

2019-2020 Undergraduate Calendar

The information published in this Undergraduate Calendar outlines the rules, regulations, curricula, programs and fees for the 2019-2020 academic year, including the Summer Semester 2019, the Fall Semester 2019 and the Winter Semester 2020.

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

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

The University is a full member of:

- Universities Canada

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Disclaimer

University of Guelph 2019

The information published in this Undergraduate Calendar outlines the rules, regulations, curricula, programs and fees for the 2019-2020 academic year, including the Summer Semester 2019, the Fall Semester 2019 and the Winter Semester 2020.

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, public health emergencies, 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: Enrolment 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 Registrar Services Departmental Policy on the Release of Student Information. For details on the use and disclosure of this information call the Office of Registrar Services at the University at (519) 824-4120 or see <http://www.uoguelph.ca/registrar/registrar/index.cfm?index>.

Disclosure of Personal Information to the Ontario Ministry of Training, Colleges and Universities

The University of Guelph is required to disclose personal information such as characteristics and educational outcomes to the Minister of Training, Colleges and Universities under s. 15 of the Ministry of Training, Colleges and Universities Act, R.S.O. 1990, Chapter M.19, as amended. The Ministry collects this data for purposes including but not limited to planning, allocating and administering public funding to colleges, universities and other post-secondary educational and training institutions.

Amendments made to the Ministry of Training, Colleges and Universities Act, authorizing the collection and use of personal information from colleges and universities by the Minister which were set out in Schedule 5 of the Childcare Modernization Act, 2014, came into force on March 31, 2015.

The amendments strengthen the ability of the Minister to directly or indirectly collect and use personal information about students as required to conduct research and analysis, including longitudinal studies, and statistical activities conducted by or on behalf of the Ministry for purposes that relate to post-secondary education and training, including,

- i. understanding the transition of students from secondary school to post-secondary education and training,
- ii. understanding student participation and progress, mobility and learning and employment outcomes,
- iii. understanding linkages among universities, colleges, secondary schools and other educational and training institutions prescribed by regulation,
- iv. understanding trends in post-secondary education or training program choices made by students,
- v. understanding sources and patterns of student financial resources, including financial assistance and supports provided by government and post-secondary educational and training institutions,
- vi. planning to enhance the affordability and accessibility of post-secondary education and training and the quality and effectiveness of the post-secondary sector,
- vii. identifying conditions or barriers that inhibit student participation, progress, completion and transition to employment or future post-secondary educational or training opportunities, and
- viii. developing key performance indicators.

Information that the University is required to provide includes but is not limited to: first, middle and last name, Ontario Educational Number, citizenship, date of birth, gender, first three digits of a student's postal code, mother tongue, degree program and major(s) in which the student is enrolled, year of study and whether the student has transferred from another institution.

Further information on the collection and use of student-level enrolment-related data can be obtained from the Ministry of Training, Colleges and Universities website: <https://www.ontario.ca/page/ministry-advanced-education-and-skills-development> (English) or <https://www.ontario.ca/fr/page/ministere-de-lenseignement-superieur-et-de-la-formation-professionnelle> (French) or by writing to the Director, Postsecondary Finance and Information Management Branch, Postsecondary Education Division, 7th Floor, Mowat Block, 900 Bay Street, Toronto, ON M7A 1L2.

An update on Institutional and Ministry of Training, Colleges and Universities Act Notice of Disclosure Activities is posted at <https://www.ontario.ca/page/ministry-advanced-education-and-skills-development>

Frequently Asked Questions related to the Ministry's enrolment and OEN data activities are also posted at: <http://www.tcu.gov.on.ca/pepg/publications/NoticeOfCollection.pdf>

Authority to Disclose Personal Information to Statistics Canada

The Ministry of Training, Colleges and Universities discloses student-level enrolment-related data it collects from the colleges and universities as required by Statistics Canada in accordance with Section 13 of the Federal Statistics Act. This gives the Ministry authority to disclose personal information in accordance with s. 42(1) (e) of FIPPA

Notification of Disclosure of Personal Information to Statistics Canada

For further information, please see the Statistics Canada's web site at <http://www.statcan.ca> and Section XIV Statistics Canada.

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 Enrolment Services.

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, their 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 their 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 <https://uoguelph.civicweb.net/document/68892/ORSInfoReleasePolicy060610.pdf?handle=FF982F8A9AEA4076BE4F3D88147172B8>.

Learning Outcomes

On December 5, 2012, the University of Guelph Senate approved five University-wide Learning Outcomes as the basis from which to guide the development of undergraduate degree programs, specializations and courses:

1. Critical and Creative Thinking
2. Literacy
3. Global Understanding
4. Communicating
5. Professional and Ethical Behaviour

These learning outcomes are also intended to serve as a framework through which our educational expectations are clear to students and the broader public; and to inform the process of outcomes assessment through the quality assurance process (regular reviews) of programs and departments.

An on-line guide to the learning outcomes, links to the associated skills, and detailed rubrics designed to support the development and assessment of additional program and discipline-specific outcomes, are available for reference on the [Learning Outcomes website](#).

1. Critical and Creative Thinking

Critical and creative thinking is a concept in which one applies logical principles, after much inquiry and analysis, to solve problems with a high degree of innovation, divergent thinking and risk taking. Those mastering this outcome show evidence of integrating knowledge and applying this knowledge across disciplinary boundaries. Depth and breadth of understanding of disciplines is essential to this outcome.

In addition, **Critical and Creative Thinking** includes, but is not limited to, the following outcomes: **Inquiry and Analysis; Problem Solving; Creativity; and Depth and Breadth of Understanding.**

2. Literacy

Literacy is the ability to extract information from a variety of resources, assess the quality and validity of the material, and use it to discover new knowledge. The comfort in using quantitative literacy also exists in this definition, as does using technology effectively and developing visual literacy.

In addition, **Literacy** includes, but is not limited to, the following outcomes: **Information Literacy, Quantitative Literacy, Technological Literacy, and Visual Literacy.**

3. Global Understanding:

Global understanding encompasses the knowledge of cultural similarities and differences, the context (historical, geographical, political and environmental) from which these arise, and how they are manifest in modern society. Global understanding is exercised as civic engagement, intercultural competence and the ability to understand an academic discipline outside of the domestic context.

In addition, **Global Understanding** includes, but is not limited to, the following outcomes: **Global Understanding, Sense of Historical Development, Civic Knowledge and Engagement, and Intercultural Competence.**

4. Communicating

Communicating is the ability to interact effectively with a variety of individuals and groups, and convey information successfully in a variety of formats including oral and written communication. Communicating also comprises attentiveness and listening, as well as reading comprehension. It includes the ability to communicate and synthesize information, arguments, and analyses accurately and reliably.

In addition, **Communicating** includes, but is not limited to, the following outcomes: **Oral Communication, Written Communication, Reading Comprehension, and Integrative Communication.**

5. Professional and Ethical Behaviour

Professional and ethical behaviour requires the ability to accomplish the tasks at hand with proficient skills in teamwork and leadership, while remembering ethical reasoning behind all decisions. The ability for organizational and time management skills is essential in bringing together all aspects of managing self and others. Academic integrity is central to mastery in this outcome.

In addition, **Professional and Ethical Behaviour** includes, but is not limited to, the following outcomes: **Teamwork, Ethical Reasoning, Leadership, and Personal Organization and Time Management**

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XI. Special Study Opportunities

Certificates and Diplomas

The University offers certificate and diploma programs for those who want to develop or upgrade skills in one of these areas without necessarily proceeding towards a three- or four-year degree program. These programs may be completed on a part-time basis.

Students currently registered in a degree program or intending to transfer into a degree program, should note double-counting regulations. Up to 50% of the requirements for a degree-credit certificate/diploma may be applied toward a major, minor or area of emphasis. The remaining 50% of the certificate/diploma requirements may be applied to electives, provided the specific courses in the certificate/diploma meet degree program requirements. For more information on double-counting regulations, undergraduate students should consult with the program counsellor for the degree program they seek to complete. Note that the Certificate in Leadership is exempt from this restriction.

Students apply for a certificate after they have completed all the courses by completing a [Certificate Application Request Form](#).

For more information on the certificates, please email Open Learning and Educational Support <info@opened.uoguelph.ca>.

Certificate in Business

The Certificate in Business is designed to be beneficial to those who are not enrolled in a business program, but wish to gain knowledge of business concepts. It provides participants with opportunities to develop the professional skills essential for success in business environments. The functional areas of business are introduced in required courses. Participants may customize their learning through their choice of electives by either focusing on one particular subject area or selecting from different subject areas for more breadth. The Certificate in Business, available to both undergraduate students and open learners, is offered by the University of Guelph through the Gordon S. Lang School of Business and Economics.

Required Course

MGMT*2150 [0.50] Introduction to Canadian Business Management *

Restricted Electives

2.00 credit from:

ACCT*1220	[0.50]	Introductory Financial Accounting
ACCT*2230	[0.50]	Management Accounting
ECON*1050	[0.50]	Introductory Microeconomics
ECON*1100	[0.50]	Introductory Macroeconomics
EDRD*3140	[0.50]	Organizational Communication
ENGG*3240	[0.50]	Engineering Economics
FARE*3310	[0.50]	Operations Management
HROB*2090	[0.50]	Individuals and Groups in Organizations
HROB*2200	[0.50]	Labour Relations
MCS*1000	[0.50]	Introductory Marketing
MCS*2020	[0.50]	Information Management
MCS*2100	[0.50]	Personal Financial Management
MCS*3000	[0.50]	Advanced Marketing
POLS*3470	[0.50]	Business-Government Relations in Canada

* Note: Students registered in B.COMM. or in the minors in Business, Business Economics, or Marketing or in the BA European Studies program with an emphasis in European Business are not eligible for this Certificate.

Certificate in Civic Engagement and Global Citizenship

The value of combining a sense of self as a global citizen with the dynamic nature of civic engagement can result in a practical, informed and hopeful approach to addressing complex local and global problems shaped by different cultures, political systems and environments. The certificate in Civic Engagement and Global Citizenship aims to provide students with a critical understanding and awareness of the complexity of the world and the value of their disciplines as contributing to interdisciplinary approaches to solving problems. Students will explore how the diversity of people and privilege in the world contributes to both problems and solutions while having an opportunity to reflect upon their own place and privilege. They will develop the knowledge, skills, and values required to develop a sense of themselves as empowered citizens and community members who can undertake thoughtful, respectful and creative action for better communities at home and abroad.

The Certificate consists of 2.50 credits of coursework (1.00 in required courses and 1.50 in restricted electives) and completion of 120 hours of approved community engagement hours.

For more information, please visit: <http://www.uoguelph.ca/civic>

"Community Engagement Hours - The selection and approval process for the required 120 community engagement hours is reviewed in UNIV*2410."

Required Courses

UNIV*2410	[0.50]	Engaged Global Citizenship
UNIV*4410	[0.50]	Civic Engagement with Communities

Restricted Electives

A total of 1.50 credits of restricted electives is required including at least 0.50 credits at the 3000 or 4000 level. Students are advised to check prerequisites for their desired upper level courses and to review double-counting regulations.

While restricted electives may be chosen from any of the lists below, it is recommended to select one from each list.

Community Engagement & Politics

EDRD*3400	[0.50]	Sustainable Communities
GEOG*2030	[0.50]	Environment and Development
IDEV*3300	[0.50]	Engaging in Development Practice
POLS*2250	[0.50]	Public Administration and Governance
POLS*3320	[0.50]	Politics of Aid & Development
POLS*3160	[0.50]	Global Gender Justice
UNIV*3000	[0.50]	Civic Engagement & Service Learning

Diversity & Power:

ANTH*2660	[0.50]	Contemporary Indigenous Peoples in Canada
HIST*2930	[0.50]	Women and Cultural Change
PHIL*2120	[0.50]	Ethics
PHIL*2600	[0.50]	Business and Professional Ethics
PHIL*3450	[0.50]	Ethics in the Life Sciences
PSYC*3300	[0.50]	Psychology of Gender
SOC*2390	[0.50]	Class and Stratification
SOAN*2290	[0.50]	Identities and Cultural Diversity
SOAN*3240	[0.50]	Gender & Global Inequality I
WMST*2000	[0.50]	Women and Representation

World Issues:

FARE*1300	[0.50]	Poverty, Food & Hunger
FARE*3250	[0.50]	Food and International Development
FRHD*4210	[0.50]	Senior Seminar in Early Education and Care
GEOG*3320	[0.50]	Food Systems: Issues in Security and Sustainability
HIST*2040	[0.50]	War and Society
ENVS*2120	[0.50]	Introduction to Environmental Stewardship
MGMT*3020	[0.50]	Corporate Social Responsibility
POLS*2080	[0.50]	Development and Underdevelopment
SOC*3380	[0.50]	Society and Nature

Certificate in Communication Process: Bridging Theory and Practice

The five-course online Certificate in Communication Process sets out to enhance participants' knowledge, attitudes and skills necessary for successful careers in business, human resource management, education, medical and veterinary professions, social work, criminology, and international development.

This program focuses on facilitating knowledge-sharing through verbal and non-verbal signs and symbols, as it relates to units of different size and complexity - among individuals, groups, organizations, nations and regions of the world. By gaining insight into various communication processes, participants will be better equipped to effectively manage change in a constantly evolving environment.

The Certificate in Communication Process, available to both undergraduate students and open learners, is offered online through University of Guelph's School of Environmental Design and Rural Development, and is structured as follows:

Required Courses

EDRD*2020*DE	[0.50]	Interpersonal Communication
EDRD*3120*DE	[0.50]	Educational Communication
EDRD*3140*DE	[0.50]	Organizational Communication
EDRD*3160*DE	[0.50]	International Communication
EDRD*4120*DE	[0.50]	Leadership Development in Small Organizations

For more information, visit the website at: <http://www.communicationprocess.ca/>

Certificate in Environmental Citizenship

Developed from a social science perspective, this Certificate is beneficial to those who want to learn more about the global environmental issues facing us today and in the future. Participants gain in-depth knowledge about environmental changes, their global impact, and how one can directly contribute to the environment's sustainability. The Certificate consists of six degree-credit distance education courses taken online from the University of Guelph's School of Environmental Sciences. It is structured as follows, requiring six courses total, to include at least two at the 3000 or 4000 level:

Required Course

ENVS*2070*DE	[0.50]	Environmental Perspectives and Choice
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2 or 3 of the following:

BOT*2000*DE	[0.50]	Plants, Biology and People
ECON*1050*DE	[0.50]	Introductory Microeconomics
ECON*2100*DE	[0.50]	Economic Growth and Environmental Quality
EDRD*3500*DE	[0.50]	Recreation and Tourism Planning
ENVS*2120*DE	[0.50]	Introduction to Environmental Stewardship
GEOG*1220*DE	[0.50]	Human Impact on the Environment

HIST*2250*DE	[0.50]	Environment and History
PHIL*2070*DE	[0.50]	Philosophy of the Environment
POLS*3370*DE	[0.50]	Environmental Politics and Governance

2 or 3 of the following:

BIOL*1500*DE	[0.50]	Humans in the Natural World
BIOL*2060*DE	[0.50]	Ecology
BOT*1200*DE	[0.50]	Plants and Human Use
EDRD*3450*DE	[0.50]	Watershed Planning Practice
EDRD*4010*DE	[0.50]	Tourism Planning in the Less Developed World
ENVS*3000*DE	[0.50]	Nature Interpretation
GEOG*2210*DE	[0.50]	Environment and Resources
GEOG*3020*DE	[0.50]	Global Environmental Change
GEOG*3210*DE	[0.50]	Management of the Biophysical Environment
GEOG*3490*DE	[0.50]	Tourism and Environment

For more information, please visit the website at: <http://www.environmentalcertificates.com>.

Certificate in Environmental Conservation

Developed from a biophysical science perspective, this Certificate is beneficial to those who want to gain knowledge of issues surrounding environmental protection, conservation and preservation, and environmental research. The Certificate consists of six degree-credit distance education courses taken online from the University of Guelph's School of Environmental Sciences. The program is designed to provide participants with the credentials they need for professional advancement in the environment industry and/or personal enrichment. It is structured as follows, requiring six courses total, to include at least two at the 3000 or 4000 level:

Required Course

ENVS*2120*DE	[0.50]	Introduction to Environmental Stewardship
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2 or 3 of the following:

EDRD*3450*DE	[0.50]	Watershed Planning Practice
GEOG*1220*DE	[0.50]	Human Impact on the Environment
GEOG*1300*DE	[0.50]	Introduction to the Biophysical Environment
ENVS*1060*DE	[0.50]	Principles of Geology
ENVS*2250*DE	[0.50]	Geology of Natural Disasters
ENVS*2060*DE	[0.50]	Soil Science
ENVS*3080*DE	[0.50]	Soil and Water Conservation

2 or 3 of the following:

BIOL*2060*DE	[0.50]	Ecology
BIOL*3450*DE	[0.50]	Introduction to Aquatic Environments
ENVS*3000*DE	[0.50]	Nature Interpretation
ENVS*3040*DE	[0.50]	Natural Chemicals in the Environment
GEOG*2210*DE	[0.50]	Environment and Resources
GEOG*3020*DE	[0.50]	Global Environmental Change
GEOG*3210*DE	[0.50]	Management of the Biophysical Environment

For more information, please visit the website at: <http://www.environmentalcertificates.com>.

Certificate in Food Science

The Certificate in Food Science program is offered by the Department of Food Science to University of Guelph undergraduate students or online to Open Learning program students. It concentrates on the chemistry, analysis, microbiology and processing of foods, and on the maintenance of food safety and quality throughout. The Food Science certificate program provides recognition for food science education for University of Guelph students not in the B.Sc. Food Science Major and for individuals outside of the University of Guelph interested in the field of Food Science. Post-secondary courses in microbiology and chemistry are prerequisites for entrance into the program.

In-course students can select courses and when completed apply for the certificate through the Open Learning and Educational Support office (note the double-counting rule under XI. Special Study Opportunities, Certificates and Diplomas). Individuals from outside the University of Guelph should register for courses through the Open Learning and Educational Support office.

The DE courses of the program cannot be used as substitutes for core courses or restricted electives in the B.Sc. Food Science Major.

Required Courses

FOOD*2010*DE or FOOD*2150

FOOD*2410*DE or FOOD*3160

1 of:

FOOD*3430*DE	[0.50]	Introduction to Food Analysis
FOOD*4190	[0.50]	Advanced Food Analysis
FOOD*4310*DE	[0.50]	Food Safety Management Systems

1 of:

FOOD*2400*DE	[0.50]	Introduction to Food Chemistry
FOOD*3030	[0.50]	Food Chemistry I
FOOD*3050	[0.50]	Food Chemistry I

1 of:

FOOD*2420*DE	[0.50]	Introduction to Food Microbiology
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FOOD*3230	[0.75]	Food Microbiology
FOOD*3240	[0.50]	Food Microbiology

For more information, please visit the website at: <https://opened.uoguelph.ca/student-resources/food-science-certificate>.

Certificate in German Language and Culture

The Certificate in German Language and Culture provides students with an intermediate level (B1) of competency in the German language and awareness of the cultures of German-speaking countries.

A minimum of 2.50 credits is required, including:

Required Courses

GERM*1100	[0.50]	Introductory German I
GERM*1110	[0.50]	Introductory German II
GERM*2010	[0.50]	Intermediate Language Practice
GERM*2490	[0.50]	Intermediate German

1 of:

GERM*3150	[0.50]	Interactive German Language and Culture
GERM*3700	[0.50]	Experiential Learning and Language

Students with no previous German will begin in GERM*1100.

Students with previous studies in German will begin at an appropriate level after placement by the Head of German Studies and may take more advanced GERM courses to complete the 2.50 credits.

Certificate in Hospitality Studies

The Certificate in Hospitality Studies is offered online from the University of Guelph's School of Hospitality, Food and Tourism Management, Gordon S. Lang School of Business and Economics. It is comprised of five courses taken via distance education and is designed to provide an overview of the hospitality industry, an understanding of human resources management principles and financial management skills. It is perfect for individuals needing additional formal education to assume greater management responsibilities.

The Certificate requires the five courses listed below:

Required Courses

ACCT*2230*DE	[0.50]	Management Accounting
HROB*2090*DE	[0.50]	Individuals and Groups in Organizations
HROB*2290*DE	[0.50]	Human Resources Management
HTM*2030*DE	[0.50]	Control Systems in the Hospitality Industry
MGMT*2150*DE	[0.50]	Introduction to Canadian Business Management

For more information, please visit the website at: <http://www.hospitalitystudies.com>

Certificate in Leadership

The Certificate in Leadership is offered by the University of Guelph through the Gordon S. Lang School of Business and Economics. This certificate program allows undergraduate students to complete both their degree program and the certificate concurrently. As well, the certificate is available to students in the Open Learning program.

The program focuses on new leadership models and practical applications in a variety of organizational settings. 2.50 credits are required in addition to 120 hours of leadership practice. Students will develop an historical and theoretical understanding of leadership with particular emphasis on contemporary theories, models and research.

For more information, please visit the website at: <http://www.leadershipcertificate.com/>

Required

HROB*2010*DE	[0.50]	Foundations of Leadership
HROB*4010*DE	[0.50]	Leadership Certificate Capstone

Ethics Course Requirement (Select 0.50 credits)

PHIL*2120	[0.50]	Ethics
PHIL*2600	[0.50]	Business and Professional Ethics
POLS*3440	[0.50]	Corruption, Scandal and Political Ethics

Electives (Select 1.00 credits)

EDRD*3140	[0.50]	Organizational Communication
EDRD*3160	[0.50]	International Communication
EDRD*4120	[0.50]	Leadership Development in Small Organizations
HROB*2090	[0.50]	Individuals and Groups in Organizations
HROB*2290	[0.50]	Human Resources Management
MGMT*2150	[0.50]	Introduction to Canadian Business Management [B.Comm students may not take this course for credit in their degree program.]

PHIL*2100	[0.50]	Critical Thinking
POLS*2250	[0.50]	Public Administration and Governance

Note: Students enrolled in the Leadership and Organizational Management major are not eligible for this certificate.

Certificate in Organic Agriculture

The Certificate in Organic Agriculture provides students with an interdisciplinary understanding of organic agricultural systems in the broader context of societal needs and developments. This broad perspective will enable students to investigate how societal changes shape the agriculture and food value chain in general and with regard to specific requirements, such as certification of organic agricultural and food production practices and standards. This certificate will require the completion of 2.50 credits: 1.50 credits of required courses, 1.00 credits from restricted electives.

Required Courses

OAGR*2070

OAGR*4180

Restricted Electives:

Students should note that some restricted electives require other courses not included among the required courses for the certificate as prerequisites. Further, some restricted elective courses may be priority access courses or restricted to certain programs or majors. Students should thus consult the most recent undergraduate calendar for specific requirements.

Students must select 1.00 credits of restricted electives from any of the following lists:

Soils:

AGR*2320	[0.50]	Soils in Agroecosystems
ENVS*2060	[0.50]	Soil Science
ENVS*3310	[0.50]	Soil Biodiversity and Ecosystem Function

Animal and Plant Production:

ANSC*1210	[1.00]	Principles of Animal Care and Welfare
ENVS*4100	[0.50]	Integrated Management of Invasive Insect Pests
HORT*3510	[0.50]	Vegetable Production
OAGR*4050	[1.00]	Design of Organic Production Systems
PBIO*4070	[0.50]	Biological and Cultural Control of Plant Diseases

Society and Sustainability:

EDRD*3400	[0.50]	Sustainable Communities
ENVS*2070	[0.50]	Environmental Perspectives and Choice
ENVS*2130	[0.50]	Eating Sustainably in Ontario
GEOG*3320	[0.50]	Food Systems: Issues in Security and Sustainability
SOC*2080	[0.50]	Rural Sociology

Certificate in Public Policy and Administration

The five-course Certificate in Public Policy and Administration is designed to provide a solid base in key concepts and foundations of Canadian government, policy and administration by bringing together a number of Canadian political science and public policy courses. This certificate will be of interest to individuals currently working or seeking employment in the public sector or quasi-public sector as well as undergraduate students. All six courses in this certificate are also available in distance education format and to earn the Certificate, students will be required to successfully complete five of the six courses (2.50 credits) as follows:

Required Courses

POLS*1400*DE	[0.50]	Issues in Canadian Politics
POLS*2250*DE	[0.50]	Public Administration and Governance

3 of the following 4 courses:

POLS*2300*DE	[0.50]	Canadian Government and Politics
POLS*3250*DE	[0.50]	Public Policy: Challenges and Prospects
POLS*3370*DE	[0.50]	Environmental Politics and Governance
POLS*3440*DE	[0.50]	Corruption, Scandal and Political Ethics

Students who wish to enrol in the Certificate in Public Policy and Administration should contact the Open Learning program Counsellor at Open Learning and Educational Support (ext. 56050.)

Certificate in Spanish Language and Culture

The Certificate in Spanish Language and Culture provides students with an intermediate level (B1) of competency in the Spanish language and awareness of the cultures of various Spanish speaking countries of the world.

A minimum of 2.50 credits is required, including:

Required Courses

SPAN*1100	[0.50]	Introductory Spanish I
SPAN*1110	[0.50]	Introductory Spanish II
SPAN*2000	[0.50]	Intermediate Spanish I
SPAN*2010	[0.50]	Intermediate Spanish II

1 of:

SPAN*2040	[0.50]	Culture of Spain
SPAN*2990	[0.50]	Hispanic Literary Studies
SPAN*3080	[0.50]	Spanish American Culture
SPAN*3240	[0.50]	Topics in Hispanic Linguistics
SPAN*3500	[0.50]	Advanced Spanish I

Students with no previous Spanish will begin in SPAN*1100.

Students with previous studies in Spanish will begin at an appropriate level after placement by the Head of Spanish and Hispanic Studies and may take more advanced courses to complete the 2.50 credits.

Diploma in Applied Statistics

The Diploma in Applied Statistics is a program offered by the Department of Mathematics and Statistics, which seeks to give students of the Applied Sciences a technical competency in the use and application of Statistics.

The program is intended mainly for those whose primary area of expertise is not in Statistics, but who feel the need to be able to use modern statistical techniques. This program seeks to fill a need of scientists to reach a useful level of competency in the use of statistical methodology.

Diploma Requirements

The program consists of 5.00 credits chosen from the following list. It is important to take into account the necessary prerequisites when determining the sequence in which the courses are taken. Consult an advisor from the department for assistance.

MATH*1160	[0.50]	Linear Algebra I
STAT*2040	[0.50]	Statistics I
STAT*2050	[0.50]	Statistics II
STAT*3100	[0.50]	Introductory Mathematical Statistics I
STAT*3110	[0.50]	Introductory Mathematical Statistics II
STAT*3210	[0.50]	Experimental Design
STAT*3240	[0.50]	Applied Regression Analysis
STAT*3320	[0.50]	Sampling Theory with Applications
STAT*3510	[0.50]	Environmental Risk Assessment
STAT*4050	[0.50]	Topics in Applied Statistics I
STAT*4060	[0.50]	Topics in Applied Statistics II
STAT*4150	[0.50]	Topics in Applied Statistics III
STAT*4350	[0.50]	Applied Multivariate Statistical Methods
STAT*4360	[0.50]	Applied Time Series Analysis

Co-operative Education

Co-operative Education (Co-op), constitutes part of the student's formal education and is available in over 35 majors for students. A form of work integrated learning, Co-op is a model of education that integrates a student's academic learning with periods of paid workplace learning in fields relevant to the student's academic and personal/professional goals. The academic and work schedules will vary with degree program and major. The first co-op work term is scheduled after the third or fourth academic semester, providing an academic foundation on which to build the work experience.

Each work term is developed in collaboration with the employer and is approved by the institution as a suitable learning environment. Students participate in a competitive employment process to secure an approved co-op work term that is relevant to the student's area of academic study. COOP*1100 – Introduction to Co-operative Education, a mandatory, non-credit course, is a prerequisite for the first work term and prepares the student for the employment process.

The student's performance in the workplace is supervised and evaluated by the student's employer using the Work Performance Evaluation tool. The student's progress during the work term is also monitored by Co-operative Education & Career Services (CECS), which may include an official site visit during the co-op work term and a review of the student's official Learning Goals. A Co-op Work Term Report is required for each work term and is graded by an assigned Co-op Faculty Advisor. All evaluation grades will appear on the student's official transcript.

The University of Guelph Co-operative Education program is accredited by the Co-operative Education and Work Integrated Learning Canada (CEWIL), therefore standardized guidelines regarding co-op work terms will be followed at all times.

Course requirements and academic/work sequences for specific majors are listed under the appropriate degree program in Chapter X of the Undergraduate Calendar.

In addition to Co-operative Education, CECS supports, trains and leads students and alumni as they make career and further education planning decisions. Successful students connect with CECS early in their academic career and take full advantage of the career planning and job search services offered. CECS helps students to discern "what to do with their degree". As well, the CECS job posting service, Recruit Guelph, provides online job postings including full-time, part-time, contract, seasonal, summer and internships. Job & Career Fairs and employer networking events also provide exposure to the working world. Please refer to <https://www.recruitguelph.ca/cecs/> for more information.

Co-operative Education Guidelines and Procedures

The following guidelines and procedures support the implementation of the "Policy on Co-operative Education Programming in Undergraduate Degree Programs", approved by Senate on June 4, 2012. In the event of a discrepancy between the Policy and these Guidelines, the Policy will apply.

The following definitions shall apply in these guidelines and procedures:

- “Co-operative Education” is defined by the University of Guelph as a collaborative partnership between the University and workplace employers who share a commitment to the learning objectives and outcomes of the co-operative education program as expressed through experiential education opportunities and the integration of workplace and academic learning.
- “Co-op Program” (Co-operative Education Programming): Co-op education programming is offered in two distinct formats, as defined by CEWIL:
 - i. “Co-op Option” (Co-operative Education Option): A co-op option may be offered within an established degree program and major. The Schedule of Studies includes semesters of academic study sequenced with semesters of on-site approved paid work terms.
 - ii. “Co-op Internship” (Co-operative Education Internship) is defined as an on-site approved paid work experiences, normally 12 to 16 months in length commencing once 50% of the academic program is completed.
- “CECS” means the Co-operative Education & Career Services department at the University of Guelph. CECS is the unit designated to coordinate and support co-operative education programming by providing administrative assistance to co-op students, co-op employers, and co-op faculty advisors.
- “Co-op Co-ordinator” means the staff person assigned by CECS to provide support for a co-op education program through securing appropriate work term opportunities, providing orientation, advice and guidance to co-op students, and, in partnership with the Co-op Employer, monitoring student progress over the co-op work term.
- “Co-op Work Term” is defined as the designated period of time that a co-op student is engaged in an on-site approved paid work experience.
- “Co-op Employer” means the designated supervisor of a student who is participating in a co-op work term.
- “Work Term Report” is a report written by the co-op student following the completion of a Co-op Work Term and submitted to the Co-op Faculty Advisor for evaluation.
- “Work Term Performance Evaluation” is the formal evaluation of the student by the Co-op employer upon completion of the Co-op Work Term.
- “Co-op Faculty Advisor” is defined as the faculty member assigned by the department or school to provide academic advice and guidance to students enrolled in the co-op program, provide advice and guidelines on the development of the student’s Work Term Report, and evaluates the student’s Work Term Report.
- “Co-op Certification” is the official recognition of a co-op student’s satisfactory completion of all co-operative education requirements and graduation of their program, whereby they are awarded a co-operative education certificate.

Guidelines for the Establishment of Co-op Programs:

Co-operative Education Options shall be established according to the criteria listed under section 6.2 of the Policy on Co-operative Education Programming in Undergraduate Degree Programs at the University of Guelph. The roles and responsibilities of the co-operative education program partners are outlined under the Co-operative Education Programs in Chapter 10 Degree Programs.

Schedule of Studies

- a. Every Co-op Option Schedule of Studies shall include the following features:
 - A minimum of three Co-op Work Terms to a maximum of five Co-op Work Terms shall be sequenced within the Schedule of Studies;
 - At least one Co-op Work Term shall occur in each of the Summer, Fall, and Winter semesters;
 - No more than two Co-op Work Terms shall commence in a Summer semester;
 - The first Co-op Work Term shall be scheduled no sooner than the second Winter semester of the program;
 - No more than five full-time academic semesters shall be completed before the first Co-op Work Term;
 - The Co-op Schedule of Studies shall not finish with a Co-op Work Term semester;
 - The Schedule of Studies for a Co-op Option shall not exceed eight academic semesters, a schedule that is no longer than five years;
 - At least thirty percent of the Schedule of Studies for the Co-op Option shall be comprised of semesters in Work Terms;
 - It is the responsibility of the academic department in conjunction with CECS to design the Co-op Option Schedule of Studies taking into account that sufficient and appropriate courses are offered in the academic semesters on campus so that Co-op students are available year-round to employers participating in the program.
- b. Co-op Internships:
 - Co-op Internships normally commence once 50% of the academic program is complete and are 12 to 16 months in length.
- c. The work term requirements:
 - Each work term is developed and/or approved by CECS as a suitable learning opportunity;
 - The student is engaged in productive work rather than merely observing;
 - The student receives remuneration for the work performed;

- Work term opportunities without traditional remuneration must be approved by CECS;
- The student’s progress on the work term is monitored by CECS;
- The student’s performance on the job is supervised and formally evaluated by the student’s co-operative employer;
- Student’s must complete a work term report and satisfactorily pass the academic requirements governing this assessment.

Admissions

- a. Normally the minimum admission average required for students to be considered for admission to a Co-op Option is 80%. Exact cut-offs are determined on the basis on the quantity and quality of applications received and the number of places available in the program. Students not admitted to co-op will be automatically considered for the regular program. The number of admission offers to the Co-op Option will depend upon the capacity determined each year by the Co-operative Program Co-ordinating Committee.
- b. University of Guelph students and external students to the University may be admitted for transfer to a Co-op Option if there is capacity available in the specified program. The minimum admissions average for internal transfer is 70% cumulative average in the first two full time semesters. Other conditions and application deadlines may apply. Students should consult the Program Counsellor for information on internal transfer.

Continuation of Study

- a. It is mandatory that co-op students be registered full-time for the duration of their program as outlined in the schedule of studies listed in the Undergraduate Calendar.
- b. Students are required to meet a continuation requirement at the end of semester two. Students will be allowed to continue in the co-op program only if their cumulative average is 70% or higher after their first two full-time academic semesters.
- c. Students are required to complete and pass the mandatory Introduction to Co-operative Education (COOP *1100) non-credit course as the pre-requisite for the first employment process.
- d. Students are required to follow the academic and work sequence as outlined in the Undergraduate Calendar.
- e. Students who receive a Marginal work performance evaluation will be required to meet with their Co-op Co-ordinator. Students who receive two Marginal work performance evaluations will be withdrawn from co-op and transferred to the regular academic program. The grade as well as the phrase “Req to Withdraw from Co-op” will appear on the Official Transcript.
- f. A student who receives an Unsatisfactory work term report will be required to withdraw from co-op. The grade as well as the phrase “Req to Withdraw from Co-op” will appear on the Official Transcript.
- g. A student who does not complete and submit the Work Term Report by the 5th class day of the next semester may not register in the following work term.
- h. A student on academic probation shall not be eligible to participate in the Work Term process and will not be eligible to commence a Co-op Work Term.
- i. The co-op employment process is competitive and while CECS makes every effort to assist students in gaining employment, there is no guarantee that every student will become employed through the employment process.

Graduation Requirements

Students are eligible to graduate with the “Co-op Certification” if they meet the following conditions:

- a. Meet the academic conditions for graduation for their degree program as outlined in the Undergraduate Calendar.
- b. Receive evaluations of “Good” or higher in all but one of the Work Performance Evaluations.
- c. Receive evaluations of “Satisfactory” or higher in all Work Report Evaluations.

Students wanting to graduate with less than the required number of work terms must contact their Co-op Co-ordinator with the request and it will be brought to the Director CECS for final approval.

Students who do not achieve the requirements for continuation of study or graduation in the co-op program may appeal the decision (see Chapter VIII, Academic Consideration).

Roles and Responsibilities of Co-operative Education Program Partners

The University of Guelph’s co-operative education program requires a collaborative approach that engages all partners in the process. The success of the co-op programs at Guelph is dependent upon a commitment by all the partners involved.

Students

Student success in a co-op option requires commitment, students are required to read and understand the Policy Agreement for Undergraduate Student Involvement in Co-operative Education.

There is no guarantee that all students enrolled in co-op will have a work term. They must take responsibility for the employment process. This includes:

- Meeting the co-op continuation of study requirements;
- Successfully completing the COOP*1100 preparatory course; and,
- Understanding the competitiveness of the co-op application process and their responsibilities within the process.

Students must also take responsibility for success in the workplace. As such, students must:

- Adequately prepare for the work term and represent themselves and the University in the workplace;
- Set learning goals with the supervisor early in the term and work toward achieving those goals;
- Request a formal performance evaluation at the end of the term;
- Prepare a work term report for the Co-op Faculty Advisor;
- Successfully complete the requirements of the work terms; and
- Inform CECS on matters affecting their status.

The Academic Department

The Academic Department is responsible for all academic components of the co-op program including the offering of courses to support the co-op option and the evaluation of the co-op work term report. A Co-op Faculty Advisor is provided for each co-op program.

The role of the Co-op Faculty Advisor is to support the student on the academic requirements of the program. The responsibilities of the Co-op Faculty Advisor are to:

- Assist students in academic/work sequences and course selection;
- Provide detailed guidelines on the writing and marking of work term reports;
- Advise the student of appropriate work term report topics, supporting the process, grading of the work report and follow-up discussion with the student; and
- Undertake administrative tasks in support of the educational program, including management of the unit's co-op program, supporting the development of materials about the program (where required), and establishing procedures for the co-op option within the department.

Co-operative Education & Career Services (CECS)

The role of CECS is to support all of the administrative functions related to the work term experience. Responsibilities of CECS include:

- Following the required operational guidelines as an accredited program of the Co-operative Education and Work Integrated Learning Canada (CEWIL);
- Preparing students for the co-op experience;
- Co-ordinating job development relevant to the academic curriculum and facilitating the employment process;
- Ensuring the quality of the job development effort;
- Providing all the administrative support required for the smooth functioning of the university's co-operative education program;
- Operating the competitive employment processes including co-op interviews and employer information sessions, panels and informational interviews; Maintaining all employer, department and student data;
- Processing all clerical and administrative matters relating to the relationship between employer and institution;
- Building employer relationships and provide students with a range of suitable employment opportunities, and working closely in conjunction with the academic unit and Alumni Affairs and Development;
- Offering the COOP*1100 Introduction to Co-operative Education course the semester prior to the student employment process;
- Providing student support for resume, cover letter and interview preparation as well as career guidance where needed;
- Ensuring that the employer maintains the appropriate educational quality in the work term experience provided to the student;
- Working with the Registrar to ensure a reasonable number of students are admitted into the program;
- Ensuring that the academic/work program schedules provide year round availability of work terms to meet employer needs; and
- Assigning Co-op Co-ordinators to co-operative education options.

Co-op Co-ordinator

The role of the Co-op Co-ordinator is to work within specific programs to support the work-term process. Responsibilities of the Co-op Co-ordinator are to:

- Develop jobs in specific discipline areas;
- Advise students in regard to their activities in the employment process and on the work term;
- Market the co-op program to employers and obtaining work term commitments;

- Prepare co-op students for their involvement in co-operative education, and educate students concerning employer and performance expectations;
- Actively monitor the work term maintaining contact with the student during the work term;
- Be available any time during the work term to respond to student or employer inquiries;
- Conduct a work term site visit with the student and supervisor;
- Conduct pre- and post-work term student advisement and debriefing;
- Manage the student's file and ensuring complete institutional records on each student;
- Undertake administrative tasks in support of the co-op program, including consultation with academic units on their co-op offering, consultation with Co-op Faculty Advisor on policy and procedure aspects of the program; and
- Approve special situations where students may complete a work term without traditional remuneration.

Co-op Program Coordinating Committee (CPCC)

The role of the CPCC is to provide administrative oversight and advice as it relates to the University's co-op programs. Responsibilities of CPCC include:

- Ensure that all co-op programs conform to the established policy and standard practices;
- Co-ordinate co-op option schedule of studies to support the maximum availability of students in all three semesters;
- Review new program proposals to confirm that sufficient resources are available to mount a quality co-op program, including the assignment of a Co-op Coordinator and Co-op Faculty Advisor for each stream; and
- Monitor co-op programs to support high quality program delivery.

Employer

Good quality employers who understand the educational focus of the co-op programs are critical to the program. Responsibilities of the employer are to:

- Provide co-op work term job opportunities that meet the university's educational objectives;
- Provide the university with an accurate job description along with any available company information;
- Conduct interviews and select the best candidate;
- Pay competitive wages in accordance with the student's work term level and academic level;
- Provide safe employment including WSIB and liability insurance coverage for the duration of the employment period; and
- Comply with the Provincial Employment Standards Act.

During the work term:

- Orient the student to the organization, workplace protocols and the job during the first few weeks of the work term;
- Supervise the student and provide guidance when the student is setting learning goals at the start of the work term with a review mid-term and at the completion of the work term;
- Provide performance feedback to the student throughout the term and keeping the Co-op Coordinator current on any changes in the student's performance;
- Meet with the Co-op Co-ordinator during the work term visit and providing feedback concerning the student's performance and if there are concerns maintaining communication with the Co-op Co-ordinator;
- Provide career information and guidance as appropriate;
- Complete a work term performance evaluation form and exit interview for the student at the conclusion of the work term; and
- Assist the student with the selection of a topic for a work term report and providing comments on the final work term report if appropriate.

Distance Education

Online learning offers students a contemporary means through which the University continues its tradition of outreach and open learning opportunities. Online degree-credit courses are offered by Open Learning and Educational Support (OpenEd) in collaboration with academic departments and schools. This option provides students the opportunity to create a flexible study schedule, acquire credits while away on summer break or a co-op placement, and/or choose to learn in an interactive online course environment.

Online courses are designed to foster interactivity between students, their instructor and the content. Students can expect to engage in activities, such as online discussions and individual and group assignments, using a variety of technologies and resources.

Each semester, the University offers a wide range of online degree-credit courses from a variety of disciplines. Visit the OpenEd website for a list of available online courses and more information about learning online. Please note that University of Guelph degree students must register for online courses through WebAdvisor by selecting the DE01 section.

General Studies

The objective of the General Studies program is to provide mature students with the opportunity to take university courses before registering in a specific degree program or to take university courses for continued learning with no immediate intention of registering in a degree program. The General Studies program does not lead towards a specific undergraduate degree at the University of Guelph.

Academic Counselling

General Studies students can obtain counselling for selecting courses, and planning their future program from the B.A.S. Counselling Office located in Room 128A MacKinnon Building. Prospective students should contact the Admissions Section of the Office of Registrarial Services.

Financial Assistance

Students registered in 3 or more courses of the General Studies program maybe eligible to apply to the [Ontario Student Assistance Program](#) (OSAP) if an Ontario resident. Students who are residents of other provinces must apply to their home province for financial assistance. General Studies students maybe eligible to apply for OSAP assistance for a maximum of two semesters. General Studies students who transfer to a degree program may continue to apply for OSAP.

Schedule of Studies

1. Students may take any undergraduate course offered by the University, as long as any stated prerequisites are met or the approval of the instructor is obtained.
2. Students may take Associate Diploma courses with the approval of the Director of the Associate Diploma program.
3. Students will not normally be eligible to continue in the General Studies program after enrolment in 20 courses.
4. The grade assigned for each course will become part of the student's University academic record.
5. Students who register in the General Studies program and who subsequently apply for transfer to a degree or diploma program, will be required to meet admission requirements for that program, and credit granted for courses taken in the General Studies program will be subject to the regulations pertaining to that program.

Tuition Fees

Students are advised to refer to Chapter VI - Schedule of Fees of the Undergraduate Calendar.

Undergraduate Regulations

Students are referred to Chapter VIII - Undergraduate Degree Regulations for additional information regarding registration, course selection, withdrawal from study, continuation of study, examination policy and requests for academic consideration.

Graduate Studies

The University of Guelph offers graduate programs in most departments and schools. These post-baccalaureate programs offer opportunities for personal, academic and professional growth. Students with a 70% average or higher should consider and investigate these options, beginning no later than their third undergraduate year. Decisions regarding the desired area of study and pursuit of scholarship support require forethought and planning. Information, and counselling are available through the graduate coordinators of each department/school. Further information on graduate programs may be found in the on-line Graduate Calendar at <https://www.uoguelph.ca/registrar/calendars/graduate/current/>. Applications is made on-line and accessed through Graduate Studies website at <https://www.uoguelph.ca/graduatestudies/>. Students are also welcome to visit the Office of Graduate and Postdoctoral Studies, Level 3, University Centre.

The University of Guelph offers opportunities for qualified students to do graduate work leading to the Graduate Diploma (G.Dip) or the Master of Arts (M.A.), Master of Arts (Leadership) (M.Lea), Master of Applied Science (M.A.Sc.), Master of Science (M.Sc.), Master of Landscape Architecture (M.L.A.), Master of Applied Nutrition (M.A.N.) Master of Bioinformatics (M.Binf.), Master of Biomedical Science (M.B.S.), Master of Biotechnology (M.Biot.) Master of Business Administration (M.B.A.), Master of Engineering (M.Eng.), Master of Environmental Sciences (M.E.S.), Master of Fine Art (M.F.A.), Master of Food, Agricultural and Resource Economics (M.Fare), Master of Science in (Planning) Master of Planning (M.Plan), Master of Public Health (M.P.H.), Doctor of Philosophy (Ph.D.), and Doctor of Veterinary Science (D.V.Sc.) degrees.

Interdisciplinary Studies

The University of Guelph offers many interdisciplinary programs that cross departmental and college boundaries. In addition, specific courses and specializations have been modelled on an interdisciplinary approach to the topic or subject area.

Courses with an interdisciplinary approach and content are listed in Chapter XII under the following headings: Humanities, Physical Science, and Social Science as well as Interdisciplinary University Courses.

The following list of specializations is not intended to represent all the university's interdisciplinary initiatives. Instead it identifies those specializations that involve a significant degree of collaboration between departments or colleges. For further details, refer to the appropriate undergraduate degree program information in Chapter IX.

Bachelor of Arts

Criminal Justice and Public Policy

Environmental Governance

European Studies

International Development

Bachelor of Arts and Sciences

The University of Guelph offers an 8 semester (20.00 credits) honours program leading to a Bachelor of Arts and Sciences (B.A.S.) degree.

The Bachelor of Arts & Sciences program is designed for students who are motivated equally by the study of Arts/Social Sciences and the Sciences, and who find challenge and satisfaction in testing the traditional boundaries of study through undergraduate level interdisciplinary work. The program meets these objectives through a unique structure that accredits students in an Arts/Social Sciences core, a Sciences core, a Subject Area core of interdisciplinary humanities and sciences courses (ASCI*), and a minor in each of the Arts/Social Sciences and the Sciences (see below for choices of minors). The structure of the program ensures disciplinary rigour and breadth through completion of core requirements for a B.A.S. degree, concentration in two distinct minors, and concentration of learning in an academic cohort of B.A.S. students through the interdisciplinary ASCI courses in the B.A.S. core. This core is open only to students in the B.A.S. program. For more information please see: <http://www.uoguelph.ca/bas/>

Bachelor of Commerce

Agricultural Business

Hotel and Food Administration

Human Resources Management

Management Economics in Industry & Finance

Marketing Management

Public Management

Tourism Management

Bachelor of Science in Environmental Sciences

Open Learning

The University of Guelph serves the learning needs of people from a variety of age groups whose educational requirements may not match the program structure or services available through full-time undergraduate study. The adoption of the philosophy of lifelong learning, changes in the demographic characteristics of our communities, the explosion of new knowledge, and the effect of rapid technological advances on professional competence are major factors underlying the University's commitment towards alternative approaches to providing education through open learning.

Open Learning and Educational Support (OpenEd)

Open Learning and Educational Support (OpenEd) is an integral part of the University of Guelph's learner centred and research-intensive mission.

As leaders in education, OpenEd creates innovative and relevant educational opportunities that meet the learning needs of a local and international audience. OpenEd is guided by learner-centred principles that are reflected in its diverse programs and rich learning experiences for traditional and lifelong learners. OpenEd intentionally integrates pedagogy with technology in the design, development and delivery of its educational programs. Through research and collaboration, it engages in scholarship to advance the teaching and learning mandate of the University of Guelph.

OpenEd supports University of Guelph educators and programs to improve curriculum, teaching practices, and the quality of student learning outcomes.

In partnership with academic departments, OpenEd works with faculty to create and maintain interactive and engaging online learning experiences using instructional design best practices, evidence-based pedagogical approaches, and appropriate educational technologies that support identified learning outcomes

Additionally, OpenEd engages in a wide range of activities to develop, administer, and support educational technology at the institution, both in the classroom as well as in the online environment.

The Open Learning program

The Open Learning program is an open-admission program that provides anyone, regardless of their academic background, with an opportunity to register for University of Guelph online degree-credit courses.

Students may choose to register in the Open Learning program for personal enrichment, professional development, eventual application to a degree program, or to satisfy requirements from another post-secondary institution.

Open Learning program students can expect to have the same workload, assignments and examinations as those in a degree program. Upon successful course completion, they will receive the same credit weight as students in a degree program.

Visit the page on the [OpenEd website](#) for more information.

Continuing Education Option

Students who are not interested in receiving credit for courses may register as continuing education students. Learners who select this option are not required to complete assignments or related exams.

Visit the [OpenEd website](#) for more information.

Guaranteed Admission to a BA Program

Open Learning program students who have no previous post-secondary experience and have completed four courses (2.00 credits) with a 70% minimum cumulative average may transfer into a BA program at the University of Guelph.

Applicants are advised to complete two courses (1.00 credit) from the College of Arts and two courses (1.00 credit) in the Social social Sciencessciences.

Visit the [Open Learning and Educational Support website](#) for more information about the Guaranteed Admission Pathway.

Guaranteed Admission to the B.Comm. Program

Open Learning program students with no previous post-secondary education will be offered guaranteed admission to the Bachelor of Commerce (B.Comm.) degree program under the following conditions.

1. Applicants must satisfy the English proficiency requirements (see the Undergraduate Calendar, Chapter IV Admission, English Proficiency).
2. Successful completion of four degree-level courses (2.00 credits) with a minimum cumulative average of 70% in at most, six course (3.00 credits) attempts. The four courses (2.00 credits) used in the calculation of the cumulative average will include any degree-level courses used to meet the English and mathematics requirements and must satisfy the following:
 - a. at least 1.00 credits must be from arts and social sciences
 - b. no more than 1.00 credits from mathematics and statistics combined may be used to calculate the cumulative average
3. Applicants must satisfy the following English and mathematics requirements:

English Requirement

A grade of 75% or higher in English 12U or the successful completion of one course (0.50 credits) from:

ENGL*1030, ENGL*1200, GEOG*1220, POLS*1400, SOC*1100 or WMST*1000

Mathematics Requirement

A grade of 75% or higher in the 12U mathematics course(s) required for the applicant's intended major or the successful completion of MATH*1030.

Visit the [Open Learning and Educational Support website](#) for more information about the Guaranteed Admission Pathway.

Open Learning program Certificates and Diplomas

Certificate in Business

Certificate in Communication Process: Bridging Theory and Practice

Certificate in Environmental Citizenship

Certificate in Environmental Conservation

Certificate in Food Science

Certificate in Hospitality Studies

Certificate in Leadership

Certificate in Public Policy and Administration

Refer to Certificates and Diplomas in this section for descriptions or visit the Certificate/Diploma page on the [OpenEd Student Portal](#).

Open Learning program Courses*

Please refer to Distance Education in this section for courses offered through the Open Learning program.

Visit the [OpenEd website](#) for technical and material requirements.

Open Learning and Educational Support Scholarships/Bursaries

Open Learning Bursary

This bursary has been established by faculty, staff and friends of Open Learning and Educational Support (OpenEd). The funds are intended to provide support for non-degree students who are enrolled in the Open Learning program (courses, certificates and diplomas) and in need of financial assistance. Applicants must be Canadian citizens or permanent residents who can demonstrate significant financial need. Visit the Financial Assistance page on the [OpenEd website](#) for more information.

Equine Science Certificate Scholarship

This scholarship covers the cost of tuition for one course in the Equine Science Certificate program. The scholarship is available to Open Learning program students who have completed two courses in the program with a minimum cumulative average of 80%. Applications must be sent to Equine Guelph by February 12 each year. The application must include a short essay (maximum of two pages) that outlines the value of the program. Students may receive the scholarship only once.

Virginia L. Gray Memorial Bursary

Virginia L. Gray dedicated 38 years of her life to the University community until her retirement in 2007 as Director, Office of Open Learning. Virginia's innovative approach to education positioned the University of Guelph to become an international leader in continuing and distance education. Virginia was committed to eliminating barriers to education and to supporting students who had a desire to advance their academic and career goals through education. Family, friends and colleagues of Virginia Gray have established and contributed to the Virginia L. Gray Memorial Bursary as a tribute to her exemplary work. Students interested in enrolling in an Open Learning and Educational Support continuing education or Open Learning program course are eligible to apply. Applicants must be Canadian citizens or Permanent residents. Applications will be reviewed on January 30th and July 30th for upcoming course offerings. Applications must include a letter outlining financial need and academic goals, and must include supporting documentation. Students may receive the bursary only once. Visit the Financial Assistance page on the [OpenEd website](#) for more information.

Prof. H.J. Malik Statistics Prize

This \$150 prize is provided by family, colleagues and friends in honour of H.J. Malik, Professor Emeritus in the Department of Mathematics and Statistics. Application is not required for this award. Open Learning program distance education students who have completed the course STAT*2060 - Statistics for Business Decisions with the highest attained grade over 80% in the previous year will automatically be considered for this award. Award consideration takes place in May, following the previous spring, fall or winter semesters.

Distance Education

Open Learning and Educational Support (OpenEd) facilitates the delivery of online degree-credit courses to students. Online courses provide students with a flexible alternative in course scheduling. OpenEd assists in course development and preparation and is the focal point of this activity by providing information, student support, and administration. Please refer to the Distance Education heading in this section for the listing of courses offered through the distance format.

Visit the [OpenEd website](#) for more information about distance education.

Certificate in English Language Program

The English Language Certificate Program is an intensive academic English program designed to prepare ELP students aged 18 and over for academic study at the undergraduate and graduate level. Classes in grammar, reading, writing, listening and speaking help students achieve the advanced level English skill needed to be successful in academic studies. Students who successfully complete the Advanced level earn the University of Guelph Certificate of English Proficiency, which meets the English proficiency requirements for entry into undergraduate and graduate studies at the University of Guelph and the University of Guelph-Humber. Applicants are encouraged to have an intermediate English skill level, and an academic goal to study at a university.

Students may also earn the Certificate of English Proficiency by completing the Integrated Admission Pathway, which provides students with the opportunity to earn undergraduate degree-level credits while developing their language skills in academic English courses. The pathway includes a combination of classroom-based and fully online degree course offerings and offers a range of student support.

Applicants are encouraged to have an intermediate English skill level, and an academic goal to study at a university.

To learn more, please visit the [English Language Programs website](#).

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Visit the [OpenEd website](#) for more information about distance education.

Continuing Education

Open Learning and Educational Support annually offers over 100 professional development programs, courses, conferences, and certificates in collaboration with academic departments and/or professional organizations. For detailed information on learning opportunities offered by OpenEd, please visit the [Open Learning and Educational Support website](#).

Certificate in Creative Writing

If you are an aspiring writer looking to get serious about your craft, then the Creative Writing Certificate program is designed for you. Take advantage of an opportunity to explore a variety of genres, improve your writing, and develop the tools to master a significant writing project.

Our creative writing courses are designed to include extensive interaction that works best in a face-to-face learning environment. Classroom-based courses offer multiple opportunities for peer interaction and one-on-one instructor guidance. By participating in these courses, you will have a unique opportunity to meet and learn from a variety of talented Canadian writers and establish lifelong writing networks with your peers.

There are no admission requirements. Students can take one course or continue to complete the certificate. To complete the Creative Writing Certificate students are required to complete six courses. Two required courses, a choice of three electives, and the capstone project.

To learn more, please visit the [Creative Writing Certificate website](#).

Certificate in Coaching for Leadership

Employee engagement and performance management are essential drivers in high performing organizations. The Coaching for Leadership program focuses on developing your leadership skills using the coach approach.

Courses will examine the necessary components of a coaching culture and assist in developing leadership skills in an online learning environment. Participants will learn about performance management and how to manage conflict to build high trust relationships. The program is focused on leadership development using coaching and communication to engage employees to achieve organizational excellence.

The program consists of four online courses. All courses in the program have been designed as independent courses and do not have to be completed in sequence. Each course is eight (8) weeks in duration resulting in approximately 30 contact hours. There are no formal admission requirements for the program however the course has been designed for senior leaders, managers, supervisors, human resource professionals, project managers and organizational consultants or anyone who is aspiring to be a leader. Participants can complete the certificate program within approximately one (1) year.

To learn more, please visit the [Certificate in Coaching for Leadership website](#)

Certificate in Couple & Family Therapy Studies

The Certificate in Couple and Family Therapy Studies (CFTS) program is designed to provide specialized training and/or professional development in the theory, concepts and practices that inform needs, problems, and changing patterns of couple and family relationships. The focus of the program is on clinical or direct client service. Systems theory is the primary, although not the only, theoretical orientation within the program.

Courses in the Certificate in Couple and Family Therapy Studies cover the theory, concepts, and approaches of couple and family therapy practice. These courses introduce the major theories and central concepts that form the foundations of couple, family, and marriage therapy. They focus on the historical development of systemic therapy and introduce several models of therapy, such as: Cognitive-Behavioural, Experiential, Bowenian, Contextual, Structural, Strategic and many other models. A comparative analysis of the various models assists students in placing the various therapy tools into an integrated framework. The courses use a variety of teaching and learning methods to effectively translate theories into practical methods for contemporary therapists. Examples of active learning strategies utilized to promote student engagement include: case studies, small group discussions, small group work projects, activities that utilize movement (e.g., role-plays, fish bowl, etc.). Students should anticipate that many discussions and interactive activities require reflection and sharing from personal and or professional experience with class members and the instructor.

While any course can be taken as a standalone for personal or professional development, the certificate program consists of three required courses and three elective courses that must be successfully completed within five years.

The certificate is provided in partnership with the Ontario Association for Marriage and Family Therapist.

To learn more, please visit the [Certificate in Couple and Family Therapy Studies website](#).

Certificate in Creative Writing

If you are an aspiring writer looking to get serious about your craft, then the Creative Writing Certificate program is designed for you. Take advantage of an opportunity to explore a variety of genres, improve your writing, and develop the tools to master a significant writing project.

Our creative writing courses are designed to include extensive interaction that works best in a face-to-face learning environment. Classroom-based courses offer multiple opportunities for peer interaction and one-on-one instructor guidance. By participating in these courses, you will have a unique opportunity to meet and learn from a variety of talented Canadian writers and establish lifelong writing networks with your peers.

There are no admission requirements. Students can take one course or continue to complete the certificate. To complete the Creative Writing Certificate students are required to complete six courses. Two required courses, a choice of three electives, and the capstone project.

To learn more, please visit the [Creative Writing Certificate website](#).

Certificate in Data Science

The online Data Science Certificate reviews and provides a solid understanding of data science and the role of the data scientist in the real-world environment. Participants will learn how to use data analytics, predictive analytics and big data tools to understand the basic technical concepts and challenges of Big Data. The programs' final course will include a capstone project that draws on skills gained from the curriculum to address a real-world problem.

Admission to the program requires an Undergraduate degree or College diploma, and successful completion of a basic Statistics course.

In order to receive your Data Science Certificate, you must complete the three online courses sequentially. The program can be completed within one year.

To learn more, please visit the [Data Science Certificate website](#).

Certificate in Disability Management and Attendance Support

The Certificate in Disability Management and Attendance Support program provides students with an opportunity to explore concepts and utilize evidence-based best practices to advance their knowledge and skills in disability case management, attendance management, and employee support. Within each of these focuses, legal obligations and ethical responsibilities are explored.

Admission to the program requires an Undergraduate degree or College diploma, and successful completion of a basic Statistics course.

The program's design utilizes a highly interactive learning approach, engaging students in case studies and real-life scenarios to provide a deeper analysis of the many approaches, roles, complexities, and challenges in the field and specific functions.

The certificate is provided in partnership with the Ontario Association of School Business Officials. To learn more, please visit the [Certificate in Disability Management and Attendance Support website](#).

Certificate in English Language Program

The English Language Certificate Program is an intensive academic English program designed to prepare ELP students aged 18 and over for academic study at the undergraduate and graduate level. Classes in grammar, reading, writing, listening and speaking help students achieve the advanced level English skill needed to be successful in academic studies. Students who successfully complete the Advanced level earn the University of Guelph Certificate of English Proficiency, which meets the English proficiency requirements for entry into undergraduate and graduate studies at the University of Guelph and the University of Guelph-Humber. Applicants are encouraged to have an intermediate English skill level, and an academic goal to study at a university.

Students may also earn the Certificate of English proficiency by completing the Integrated Admission Pathway (IAP). The Integrated Admission Pathway (IAP) will allow academically qualified international students, who meet the University's undergraduate admission requirements but have not yet achieved English language proficiency, to complete degree credit courses through the University's Open Learning program while studying English language courses to achieve the Certificate of English proficiency granted by OpenEd. The pathway includes a combination of classroom-based and fully online degree course offerings and provides a range of student support.

Students with an IELTS 5.5 or TOEFL iBT 56 or equivalent and who satisfy the undergraduate admission requirements may be offered conditional admission to one of three-degree programs in this pathway:

- Bachelor of Arts (Economics)
- Bachelor of Science (Mathematical Science)
- Bachelor of Commerce (Undeclared)

Successful completion of the Integrated Admission Pathway requires:

- Completion of English Language courses with an overall average of 75% and no course average below 70%, equivalent to the ELCP Advanced Level and achievement of the Certificate of English Proficiency, which meets the University's English proficiency requirements.
- Successful completion of all credit courses with a minimum 60% cumulative grade.

To learn more, please visit the website at: <http://www.elpguelph.ca> or contact Open Learning and Educational Support by email at info@OpenEd.uoguelph.ca or call 519-767-5000.

Certificate in Equine Business Management

The Certificate in Equine Business Management is designed for anyone interested in working in the administrative and management aspects of the equine industry. Learn how to develop marketing and business plans, create budgets and set up financial records, manage operations and establish yourself as a professional. Take the first step in gaining the skillset required for sustainable equine business success. The Certificate in Equine Business Management requires you to complete six courses.

This program is provided in partnership with Equine Guelph, the Centre for equine education and research at the University of Guelph.

To learn more, please visit the [Equine Studies website](#).

Certificate in Equine Science

The Equine Science Certificate is designed to help you improve the management and welfare of horses in your care. The courses introduce you to research and evidence-based practice and are presented in a practical format, making it easy for you to directly apply what you have learned to the health and performance of your horse. This program is ideal for the horse owner. The Equine Science Certificate requires you to complete six courses successfully. All of the courses are completed online.

This program is provided in partnership with Equine Guelph, the Centre for equine education and research, at the University of Guelph.

To learn more, please visit the [Equine Studies website](#).

Certificate in Equine Welfare

This program challenges you to consider welfare from the perspective of the horse. You will use an evidence-based approach to support your views for or against specific issues relating to equine management and gain an in-depth understanding of the Five Freedoms, a core concept in animal welfare. You will examine the science behind what is required to support sound management and welfare practices for horses in Canada and around the globe. The Equine Welfare Certificate will help you discover solutions to the behavior and health problems horses face because of our management practices.

This program is delivered in partnership with the Campbell Centre for the Study of Animal Welfare and Equine Guelph the Centre for equine education and research, at the University of Guelph.

The Equine Welfare Certificate requires you to complete six courses.

To learn more, please visit the [Equine Studies website](#).

Certificate in Facilities Management

The Certificate in Facilities Management provides students with the knowledge, skills, and abilities required to manage and lead the Ontario School Board's infrastructure in a way that meets legal requirements and regulating authorities' standards, ensures facility sustainability and creates green learning environments for students and communities, as well as engenders employee engagement.

The certificate is provided in partnership with the Ontario Association of School Business Officials.

To learn more, please visit the [Certificate in Facilities Management website](#).

Certificate in Human Resources Management for School Board Administration

The Certificate in Human Resources Management for School Board Administration program is designed for Ontario school board professionals who wish to develop and/or enhance their knowledge, skills, and abilities in effective human resources management as it relates to the uniqueness of the school board environment. The curriculum reflects the current and relevant information, critical issues, and challenges facing human resources professionals within Ontario school boards.

There are no admission requirements. The certificate is achieved by successfully completing four different courses from within the program offerings.

The certificate is provided in partnership with the Ontario Association of School Business Officials.

To learn more, please visit the [Certificate in Human Resources Management for School Board Administration website](#).

Certificate in Information and Communication Technology Management

The Certificate in Information and Communication Technology Management program is designed for information technology professionals who wish to develop their knowledge and skills in effective information technology management and enhance their leadership and management competencies. The program offers students a strategic overview of the management of information and technology challenges and opportunities in today's work environment.

There are no admission requirements. The certificate is achieved by successfully completing four different courses from within the program offerings.

The certificate is provided in partnership with the Ontario Association of School Business Officials.

To learn more, please visit the [Certificate in Information and Communication Technology Management website](#).

Certificate in Information Management, Privacy, and Access

The Certificate in Information Management, Privacy, and Access is designed to provide a comprehensive overview of the fundamentals of information management, privacy, and access as it relates to functions within Ontario school boards. Additionally, the program offers students a strategic overview of leadership within today's IMPA environment. Students will gain a sound understanding of the legislation affecting information management, privacy, and access, developing the necessary skills to design and deliver effective IMPA programs, policies, and procedures.

There are no admission requirements. The certificate is achieved by successfully completing four different courses from within the program offerings.

The certificate is provided in partnership with the Ontario Association of School Business Officials.

To learn more, please visit the [Certificate in Information and Communication Technology Management website](#).

Certificate in Knowledge Mobilization

The Certificate in Knowledge Mobilization is designed to develop participants' knowledge, skills and values with respect to knowledge mobilization (Kmb) and build capacity to select and apply Kmb tools and techniques to move knowledge into action.

Addressing today's complex social, economic, health or environmental challenges calls for our increased capacity to collaborate in finding and implementing innovative solutions. While a vast amount of knowledge is created every day, only a fraction of it is effectively mobilized - shared, used, and applied to inform real-life situations. This lack of knowledge transfer or exchange is contributing to a gap between research, policy and practice, which hinders social innovation and slows down progress. The Certificate in Knowledge Mobilization can help close this gap by providing participants with the skills and tools to enable the efficient and appropriate dissemination, uptake and application of knowledge.

The certificate consists of three (3) online courses, eight weeks in length.

The certificate is provided in partnership with the Community Engaged Scholarship Institute.

To learn more, please visit the [Certificate in Knowledge Mobilization website](#).

Certificates in Laboratory Animal Medicine – Canada and United States

The Certificates in Laboratory Animal Medicine Canada and United States are designed to provide continuing education, and applied training and experience for licensed veterinarians working in the field of Laboratory Animal Medicine. Laboratory animal medicine is a broad discipline that encompasses all research animals used in science, including, but not limited to, use of rodents, rabbits, nonhuman primates, dogs, cats, agricultural species, fish, birds, wildlife, etc.

These programs are delivered in partnership with the Ontario Veterinary College.

To learn more, please visit the [Certificate in Laboratory Animal Medicine-Canada website](#) or the [Certificate in Laboratory Animal Medicine-United States website](#).

Certificate in Pupil Transportation Management

The Certificate in Pupil Transportation Management provides a unique opportunity for school board transportation specialists and independent operators to develop and enhance their knowledge, skills, and abilities in effective transportation management. The curriculum reflects the current information, evidence-based best practices, issues, and challenges facing pupil transportation at Ontario school boards.

There are no admission requirements. The certificate is achieved by successfully completing four different courses from within the program offerings. The certificate is provided in partnership with the Ontario Association of School Business Officials.

To learn more, please visit the [Certificate in Pupil Transportation Management website](#).

Certificate in Supply Chain Management for Public Procurement

The Certificate in Supply Chain Management for Public Procurement is designed to provide knowledge and skills required in supply chain management and applied in the broader public sector (e.g., school boards, hospitals, etc.). Students will develop a deeper understanding of the principles of supply chain management for public procurement and the critical issues currently facing the field (e.g. legislative and regulatory change, costing, risk), while advancing their skills in strategic sourcing decision-making, methods of procurement, managing the competitive bidding process, contracting, and managing vendor relationships from negotiation to dissolution.

There are no admission requirements. The program is currently comprised of five different courses, four of which must be successfully completed to earn the certificate.

The certificate is provided in partnership with the Ontario Association of School Business Officials

To learn more, please visit the [Certificate in Supply Chain Management for Public Procurement website](#).

Certificate in Turf Managers' Short Course

The Turf Managers' Short Course is an intensive four-week residential program designed to provide turf industry personnel with knowledge in all aspects of turf management and culture. Students will learn to interpret and integrate turfgrass agronomic information to design and implement turfgrass management strategies.

This program is delivered in partnership with the Guelph Turfgrass Institute.

To learn more please visit the [Turf Managers' Short Course Certificate website](#).

Diploma in Equine Studies

The Diploma in Equine Studies developed with Equine Guelph, brings the expertise of a world-class veterinary college to horse owners. You will explore topics like equine safety and management practices, environmental stewardship, equine behavior, nutrition, anatomy, health, and welfare in this comprehensive program. With so many electives to choose from, you can customize your learning to best fit your interests and career goals, with an opportunity to integrate business courses with fundamental equine science studies. Whether you are new to the equine industry or have been involved for many years, the Diploma in Equine Studies will give you the extensive equine education that you are looking for. The Diploma in Equine Studies requires you to complete ten courses.

This program is delivered in partnership with Equine Guelph, Centre for equine education and research at the University of Guelph.

To learn more, please visit the [Equine Studies website](#).

Diploma in Human Resources Management

The Human Resources Management diploma program has been developed to provide you with the fundamental knowledge, skills and values to become a successful HR professional. The courses--all approved by the Human Resources Professionals Association (HRPA)--have been designed to assist you with understanding the day-to-day realities of working within the HR field. The courses include a mix of lectures, case studies, small group work, simulations and role playing. Our program instructors bring a wealth of knowledge and relevant work experience to the classroom. These experts will guide and coach you to develop the core competencies required to be proficient in the field of HR. If you are interested in a career in HR or are already working as an HR professional and looking to upgrade your skills, then the HR Management diploma program may be just right for you.

In order to receive your Diploma in Human Resources Management you must complete ten (10) courses within the program which include nine (9) Human Resources Professional Association (HRPA) approved courses and one (1) online course elective. There are no formal admission requirements for individuals interested in registering for courses.

To learn more, please visit the [Diploma in Human Resources Management website](#).

Diploma in School Board Administration

The Diploma in School Board Administration (DSBA) is designed for Ontario school board professionals who wish to develop and enhance their skills and knowledge of the board's business operations and functions. Facilitated by an expert team of instructors, the program explores a broad range of management topics and addresses strategic multidisciplinary issues in order to help participants effectively manage business opportunities and challenges in the school board environment. The intended audience includes individuals seeking to enhance their career potential within the school board environment.

While successful completion of post-secondary education is required for admission to the program, academic consideration may be extended to students with experience in a board environment. The diploma is achieved by successfully completing six online required courses and four elective courses, currently classroom-based. The diploma provided in partnership with the Ontario Association of School Business Officials.

To learn more, please visit the [Diploma in School Board Administration website](#).

DNA Barcoding Courses

Explore DNA Barcoding, PCR, next generation sequencing and environmental DNA (eDNA), to monitor biodiversity and obtain precise species identification, authentication and traceability through online courses developed by the Centre for Biodiversity Genomics. Gain an introduction to and history of DNA barcoding and its application as a standard for species identification. Metabarcoding reviews the state of the current technology and the suite of bioinformatics tools available for sequence analysis and data interpretation. Regulatory and forensic applications of DNA barcoding can trace and authenticate to the species level substitutes or counterfeits in traded commodities and pests. Standard operating workflows will give you the tools to develop routine protocols and integrative operational procedures.

Admission to the program requires an Undergraduate degree or College diploma, and successful completion of a basic Statistics course.

These courses are provided in partnership with the Centre for Biodiversity Genomics at the University of Guelph.

To learn more, please visit the [DNA Barcoding website](#).

Online Equine Studies Certificate Programs

Equine Science Certificate

The Equine Science Certificate is designed to help you improve the management and welfare of horses in your care. The courses introduce you to research and evidence-based practice and are presented in a practical format, making it easy for you to directly apply what you have learned to the health and performance of your horse. This program is ideal for the horse owner. The Equine Science Certificate requires you to complete six courses successfully. All of the courses are completed online.

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To learn more, please visit the [Equine Studies website](#).

Certificate in Equine Business Management

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Equine Welfare Certificate

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This program is delivered in partnership with the Campbell Centre for the Study of Animal Welfare and Equine Guelph the Centre for equine education and research, at the University of Guelph.

The Equine Welfare Certificate requires you to complete six courses.

To learn more, please visit the [Equine Studies website](#).

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The Diploma in Equine Studies developed with Equine Guelph, brings the expertise of a world-class veterinary college to horse owners. You will explore topics like equine safety and management practices, environmental stewardship, equine behavior, nutrition, anatomy, health, and welfare in this comprehensive program. With so many electives to choose from, you can customize your learning to best fit your interests and career goals, with an opportunity to integrate business courses with fundamental equine science studies. Whether you are new to the equine industry or have been involved for many years, the Diploma in Equine Studies will give you the extensive equine education that you are looking for. The Diploma in Equine Studies requires you to complete ten courses.

This program is delivered in partnership with Equine Guelph, Centre for equine education and research at the University of Guelph.

To learn more, please visit the [Equine Studies website](#).

Online Horticulture Studies Diploma Programs:

The Horticulture Studies Diploma Programs include two diploma options:

Horticulturist Diploma

The Horticulture Diploma is designed to produce highly knowledgeable, skilled and versatile graduates looking to work in parks and recreation, institutional grounds, nurseries, greenhouses, garden centers, or as a naturalist or professional gardener.

To achieve the Horticulture Diploma, students must successfully complete ten courses: five required courses and five elective courses.

The five required courses are:

- Soil and Plant Growth
- Plant Identification
- Integrated Pest Management
- Business Principles in Horticulture
- Horticulture Capstone

Elective courses can be selected by the student from the listing shown in Table 1. Students can mix and match electives to suit their goals and objectives or they can complete the two (2) elective courses associated with an area of focus. If students successfully complete the two courses associated with an area of focus, the area of focus will be listed on their Diploma (e.g. Horticulture Diploma, Area of Focus in Greenhouse Production).

Table 1

Area of Focus	Electives
1. Turf Management	1. Turf Management 2. Weed Management
2. Greenhouse Production	1. Greenhouse Crops 2. Greenhouse Management
3. Natural Landscape Management	1. Naturalizing and Restoring 2. Arboriculture
4. Nursery Production	1. Nursery Production 2. Plant Propagation
5. Urban Agriculture	1. Issues in Urban Farming 2. Vegetable Production
6. Landscape Design	1. Landscape Design I 2. Ecological Design

Landscape Design Diploma

The Landscape Design Diploma will elevate your level of understanding and skills related to commercial and residential landscape design. Students who graduate from the diploma will have thorough knowledge of landscape design techniques and will be able to present their ideas to prospective clients in a professional manner. The Landscape Design Diploma is suited to anyone looking to pursue a career in landscape design or upgrade their credentials as a landscape designer.

To achieve the Landscape Design Diploma, students must successfully complete ten courses: eight required courses, a choice of two courses and one elective course.

The eight required courses are:

- Landscape Design I
- Landscape Design II
- Ecological Design
- Plant Identification
- Graphic and Presentation Styles
- Landscape Construction
- Business Principles in Horticulture
- Landscape Design Capstone Project

Students must choose one of the following two courses:

- Computer Assisted Drafting I
- OR
- Soil and Plant Growth

One elective course must be selected by the student from the approved listing shown in Table 1.

To learn more about the Horticulture Diplomas, please visit the [Horticulture Studies website](#).

Online Horticulture Studies Certificate Programs:

There are five certificate programs. Students may choose to complete individual courses or complete a set of courses that count towards the certificates. Students who complete either the Horticulture or Landscape Design Certificate may continue to complete additional courses towards a diploma.

Horticulturist Certificate

The Horticulture Certificate will show you how to create beautiful and hardy landscapes through innovative residential garden design tactics and strategies. You will explore topics related to plant care principles, soil conditions, plant science, and horticulture. The program is designed to prepare you with the knowledge and skills related to pests, diseases and weed management so you can effectively address plant health issues and optimize the well-being of any garden. Designed specifically for gardeners, this program will enhance your knowledge and skills with respect to the residential garden environment.

To achieve the Horticulture Certificate, students must successfully complete five courses: three required courses and two elective courses.

The three required courses are:

- Soil and Plant Growth
- Plant Identification
- Integrated Pest Management

Elective courses can be selected by the student from the listing shown in Table 1. Students can mix and match electives to suit their goals and objectives or they can complete the two (2) elective courses associated with an area of focus. If students successfully complete the two courses associated with an area of focus, the area of focus will be listed on their Diploma (e.g. Horticulture Diploma, Greenhouse Production Area of Focus).

To learn more about the Horticulture Certificates, please visit the [Horticulture Studies website](#).

Landscape Design Certificate

The Landscape Design Certificate will show you how to improve the design of current landscapes and offer meaningful solutions to landscape design challenges. Learn how to produce landscape drawings, recommend construction materials that satisfy client intentions, and deliver aesthetically pleasing design and function into residential and commercial settings.

To achieve the Landscape Design Certificate, students must successfully complete five courses: four required courses and a choice of two courses.

To learn more about the Horticulture Certificates, please visit the [Horticulture Studies website](#).

Maintaining Golf Courses Certificate

The Maintaining Golf Courses Certificate is designed to provide students with valuable skills and knowledge related to golf course design and construction techniques, tree care, and the environmental care of golf courses. Develop practical and applied skills to design, construct and manage golf courses and turf, keeping the sustainable care of turf and plant communities at the forefront.

To achieve the Certificate, students must successfully complete six required courses

To learn more about the Horticulture Certificates, please visit the [Horticulture Studies website](#).

Sustainable Urban Agriculture Certificate

The Sustainable Urban Agriculture Certificate is designed for urban dwellers, city planners and community gardeners interested in growing food in a sustainable manner to support families, neighbourhoods and communities.

To achieve the Certificate, students must successfully complete five courses: four required courses and one elective.

To learn more about the Horticulture Certificates, please visit the [Horticulture Studies website](#).

Sustainable Urban Horticulture Certificate

The Sustainable Urban Horticulture Certificate focuses on the environmental, social and economic implications of horticulture in our cities. The program is designed for landscape designers and builders, municipal planners and environmental advocates interested in micro-economic sustainability and maximizing aesthetic and property values through innovative garden design.

To achieve the Certificate, students must successfully complete five courses: four required courses and one elective.

To learn more about the Horticulture Certificates, please visit the [Horticulture Studies website](#).

Professional Association Affiliations

Several courses have been approved by the following associations and may be applied to each association's respective professional programs:

[American Association of Sexuality Educators Counselors and Therapists \(AASECT\)](#)

[Association of Administrative Assistants](#)

[Board of Examiners in Sex Therapy and Counselling in Ontario \(BESTCO\)](#)

[Canadian Golf Superintendents Association](#)

[Canadian Payroll Association \(CPA\)](#)

[College of Family Physicians of Canada](#)

[Equestrian Canada](#)

[Golf Course Superintendents Association of America](#)

[Human Resources Professionals Association](#)

[Industrial Accident Prevention Association \(IAPA\)](#)

[Integrated Pest Management - Plant Health Care Council](#)

[Ontario Association for Marriage and Family Therapy](#)

[Ontario Association of School Business Officials](#)

[Ontario Association of Veterinary Technicians \(OAVT\)](#)

Summer Studies (Summer Semester)

Because the University operates on a three-semester system, a broad range of course offerings are available in the Summer Semester (May to August). During the summer months, degree-credit courses are offered in a variety of formats to meet the needs of full-time and part-time students both on and off campus.

Visit the [OpenEd website](#) for more information on distance education.