

**UNIVERSITY OF GUELPH, RIDGETOWN CAMPUS**  
**AGRICULTURE DIPLOMA SEMESTER 1 (FALL) COURSE DESCRIPTIONS**

**DAGR\*1000 LIVESTOCK SYSTEMS (3-2) (Core)**

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

**DAGR\*1200 APPLIED PLANT SCIENCE (3-2) (Core)**

This course covers the basic structure and function of plants and the major functions involved in growth and reproduction as they relate to the production of plants. Topics to be discussed will include: plant processes such as photosynthesis, respiration, transpiration, nutrient uptake and reproduction, basic genetic principles, basic chemistry and the relationship and importance of plant science to the agricultural and horticultural industry.

**DAGR\*1300 SOIL PRINCIPLES (3-2) (Core)**

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.

**DAGR\*1350 AGRICULTURAL MECHANIZATION & SAFETY (3-2) (Core)**

The course will cover the operating principles and components of tractors and equipment for tillage, planting, and the application of chemicals and fertilizers, and harvesting. The course will emphasize safety in all aspects of the operation of agricultural equipment.

**DAGR\*1600 APPLIED MATHEMATICS (3-2) (Core)**

This course is designed to augment mathematics skills necessary to compete in today's business environments. Typical applications are chemical rate conversions, solutions and mixtures, elementary algebra and financial topics. The aim is to teach how to solve actual mathematical problems encountered in the day-to-day operation of agricultural/horticultural business.

**DAGR\*1620 COMPUTER APPLICATIONS - Part I (1-2) (Core)**

Students will become acquainted with a computer and its operating systems and applications, such as word processing and spreadsheets. Students will also learn about basic Internet access hardware, such as modems, and how to use computer communications applications such as electronic mail, and World Wide Web browsers to access information relevant to the agricultural and horticultural industries.

**DAGR\*1720 COMMUNICATION SKILLS - Part I (1-1) (Core)**

Students will develop their command of language skills and learn and/or practice practical applications such as letter, memo, and report writing, resume writing and revision. Students will also learn how to present persuasive and informative oral presentations and how to incorporate audio-visual aids in effective communications.

## **UNIVERSITY OF GUELPH, RIDGETOWN CAMPUS AGRICULTURE DIPLOMA SEMESTER 2 (WINTER) COURSE DESCRIPTIONS**

### **DAGR\*2100 MARKETING AND POLICY (3-0) (Core)**

Students will learn basic economic concepts, the determinants of process and markets for Canadian agriculture, horticulture and food products, price support, stabilization and trade policies. Marketing systems will be discussed in detail.

### **DAGR\*2110 BUSINESS ACCOUNTING (2-2) (Core)**

Students learn to prepare the financial statements used in business. An understanding of the interrelationship of the balance sheet, income statement, cash flow and statement of change in financial position will be emphasized. Lab sessions will introduce computer accounting software.

### **DAGR\*2620 COMPUTER APPLICATIONS - Part II (1-1) (Core)**

Students will become acquainted with a computer and its operating systems and applications, such as word processing and spreadsheets. Students will also learn about basic Internet access hardware, such as modems, and how to use computer communications applications such as electronic mail, and World Wide Web browsers to access information relevant to the agricultural and horticultural industries.

### **DAGR\*2720 COMMUNICATION SKILLS - Part II (1-2) (Core)**

Students will develop their command of language skills and learn and/or practice practical applications such as letter, memo, and report writing, resume writing and revision. Students will also learn how to present persuasive and informative oral presentations and how to incorporate audio-visual aids in effective communications.

### **DAGR\*2000 ANIMAL SCIENCE (3-2)**

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

### **DAGR\*2200 CROP MANAGEMENT I (3-2)**

The production and management of cereals and forages is discussed. Topic areas include variety and species selection, soil fertility management, planting dates, row widths, seeding rates, pest management systems, harvesting, drying and storage as applicable.

### **DAGR\*2210 APPLIED WEED SCIENCE (3-2)**

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

### **DAGR\*3130 SALES AND SALES MANAGEMENT (2-1)**

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; managing time and sales territories will be discussed.

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## AGRICULTURE DIPLOMA SEMESTER 3 (FALL) COURSE DESCRIPTIONS

### **DAGR\*3100 BUSINESS MANAGEMENT (3-2) (Core)**

An examination of management decision-making process using financial statements, budgets, business records, computerized enterprise budget programs, investment analysis, machinery management and income tax regulations is covered in this course.

### **DENM\*3150 AGRICULTURE AND ENVIRONMENTAL STEWARDSHIP (3-2) (Core)**

A course that examines the impact and role of farming in the agro-ecosystem. Lectures and case studies will be used to explore potential pathways of soil degradation and environmental contamination from agriculture, site assessment of environmental risk associated with specific farm operations and the utilization of best management practices for the conservation of soil, water and other natural resources.

### **DAGR\*2380 FIELD CROP EQUIPMENT (2-2)**

This course examines common equipment used for planting, spraying and harvesting of corn, soybeans and small grains. Identification, operation, adjustment, maintenance and calibration of the equipment will be covered. The student will develop the skills and knowledge to be able to adjust and calibrate the equipment for efficient field operation. A focus on the environmental impact of spraying will also be discussed. This course will emphasize safety in all aspects of the safe operation of agricultural equipment.

### **DAGR\*3000 BEEF PRODUCTION (3-2)**

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

### **DAGR\*3010 DAIRY PRODUCTION (3-2)**

Students will undertake a study of dairy management systems. Topics will include housing systems, nutrition and feeding programs, sire selection and breeding programs, herd health and milk marketing strategies.

### **DAGR\*3040 PORK PRODUCTION (2-3)**

This course will provide students with the opportunities to learn both the principles and the skills necessary to manage and care for pigs according to industry standards. Case studies will be used to help students develop the skills necessary to assess farm related pork management problems.

### **DAGR\*3110 BUSINESS FINANCE (3-0)**

Students will learn the types of business organizations, methods of financing long and short-term capital requirements, taxation implications, dividend policies, budgeting and financial reorganization.

### **DAGR\*3120 BUSINESS MARKETING (3-0)**

An introduction to the marketing concept including the people and the activities involved in the distribution of goods and services from the producer to the consumer. Specific topics include choosing effective channels of distribution, developing, etc.

### **DAGR\*3200 CROP MANAGEMENT (3-2)**

Management systems for the production of corn, soybeans, canola and edible beans will be presented. Specific topics include variety and species selection, row widths, seeding rates, planting dates, fertility, pest management, harvesting and storage.

### **DAGR\*3210 INSECT AND DISEASE MANAGEMENT (3-2)**

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

### **DAGR\*3250 FRUIT PRODUCTION (2-3)**

Management systems for the major fruit crops in Ontario including apple, peaches, cherries, strawberries, grapes, raspberries and related crops are discussed. Topics include climatic and soil conditions, cultural management, pruning and training.

### **DAGR\*3260 VEGETABLE PRODUCTION (2-3)**

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

### **DAGR\*3510a EXPERIENTIAL LEARNING – DAIRY BARN MANAGEMENT (0-3)**

This course is designed to give students individualized hands on experience in the dairy barn. Students learn to develop the skills needed to manage a dairy herd. These skills will include monitoring the health of calves and cows, proper milking techniques, A.I., and participating in decisions that affect the current dairy herd at Ridgetown Campus (i.e. mating decisions, culling, feeding). A regular chore schedule will also be a part of this course.

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## AGRICULTURE DIPLOMA SEMESTER 4 (WINTER) COURSE DESCRIPTIONS

### **DAGR\*4600 HUMAN RESOURCE MANAGEMENT - CORE (3-2)**

Students will learn the theoretical and practical skills of management and interacting with people. Topics will include recruiting, supervising, motivation, training employees, effective listening, dealing with difficult people, group dynamics and leadership skills.

### **DAGR\*4610 BUSINESS PROJECT - CORE (2-3)**

Students will identify a viable product or service, and will undertake a comprehensive study of the technical and economic 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.

### **DAGR\*4620 FARM PROJECT - CORE (2-3)**

Students will undertake a comprehensive study of the technology, operation and economics of an agricultural production enterprise. The students will be responsible for acquiring basic information about the enterprise, analyzing its strengths and weaknesses and developing a management plan.

### **ELECTIVES TO CHOOSE FROM:**

### **DAGR\*4010 ANIMAL HEALTH (3-0)**

Economic animal production requires healthy livestock and this course is designed to stress animal health. Disease important to livestock in Ontario is discussed, with emphasis being placed on prevention and control methods.

### **DAGR\*4020 POULTRY PRODUCTION (2-3)**

This course will provide students with the opportunities to learn both the principles and the skills necessary to manage and care for poultry according to industry standards. Case studies will be used to help students develop the skills necessary to assess farm related poultry management problems.

### **DAGR\*4050 DAIRY CATTLE NUTRITION & SELECTION (3-2) Prerequisite - (DAGR\*3010) Dairy Production**

This course expands on the nutrition and selection principles outlined in Dairy Production. Students learn to develop practical and economical rations and feeding programs for heifer, dry and milking cows. Students complete an in-depth study of dairy selection and breeding programs through A.I. and E.T.

### **DAGR\*4070 SWINE REPRODUCTION & FARROWING MANAGEMENT (2-3) - Prerequisite - (DAGR\*3040) Pork Production**

A comprehensive work/study course in swine reproduction & farrowing management consisting of intensive hands-on training, field trips and skills development in breeding herd management techniques. Competence in practical swine breeding and farrowing management skills will be learned through hands-on activities under close supervision and guidance of professionals in the Swine Centre.

### **DAGR\*4100 COMMODITY MARKETING (2-2)**

This course provides an understanding of commodity and currency price risks for corn, beans, wheat, cattle and hogs in Ontario. It includes the practical use of instruments that are available to deal with these risks and the development of an applied risk mgt. strategy.

### **DAGR\*4200 CROPPING SYSTEMS (2-2)**

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 including strip tillage, seed production and organic production will be included.

### **DAGR\*4210 CROP DIAGNOSTICS AND RECOMMENDATIONS (2-2)**

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.

### **DAGR\*4230 GRAIN GRADING/ SEED PRODUCTION (2-2) Enrolment Limit:18 Students Additional Fee of \$200.00**

This course provides students with hands-on training in grading and seed production. A wide range of field crops will be graded according to Canadian Grain Commission standards. Seed production and processing will be discussed from both producer and industry views. The role of organizations involved in seed production, processing or selling will be discussed.

### **DAGR\*4260 ADVANCED VEGETABLE PRODUCTION (2-3)**

This course includes commercial production and management of the major fresh market and processing vegetable crops grown in Ontario. Topics will include site selection, soil conditions, establishment, cultural practices, harvesting, post-harvest handling and mktg.

### **DAGR\*4270 VEGETABLE CROP PEST MANAGEMENT (2-2)**

The biology and control of insects, diseases, nematodes and weeds of field horticultural crops are studied. Pest control concepts including diagnostic problem solving and impacts on the environment with consideration to the safe use and storage are discussed.

### **DAGR\*4350 FARM STRUCTURES AND ENVIRONMENT (3-2)**

Students will be provided with an introduction to basic engineering principles related to livestock facilities and their environment. Students will gain a basic understanding of how to initiate the planning of a livestock structure or an environmental control system, including ventilation and manure storage. As part of a major assignment, students will perform an environ. analysis of an actual farm.

### **DAGR\*3350 WELDING (0-3) (Limited Enrolment - 42) (Additional Fee of \$100 applies to course)**

This is a laboratory course designed to enable students to safely handle and operate general welding equipment. Welding theory will be given during class time.

### **DENM\*4210 NUTRIENT MANAGEMENT (3-2)**

This course will examine the best management practices associated with nutrient management on farms. Emphasis will be placed on the components and development of a nutrient management plan and the safe utilization of manures and bio-solids in agricultural production systems.