequisite(s):** 7.50 credits, including DAGR\*1070

**Restriction(s):** DAGR\*4650

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus

**DAGR\*4650 Farm Analysis Project Winter Only (LEC: 4) [0.50]**

This course provides a comprehensive analysis of a farm business. The students will be responsible for acquiring basic information about the enterprise, analyzing its strengths and weaknesses and developing a 3 year financial projection based on a major development plan.

**Prerequisite(s):** 7.50 credits, DAGR\*2020

**Equate(s):** DAGR\*4620

**Restriction(s):** DAGR\*4450, DAGR\*4610

**Department(s):** Ridgetown Academic

**Location(s):** Ridgetown Campus