2013-2014 Diploma Program Calendar

The information published in this Diploma Calendar outlines the rules, regulations, curricula, programs and fees for the 2013-2014 academic year, including the Summer Semester 2013, the Fall Semester 2013 and the Winter Semester 2014.

For your convenience the Diploma Calendar is available in PDF format.

If you wish to link to the Diploma Calendar please refer to the Linking Guidelines.

Campus d'Alfred

Kemptville Campus

Guelph Campus

Ridgetown Campus

The University is a full member of:

- The Association of Universities and Colleges of Canada

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Date	Description
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March 16, 2014	Updates for AODA Compliance

Disclaimer

University of Guelph 2013

The information published in this Diploma Calendar outlines the rules, regulations, curricula, programs and fees for the 2013-2014 academic year, including the Summer Semester 2013, the Fall Semester 2013 and the Winter Semester 2014.

The University reserves the right to change without notice any information contained in this calendar, including fees, any rule or regulation pertaining to the standards for admission to, the requirements for the continuation of study in, and the requirements for the granting of degrees or diplomas in any or all of its programs. The publication of information in this calendar does not bind the University to the provision of courses, programs, schedules of studies, or facilities as listed herein.

The University will not be liable for any interruption in, or cancellation of, any academic activities as set forth in this calendar and related information where such interruption is caused by fire, strike, lock-out, inability to procure materials or trades, restrictive laws or governmental regulations, actions taken by faculty, staff or students of the University or by others, civil unrest or disobedience, or any other cause of any kind beyond the reasonable control of the University.

In the event of a discrepancy between a print version (downloaded) and the Web version, the Web version will apply,

Published by: Undergraduate Program Services

Introduction

Collection, Use and Disclosure of Personal Information

Personal information is collected under the authority of the University of Guelph Act (1964), and in accordance with Ontario's Freedom of Information and Protection of Privacy Act (FIPPA) http://www.e-laws.gov.on.ca/index.html. This information is used by University officials in order to carry out their authorized academic and administrative responsibilities and also to establish a relationship for alumni and development purposes. Certain personal information is disclosed to external agencies, including the Ontario Universities Application Centre, the Ministry of Training, Colleges and Universities, and Statistics Canada, for statistical and planning purposes, and is disclosed to other individuals or organizations in accordance with the Office of Registrarial Services Departmental Policy on the Release of Student Information. For details on the use and disclosure of this information call the Office of Registrarial Services at the University at (519) 824-4120 or see http://www.uoguelph.ca/registrar/registrar/index.cfm?index.

Statistics Canada - Notification of Disclosure

For further information, please see Statistics Canada's web site at http://www.statcan.ca.

Address for University Communication

Depending on the nature and timing of the communication, the University may use one of these addresses to communicate with students. Students are, therefore, responsible for checking all of the following on a regular basis:

Email Address

The University issued email address is considered an official means of communication with the student and will be used for correspondence from the University. Students are responsible for monitoring their University-issued email account regularly. See Section I --Statement of Students' Academic Responsibilities for more information.

Home Address

Students are responsible for maintaining a current mailing address with the University. Address changes can be made, in writing, through the Registrar's office.

Name Changes

The University of Guelph is committed to the integrity of its student records, therefore, each student is required to provide either on application for admission or on personal data forms required for registration, his/her complete, legal name. Any requests to change a name, by means of alteration, deletion, substitution or addition, must be accompanied by appropriate supporting documentation.

Student Confidentiality and Release of Student Information Policy Excerpt

The University undertakes to protect the privacy of each student and the confidentiality of his or her record. To this end the University shall refuse to disclose personal information to any person other than the individual to whom the information relates where disclosure would constitute an unjustified invasion of the personal privacy of that person or of any other individual. All members of the University community must respect the confidential nature of the student information which they acquire in the course of their work.

Complete policy at http://www.uoguelph.ca/policies.

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XII. Course Descriptions

General Information

Subject Area and Alpha Course Prefix Index

Subject Area and Alpha Course Prefix Index

ALPHA COURSE PREFIX	SUBJECT AREA
DAFL	Agri-Food Leadership
DAGR	Agriculture and Equine Studies
DENM	Environmental Management
DFN	Food, Nutrition and Risk Management
DHRT	Horticulture
DTM	Turfgrass Management
DVT	Veterinary Technology
FREE	Associated Program Requirements

General Information

Course Labeling and Levels

Each course is identified by a two-part code. The first part of the code refers to the subject area, the second to the level of the course. Thus, the course DAGR*3100 is a course in the subject area of Agriculture and Equine Studies (DAGR*XXXX), and is of a level that places it among courses in the 3000 series. The series 1000, 2000, 3000 and 4000 numbers are intended to indicate progressively more demanding content, and correspondingly increasing competence on the part of the students enrolled in the course. Courses in the 1000 series are mainly for first semester students, those in the 2000 series are mainly for second semester students, and those in the 3000 series are for third semester students. Similarly, courses in the 4000 series are mainly intended to be taken by students in the fourth semester of Associate Diploma programs.

It is important that students planning their courses have clearly in mind the significance of these numbers so that they may guard against undertaking course work at levels for which they are insufficiently prepared. A number of courses have stated prerequisites which are prior requirements for entry to the course. Students who do not satisfy course prerequisites, or who, in the opinion of the instructor, do not possess an equivalent background to that of the stated prerequisites, are not eligible to enroll in the course. When some specific background is desirable but not required, the course description will include a statement of recommended background. It is understood that the instructor may accept equivalent courses from other institutions in place of the stated prerequisites. Students who wish to enroll in courses for which they do not have the stated prerequisite(s) must obtain instructor approval as outlined in Section VIII in this Calendar.

Course Information

The letters S, F, W indicate the University's intention to offer the course in the Summer (S), Fall (F) or Winter (W) semester during the academic year covered by this Calendar. Although courses normally will be offered in the semester indicated, students preparing their course programs are advised to consult the Undergraduate Course Timetable. The University cannot guarantee that all courses will be offered in the exact semester indicated.

The letter U indicates that an intended offering has not been assigned to the course. Students should consult the Undergraduate Course Timetable on WebAdvisor <https://webadvisor.uoguelph.ca/> or contact the departments offering those courses to determine the semester offerings.

The figures in parentheses ( ) following the semester designation are a general guide to the lecture and laboratory contact hours per week, the first digit being the number of lecture hours and the second, the number of laboratory hours. The credit weight for each course appears in brackets [ ]. A credit weight of [0.50] indicates 10-12 student effort hours, including class time, on academic tasks associated with the course.

Detailed course descriptions are maintained at the office of the department offering the course. Some courses, designated "Experiential Learning" courses in the Calendar description, are deliberately designed to accommodate the need to grant academic credit for experiential learning external to regular courses, in such contexts as co-operative education, field observation/job shadowing, internship/externships, practica, service learning, or work study (and other approved experience). Prior approval for admission to these courses must be obtained from the department and instructor concerned.

Course Prerequisites

In lists of course prerequisites, "or" conditions are spelled out explicitly, but "and" conditions are indicated with a comma ",". For example: "DAGR*1200, DAGR*1300, DAGR*2200" means "DAGR*1200 and DAGR*1300 and DAGR*2200".

Course Equates and Restrictions

Equates

Equate indicates a course identical to the one under which it is listed. The course may have been re-numbered or may be cross-listed under two subject areas. **Students will not be permitted to register in equated courses.**

Restrictions

Restriction indicates sufficient over-lap in content that the course under which it is listed may not be taken if the student already has credit for the course identified as the restriction. Students will not be permitted to register in restricted courses.

Language of Instruction

Classes at Guelph, Kemptville and Ridgetown are offered in English only; classes at Alfred in French only.

Agri-Food Leadership

DAFL*1730 Leadership F (5-0) [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.

Location(s): Kemptville, Ridgetown

Agriculture and Equine Studies

DAGR*1000 Livestock Systems F (3-2) [0.50]

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.

Location(s): Alfred, Kemptville, Ridgetown

DAGR*1070 Introduction to Business Management F,W (5-0) [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
Location(s): Alfred, Kemptville, Kemptville

DAGR*1090 Communications & Software Applications I F (2-3) [0.50]

Students will develop written language skills and become proficient at using word processing software. Practical skills include writing business letters and other business correspondence, resumes, formal and informal reports, instructional writing, critical thinking and critical writing. Students will become familiarized with campus software systems including campus e-mail, library resources, and classroom support software. Instruction will be provided in computer file management and using the internet as a research tool.

Restriction(s): DAGR*1610 , DAGR*1620 , DAGR*1720
Location(s): Alfred, Kemptville, Ridgetown

DAGR*1200 Applied Plant Science F,W (3-2) [0.50]

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.

Location(s): Alfred, Kemptville, Ridgetown

DAGR*1300 Soil Principles F (3-2) [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.

Location(s): Alfred, Kemptville, Ridgetown

DAGR*1350 Agricultural Mechanization and Safety F,W (3-2) [0.50]

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.

Location(s): Alfred, Kemptville, Ridgetown

DAGR*1600 Applied Mathematics F (3-2) [0.50]

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 students how to solve actual mathematical problems encountered in the day-to-day operation of agricultural/horticultural/environmental operations.

Location(s): Alfred, Kemptville, Ridgetown

DAGR*1750 Coaching Techniques W (1-2) [0.50]

This course meets the needs of students planning to instruct students at riding academies or free lance. Students will learn and apply the format of the lesson plan as outlined by the Coach Equestrian Federation to their peers. This course also offers information on the role of the coach, designing goals and objectives, conditioning the athlete, and responsibilities of the coach. (Last offering - Fall 2013)

Location(s): Kemptville (Horse)

DAGR*2000 Animal Science W (3-2) [0.50]

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

Location(s): Alfred, Kemptville, Ridgetown

DAGR*2010 Applied Microbiology W (2-1) [0.50]

This course is an introduction to theoretical and practical aspects of microbiology. Topics include the study of micro-organisms with emphasis on their morphology, physiology, biochemistry, culture and identification. The operation of light microscope, media preparation, and laboratory safety are discussed.

Location(s): Kemptville

DAGR*2020 Financial Management F,W (4-0) [0.50]

Student 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 financial statements and cash flow analysis, financial forecasting and planning, internal control, budgeting, taxation, and the time value of money.

Prerequisite(s): DAGR*1070
Location(s): Alfred, Kemptville, Ridgetown

DAGR*2070 Livestock Evaluation and Selection W (3-2) [0.50]

Students will be exposed to the proper tools for evaluating various livestock from a confirmation as well as a performance standpoint. Carcass evaluation and grading for such animals as beef, sheep and swine is also a component. A hands on as well as a practical course, students will be able to develop skills in livestock selection, handling and giving oral and written reasons.

Prerequisite(s): DAGR*2000
Location(s): Kemptville

DAGR*2090 Communications & Software Applications II W (3-2) [0.50]

Students will develop effective oral communication and presentation skills using software. Oral communication skills, preparing formal and informal reports with and without technological support. Practical presentation skills include the use of voice, eye contact, time appropriateness and response to questions. Students will also understand the importance of formalized meetings and be instructed in the use of spreadsheet software as a data management tool. Software available on personal electronic devices used to access business and production information will be overviewed.

Restriction(s): DAGR*2600 , DAGR*2620 , DAGR*2720
Location(s): Alfred, Kemptville, Ridgetown

DAGR*2150 Precision Agriculture W (3-2) [0.50]

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

Location(s): Alfred (Offered in odd-numbered years), Kemptville, Ridgetown

DAGR*2170 Introduction to US Agriculture W (1-0) [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.

Location(s): Kemptville, Ridgetown

DAGR*2200 Cereal and Forage Management W (3-2) [0.50]

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.

Prerequisite(s): DAGR*1200, DAGR*1300
Location(s): Alfred, Kemptville, Ridgetown

DAGR*2210 Applied Weed Science F,W (3-2) [0.50]

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

Prerequisite(s): DAGR*1200
Location(s): Alfred, Kemptville, Ridgetown

DAGR*2220 Viticulture and Oenology W (2-3) [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.
Location(s): Ridgetown

DAGR*2350 Field Crop Equipment F,W (2-2) [0.50]

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 operations. 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.

Location(s): Ridgetown

DAGR*2360 Machinery Maintenance W (1-3) [0.50]

This course gives the student the basics in 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.

Location(s): Alfred (Offered even-numbered years only.), Kemptville, Ridgetown

DAGR*2650 In-Service Training W (1-2) [0.50]

A work study course in an agrifood or farm business. This course helps students integrate the theory provided in engineering field crops, animal science, business, horticulture and communications courses.

Prerequisite(s): 2.50 credits
Location(s): Alfred

DAGR*3000 Beef Production F (3-2) [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.

Location(s): Alfred (Offered in even-numbered years only.), Kemptville, Ridgetown

DAGR*3010 Dairy Production I F (3-2) [0.50]

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.

Prerequisite(s): DAGR*2000
Location(s): Alfred, Kemptville, Ridgetown

DAGR*3020 Livestock Evaluation F,W (2-2) [0.50]

Students will be exposed to the physical and performance evaluation of dairy, beef, swine, sheep and horses. Carcass evaluation of beef, sheep and swine is also a component. Students will develop skills in livestock judging, and giving oral and written reasons. (Last offering - Winter 2014)

Location(s): Kemptville

DAGR*3030 Sheep Production F,W (3-2) [0.50]

Sheep production is studied with examples from Ontario and around the world. The major topics include production systems in Ontario, breeding, nutrition, reproduction, health and welfare and products from sheep. (Last offering - Fall 2013)

Restriction(s): DAGR*4040
Location(s): Kemptville, Ridgetown

DAGR*3040 Pork Production F (2-3) [0.50]

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

Co-requisite(s): DAGR*2000
Location(s): Alfred (Offered in even-numbered years), Ridgetown

DAGR*3050 Livestock Production Techniques F (3-2) [0.50]

Students will put into practice theory studied in a variety of areas including colostrum management, feeding, animal restraint and safety, implanting, castration, dehorning, injection techniques, livestock medicine protocols, reproductive techniques, milking equipment maintenance, milk quality and processing, mastitis prevention/treatment. (Last offering - Fall 2013)

Location(s): Alfred, Kemptville

DAGR*3060 Agricultural Economics F,W (3-0) [0.50]

This course will provide an application of fundamental micro-economic and macro-economic concepts to markets and an introduction to policy institutions related to the Canadian agriculture industry. Topics will include price determination, effects of government intervention, and international trade. (First offering - Fall 2014)

Prerequisite(s): Minimum of 2.50 credits
Location(s): Alfred, Kemptville, Ridgetown

DAGR*3080 Marketing F (4-0) [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 the marketplace, functions of the marketing mix (product, price, promotion, place), as well as personal selling. (First offering - Fall 2014)

Prerequisite(s): DAGR*1070
Location(s): Alfred, Kemptville, Ridgetown

DAGR*3090 Dairy Barn Management F,W (0-4) [0.50]

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. (Last offering - Winter 2014)

Prerequisite(s): 5.50 credits including (DAGR*1000 or DAGR*2000)
Location(s): Ridgetown

DAGR*3100 Business Management F (1-4) [0.50]

Students will examine management decision-making processes using financial statements, budgets, business records, computerized enterprise budget programs, investment analysis, machinery management and income tax regulations. (Last offering - Fall 2013)

Prerequisite(s): DAGR*2110
Location(s): Alfred, Kemptville, Ridgetown

DAGR*3110 Business Finance F (3-0) [0.50]

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. (Last offering - Fall 2013)

Location(s): Kemptville, Ridgetown

DAGR*3120 Business Marketing F,W (3-0) [0.50]

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 the advertising program, pricing the product and salesmanship. (Last offering - Winter 2014)

Location(s): Alfred, Kemptville, Ridgetown

DAGR*3130 Sales and Sales Management F,W (2-1) [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.

Location(s): Ridgetown, Kemptville

DAGR*3170 US Agriculture Study Tour F (3-0) [0.50]

This course involves a one-week field trip to the U.S. which will introduce students to international agri-business through direct interaction with primary producers, agriculture related businesses, and researchers. 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 course must be recorded as part of your Fall course registration. Tuition and compulsory fees will be calculated accordingly. The study tour will take place in the last week of August each year.

Prerequisite(s): 5.00 credits including DAGR*2170
Restriction(s): Instructor consent required
Location(s): Kemptville, Ridgetown

DAGR*3200 Corn and Oilseed Management F (3-2) [0.50]

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. Current research information is discussed in relationship to production practices.

Prerequisite(s): DAGR*1200, DAGR*1300
Location(s): Alfred, Kemptville, Ridgetown

DAGR*3210 Insect and Disease Management F (3-2) [0.50]

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.

Restriction(s): DAGR*1200
Location(s): Alfred, Kemptville, Ridgetown

DAGR*3250 Fruit Production F,W (2-3) [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, DAGR*1300
Location(s): Alfred (Offered in even-numbered years), Ridgetown

DAGR*3260 Vegetable Production F (2-3) [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, DAGR*1300
Location(s): Alfred, Ridgetown

DAGR*3300 Land and Water Stewardship F (3-2) [0.50]

This course will examine the extent and quality of soil and water resources and their relationships in agriculure. It will explore sustainable techniques for managing soil and water resources. Students will explore integrated strategies for the long-term land stewardship of soil and water resources. (Last offering - Fall 2013)

Prerequisite(s): DAGR*1300
Location(s): Alfred, Kemptville

DAGR*3350 Welding F,W (0-3) [0.50]

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.

Location(s): Alfred, Kemptville, Ridgetown

DAGR*3400 Organic Fertilization F (3-2) [0.50]

Students will learn to develop an organic fertilization program using the proper amendments toward improving yield and soil life. An understanding of soil organic matter, organisms and microbial life will be developed. The use of green manures, animal manures, sludges, composts and other sources of nutrients will be covered. Conversion from traditional farming to organic production and certification will be discussed. (Last offering - Fall 2013)

Location(s): Alfred

DAGR*3450 Student Managed Enterprise I F (3-0) [0.50]

This is a hands-on entrepreneurial course that provides students experience with developing and operating an enterprise. In this course students develop the business plan, project plan, and marketing strategies for the enterprise, as well as initiating production. Students are responsible for the decisions regarding the business offering, sourcing of resources, the day-to-day operations, and management of the business.

Prerequisite(s): DAGR*1070 or DAGR*2110
Location(s): Kemptville

DAGR*3500 Agricultural Extension and International Communication W (3-3) [0.50]

Students will apply group dynamics techniques and practice group facilitation, problem solving and decision making as it relates to international development. Students will prepare an agricultural extension program and propose program evaluation techniques. Students will plan a work placement in a developing country and demonstrate an understanding of the cultural adjustments required. (Last offering - Winter 2014)

Prerequisite(s): DAGR*2500
Location(s): Alfred (Offered in odd-numbered years only.)

DAGR*3510 Experiential Learning in Agriculture S,F,W [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
Location(s): Alfred, Kemptville, Ridgetown

DAGR*3650 Student Managed Project F,W (1-3) [0.50]

This course provides students with practical experience in managing and possibly conducting research on an agricultural commodity. Principles learned in production, financial, and management courses can be applied in this course. Students will follow industry-defined best management practices. Finances, economics, and marketing strategies for their commodity will be discussed and practiced when applicable. (First offering - Fall 2014)

Prerequisite(s): 5.00 credits
Location(s): Ridgetown

DAGR*3750 Conditioning the Rider Athlete F (3-2) [0.50]

This course covers athletic conditioning requirements and guidelines for riders at each stage of athletic development. Equestrian discipline-specific considerations are also discussed. (Last offering - Fall 2013)

Location(s): Kemptville

DAGR*3810 Horse Conformation and Lameness F (3-1) [0.50]

Upon completion of this course the student will be able to evaluate a horse's conformation, relate form to function and develop an understanding of the common lameness and blemishes found in horses and their relationship to athletic performance. (Last offering - Fall 2013)

Prerequisite(s): DAGR*2810
Location(s): Kemptville

DAGR*3820 Horse Feeds and Feeding F (2-1) [0.50]

This course introduces students to the topics of digestion, feed nutrients, feed stuffs and feeding practices for horses.(Last offering - Fall 2013)

Prerequisite(s): DAGR*2810
Location(s): Kemptville

DAGR*3900 Special Project S,F,W (0-0) [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 assigment, 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
Location(s): Alfred, Kemptville, Ridgetown

DAGR*3930 Equine Complementary Therapies W (2-1) [0.50]

This course covers the complementary therapies available to a horse care-giver or equine manager in the therapeutic or convalescent care of horses. The course includes an introduction to massage therapy, acupressure, acupuncture and herbology. As well, heat, hydro, cold and electromagnetic, ultrasonography and magnetic therapy are discussed. Case study and hands-on work will be included in the lab portion of the course. (Last offering - Winter 2014)

Location(s): Kemptville

DAGR*4000 Pork and Poultry Production W (3-2) [0.50]

This course gives the student an in-depth appreciation of the important management factors affecting profitable pork and poultry production. Factors considered include: housing, breeding, feeding, reproduction, health, marketing, and enterprise economics. (Last offering - Winter 2014)

Location(s): Alfred (Offered in odd-numbered years), Kemptville

DAGR*4010 Animal Health W (3-0) [0.50]

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

Prerequisite(s): DAGR*2000
Location(s): Alfred, Kemptville, Ridgetown

DAGR*4020 Poultry Production W (3-2) [0.50]

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.

Co-requisite(s): DAGR*2000
Location(s): Alfred (Offered in odd-numbered years), Ridgetown

DAGR*4030 Sheep Flock Management W (1-3) [0.50]

This course will provide students with practical experience in managing a small flock of feeder sheep according to the Recommended Code of Practice (Canadian Agri-Food Research Council). Students will be involved in feed preparation and delivery, daily inspections, health care, tagging, weighing, and assisting in back-fat testing. Topics related to feeding strategies, economics, marketing and carcass quality will be discussed in class. (Last offering - Winter 2014)

Prerequisite(s): DAGR*3030
Location(s): Ridgetown

DAGR*4040 Small Ruminant Production F,W (3-2) [0.50]

This course includes goat and sheep production and is studied 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
Location(s): Alfred (Offered in odd-numbered years), Kemptville, Ridgetown

DAGR*4050 Dairy Cattle Nutrition and Selection W (3-2) [0.50]

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. (Last offering - Winter 2014)

Prerequisite(s): DAGR*3010
Location(s): Alfred, Kemptville, Ridgetown

DAGR*4060 Alternative Animal Agriculture W (2-2) [0.50]

This course combines lectures and visits to production facilities to give the student an overview of the possibilities in the commercial production and marketing of non-traditional animal species. (Last offering - Winter 2014)

Location(s): Kemptville

DAGR*4070 Swine Reproduction and Farrowing Management W (2-3) [0.50]

A comprehensive work/study course in swine reproduction and farrowing management consisting of intensive hands-on training, field trips and skills development in breeding herd management techniques. Students registering for this course will work with the staff of the Swine Centre over the semester. Competence in practical swine breeding and farrowing management skills will be learned through hands-on activities under close supervision and guidance of professionals. (Last offering - Winter 2014)

Prerequisite(s): DAGR*3040
Location(s): Ridgetown

DAGR*4080 Large Herd (Dairy) Management W (2-3) [0.50]

The large herd management course introduces students to the options available for dairy farmers that are managing large herds or considering expansion. An overview of the history of dairy farming in Ontario will be explored along with consideration as to where the industry is heading. Efficiency of labour and cow comfort will be emphasized through a detailed look at housing, milking, handling, and feeding of dairy cows. The barn environment and manure management will also be discussed. (Last offering - Winter 2014)

Location(s): Kemptville

DAGR*4100 Commodity Marketing W (3-0) [0.50]

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 management strategy.

Location(s): Alfred, Kemptville, Ridgetown

DAGR*4120 Dairy Production II W (3-2) [0.50]

This course covers advanced aspect of dairy nutrition and breeding strategies. Students learn to develop practical and economical feeding programs for calves, heifers, dry and milking cows. Students will complete an in-depth study of selection strategies and reproductive technologies (artificial insemination, embryo transfer) available to Ontario dairy producers. (First offering - Winter 2015)

Prerequisite(s): DAGR*3010
Location(s): Alfred, Kemptville, Ridgetown

DAGR*4150 Renewable Energy & Agriculture F,W (3-2) [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.

Location(s): Kemptville, Ridgetown

DAGR*4180 Cattle Herd Management F,W (2-3) [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. (First offering - Fall 2014)

Prerequisite(s): DAGR*2000
Co-requisite(s): DAGR*3010
Location(s): Alfred, Kemptville, Ridgetown

DAGR*4190 Ruminant Nutrition W (3-2) [0.50]

This course expands on ruminant nutrition principle. Students will learn to develop practical and economical rations and feeding programs for ruminant livestock. (First offering - Winter 2015)

Prerequisite(s): DAGR*3000 or DAGR*3010
Co-requisite(s): DAGR*4040
Location(s): Alfred, Kemptville, Ridgetown

DAGR*4200 Cropping Systems W (2-2) [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 including strip tillage, seed production and organic production will be included. (Last offering - Winter 2014)

Location(s): Kemptville, Ridgetown

DAGR*4210 Crop Diagnostics and Recommendations W (2-2) [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
Location(s): Kemptville, Ridgetown

DAGR*4220 Organic Production F,W (2-2) [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*1200, DAGR*1300, DAGR*2000
Location(s): Alfred, Kemptville, Ridgetown

DAGR*4230 Grain Grading/Seed Production W (2-2) [0.50]

This course provides students with hands-on training in grading grain 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 and selling will be discussed. (Last offering - Winter 2014)

Location(s): Ridgetown

DAGR*4250 Post-Harvest Handling and Storage W (3-2) [0.50]

Preservation of fresh horticultural produce by cool storage techniques with emphasis on field and storage factors affecting quality will be included in this course. (Last offering - Winter 2014)

Location(s): Kemptville

DAGR*4260 Specialty Vegetable Production W (2-3) [0.50]

This course will include the commercial production and management of the minor fresh market and processing vegetable crops grown in Ontario. Topics discussed include site selection, soil conditions, establishment, cultural practices, harvesting, post-harvest handling and marketing. (Last offering - Winter 2014)

Location(s): Ridgetown

DAGR*4270 Vegetable Crop Pest Management W (2-2) [0.50]

The biology and control of insects, diseases, nematodes, and weeds of field horticultural crops are studied. Pest control concepts including diagnosis and the biology of the pest, problem solving and the impact pest control products have on the environment with consideration to the safe use and storage of pesticides will be thoroughly examined. Considerable discussion on the use of non-chemical methods of pest control are examined. (Last offering - Winter 2014)

Location(s): Ridgetown

DAGR*4350 Farm Structures and Environment W (3-2) [0.50]

This course provides 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. Environmental regulations concerning manure storage and handling will be discussed.

Prerequisite(s): Minimum of 5.00 credits, including DAGR*1600
Location(s): Alfred (Offered in odd-numbered years), Kemptville, Ridgetown

DAGR*4450 Student Managed Enterprise II W (3-0) [0.50]

This is a hands-on entrepreneurial course that provides students with developing and operating an enterprise. In this course students implement the business model developed in Student Managed Enterprise I. Students are responsible for the day-to-day operations of the enterprise, including all aspects of production, marketing, and distribution of the product.

Prerequisite(s): DAGR*3450
Location(s): Kemptville

DAGR*4600 Human Resource Management F,W (3-2) [0.50]

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.

Location(s): Alfred, Kemptville, Ridgetown

DAGR*4610 Business Project W (4-0) [0.50]

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.

Prerequisite(s): 7.50 credits, including DAGR*2020
Location(s): Alfred, Kemptville, Ridgetown

DAGR*4650 Farm Project W (4-0) [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. (First offering - Winter 2015)

Prerequisite(s): DAGR*2020, 7.50 credits
Equate(s): DAGR*4620
Restriction(s): DAGR*4450, DAGR*4610
Location(s): Alfred, Kemptville, Ridgetown

DAGR*4700 Agroforestry W (1-3) [0.50]

This course provides more advanced level training in farm woodlot management; specialized aspects of agroforestry (i.e. maple syrup) will be covered in more depth than at the introductory level. Major emphasis will be placed on student assignments including development of a farm woodlot plan. (Last offering - Winter 2014)

Prerequisite(s): DAGR*3700
Location(s): Kemptville (Offered in odd-numbered years only.)

DAGR*4780 Advanced Horse Nutrition W (3-2) [0.50]

Students will learn to identify and prevent common nutrition based disorders in a variety of horse production groups. Horses are used in this course to ensure authenticity and relevancy to real world industry issues. (Last offering - Winter 2014)

Prerequisite(s): DAGR*3820
Location(s): Kemptville

DAGR*4800 Sport Horse Conditioning W (2-1) [0.50]

Students will learn to define exercise and understand the importance of conditioning a horse both physically and mentally. Students will also practice developing and monitoring a fitness program and illustrate methods to monitor fitness levels during training. (Last offering - Winter 2014)

Prerequisite(s): 7.50 credits
Location(s): Kemptville

DAGR*4810 Horse Health F (3-1) [0.50]

This course focuses on equine health and diseases, the care of sick animals and other stable management practices related to the health care of horses. (Last offering - Fall 2013)

Prerequisite(s): 4.50 credits
Location(s): Kemptville

DAGR*4820 Horse Reproduction W (3-1) [0.50]

Anatomy and physiology of the mare and stallion is covered, along with sexual maturation, breeding techniques and management, fertilization. gestation, panuritian and foal care. Management of stallions. mares and foals in regards to housing and handling is discussed along with genetic selection and inheritance. (Last offering - Winter 2014)

Prerequisite(s): 7.50 credits
Location(s): Kemptville

DAGR*4830 Horse Facility Management and Design W (2-2) [0.50]

This course is designed to familiarize students with the basic skills and procedures used in the management of an equine business. Topics included within this course are marketing strategies, inventory control and financial management. (Last offering - Winter 2014)

Location(s): Kemptville

Degree Level Electives

Agriculture and Horticulture Programs

As well, the programs in Agriculture and Horticulture at Guelph include one undergraduate degree level elective course. The description for this course is as follows:

ENVB*2040 Biology of Plant Pests U [0.50]

An interdisciplinary course on the nature and importance of diseases, weeds, insects and abiotic stresses on plant productivity and quality. A case history approach will be used to illustrate the biology of plant pests, the principles of pest population management, and related topics.

Prerequisite(s): BOT*1150 .

Food and Nutrition Management Program

The Food and Nutrition Management program includes two elective courses which are offered at the undergraduate degree level. The descriptions for these courses are as follows:

FOOD*2010 Principles of Food Science U [0.50]

Principles involved in the processing, handling and storage of foods. Relationship of science and technology to food processing. (Offered through distance education format only.)

Restriction(s): FOOD*2150, NUTR*2150

FOOD*2400 Introduction to Food Chemistry U [0.50]

An introduction to the chemistry and biochemistry of the major components of foods: lipids, proteins, carbohydrates and water/ice. In addition, an overview of some of the reactions and changes in food components which occur during processing, handling and storage will be presented. This course may not be taken for credit by students in specialized honours Food Science. **(Offered through distance education format only.)**

Prerequisite(s): CHEM*1040
Restriction(s): FOOD*3100

Environmental Management

DENM*1000 Environmental Science and Issues F (3-2) [0.50]

This course will expose the student to a broad range of environmental issues facing society today. The course will present the student with issues such as environmental quality and protection, the effects of industrialization and the need for conservation, global warming and the production and politics of food and its affect on the global, national, regional and local environmental quality.

Location(s): Ridgetown, Alfred

DENM*1120 Mathematics for Environmental Operators F (3-2) [0.50]

This course will introduce students to mathematical concepts used by Wastewater, Water, Distribution and Collection Operators. The material taught will address the concepts required to write the optional Ministry of the Environment "Operator In Training Exams". Students will learn how to evaluate the efficiency of the individual process units of the plant and understand the basic mathematical concepts that are essential for maintaining efficient plant operation and compliance with environmental approvals and regulations.

Restriction(s): Registration in the Environmental Management Diploma Program.
Location(s): Ridgetown

DENM*1150 Environmental Law and Governance F (5-0) [0.50]

This course will introduce the student to the Canadian legal process. The development of statutes, regulations and by-laws and the roles and responsibilities of the various levels of government will be explored from an environmental and constitutional context. Environmental compliance, tort law, due diligence, corporate environmental liability, the role of the media and NGO's, and the role and responsibilities of regulatory agencies will be examined. Environmental policies and treaties dealing with issues such as climate change, Alberta oil and hazardous waste as examples will be discussed.

Restriction(s): DENM*1050 , DENM*3050
Location(s): Ridgetown

DENM*1180 Introduction to GIS F (1-4) [0.50]

This course will introduce the student to the basic principles of Geographic Information Systems (GIS), map reading and production. They will learn how to read maps and to create their own maps using current GIS technology. Students will learn to use GIS software, the Global Positioning System (GPS) and how these tools are used to collect, organize and store spatial data. Finally, Remote Sensing techniques will be examined reviewing the range of technology from basic air photo interpretation to the full range of current electronic sensors utilized by the land management professionals.

Location(s): Ridgetown

DENM*1200 Spills and Contaminated Site Remediation F (3-2) [0.50]

This course will explore the environmental, legal, technical and ethical aspects of the management, control and abatement of reportable spills to the environment. Spill response reporting requirements, site remediation options, spill prevention and contingency planning will be included. Students will gain a detailed understanding of the site assessment process by completing a Phase 1 and Phase 2 assessment of a contaminated property and developing a decommissioning strategy for their chosen site.

Location(s): Ridgetown

DENM*2000 Occupational Health and Safety F (3-2) [0.50]

This course provides an introduction to the topic of occupational health and safety. Topics to be covered include current Ministry of Labour Statutes and Regulations that pertain to the workplace. Students will become informed and conversant with topics including hazardous materials, hazardous chemicals, material safety data sheets, the Workplace Hazardous Materials Information System and health and safety planning.

Location(s): Ridgetown, Alfred

DENM*2020 Advanced Math and Water Chemistry W (3-2) [0.50]

This course will cover both advanced math as well as water chemistry concepts. Students will be taught to determine process efficiency through the use of mathematical calculations rather than "trial and error" methods. Typical "In-plant" calculation and Labs that utilize actual plant samples are discussed. Student gain an understanding of basic chemistry concepts, chemical phases of treatment such as coagulation, sedimentation, softening, disinfection and chemical removal of the various undesirable substances.

Prerequisite(s): DENM*1120
Restriction(s): Registration in the Environmental Management Diploma Program.
Location(s): Ridgetown

DENM*2050 Site Assessment F,W (3-2) [0.50]

Environmental site assessments are now required by lenders for mortgage purposes prior to the purchase of industrial, commercial, institutional, agricultural and residential properties. This course will provide a detailed understanding of the site assessment process and students will complete a Level 1 Site Assessment study and report as part of the course. Risk assessment, environmental auditing and the decommissioning of contaminated sites will also be explored and discussed. Case studies will provide an overview of specific site assessments and subsequent large scale Level 2, 3 and 4 site remediation.

Location(s): Ridgetown, Alfred

DENM*2100 Ecology F (3-2) [0.50]

An introduction to the science of ecology, the study of interactions between organisms and their environments. Major topics include adaptation, populations, communities, biodiversity, ecosystems and competition. The effects of climate and human activities on ecological processes are also considered. Ecological principles are used to explain the issues associated with several environmental problems.

Location(s): Ridgetown, Alfred

DENM*2150 Water Resource Management W (3-2) [0.50]

Water is a precious resource that is all-too-often taken for granted. This course will demonstrate the significance of the various elements of the hydrologic cycle (e.g. precipitation, runoff, infiltration, groundwater recharge and discharge, etc.) It will focus on water supply systems, water wastewater perspective with other jurisdictions and the world. The students will learn of common water quality problems, including causes, and pathways that contaminants follow to reach water and groundwater.

Location(s): Ridgetown, Alfred

DENM*2200 Environmental Monitoring W (2-3) [0.50]

This course will introduce the Environmental Management student to the various methods used to measure environmental impact. Students will achieve a summary understanding of the various government and other agency threshold limits and guidelines of environmental parameters such as water quality, vegetarian, terrestrial and social impact analysis.

Location(s): Ridgetown, Alfred

DENM*3000 Data Analysis and Statistics W (3-2) [0.50]

Introduction to the use of statistics in the field of environmental management. Basic concepts include probability, observations, generalization of means, normal distribution, standard deviation, standard error, sampling, principles of experimental design, use of correlation and regression, index numbers.

Location(s): Ridgetown, Alfred

DENM*3030 Not-For-Profit Management W (5-0) [0.50]

Students will learn aspects of environmental organizations, and other not-for-profit and charitable sector groups including recruitment and maintenance of a volunteer base, fundraising and financial management, event and project management, and risk management. In addition to these topics, this course will provide an overview of the multiple aspects of running or working for a not-for-profit organization – from conducting an effective meeting to grant writing, from ethics to best practices for an effective board of directors

Location(s): Ridgetown

DENM*3100 Introduction to Applied Microbiology W (2-3) [0.50]

This course is designed for students in environmental studies. The importance from an environmental point of view, including water systems and soils as well as their importance in disease, nutrition, food and food processing will be emphasized.

Location(s): Ridgetown, Alfred

DENM*3120 Introduction to GIS F (1-4) [0.50]

This course will introduce the student to the basic principles of Geographic Information Sysytems (GIS), map reading and production. They will learn how to read maps and to create their own maps using current GIS technology. Students will learn to use GIS software, the Global Positioning System (GPS) and how these tools are used to collect, organize and store spacial data. finally, Remote Sensing techniques will be examined reviewing the range of technology from basic air photo interpretation to the full range of current electronic sensors utilized by the land management professionals.

Location(s): Ridgetown

DENM*3150 Agriculture and Environmental Stewardship F (3-2) [0.50]

This course examines the impact and role of farming in the agroecosystem. 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.

Prerequisite(s): DAGR*1300 or DEQN*1070
Location(s): Alfred, Kemptville, Ridgetown

DENM*3160 Agricultural Chemicals in the Environment W (3-2) [0.50]

An introduction to the environmental, human health and economic issues associated with the use of chemicals, especially pesticides, in agriculture and landscape environments. Students will become informed and conversant on the benefits and possible risks of pests, pesticides, bio-controls and transgenic organisms that are used for pest management.

Location(s): Ridgetown, Alfred

DENM*3200 Water Treatment F (2-3) [0.50]

This course provides the student with the basic design concepts and operational techniques of industrial and municipal water treatment systems. Several treatment processes for ground and surface supplies will be discussed including optimization and testing methodologies as well as the legal requirements of water taking in Ontario. Analytical calculations pertaining to water treatment will be examined. The participants in the course will be given the opportunity to write Provincial Certification Examination for the Water Operator-In-Training classification.

Prerequisite(s): DENM*2200, DENM*3100
Location(s): Ridgetown, Alfred

DENM*3210 Sewage & Waste Water Treatment F (2-3) [0.50]

This course covers the introductory concepts of sewage and some related industrial waste treatment. Topics covered encompass the various unit treatment mechanisms currently utilized such as the biological, chemical and physical processes, legislation, different plant configurations, solids handling and disposal, process optimization and applicable testing methodologies. Analytical calculations pertaining to sewage treatment will be examined. The participants in the course will be given the opportunity to write the Provincial Certification Examination for the Sewage Operator-In-Training classification.

Prerequisite(s): DENM*2200, DENM*3100
Location(s): Ridgetown, Alfred

DENM*3220 Water Distribution and Wastewater Collection F (3-2) [0.50]

This course provides the student with the basic design concepts and operational techniques of water distribution and wastewater collection systems. The student will receive instruction in system hydraulics, system response, operating limitations, system demands, operation and maintenance, water quality, and related system design factors. The course participants will have the option of writing the Provincial Certification Examination for the Water Operator-In-Training (O.I.T.) Classification (additional fee required).

Prerequisite(s): DENM*2020, DENM*2200, DENM*3100
Location(s): Ridgetown

DENM*4000 Business Practices and Ethics F,W (3-2) [0.50]

Students will be introduced to a basic understanding of entrepreneurship and business ethics. They will learn how a business is formed and various legal structures, marketing, book keeping, public presentation skills and how to write a resume. The student will become acquainted with business planning, budgets and financial planning, proposal writing and delivery. Finally the students will study the advantages of professional designation and the rights and responsibilities that come with it.

Location(s): Ridgetown, Alfred

DENM*4050 Environmental Project W (3-2) [0.50]

This course is designed to give the student an opportunity to thoroughly review the environmental systems of an industry, municipality, agribusiness and/or agricultural enterprise. The student will complete an Environmental Management System using Gap analysis and create environmental policies and action plans.

Location(s): Ridgetown, Alfred

DENM*4070 Waste and Water Operation Techniques W (1-4) [0.50]

This course is designed for students who are interested in pursuing a career as a water and/or wastewater treatment plant operator. Students will carry out the kinds of maintenance and repairs that are typically encountered by plant operators. These will include blueprint reading, basic electrical systems and safety, documentation and record keeping, pumps for water systems, wastewater pumps, metering pumps and chemical feed systems, lift stations, distribution and collection system maintenance and repair. Principles of safety will be stressed throughout the course.

Prerequisite(s): DENM*3200 or DENM*3210
Restriction(s): Registration in the Environmental Management Diploma Program
Location(s): Ridgetown

DENM*4100 Land Use Planning W (3-2) [0.50]

Students will become familiar with land use planning legislation and controls used in Ontario and across Canada. They will begin with the study of settlement theory and how land development effects the natural environment. The various legislative tools used to measure and control the development of land and how to understand the public's role in the process. The students will also be introduced to the higher levels of land use planning including the provincial and federal environmental assessment processes.

Location(s): Ridgetown, Alfred

DENM*4120 Advanced GIS W (1-4) [0.50]

This course will allow students to expand their knowledge of the functionality of ArcGIS software as it pertains to their particular field of interest, whether it be environmental conservation, agriculture or municipal facilities management. Students will explore advanced data analysis functionality of ArcToolbox, including address geocoding, data conversion, map projections, etc. and work with the ArcGIS ModelBuilder for diagramming solutions to spatial analysis problems. In addition, students will be able to explore ArcGIS extensions such as Spatial Analyst and Tracking Analyst as they analyse field data that they will collect for their final project using a variety of data collection techniques, including GPS and digital aerial photographs.

Prerequisite(s): DENM*1100 or DENM*1180
Location(s): Ridgetown

DENM*4150 Sampling and Analysis W (2-3) [0.50]

This is a practical course with hands-on approach designed to increase students' confidence and competency in performing laboratory and field work. Specific skills that will be acquired in this course will include: preparing a standard operation procedure; preparing a list of analytes for study; analyzing organic contaminants and heavy metals in surface water, groundwater and sediment, and evaluating the degree of contamination; evaluating vegetative communities in various types of habitat; compiling a representative species list; performing a title search; evaluation data, including quality control data; and analyzing macro-invertebrate and fish data. Collectively, students will use their acquired knowledge to design, carry out, interpret the results and prepare comprehensive report on a selected area.

Location(s): Ridgetown, Alfred

DENM*4200 Watershed Management and Conservation F (3-2) [0.50]

Students will learn to appreciate water issues on a watershed scale. They will see the impacts of various land uses on the quantity and quality of water leaving a watershed. The course will examine not only the impacts of human habitation on a watershed but will consider the impact of the forces of nature. The dynamics of various elements of a watershed (e.g. wetlands, dams, reservoirs, riparian zones, land cover, etc) will be studied in order to understand the importance of each in the entire system.

Location(s): Ridgetown, Alfred

DENM*4210 Nutrient Management W (3-2) [0.50]

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.

Prerequisite(s): Minimum of 8.0 credits
Location(s): Kemptville, Ridgetown

DENM*4250 Industrial Waste Management W (3-2) [0.50]

This course is designed to give the student a thorough understanding of the field of industrial wastes from a regulatory perspective. Topics include current Federal and Ontario hazardous waste statutes and regulations. The registration and manifesting of a variety of hazardous and non-hazardous industrial wastes will be explored. Waste minimization and pollution prevention strategies and methodologies will also be discussed.

Location(s): Ridgetown, Alfred

DENM*4260 Spills Response Planning W (3-2) [0.50]

The purpose of this course is to acquaint the student with the legislation and rules surrounding spills and emergency planning. The student will demonstrate the technology and techniques available and how and when it is used. The process of contingency planning and the need for Environmental Management Systems will also be covered.

Location(s): Ridgetown, Alfred

DENM*4400 Environmental Industry Placement W (0-5) [0.00]

This four-week mandatory, post-semester training and evaluation period will offer the student the opportunity to gain practical experience in off-campus work placements typical of those available to them upon graduation. Students are required to perform many of the duties that are commonly performed by graduates, are assessed by industry representatives as well as the course instructor. A report of their experiences will be required to be submitted to the course instructor at the conclusion of their experience. A pass/fail grade will be assigned upon completion of the course. Students choosing to do their work placement in the water or wastewater treatment field must have successfully completed OIT certification in order to participate in the externship.

Prerequisite(s): 12.00 credits
Restriction(s): Registration in the Environmental Management Diploma Program.
Location(s): Ridgetown

DENM*4500 Environmental Management Externship W (0-5) [0.50]

This course will offer the student the opportunity to gain practical experience in actual work placements typical of those available to them upon graduation. They will: experience daily facility or agency operations; further develop their knowledge and skills in sampling and analysis practices associated with a specific type of work placement;l further develop report writing and/or data documentation skills; make verbal and written presentations and gain experience with industry-standard computerized systems in place at many of the workplaces (e.g. SCAD programming). Students wishing placements at Water or Wastewater Treatment facilities must have obtained the Ontario Ministry of Environment Operator In Training (O.I.T.) certification, and have passed DENM*3200 or DENM*3210 (whichever applies).

Restriction(s): Registration in the Environmental Management Diploma Program.
Location(s): Ridgetown

Equine Studies

DEQN*1010 Introduction to the Horse Industry F (3-0) [0.50]

This course will explore business and employment opportunities in the horse industry. Various sectors and discplines will be studied to reveal the economic and employment impact on the horse industry provincially, nationally and internationally. An overall theme in this course will be the use of horses as sport and leisure animals versus horses used as agricultural commodities. A study of equine sport and regulatory governing bodies will also be studied in detail.

Location(s): Kemptville

DEQN*1050 Horse Health F (3-1) [0.50]

This course is an introduction to equine health and disease, the care of sick animals and other stable management practices related to the health care of horses.

Restriction(s): DAGR*4810
Location(s): Kemptville

DEQN*1070 Forage Management for Horses F (3-2) [0.50]

Students will learn the principles of forage establishemnt and management for the purpose of providing good quality, affordable pasture and hay for horses. Field trips provide students the opportunity to assess the conditions of local pastures and hay fields then discuss appropriate management practices.

Location(s): Kemptville

DEQN*1150 Practical Horse Care I F (1-3) [0.50]

This course introduces students to the elements and importance of day to day stable facility management. Daily animal care including feeding, watering, grooming, tack maintenance and turn out is taught and practiced. this course emphasizes safe handling of horses, occupational health and safety, daily routines and record keeping. Students are responsible for twice daily feeding and stall care.

Location(s): Kemptville

DEQN*2010 Horse Structure and Function W (3-1) [0.50]

This course encompasses the gross anatomy and physiology of the horse. The course includes an introduction to anatomical terminology, the integumentary system, skeletal system, muscular system, urinary system, cardio-vascular system, the respiratory system, the digestive system and the endocrine system.

Location(s): Kemptville

DEQN*2040 Horse Feeds and Nutrition W (2-1) [0.50]

This course introduces students to the topics of digestion, feed nutrients, feed stuffs and feeding practices for horses.

Restriction(s): DAGR*3820
Location(s): Kemptville

DEQN*2150 Practical Horse Care II W (1-3) [0.50]

This course builds on skills taught in Practical Horse Care I. Course focuses on building knowledge and skills in three functional areas: day to day facility operations, horse handling and daily care of horses. This course emphasizes further skill development in handling, grooming, bandaging, daily routine and hoof care. Students are responsible for twice daily feeding and stall care.

Prerequisite(s): DEQN*1150
Location(s): Kemptville

DEQN*2500 Industry Internship W (1-0) [0.50]

This course provides students with an opportunity to develop hands-on work experience and exposure to an equine environment. The focus of this internship is to further develop professional work habits and day-to-day horse handling skills. The internship is (160-200) hours and begins immediately following semester 2. A pass/fail grade will be assigned at the end of the course.

Co-requisite(s): DEQN*2150
Location(s): Kemptville

DEQN*3030 Horse Conformation and Lameness F (3-1) [0.50]

Upon completion of this course the student will be able to evaluate a horse's conformation, relate form to function and develop an understanding of the common lameness and blemishes found in horses and their relationship to athletic performance. (First offering - Fall 2014)

Prerequisite(s): DEQN*2010
Restriction(s): DAGR*3810
Location(s): Kemptville

DEQN*3050 Advanced Horse Nutrition F (3-2) [0.50]

Students will learn to identify and prevent common nutrition based disorders in a variety of horse production groups. Horses are used in this course to ensure authenticity and relevancy to real world industry issues. (First offering - Fall 2014)

Prerequisite(s): DEQN*2040
Restriction(s): DAGR*4780
Location(s): Kemptville

DEQN*3150 Practical Horse Care III F (1-3) [0.50]

This course builds on skills taught in Practical Horse Care II and expands to incorporate a student led and managed barn environment. This course emphasizes team work through managing student teams and leadership through working in supervisory capacity in the barn environment. Staff management, scheduling and efficient stable routine are also practiced. Students are responsible for twice daily feeding and stall care. (First offering - Fall 2014)

Prerequisite(s): DEQN*2150
Location(s): Kemptville

DEQN*3210 Equine Complementary Therapies F (2-1) [0.50]

This course covers the complementary therapies available to a horse care-giver or equine manager in the therapeutic or convalescent care of horses. The course includes an introduction to massage therapy, acupressure, acupuncture and herbology. As well, heat, hydro, cold and electromagnetic, ultrasonography and magnetic therapy are discussed. Case study and hands-on work will be included in the lab portion of the course. (First offering - Fall 2014)

Prerequisite(s): DEQN*2010
Restriction(s): DAGR*3930
Location(s): Kemptville

DEQN*4050 Rider Conditioning W (3-2) [0.50]

This course covers athletic conditioning requirements and guidelines for riders at each stage of athletic development. Equestrian discipline-specific considerations are also discussed. (First offering - Winter 2015)

Prerequisite(s): Minimum 8.00 credits
Restriction(s): DAGR*3750
Location(s): Kemptville

DEQN*4100 Horse Conditioning W (2-1) [0.50]

Students will learn to define exercise and understand the importance of conditioning a horse both physically and mentally. Students will also practice developing and monitoring a fitness program and illustrate methods to monitor fitness levels during training. (First offering - Winter 2015)

Prerequisite(s): 7.50 credits
Restriction(s): DAGR*4800
Location(s): Kemptville

DEQN*4130 Horse Reproduction W (3-1) [0.50]

Anatomy and physiology of the mare and stallion is covered, along with sexual maturation, breeding techniques and management, fertilization. gestation, panuritian and foal care. Management of stallions. mares and foals in regards to housing and handling is discussed along with genetic selection and inheritance. (First offering - Winter 2015)

Prerequisite(s): 7.50 credits
Restriction(s): DAGR*4820
Location(s): Kemptville

DEQN*4200 Horse Facility Management and Design W (2-2) [0.50]

This course is designed to familiarize students with the basic skills and procedures used in the management of an equine facility. Topics included within this course are the building, renovating and management of horse facilities including site planning and interior design. Special consideration is given to environmental control, waste management and environmental stewardship. (First offering - Winter 2015)

Prerequisite(s): DENM*3150
Restriction(s): DAGR*4830
Location(s): Kemptville

DEQN*4320 Equine Business Venture W (3-0) [0.50]

In this course students will undertake a comprehensive study to develop a business plan for a new venture or develop a long term management plan for an existing equine operation. Drawing upon knowledge and skills gained from previous courses, students will complete and present a formal business report. (First offering - Winter 2015)

Prerequisite(s): 8.00 credits, including DAGR*2020
Restriction(s): DAGR*4610, DAGR*4650
Location(s): Kemptville

Food Nutrition and Risk Management

DFN*1010 Introduction to Food F (3-3) [0.50]

This course is the introduction to the science of food. The students will study the chemical and physical properties of food and the principles of food selection, storage, preparation and evaluation. (Offered in even-numbered years.)

Location(s): Kemptville

DFN*1020 Food Preparation and Theory F (3-5) [0.50]

This course is an introduction to the science of food. The students will study the chemical and physical properties of foods and the principles of food selection, storage, preparation and evaluation. The preservation of nutrients, colour, texture and flavour will be applied through food laboratory work and demonstrations. The students will develop the ability to recognize and produce safe quality food items. (Offered in even-numbered years.)

Location(s): Alfred

DFN*1060 Introduction to Nutrition F,W (4-0) [0.50]

This course introduces the nutrients - carbohydrates, fats, proteins, vitamins, minerals and water and their roles in food, nutrition and health. Students will learn Canadian nutrition standards and guidelines used in nutrition care. Application of these guidelines will be practiced.

Location(s): Kemptville

DFN*1110 Introductory Microbiology F (3-1) [0.50]

This course is an introduction to microbiology. Students develop skills needed to perform the basic microbiological procedures employed in a laboratory, including the use and care of the microscope; staining methods, aseptic techniques; culturing; and methods of identifying and enumerating important microorganisms.

Co-requisite(s): DFN*1250
Location(s): Kemptville

DFN*1170 Canadian and Global Food Trends F (3-0) [0.50]

The Agri-food chain is the continuum in which food is produced, processed, distributed and sold beginning from the farm and ending at the consumer. Through research, dialogue and debate, this course provides students with an over view of the food industry and the trends that influence it. Students will also gain an appreciation of the role food science plays in the food industry innovation.

Location(s): Kemptville

DFN*1190 Introduction to Food Processing F (4-0) [0.50]

This is an introductory course covering the principles and practices of processing milk and milk products, eggs, meat and other food products. Students will study the principles of quality assurance and Hazard Analysis Critical Control Points (HACCP), and their application to processing plant practices as well as processing standards. (Offered in odd-numbered years.)

Location(s): Alfred

DFN*1250 Basic Chemistry F (3-1) [0.50]

This course introduces fundamental principles of chemistry. Principles discussed include chemical bonding, simple reactions and stoichiometry, chemical and solution equilibria (acids, bases and buffers), and introductory organic chemistry. Laboratory exercises consist of qualitative and quantitative analysis. Students will use a variety of laboratory techniques to develop skills in data collection and scientific analysis, and communicative scientific information using appropriate terminology. Proper laboratory techniques are emphasized.

Co-requisite(s): DFN*1110
Location(s): Kemptville

DFN*1300 Food Industry Mathematics I F (3-0) [0.50]

This course provides an introduction to the application of mathematics in industrial and processing situations. Students will study the mathematical basis for developing product formulations and understanding food composition. Data derived from case studies and mathematical equations will be used to produce predictive models of the processing system.

Location(s): Kemptville

DFN*2010 Human Nutrition and Physiology F (9-0) [1.00]

Students will identify the main food nutrients and their role in a healthy diet will be discussed. Students will describe the structure and functioning of the human body. The principles of good nutrition at different stages of life will be examined based on the recommendations of Canada's Food Guide. Nutrition in the context of the social and cultural environment of individuals will be considered. Offered in odd-numbered years.

Restriction(s): DFN*1060, DFN*2020
Location(s): Alfred

DFN*2070 Applied Food Chemistry W (3-1) [0.50]

This course is an introduction to the chemisty of the major components of foods including carbohydrates, fats, proteins, water and food additives. The relationship between the chemical structure and the properties and behaviour of foods is emphasized. Particular attention is paid to the changes in food components which occur during storage, handling, and processing of foods.

Prerequisite(s): DFN*1250
Co-requisite(s): DFN*2170
Location(s): Kemptville

DFN*2130 Food Cost Control F (5-0) [0.50]

This course introduces students to inventory control, purchasing and receiving, costing of recipes and menus and basic accounting principles. Strategies for food cost control related to food purchasing, costing and budgeting are also introduced. (Offered in even-numbered years.)

Location(s): Alfred

DFN*2140 Introduction to Food Service F,W (2-5) [0.50]

This course will provide the students with an opportunity to participate in quantity food production and service. Skills will be developed in menu planning and design. Special attention will be given to environment/atmosphere management in food services. (Last offering - Fall 2013)

Prerequisite(s): DFN*1020, DFN*1200
Co-requisite(s): DFN*2200
Location(s): Alfred, Kemptville

DFN*2170 Food Processing Fundamentals W (3-1) [0.50]

This course explores and demonstrates the inter-relationship of chemistry, microbiology and engineering principles. The principles and processes of thermal heating, freezing, dehydrating, fermentation, salting, smoking and pickling are introduced.

Prerequisite(s): DFN*1110
Co-requisite(s): DFN*2070
Location(s): Kemptville

DFN*2200 Food Service Design and Equipment F (3-1) [0.50]

This course examines the basic principles of planning and equipping a food-service facility. Equipment selection and procurement, food service systems, work areas and blueprint reading are discussed. The safe handling of equipment will be addressed. (Offered in even-numbered years.)

Location(s): Alfred

DFN*2250 Food Microbiology F (3-2) [0.50]

An examination of the principles of microbiology as applied to food and food sanitation is the focus of this course. Both pathological and beneficial organisms are studied. Demonstrations and laboratory exercises provide practical application. (Offered in odd-numbered years.)

Location(s): Alfred

DFN*2300 Food Industry Mathematics II W (3-0) [0.50]

Case study examples will provide the student with a more advanced approach to the application of mathematics in industrial processing situations. Organization and graphical representation of data, probability, frequency distributions, estimation and hypothesis testing with both large and small samples, sampling methods, and applied statistical techniques will be examined.

Prerequisite(s): DFN*1300
Location(s): Kemptville

DFN*2350 Applied Food Microbiology W (3-2) [0.50]

An introduction to the major groups of microorganisms important in foods is presented in this course, including microbial spoilage of food, food-borne illness, and food fermentations. Sources of contamination and methods to control microorganisms during production, processing and storage of foods are discussed and evaluated. Food plant sanitation and criteria for establishing microbial standards for food products is explored.

Prerequisite(s): DFN*1110
Location(s): Kemptville

DFN*2420 Cultural Food Practices W (1-3) [0.50]

The impact of culture on food habits and cuisine is explored. Emphasis will be placed on the practical application of learning to plan menus in the multicultural Canadian context. Students will gain an understanding of food preparation techniques and ingredients used by major ethnic groups. Special attention will be given to sound nutrition and the introduction of cultural cuisine to the health and commercial food sectors. (Offered in odd-numbered years.)

Location(s): Alfred

DFN*2440 Sensory Evaluation F,W (2-2) [0.50]

The principles and practices of sensory evaluation for market research, product development, quality control, and research or product selection are covered. A practical approach familiarizes students with basic methodology and statistical procedures for analyzing results. (Offered in odd-numbered years.)

Location(s): Alfred

DFN*2500 Industry Internship I W (1-0) [0.50]

This course provides the industry internship provides students with the opportunity to develop hands-on work experience and exposure in a food processing environment. The focus of this field education is to gain broad experience in process operations and corporate culture. The internship is (160-200) hours and begins immediately following semester 2. A pass/fail grade will be assigned at the end of the course.

Co-requisite(s): DFN*2070, DFN*2350
Location(s): Kemptville

DFN*3070 Food Chemistry W (3-2) [0.50]

This coourse is an introduction to the chemistry of the major components of foods: carbohydrates, fats, proteins and water. The relationship between the chemical structure and the properties and behavior of foods is emphasized. Particular attention is paid to the changes in food components which occur during storage, handling and processing of foods. (Offered in even-numbered years.)

Location(s): Alfred

DFN*3170 Food Risk Analysis F (4-0) [0.50]

This course provides students with an overview of risk analysis and it's role in food hazards. Understanding the food supply chain and the steps involved in food recall will be introduced. the analysis, recognition and management of food hazards and risk will be discussed using case studies. (First offering - Fall 2014)

Prerequisite(s): DFN*1010
Equate(s): DFN*4170
Location(s): Kemptville

DFN*3190 Food Processing and Packaging F (3-2) [0.50]

This course builds on Food Processing Fundamentals covering more advanced topics in food processing and product development. The use of sweeteners, flavourings, coloring and preservatives are further explored. Food packaging is introduced. Packaging materials, protection devices, marketing and design aspects, and an overview of the legislation and regulatory process are investigated. (First offering - Fall 2014)

Prerequisite(s): DFN*2170
Location(s): Kemptville

DFN*3250 Menu Planning and Design F (4-1) [0.50]

This course will provide the students with skills in menu planning and design in different settings and different types of clientele. (Offered in even-numbered years.)

Restriction(s): DFN*2140
Location(s): Alfred

DFN*3510 Experiential Learning in Food and Nutrition Management S,F,W [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): 2.50 credits
Restriction(s): DAGR*3510, DHRT*3510, Registration in the Diploma Program in Food Nutrition and Risk Management. Instructor consent required.
Location(s): Alfred, Kemptville

DFN*3910 Special Study Project S,F,W (0-0) [0.50]

This course is 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 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
Restriction(s): DAGR*3900, DHRT*3910, Registration in the Food Nutrition and Risk Management Diploma program and written permission of the faculty supervisor.
Location(s): Alfred, Kemptville

DFN*4030 Food, Beverage, Labour Cost Control W (4-2) [0.50]

Concepts and procedures for purchasing, receiving and storage of goods; controlling costs; pricing products and services; and managing budgets are discussed and practiced, as well as the application of basic manual and computer procedures to food, beverages and labour cost control. These topics are presented in the context of food service management but the principles are applicable to business in general. (Offered in odd-numbered years.)

Prerequisite(s): DFN*2130
Location(s): Alfred

DFN*4050 Field Placement U [0.00]

This course provides a concentrated "new" practical experience in the food industry. Students will complete a 5 week, placement (minimally 160 hours) in their area of interest, at the end of semester four. This placement is required to graduate and is evaluated on a pass/fail bases.

Prerequisite(s): 9.00 credits
Restriction(s): Instructor consent required.
Location(s): Alfred

DFN*4070 Advanced Topics in Food Processing F (4-0) [0.50]

Food processes and the relationship between chemistry, microbiology, nutrition and engineering as they apply to food processing are discussed. The following topics are included: thermal processing, novel processing, drying technology, separation technology, process monitoring and control, sanitation, waste management, HACCP for food processors, food legislation and food labeling.

Prerequisite(s): DFN*1190
Location(s): Alfred

DFN*4110 Product Development and Marketing F (3-2) [0.50]

The students will have an opportunity to develop a product/recipe. 5Procedures for quality assurance in food production, including evaluating products against quality standards, performing field studies, conducting taste panel testing and implementing client feedback will be followed. Demonstration and presentation techniques will be utilized in marketing the product.

Prerequisite(s): 5.00 credits
Location(s): Alfred

DFN*4160 Food Biotechnology W (4-0) [0.50]

This course explores the developing field of biotechnology beginning with its origins and the use of genetic engineering techniques. Many of the applications of biotechnology will be discussed with emphasis placed on food biotechnology applications. Ethical, public, nutritional and safety issues will also be addressed.

Prerequisite(s): DFN*2170
Location(s): Kemptville

DFN*4180 Safety and Food Quality Control W (8-0) [1.00]

This course describes accepted practices to be followed to maximize workplace safety and how to react in case of accidents. The importance of hygiene in the food sector to prevent contamination and the development of a food safety system in accordance with the hazard analysis and critical control point (HACCP) will be emphasized. Offered in odd-numbered years. (First offering - Winter 2015)

Restriction(s): DFN*4170
Location(s): Alfred

DFN*4190 Food Service and Catering W (2-6) [0.50]

This course will provide students with opportunities to participate in large scale food production and service. Students will gain experience in planning, preparing, presenting and serving foods with special attention given to environment/atmosphere management in food service. Emphasis is placed on teamwork and food service management techniques. (Offered in odd-numbered years.)

Prerequisite(s): DFN*1020, DFN*1200 , DFN*2200, DFN*3250
Restriction(s): DFN*3200
Location(s): Alfred

DFN*4200 Management Case Study W (1-3) [0.50]

Organizational structure in health care facilities will be addressed as well as standards of care, Quality Assurance programs, policies and procedures. Through case studies, students will learn how to solve various situations in food service operation.

Prerequisite(s): 7.50 credits
Location(s): Alfred

DFN*4210 Nutrition Myths and Facts F (4-0) [0.50]

This course provides exposure to current issues in nutrition including: nutrition for fitness and sport, eating disorders, dietary supplements, herbal remedies and future foods. Many controversies in nutrition will be discussed throughout the course with regards to nutrition quackery, magic bullets and weight loss strategies. Students will further expand their knowledge and skills in the field of nutrition and develop critical thinking skills as they investigate the many myths and facts in nutrition. Students will be expected to develop and participate in various nutrition presentations and projects. (Offered in odd-numbered years.)

Location(s): Alfred

DFN*4230 Operations Management and Quality Systems W (3-0) [0.50]

This course will explore operations management and quality control systems withing a broad range of food manufacturing sectors. The student will learn to apply a systematic approach to problem solving and diagnostics for improving production processes. Students will discuss quality systems, government regulations and global industy programs and standards. The responsibilities of the Quality Control Department will be explored, as well as auditing and third party certification. (First offering - Winter 2015)

Prerequisite(s): 8.0 credits
Location(s): Kemptville

DFN*4270 New Product Process W (2-3) [0.50]

Students will learn the theoretical and practical skills of developing a new product or recipe, taking it from idea to bench top trial. Procedures for quality assurance in food production including evaluating products against quality standards, conducting taste panels and implementing client feedback will be followed. Students will explore the inter-relationship between consumer behaviour, marketing and product development. (First offering - Winter 2015)

Prerequisite(s): DFN*1010
Restriction(s): DFN*4110
Location(s): Kemptville

DFN*4310 Food Business Venture W (3-0) [0.50]

In this course students will undertake a comprehensive study to develop a business plan for a new venture or develop a long term management plan for an existing equine operation. Drawing upon knowledge and skills gained from pervious courses, students will complete and present a formal business report. (First offering - Winter 2015)

Prerequisite(s): DFN*2020
Location(s): Kemptville

DFN*4400 Clinical Nutrition W (10-0) [0.50]

This course describes the impact of nutrition in health, illnesses and chronic diseases. Students will develop nutritional plans that address medical conditions. (Offered in even-numbered years.)

Prerequisite(s): DFN*2010
Restriction(s): DFN*3030 , DFN*4010
Location(s): Kemptville

DFN*4500 Industry Internship II W (1-0) [0.50]

This course is an industy internship provides students with an opportunity to develop hands-on work experience and exposure in a food processing environment. The focus of this field education is to gain supervisory experience in quality assurance and safety. the internship is (160-200) hours and begins immediately following semester 4. There is a required concurrent integrated online discussion included in this internship. A pass/fail grade is assigned at the end of the course. (First offering - Winter 2015)

Prerequisite(s): DFN*2500
Co-requisite(s): DFN*4230
Location(s): Kemptville

Horticulture

DHRT*1000 Landscape Management F (2-3) [0.50]

The use of hand tools, power machinery, and traditional and contemporary methods in the on-going maintenance of landscape installations will be presented, along with proper equipment operation and safety.

Location(s): Ridgetown

DHRT*1050 Plant Identification I F (2-3) [0.50]

This course provides an introduction to the identification of common landscape plants. Students will learn to identify plants by sight through recognition of subtle differences. Botanical names will be taught. Growing requirements, physical features, ornamental characteristics and potential landscape uses will be discussed.

Location(s): Ridgetown

DHRT*2000 Greenhouse Management F,W (3-2) [0.50]

Students will learn the basics of greenhouse design and use. Topics such as structures, ventilation, heating, supplemental lighting, relative humidity, irrigation, fertility management and CO2 enrichment will be included. Management and cultural principles of commercial production of various horticultural crops in greenhouses will be used to illustrate management strategies.

Prerequisite(s): DAGR*1200
Location(s): Alfred (Offered even-numbered years), Ridgetown

DHRT*2050 Ecological Principles of Managed Landscapes W (3-2) [0.50]

This course focuses on ecological interactions in various situations related to horticulture and the environment - managed landscapes, greenhouses, nurseries. The adaptations of plants to specific environmental conditions and their ecological interrelatedness with other species, life histories, metapopulations and how these influence community structure. Students will acquire skills to produce native plant species in the greenhouse.

Location(s): Ridgetown

DHRT*2090 Introduction to Landscape Construction W (2-3) [0.50]

This course will examine materials and combinations of materials commonly used in landscape structures. Construction methods and common practices for a variety of landscape projects will be described and demonstrated. Use of the survey level and rod for taking elevations and for projects layout will be demonstrated. Information given will be suitable for taking pertinent Certified Horticultural Technician examinations. (Also offered through distance education format.)

Co-requisite(s): DAGR*2100
Restriction(s): Intended for Horticulture Diploma students.

DHRT*2100 Landscape Design I W (2-4) [0.50]

Students will study the principles of landscape design and learn how to integrate different design styles, different types of landscape materials, structures and plants to create an attractive residential living environment. Students will learn how to identify the design requirements of a site, choose appropriate plants or structures, arrange landscape components and draw a plan of the proposed layout. Introductory drafting techniques will be practised.

Prerequisite(s): DHRT*1050
Location(s): Ridgetown

DHRT*2200 Plant Propagation W (2-2) [0.50]

This course covers the principles and practices of propagation for horticultural plants. Sexual (seed) propagation to include seed maturation, dormancy and seed germination; vegetative (asexual) propagation, including division, layering, budding, grafting and tissue culture are also discussed.

Prerequisite(s): DAGR*1200
Location(s): Alfred (Offered odd-numbered years only.), Ridgetown

DHRT*2250 Horticultural Equipment Management W (2-3) [0.50]

This course examines common equipment used for horticultural practices. The student will develop the skills and knowledge to be able to maintain, adjust and repair equipment used in horticulture. A focus on shop practices and use of shop tools will be covered. This course will emphasize safety in all aspects of operation and use of equipment.

Location(s): Ridgetown

DHRT*3010 Fruit and Vegetable Production F,W (4-0) [0.50]

Students in this course will develop a general understanding of fruit and vegetable production.

Location(s): Alfred (Offered odd-numbered years only.)

DHRT*3050 Plant Identification II F (2-3) [0.50]

This is an advanced course continuing the identification of landscape plants. Growing requirements, physical approximate size at maturity and ornamental characteristics will be discussed for each plant. Less common taxa and additional cultivars will be highlighted.

Prerequisite(s): DHRT*1050
Location(s): Ridgetown

DHRT*3100 Landscape Design II F,W (2-4) [0.50]

Students will learn how to read landscape plans and blueprints, and interpret them for layout, costing, estimating, and installation. Landscape planning for parks, golf courses, commercial, institutional and industrial sites will be examined.

Prerequisite(s): DHRT*2100
Location(s): Ridgetown

DHRT*3120 Applied Landscape Construction F (1-4) [0.50]

This course provides training and practice in applied landscape construction techniques and safe work habits. Structures such as walls, paved areas, fences, lighting, water features and planting areas will be laid out and installed. Construction practices including base preparation, installation, backfilling and completion/finishing will be explored under supervision of trained landscape design-build experts. Skills will be evaluated at the Certified Horticultural Technician (CHT) level.

Prerequisite(s): DHRT*2090
Restriction(s): Intended for Horticulture Diploma students.
Location(s): Ridgetown

DHRT*3150 Nursery Management F (2-3) [0.50]

The course covers the setup and organization of a horticultural nursery and the methods of production for field and container-grown landscape nursery stock including cultural management and merchandising in wholesale and retail operations.

Prerequisite(s): DHRT*2200
Location(s): Ridgetown

DHRT*3170 Horticultural Weed Science F (3-0) [0.50]

Identification of common weeds in horticulture, methods of weed control, herbicide mode of action and basis of selectivity are the primary areas included in this course.

Prerequisite(s): DAGR*1200
Location(s): Ridgetown

DHRT*3230 Soil and Water Use in Horticulture F (3-2) [0.50]

This course examines the role of landscape horticulture and nursery production on soil processes and water resources. The course will examine the effect of various landscape and production practices on soil transformations, as well as best management practices to conserve soil and water in landscapes, commercial nurseries, sod farms and on golf courses. In the landscape, other soil and water conservation techniques including plant selection, xeriscaping, scree gardening, the use of ground covers, and dry shade gardening will be covered. The student will also be introduced to various aspects of the hydrologic cycle: groundwater recharge and discharge, surface water movement and storage, water supply systems, water use and quality, and land drainage in the context of designing landscapes and production systems to reduce water use.

Prerequisite(s): DAGR*1300
Location(s): Ridgetown

DHRT*3300 Greenhouse Ornamental Production F,W (3-2) [0.50]

Production practices of selected greenhouse ornamental crops, pot crops and cut flower crops will be demonstrated.

Prerequisite(s): DHRT*2000, DHRT*2200
Location(s): Ridgetown

DHRT*3510 Experiential Learning in Horticulture S,F,W [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
Restriction(s): DAGR*3510, DFN*3510, Rregistration in the Diploma Program in Horticulture.
Location(s): Ridgetown

DHRT*3910 Special Study Project S,F,W (0-0) [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): 4.00 credits
Restriction(s): DAGR*3900, DFN*3910, Registration in the Horticulture Diploma Program and written permission of the faculty supervisor.
Location(s): Ridgetown

DHRT*4000 Ornamental Plant Protection W (3-2) [0.50]

This course is a study of the biology and control of insects and diseases of nursery, landscape, turfgrass and greenhouse crops. Approaches to integrated pest management are incorporated into control methods.

Prerequisite(s): DAGR*1200, DHRT*1050
Location(s): Ridgetown

DHRT*4010 Floral Design and Retailing W (0-4) [0.50]

The basic requirements of a floral designer will be studied, including the principles and elements of design, colour theory, design styles and techniques, in-shop procedures and sales skills. There will be opportunity to practise arranging both fresh and permanent flowers. Proper care, handling and display of fresh-cut flowers as well as foliage and flowering plants are also included in this course.

Prerequisite(s): DAGR*2010
Location(s): Ridgetown

DHRT*4050 Certification and Safety F (3-2) [0.50]

Students will learn the necessary information required to write examinations which are a legal requirement for anyone wishing to apply or sell pesticide products in Ontario. For interested students, licensing exams can be arranged with licensing authorities upon payment of relevant fees. Students will be introduced to federal and provincial legislation governing worker health and safety in the workplace. In particular WHMIS, risk analysis, poisoning, First Aid, labeling and storage & disposal are covered.

Prerequisite(s): DAGR*1600
Location(s): Ridgetown

DHRT*4100 Computer Assisted Design F,W (2-4) [0.50]

Landscape designs and visualizations will be prepared with computer technology, using residential landscape projects. Drafting, design, visualization or modeling software will be taught and used to create plans, views, pictures and/or models.

Prerequisite(s): DAGR*1200, DAGR*1090, DHRT*1050, DHRT*2100
Location(s): Ridgetown

DHRT*4150 Landscape Construction Project W (2-3) [0.50]

Students will develop the capacity to develop a typical landscape construction structure and project installation through the preparation of working document and specification information. Codes, bylaws, and regulations governing the landscape construction segment of the horticulture industry will be discussed. Real-life scenarios - client wish lists, suitable sites, project requests - will be used to develop the skills and capabilities to outline typical landscape construction projects, including walls, decks, patios, fences and screens, water features, lighting, irrigation, and drainage.

Prerequisite(s): DHRT*2090, DHRT*3120
Restriction(s): Enrolment in the Horticulture Diploma program.
Location(s): Ridgetown

DHRT*4170 Advanced CAD (Computer Assisted Design Graphics) W (1-4) [0.50]

Students will develop advanced skills in CAD operations and in combinations of computer and hand rendering techniques. Real-life projects will be incorporated into the course,with client requirements used as base criteria for design development. Styles, principles, and elements of design learned in previous courses will be applied through CAD to the efficient creation of accurate and complete landscape plans and drawings. The development of job-ready skills for use in the small design office will be augmented by design alternative and computerized cost estimation comparisons.

Prerequisite(s): DHRT*2100, DHRT*3100, DHRT*4100
Restriction(s): Enrolment in the Horticulture Diploma program.
Location(s): Ridgetown

DHRT*4190 Greenhouse Vegetable Production W (3-2) [0.50]

This course covers production practices for major and some minor greenhouse vegetable crops. Students will apply management techniques to greenhouse vegetable production including fertility, production systems unique to vegetable production, insect and disease control, advanced computer controls of the environment and irrigation techniques.

Prerequisite(s): DHRT*2000
Location(s): Alfred (Offered in odd-numbered years), Ridgetown

DHRT*4300 Arboriculture W (2-3) [0.50]

This course will provide students with the opportunities to learn both the principles and the skills necessary to manage and care for trees in the landscape. Case studies will be used to help students develop the skills necessary to assess tree problems.

Prerequisite(s): DHRT*3050
Location(s): Ridgetown

DHRT*4310 Tree Care Techniques W (1-4) [0.50]

This practical course is designed to lead students through the ISA Tree Climber's Guide, and to help develop knowledge, skills, and techniques in preparing for the ISA Certified Tree Worker/Climber Specialist exam. This course is designed for students who would like to gain more experience working in trees.

Prerequisite(s): DHRT*4300
Location(s): Ridgetown

Turfgrass Management

DTM*1000 The Turf Industry F (1-4) [0.50]

An introduction to the many disciplines within the turfgrass industry including economic and social importance as well as interactions among the industry sectors and society.

Location(s): Guelph

DTM*1100 Plant Biology F (3-2) [0.50]

This course covers the structure, function, growth, development and reproduction of turfgrass and landscape plants as they relate to management in the urban environment.

Restriction(s): Enrolment in the Associate Diploma in Turfgrass Management program
Location(s): Guelph

DTM*1200 Turf Equipment F (2-3) [0.50]

A course dealing with aspects of gasoline, diesel, mechanical, electrical and hydraulic power used for turf construction and maintenance machinery, emphasizing selection, maintenance, operation, safety and training related to machinery.

Location(s): Guelph

DTM*1300 Turf Soil Principles F (3-2) [0.50]

A study of the basic concepts of all aspects of naturally occurring and constructed soils including physical, chemical, biological and hydrologic properties and their relationship to the use and management of soil materials for turfgrass and landscape plant growth.

Location(s): Guelph

DTM*1400 Landscape Plants F (2-3) [0.50]

A study of the recognition, identification, naming, physical features and cultural adaptation of both native and introduced woody and herbaceous plants useful in cultivated landscapes.

Co-requisite(s): DTM*1100
Location(s): Guelph

DTM*1500 Turf Communication Skills F (2-3) [0.50]

This course provides the basis for developing good oral and written communication skills. Practical examples will enable students to talk and write through the simulation of real life situations in turfgrass management.

Co-requisite(s): DTM*1000, DTM*1300
Location(s): Guelph

DTM*2000 Turf Management I W (2-3) [0.50]

Using turfgrass for home lawns, industrial sites, roadsides, athletic fields, municipal sites, golf courses and reclamation of land; including the basic characteristics and primary cultural management practices of turfgrasses.

Prerequisite(s): DTM*1100, DTM*1300
Location(s): Guelph

DTM*2100 Turf Irrigation and Drainage W (2-3) [0.50]

An understanding of water management in turfgrass systems including the principles of drainage and irrigation as well as the design, installation and maintenance of drainage and irrigation systems. The responsible use of water in turf maintenance will be emphasized.

Prerequisite(s): DTM*1300
Location(s): Guelph

DTM*2200 Computers and Math for Turf W (2-3) [0.50]

An introduction to the use of the computer operating systems and software in turfgrass management applications. This course will also augment mathematics skills necessary to solve actual problems for turfgrass management operations.

Prerequisite(s): DTM*1000
Location(s): Guelph

DTM*2400 Landscape Design W (1-4) [0.50]

A study of the principles of landscape design and how to integrate different design styles, landscape materials, structures and plant material to create attractive and functional outdoor environments.

Prerequisite(s): DTM*1400
Location(s): Guelph

DTM*2500 Arboriculture W (2-3) [0.50]

A course about the culture and maintenance of trees in turfgrass related urban landscapes, providing students with both the principles and practices of tree care. Case studies will help students develop the skills necessary to diagnose tree problems.

Prerequisite(s): DTM*1100, DTM*1400
Location(s): Guelph

DTM*2600 Turf Environmental Management W (3-2) [0.50]

This course presents an overview of the many environmental issues facing professional turfgrass managers, including regulatory issues, waste management, environmental protection and monitoring, and managing the non-turf elements of the landscape.

Prerequisite(s): DTM*1000, DTM*1300
Restriction(s): DTM*4100 , enrolment in Diploma in Turfgrass Management.
Location(s): Guelph

DTM*3000 Turf Management II F (2-3) [0.50]

An intermediate level course dealing with topics in managing turfgrasses for high maintenance uses such as golf courses and sports fields, with particular emphasis on rootzone problems.

Prerequisite(s): DTM*2000, DTM*2100
Location(s): Guelph

DTM*3100 Current Turf Practices F (1-4) [0.50]

This course enables students to develop the reflective aspects of their required summer work semester as well as to study topics of current interest in turfgrass management. Students will prepare a major written report, present seminars and prepare presentations on selected topics.

Prerequisite(s): DTM*1000, DTM*2000, 4.00 credits
Location(s): Guelph

DTM*3200 Turf Diseases F (2-3) [0.50]

The biology and management of turfgrass diseases, emphasizing ecology of turfgrass diseases and cultural methods of management, as well as field recognition and diagnosis. Advances in biological and chemical control measures and their impact on turfgrass ecosystems and surrounding environments will be discussed.

Prerequisite(s): DTM*1100
Location(s): Guelph

DTM*3300 Turf Insects and Weeds F (2-3) [0.50]

The biology and management of turfgrass insects and weeds, emphasizing the ecology and cultural methods of management as well as field recognition and diagnosis. Advances in biological and chemical control measures and their impact on turfgrass ecosystems and surrounding environments will also be discussed.

Prerequisite(s): DTM*1100
Location(s): Guelph

DTM*3400 Landscape Construction F (1-4) [0.50]

A study of the physical properties and uses of landscape construction materials plus the implications of materials and construction techniques as related to the design of landscape projects applicable to the golf course setting.

Location(s): Guelph

DTM*3800 Special Study Project I S,F,W (0-0) [0.50]

A self-directed student project focussing 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, and/or a hands-on assignment with specific learning objectives and milestones for achieving these objectives.

Prerequisite(s): 4.00 credits
Equate(s): DHRT*3910
Restriction(s): Enrolment in the Associate Diploma in Turfgrass Management program.
Location(s): Guelph

DTM*4000 Turf Management III W (2-3) [0.50]

An advanced course dealing with topics of managing turfgrasses for high maintenance uses such as golf courses and sports fields, with particular emphasis on abiotic and biotic stresses.

Prerequisite(s): DTM*3000, DTM*3200, DTM*3300
Location(s): Guelph

DTM*4200 Golf Course Design and Construction W (1-4) [0.50]

This course is an introduction to both golf course design and construction techniques, emphasizing aesthetics while retaining sense of challenge to the player and adhering to requirements of regulatory bodies.

Prerequisite(s): DTM*2400, DTM*3400
Location(s): Guelph

DTM*4300 Turf Case Studies W (2-3) [0.50]

Case studies and discussion considering integrated management of selected turfgrass sites emphasizing problem analysis, principle application, and decision making.

Prerequisite(s): DTM*3000, DTM*3200, DTM*3300
Co-requisite(s): DTM*4000
Location(s): Guelph

DTM*4400 Human Resources Management W (3-2) [0.50]

This course exposes students to the basic principles of human resource management, such as personnel planning and regulations, recruiting and hiring, supervisory skills and problem solving.

Prerequisite(s): DTM*1500
Location(s): Guelph

DTM*4500 Business and Finance for Turf W (3-2) [0.50]

This course is a study of the basic aspects of business management as it applies to turf-related enterprises. Case studies will emphasize examples from earlier work and from summer work experience. (First offering Winter 2008.)

Prerequisite(s): DTM*3000
Restriction(s): DTM*2300 , enrolment in Diploma in Turfgrass Management.
Location(s): Guelph

DTM*4600 Computer Assisted Design W (1-4) [0.50]

Landscape designs and visualizations will be prepared with computer technology using landscape and turfgrass related projects. Drafting, design, visualization or modeling software will be taught and used to create plans, views, pictures and/or models.

Prerequisite(s): DTM*1400, DTM*2200, DTM*2400
Equate(s): DTM*4100
Restriction(s): Enrolment in Diploma in Turfgrass Management.

DTM*4800 Special Study Project II W (0-0) [0.50]

This is a self-directed student project focusing on a topic of academic and/or practical interest to the students. 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, and/or a hands-on-assignment with specific learning objectives and milestones for achieving these objectives.

Prerequisite(s): 6.00 credits
Equate(s): DHRT*3910
Restriction(s): Enrolment in Diploma in Turfgrass Management
Location(s): Guelph

Veterinary Technology

DVT*1000 Livestock Production and Management F (4-0) [0.50]

This course introduces the students to food animals and horses, with an emphasis on terminology, nutrition, behaviour and housing. The food animal portion also includes common breeds, marketing, and breeding practices of various species, including sheep, poultry, dairy cattle, beef cattle and swine. The students may visit the swine, beef, and dairy herds on campus to observe the behaviour and management of various species. The equine portion of the course emphasizes the techniques, terminology and common diseases that the veterinary technician working in an equine practice would be exposed to, through the use of lectures, slides, videos and handouts. The colony horses provide hands-on experience in behaviour, handling, and restraint, as well as stable management.

Location(s): Ridgetown

DVT*1010 Anatomy and Physiology I S,F (2-2) [0.50]

This course encompasses the gross anatomy and physiology of domestic animals with special emphasis on the cat as a pet animal species. The course covers all major body systems, with emphasis on those of veterinary clinical significance.

Location(s): Ridgetown

DVT*1040 Medical Exercises I S,F (1-3) [0.50]

This is a practical introductory course with an emphasis on working with dogs, cats, laboratory animals, birds, horses, cattle, sheep and pigs. Animal care and bathing are assigned to students on a rotating basis. Basic restraint, examination, medication and bandaging are discussed and practised. Injection and venipuncture techniques are introduced.

Location(s): Ridgetown

DVT*1070 Laboratory Techniques S,F (4-4) [0.50]

This first semester course consists of modules in microbiology and haematology. The microbiology module is an introduction to theoretical and practical aspects of microbiology. Topics include the study of microorganisms with emphasis on their morphology, physiology, biochemistry, culture and identification. The operation of the light microscope and laboratory safety are discussed. The haematology portion will introduce the veterinary technology student to the basic theoretical and practical aspects of canine and feline blood. Practical sampling techniques, handling and processing of samples, and cell identification will be covered. The performance, assessment and evaluation of common veterinary clinical procedures will be emphasized. Haematology mathematical calculations will also be covered.

Restriction(s): DVT*1020 ,
Location(s): Ridgetown

DVT*1080 Laboratory Quality Assurance S,F (3-2) [0.50]

This course introduces students to quality control and the mathematical calculations required in a laboratory environment. The quality control module is an introduction to basic clinical chemistry principles, common laboratory equipment safety, quality controls, mathematical calculations, and proper analytical techniques. The mathematical module introduces the veterinary technology student to the basic mathematical concepts and skills necessary to efficiently function in a clinical laboratory environment. Basic mathematical manipulations and calculations performed without the use of calculators are encouraged. Various mathematical calculations required to perform laboratory measurements are discussed and practiced.

Location(s): Ridgetown

DVT*1090 Pharmacology & Medical Terminology F (3-0) [0.50]

This course comprises a study of pharmacological terminology; basic mechanisms of absorption, distribution, metabolism, excretion and actions of drugs; legal aspects of pharmacology; and a discussion of drug classes commonly used in veterinary medicine. This course is also comprised of medical terminology and its common use in veterinary medicine. (Also offered through Distance Education)

Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*1100 Large Animal Production and Management I F (0-0) [0.25]

This course introduces the students to sheep, poultry and horses, with an emphasis on terminology, nutrition, behaviour and housing. This course also includes common breeds, marketing, and breeding practices of various species. The equine portion of the course emphasizes the techniques, terminology and common diseases that the veterinary technician working in an equine practice would be exposed to. (Offered through distance education format only)

Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*1200 Intro to Animal Microbiology W (0-0) [0.25]

This course is designed to introduce the Veterinary Technology student to the theoretical and practical aspects of microbiology. Topics include the study of microorganisms with emphasis on their morphology, physiology, biochemistry, culture and identification. Their importance in the Veterinary practice are introduced. Disinfection and sterilization methods are studied as they relate to the handling of micro-organisms, and health related topics associated with them. (Offered through distance education format only)

Prerequisite(s): DVT*1090, DVT*1100
Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*1210 Introduction to Urinalysis Theory W (0-0) [0.25]

This course is designed to introduce students to the theoretical basis involved in modern urinalysis. Exploring the collection of, physical characteristics of, diagnostic testing and relevant sediment evaluation of urine will be covered. The prevention and dietary management of urolithiasis is also investigated. (Offered through distance education format only)

Prerequisite(s): DVT*1090, DVT*1100
Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*1220 Canine and Feline Nutrition & Care W (0-0) [0.25]

This course offers the Veterinary Technology student the information required to understand small animal husbandry. Through lectures, practical information is gained into the companion animal's nutritional needs and preventative health care. The emphasis in this course is the prevention of health problems in companion animals. (Offered through distance education format only)

Prerequisite(s): DVT*1090, DVT*1100
Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*1300 Large Animal Production and Management II S (3-0) [0.25]

This course introduces the students to food animals such as beef, dairy and swine with an emphasis on terminology, nutrition, behaviour and housing. The food animal portion also includes common breeds, marketing, and breeding practices of various species. The students may visit the swine, beef, and dairy herds on campus. By doing so the students will be able to observe the behaviour and management of various species. (Not offered through distance education format.)

Prerequisite(s): DVT*1200, DVT*1210, DVT*1220
Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*1310 Laboratory Procedures S (3-4) [0.25]

This course consists of modules in microbiology and hematology. The microbiology module is an introduction to theoretical and practical aspects of microbiology. Topics include the study of microorganisms with emphasis on their morphology, physiology, biochemistry, culture and identification. The operation of the light microscope and laboratory safety are discussed. The hematology portion will introduce the veterinary technology student to the basic theoretical and practical aspects of canine and feline blood. Practical sampling techniques, handling and processing of samples, and cell identification will be covered. The performance, assessment and evaluation of common veterinary clinical procedures will be emphasized. Hematology mathematical calculations will also be covered. (Not offered through distance education format)

Prerequisite(s): DVT*1200, DVT*1210, DVT*1220
Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*1320 Practical Applications to Urinalysis S (1-4) [0.25]

This course is designed to continue the theoretical knowledge learned and utilize this to practical techniques involved in modern veterinary urinalysis. Exploring the collection of, physical characteristics of, diagnostic testing and microscopic identification of urine sediment. (Offered through distance education format only)

Prerequisite(s): DVT*1200, DVT*1210, DVT*1220
Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*1330 Companion Animal Behaviour S (2-0) [0.25]

The animal behaviour course focuses on the normal behaviour of small animals. The course outlines in detail the developmental stages of behaviour as well as why and how animals learn. Animal genetics, innate responses and how the environment can alter their behaviour will be discussed. Communication, social behaviour, reproductive behaviour and the learning process is covered in each species. Problems with social behaviour which includes aggression in dogs and cats is also discussed. Fears, phobias, anxiety, stereotypes and obsessive compulsive disorders are evaluated on cause, prevention and solutions of these common problems.

Prerequisite(s): DVT*1200, DVT*1210, DVT*1220
Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*2000 Companion Animal Management W (5-0) [0.50]

This course offers the veterinary technician student the information required to understand small animal husbandry. Through lectures, practical information is gained into the companion animal's nutritional needs, behaviour patterns and preventative health care. They learn what is normal and abnormal behaviour and how to advise clients on applying proper training techniques. The emphasis in this course is the prevention of health problems in companion animals.

Location(s): Ridgetown

DVT*2010 Anatomy and Physiology II W (4-2) [0.50]

A continuation of DVT*1010, the course covers the structure and functions of select major body systems with emphasis on the lymphatic system and its importance in preventing and/or overcoming disease. Disease transmission, development and serological diagnosis will be discussed.

Prerequisite(s): DVT*1010
Location(s): Ridgetown

DVT*2020 Haematology/Cytology S,W (2-4) [0.50]

This course expands upon the information introduced in DVT*1070. The veterinary technology student will study basic theoretical and practical aspects of feline, equine and bovine blood. Blood cell precursors will be studied and corrected counts will be included. Alterations of RBCs and WBCs will be covered. The performance, assessment and evaluation of common veterinary clinical procedures are emphasized. Haematological mathematical calculations will also be covered, as well as a section on cytology

Prerequisite(s): DVT*1070 or (DVT*2200, DVT*2210)
Location(s): Ridgetown

DVT*2040 Medical Exercises II S,W (2-3) [0.50]

This is a practical introduction to venipuncture, IV catherization, anaesthesia and aseptic surgical techniques, restraint in laboratory animals and birds and the performance of fluid therapy and drug dose calculations.

Prerequisite(s): DVT*1040
Location(s): Ridgetown

DVT*2050 Urinalysis W (1-2) [0.50]

This is a theoretical and practical course which emphasizes the macroscopic, chemical and microscopic characteristics of urine, along with the concepts of urinary diagnostic testing. The prevention and dietary treatment of urolithiasis is explored.

Location(s): Ridgetown

DVT*2060 Communications & Vet Software W (2-2) [0.50]

Issues dealing with communication between the veterinary technician and clients, co-workers and the employer/ veterinarian are explored using communication theory and skills. Application of theories are demonstrated through discussions and class exercises. Hands-on labs introduce the use of computers in the veterinary clinic using current veterinary clinic software programs.

Location(s): Ridgetown

DVT*2100 Veterinary Nursing Techniques I F (0-0) [0.25]

This course is concerned with practical animal nursing relative to the basic needs of the animal. Students learn about general patient management, including the importance of history taking, medical records, the physical exam, patient handling, hospital safety, and fluid therapy. Students learn how to care for healthy large and small animals, maintain a hospital area, and nurse sick and injured animals. (Offered through distance education format only)

Prerequisite(s): 4.50 credits
Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*2200 Introduction to Immunobiology W (0-0) [0.25]

This course covers the structure and function of the lymphatic system and its importance in preventing and/or overcoming disease. Disease transmission, development, and serological diagnosis will be discussed. (Offered through distance education format only)

Prerequisite(s): DVT*2100
Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*2210 Introduction to Anesthetic Principles F,W (2-0) [0.25]

This course introduces the practical and theoretical aspects of anesthetic techniques in animals. Emphasis is on the principles of general anesthesia using gas anesthetic machines. Also discussed are sedation, general anesthesia using injectable agents, and local analgesia. Students will utilize this knowledge during the laboratory sessions of Surgical Exercises. (Offered through distance education format only)

Prerequisite(s): 4.50 credits
Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*2300 Veterinary Anatomy and Physiology S (2-2) [0.25]

A continuation of DVT*1010, the course encompasses the structure and functions of select major body systems of domestic animals, with emphasis on the cat as a pet animal species. This course covers the following major body systems of significance in veterinary clinical medicine: cardiovascular, digestive, respiratory, reproductive, nervous, and special senses. (Not offered through distance education format.)

Prerequisite(s): DVT*2200, DVT*2210
Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*2310 Veterinary Nursing Techniques II S (1-3) [0.25]

This course incorporates kennel and barn duties and general care and feeding of the colony animals including cats, dogs, rodents, birds and horses. It is meant to introduce the students to the running of a veterinary clinic. Students are supervised and evaluated on all aspects of animal care which fall under this broad topic. As well, they collect samples, treat sick and injured animals in the colony on an as required basis. Specific nursing techniques are introduced in a more formal way. (Not offered through distance education format.)

Prerequisite(s): DVT*2200, DVT*2210
Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*2320 Surgical Exercises S (1-3) [0.25]

This course deals with the practical and theoretical aspects of anaesthetic and surgical techniques in animals. The anesthesia part of the course builds on the knowledge aquired in Introduction to Anesthetic Principles. Each laboratory session is also preceded by a lecture in which the students learn about the rationale behind and possible complications with each surgery, thus enabling them to be involved in client education. During the laboratory sessions, the students work in small groups, rotating within these groups, becoming proficient in anaesthesia, surgical assistance, instrument handling, surgical nursing, and post-operative care. (Not offered through distance education format.)

Prerequisite(s): DVT*2200, DVT*2210
Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*2330 Clinical Chemistry S (2-3) [0.25]

This course emphasizes and familiarizes students with practical laboratory techniques utilized routinely in veterinary practice. The course will cover topics ranging from proper sample collecting to organ function. We will include chemistry, haemotology and cytology in the discussion and during laboratory sessions.

Prerequisite(s): DVT*2200, DVT*2210
Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*3000 Laboratory Animal Science S,F (3-0) [0.50]

This course familiarizes the students with scientific research involving animals, as well as issues in veterinary ethics. Topics include the role of the veterinary technician in research, regulations governing the use of animals in research, basic steps required to conduct a research project, how various animal species are used in research, assessment of animal health and welfare during a research procedure, and the care and common diseases of research animals. Through the preparation and presentation of seminars, students are encouraged to examine various aspects of veterinary ethics.

Location(s): Ridgetown

DVT*3010 Animal Nursing I F (2-3) [0.50]

This course is concerned with practical animal nursing relative to the basic needs of the animal. Students learn about general patient management, including the importance of history taking, medical records, the physical exam, patient handling, fluid therapy and hospital care/safety. Common diseases and conditions are also discussed. Students are required to care for healthy large and small animals, and maintain a hospital area. Students may also visit small, large, equine and referral practices to observe and participate in the practical aspects of veterinary technology.

Location(s): Ridgetown

DVT*3020 Diagnostic Techniques I F (4-4) [0.50]

This course emphasizes practical laboratory techniques utilized routinely in veterinary practice. The course consists of modules in clinical chemistry and parasitology covering parasitology, haematology, cytology and chemistry. The parasitology portion of the course familiarizes the student with the host-parasite relationship for the common parasites of veterinary significance in Canada. Topics of discussion for the various parasites will include: campus location in the host, methods of infection, development and behaviour, clinical signs of disease, diagnoses and potential human health hazards. Various laboratory tests used in the diagnosis of animal parasites are studied/performed in the laboratory periods.

Location(s): Ridgetown

DVT*3030 Radiography I S,F (3-3) [0.50]

This is a lecture and laboratory course dealing with practical and theoretical aspects of radiography in animals. The lecture portion of this course outlines radiation safety, positioning, radiographic equipment, production of radiation, intensifying screens, films, grids, processing, contrast medias, preparing technique charts and trouble shooting. Each laboratory session is preceded by a prelab lecture which will introduce the laboratory topic and walk through case scenarios to cover any problems that may be incurred. During the laboratory sessions, the students work in small groups learning proper positioning, processing both manually and automatically, two contrast studies and various special imaging techniques.

Location(s): Ridgetown

DVT*3050 Surgical and Anaesthetic Principles I F (3-3) [0.50]

This course deals with the practical and theoretical aspects of anaesthetic and surgical techniques in animals. The lecture portion of the course introduces the students to various anaesthetic agents and techniques, as well as the principles of asepsis, the importance of monitoring and the correct response to anaesthetic emergencies. Each laboratory session is also preceded by a lecture in which the students learn about the rationale behind and possible complications with each surgery, thus enabling them to be involved in client education. During the laboratory sessions, the students work in small groups, rotating within these groups, becoming proficient in anaesthesia, surgical assistance, instrumental handling, surgical nursing and post-operative care.

Location(s): Ridgetown

DVT*3060 Genetics F (3-0) [0.50]

This course provides a basic understanding of the principles of protein synthesis, DNA replication, heritability, selective breeding, and recombinant DNA, vaccine production, and new techniques in genetic engineering, as well discussions surrounding ethical issues concerning recent genetic research.

Prerequisite(s): 6.00 credits
Restriction(s): DVT*1030 , Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*3200 Public Health W (0-0) [0.25]

This course is designed to introduce the veterinary technology student to the interrelation of animal and human health. Meat inspection programs are discussed with emphasis on humane slaughter, environmental sanitation,ante mortem and post mortem examination, condemned meats, animal by-products and meat labeling. As well, epidemiology, zoonoses, water sanitation, microbiology of food and meat hygiene are addressed. Simple statistics that measure health and disease are also considered. (Offered through distance education format only)

Prerequisite(s): DVT*1090 or DVT*3040
Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*3210 Veterinary Nursing Techniques III W (0-0) [0.25]

This course is concerned with practical animal nursing relative to the basic needs of the animal. Students learn about general patient management, including the importance of history taking, medical records, the physical exam, patient handling, hospital safety, and fluid therapy. Students learn how to care for healthy large and small animals, maintain a hospital area, and nurse sick and injured animals. (Offered through distance education format only)

Prerequisite(s): DVT*1090 or DVT*3040
Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*3300 Veterinary Nursing Techniques IV S (1-3) [0.25]

This course incorporates kennel and barn duties and general care and feeding of the colony animals including cats, dogs, rodents, birds and horses. It will expand upon the running of a veterinary clinic as introduced in DVT*2310. Additional animal nursing techniques are introduced in a more formal way. (Not offered through distance education format.)

Prerequisite(s): DVT*3200, DVT*3210
Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*3320 Veterinary Parasitology S (2-2) [0.25]

This course emphasizes and familiarizes students with practical laboratory techniques utilized routinely in veterinary practice in respect to common internal and external parasites found on small animals and food producing animals of veterinary significance in Canada. Topics of discussion for the various parasites will include: location in the host, methods of infection, development and behaviour, clinical signs of disease, prevention, diagnoses and potential human health hazards. Various laboratory tests used on various species specimens in the diagnosis of animal parasites are studied/performed in laboratory periods. (Not offered through distance education format.)

Prerequisite(s): DVT*3200, DVT*3210
Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*3330 Veterinary Clinic Management S (2-3) [0.25]

This course is designed to familiarize students with the basic skills and procedures used in the management of veterinary hospitals, with emphasis on small animal facilities. The lecture portion of the course delves into the role of the practice manager regarding: hospital safety; personnel & client management; basic bookkeeping and marketing strategies. The laboratory portion is intended to provide the student with practical experience in inventory control, purchasing and receiving of drugs, supplies and equipment pertinent to the sound financial operation of a modern veterinary practice. (Not offered through distance education format.)

Prerequisite(s): DVT*3200, DVT*3210
Restriction(s): Registration in the Associate Diploma in Veterinary Technology program
Location(s): Ridgetown

DVT*4000 Dentistry S,W (1-3) [0.50]

This course introduces the fundamentals of small animal oral health, including the anatomy and physiology of the tooth and surrounding structures, and the disease processes which can occur. The emphasis is on the prevention of oral disease. Through the use of models and live patients, the student is introduced to the proper techniques involved in performing a complete dental prophylaxis and is given the information needed to enable them to counsel clients on appropriate preventative home care.

Location(s): Ridgetown

DVT*4010 Animal Nursing II W (2-3) [0.50]

A continuation of DVT*3010, concerned with practical animal nursing relative to basic needs of the animal. Students learn about general patient management, including the importance of history-making, medical records, the physical exam, patient handling, fluid therapy and hospital care. Common diseases and conditions are also discussed. Students are required to care for healthy large and small animals and maintain a hospital area. Students may visit small, large, equine and referral practices to observe and participate in the practical aspects of veterinary technology.

Prerequisite(s): DVT*3010
Location(s): Ridgetown

DVT*4020 Diagnostic Techniques II S,W (1-3) [0.50]

This course emphasizes practical laboratory techniques routinely in veterinary practice. The material acquired in the introductory courses in laboratory techniques is expanded upon, particularly in the areas of bacteriology, haematology, cytology and mycology. Both large and small animal samples are utilized in order to prepare students to work in small, large or mixed animal practices.

Prerequisite(s): DVT*3020 or DVT*3200, DVT*3210
Location(s): Ridgetown

DVT*4030 Radiography II S,W (1-3) [0.50]

This course is a lecture and laboratory course dealing with practical application of all aspects of radiography in animals (a continuation of DVT*3030). Emphasis of this course is on proper positioning, using mechanical restraint, in order to obtain a quality radiograph. Subject material covered in the lecture course is applied here. In addition to routine radiography, topics include: trouble shooting, use of contrast media, safelight testing, dental radiography methods, maintenance of processing equipment and development of a radiographic technique chart.

Prerequisite(s): DVT*3030
Location(s): Ridgetown

DVT*4040 Hospital Management W (3-1) [0.50]

This course is designed to familiarize students with the basic skills and procedures used in the management of animal hospitals, with emphasis on small animal facilities. Topics included within this course are personnel management, client relations, marketing strategies, inventory control, public health issues, and financial management.

Location(s): Ridgetown

DVT*4050 Surgical and Anaesthetic Principles II S,W (1-3) [0.50]

This lecture and laboratory course builds on the skills and knowledge acquired during DVT*3050 or DVT*2210 and DVT*2320. The lecture portion gives background information on the anatomy, patient complications for each surgery, as well as the requirements for client education. Supplementary surgical lectures provide information about other small and large animal surgeries commonly performed in clinical practice.

Prerequisite(s): (DVT*3050 or DVT*2210), DVT*2320
Location(s): Ridgetown

DVT*4060 Externship S,W [0.00]

The Externship is a four week, 160 hour training and evaluation period in which senior students in their last semester enter veterinary practices away from the Ridgetown Campus. The location must be one in which they have not worked or volunteered previously. Students are required to perform many of the duties that are commonly performed by graduate technicians, and are assessed by veterinarians or graduate technicians in the work setting. Students are required to keep a journal, as well as a check list of the skills they are performing. At the completion of their externship, they will complete a report on their practice location. They will also be assessed by the practice. If the externship is not completed satisfactorily, it will have to be successfully repeated before the student can graduate. **A pass/fail grade will be assigned upon completion of the course.**

Prerequisite(s): Registration in DVT with 9.0 credits or DVTA program with 8.75 credits
Location(s): Ridgetown