Degrees With a Difference
Ontario Agricultural College
Graduate Studies Viewbook 2023
The Ontario Agricultural College and University of Guelph campuses reside within the lands of the Dish with One Spoon Wampum (treaty). We recognize that the Anishinaabe, Hodinohso:ni, Lūnaapéewak and Wendat peoples have inhabited these lands for centuries and we respect their enduring relationships with the land.

The OAC community is a diverse group of settlers and Indigenous peoples dedicated to teaching, research and knowledge extension with strong connections to the natural world and the land that sustains us. We recognize that our history and our future is tied to the land and acknowledge our responsibility to build a future focused on understanding, respect, reciprocity, and a reconnection with the land and with one another.

Learn more about U of G’s commitments to reconciliation, indigenization and decolonization Indigenous Initiatives Strategy: Bi-Naagwad | It Comes Into View

Aerial view of internationally accredited University of Guelph Arboretum, a living museum and outdoor laboratory. Established in 1970, The Arboretum’s 400+ acres of trees, trails, gardens, natural areas, and wetlands promote conservation of biodiversity and connection to nature for research, learning, community engagement and wellness with 12.5 km of hiking trails that connect to the city and Ontario’s popular Bruce Trail system.

arboretum.uoquelpht.ca
Welcome to OAC

The Ontario Agricultural College (OAC) of the U of G is recognized globally for its research excellence, teaching and knowledge extension in the broad areas of food, agriculture, communities and the environment.

“A long history of innovation

Established in 1874, OAC is a founding college of the University of Guelph. It has two campuses in Guelph and Ridgetown, Ontario, and research activities are supported and strengthened by a province-wide network of field stations and research facilities.

OAC is comprised of six academic units:

- Animal Biosciences
- Environmental Design and Rural Development
- Environmental Sciences
- Food, Agricultural and Resource Economics
- Food Science
- Plant Agriculture

Our community has a strong sense of shared purpose: To Improve Life by inspiring leaders, generating knowledge and creating innovative solutions for food, agriculture, communities and the environment.
A leader in academics, research, student support and professional development.

OAC at the U of G is well known for its warm and friendly campus atmosphere. U of G is frequently ranked as the best university in the province for its student support, learning and living environment. The university offers many opportunities for students to become involved in their community and gain leadership experience.

- #1 in Canada and #12 in the world for Agricultural Sciences**
- #1 in Canada and #4 in the world for Food Sciences and Technology*
- #2 in Canada and #44 in the world for Plant & Animal Science**
- #3 in Canada and #99 in the world for Environment/Ecology**

*Source: cwur.org/2017/subjects.php#Food%20Science%20&%20Technology
**Source: admission.uoguelph.ca/rankings

“What sets UofG and particularly the OAC apart is the unique sense of community that exists when you step on campus. The collaborative approach between faculty members and students allows for really impactful and innovative research to occur.”

Nicholas Bannon
MSc, Food, Agricultural and Resource Economics
Current Student
Research Excellence at OAC

U of G is one of Canada’s most research-intensive universities and ranks as one of the country’s top comprehensive research institutions. It is internationally regarded as a research leader.

International in reputation, global in reach.

OAC’s research activities play a significant role in the University’s research profile. The College is recognized around the world for its research expertise in the areas of plant and animal production, sustainability and welfare, community and policy development and environmental studies and solutions.

OAC sits at the heart of an ever-growing agri-food industry that employs more than 800,000 people in the province. OAC delivers research, education and laboratory services in collaboration with many governmental partners such as the Ontario Agri-Food Innovation Alliance aiming to further the long-term global competitiveness and sustainability of Ontario’s agriculture and food system.
OAC is committed to internationalism and creating global citizens. Our researchers and scholars lend their expertise to solving the global problems and creating opportunities to improve lives abroad.

Global research projects in progress by faculty.

Making research history

- Dr. Anna Kate Shoveller (Animal Biosciences) is the inaugural Champion Petfoods Chair in Canine and Feline Nutrition, Physiology and Metabolism.

- Dr. Peter Pauls and Tom Smith (Plant Agriculture) were awarded the 2022 Seed of the Year award for the Dynasty Dark Red Kidney Bean. This bean represents 90% of the dark red kidney bean acreage in Ontario and is known for its adaptability, yield potential and stress tolerance.

- Dr. Nicolas Brunet (Environmental Design and Rural Development) received a Federal grant from the New Frontiers in Research Fund (NFRF) for an Inuit-led project to help strengthen multi-year science programs in Northern Canada.

- Dr. Thomas Graham (Environmental Sciences) is co-chair of a new national jury evaluating feasible ideas for growing crops in space as part of the Deep Space Food Challenge held by the Canadian Space Agency (CSA) and the National Aeronautics and Space Administration (NASA).
• Dr. Lawrence Goodridge (Food Science) leads the COVID Wastewater Testing initiative shared with Public Health for detection and monitoring of Covid-19 indicator levels in the Guelph community.

• Dr. Tongzhe Li (Food, Agricultural and Resource Economics) is the inaugural Director of the FARE Laboratory for Experimental and Applied Economics (FARELab). The FARELab uses laboratory and field experiments to explore a wide range of human decision-making.

“As a student from India, I was looking for institutions all over the world to pursue my graduate studies. The OAC is one of the world’s leading institutions for specialized agricultural research with research standards second to none and staggering real-world impacts.”

Ajwal Dsouza
PhD Environmental Sciences
Current Student
Leading Researchers, World-Class Facilities

Dr. Christine Baes, CRC in Livestock Genomics

Dr. Michael Rogers, CRC in Food Nanotechnology

Dr. Alejandro Marangoni, CRC in Food, Health and Aging

Dr. Kari Dunfield, CRC in Environmental Microbiology of Agro-ecosystems

Dr. Trevor DeVries, CRC in Dairy Cattle Behaviour and Welfare

Dr. Jesse Popp, CRC in Indigenous Environmental Science
OAC has exceptional researchers, as demonstrated by our 6 Canada Research Chairs (CRC).

Check out our faculty and the research they perform!

OAC Faculty List and Areas of Study

In addition to our Canada Research Chairs, OAC is home to NSERC Industrial Research Chairs and many Donor & Partner Supported Chairs and Professorships.

To support research being performed at OAC, our researchers have access to cutting-edge facilities and many Research Centres and Institutes, such as:

- The Arrell Food Institute
- Aquaculture Centre
- Bioproducts Discovery and Development Centre
- Campbell Centre for the Study of Animal Welfare
- Canadian Research Institute for Food Safety
- Centre for Agricultural Renewable Energy and Sustainability
- Centre for Genetic Improvement of Livestock
- Centre for Land and Water Stewardship
- Centre for Nutrition Modelling
- Controlled Environment Systems Research Facility
- Dairy at Guelph
- Gosling Research Institute for Plant Preservation
- Guelph Centre for Urban Organic Farming
- Guelph Turfgrass Institute
- Honey Bee Research Centre
- Institute for the Advanced Study of Food and Agricultural Policy

In November 2021, The Government of Ontario announced that the Ontario Swine Research Centre will join the world-class Ontario Dairy Research Centre and Ontario Beef Research Centre at the Elora Research Station, making this cluster of facilities the epicenter of livestock research in Canada.
Advance your career with access to a network of world class research facilities.

Research Centres and Institutes provide graduate students with hands-on experience and access to state-of-the-art equipment and facilities as they complete their PhD and Master’s research. The research conducted at these centres promote agri-food discoveries, validate laboratory findings, stimulate further research and provide valuable information for the agri-food sector and beyond.

Taking strides towards a greener future.

The Bioproducts Discovery & Development Centre (BDDC) is making Canada a leader in sustainability through the innovation and investigation of bioproducts. These products are made to substitute non-renewable materials in manufacturing sectors, consumer goods and services.

Interdisciplinary teams of plant biologists, chemists, and engineers come together with goals to develop Canada’s bioeconomy and find solutions to modern environmental problems. The centre also facilitates partnerships between industry and university-based researchers to drive commercial application of the bioproducts.

“Researchers don’t just conduct research projects — we are part of a complex information network. Through scientific conferences and collaborations, we share our discoveries with the world and bring the latest scientific theories and research back to U of G. We also train highly qualified personnel, who become important contributors to our knowledge base. After graduation, they extend our network out to industry and other research institutions.”

Dr. Youbin Zheng
Professor, School of Environmental Sciences
controlled environment agriculture, environmental horticulture
Types of Graduate Programs

OAC has 17 master’s degrees — thesis and course-based options — and 10 PhD programs that focus on food, agriculture, communities and the environment, housed within six departments and schools.

Four ways to shape your future

Thesis-Based Masters

• ~2 years of full-time study*
• Research focused (minimal coursework)
• Submission of a thesis that contributes a novel tool or theory in a specific research area. Research conducted is an in-depth analysis of a scientific topic and could become a published paper.
• Finding a faculty advisor recommended prior to program application

Course-Based Masters

• 1 year of full-time study
• Coursework focused to develop a reasonable mastery of a specific area of study
• Faculty advisor not required prior to application

Course-Based Masters with Major Research Project

• 1–2 years of full-time study
• Combination of coursework and a major research project (MRP)
• A MRP is smaller in scope than a thesis project. The research does not need to be a novel contribution, but still thoroughly researched.
• Faculty advisor may be required prior to program acceptance
Doctor of Philosophy (PhD)

• ~4 years of full-time study*
• Research intensive
• Submission of a thesis that is a major contribution to the discipline. Research focus on a novel tool or theory in a specific research area.
• Finding a faculty advisor recommended prior to program application, required prior to acceptance
• Optional — Direct Entry — transfer from master’s degree into a doctoral program

*Some disciplines may take longer to complete

Pick your destination with a graduate degree

The future is bright for OAC graduate students.

There is an abundance of opportunities for OAC graduates. The OAC Destinations initiative documents graduates from OAC’s 15 graduate programs from 1999 to 2019 and their career status as of 2019. By identifying the career pathways of our graduates, we are able to illustrate their broad aptitudes and the many ways in which they have applied their educational and research experience to a variety of careers.

Explore the Destinations Initiative Reports here
OAC Graduate Programs

**Department of Animal Biosciences**

<table>
<thead>
<tr>
<th>Program</th>
<th>Description</th>
<th>Delivery options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masters</td>
<td>MSc Animal Biosciences (Toxicology, Neuroscience, One Health)</td>
<td>Course Work, Thesis</td>
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<tr>
<td>Doctoral</td>
<td>PhD Animal Biosciences (Toxicology, Neuroscience, One Health)</td>
<td>Thesis</td>
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**Department of Plant Agriculture**

<table>
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<tbody>
<tr>
<td>Masters</td>
<td>MSc Plant Agriculture (International Development Studies)</td>
<td>Thesis</td>
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<tr>
<td>Doctoral</td>
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**Department of Food Science**

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<tbody>
<tr>
<td>Masters</td>
<td>MSc Food Safety and Quality Assurance (Toxicology, One Health)</td>
<td>Course Work, Online</td>
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<tr>
<td>Masters</td>
<td>MSc Food Science (Toxicology, One Health)</td>
<td>Thesis</td>
</tr>
<tr>
<td>Masters</td>
<td>Master of Dairy Technology Management (MDTM)</td>
<td>Course Work, Online</td>
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<tr>
<td>Doctoral</td>
<td>PhD Food Science (Toxicology, One Health)</td>
<td>Thesis</td>
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<tr>
<td>Department of Food, Agricultural &amp; Resource Economics</td>
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<tr>
<td><strong>Masters</strong></td>
<td>Master of Food, Agricultural and Resource Economics (MFARE) (International Development Studies)</td>
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<td><strong>Delivery options</strong></td>
<td>Course Work</td>
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<td>Thesis</td>
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<td><strong>Delivery options</strong></td>
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<td><strong>Delivery options</strong></td>
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## School of Environmental Sciences

<table>
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<tr>
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<tr>
<td>Delivery options</td>
<td>Course Work</td>
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<tr>
<td>Delivery options</td>
<td>Thesis</td>
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</table>

## Collaborative Specializations

(can be added to a participating degree program)

<table>
<thead>
<tr>
<th>International Development Studies</th>
<th>This collaborative specialization provides a focal point for graduate teaching and research in the area of international development that combines training in a particular discipline with exposure to a broad range of social science perspectives.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroscience</td>
<td>A collaborative specialization that fosters strong collaborative efforts between faculty and students working across various levels of analysis, including molecular, cellular, systems, and behavioural research.</td>
</tr>
<tr>
<td>One Health</td>
<td>This collaborative specialization prepares future leaders for the complex challenges at the confluence of human, animal, and environmental health, working across disciplinary boundaries, conducting multidisciplinary research, mobilizing knowledge, and informing policy.</td>
</tr>
<tr>
<td>Toxicology</td>
<td>This collaborative specialization encompasses broad and diverse fields of study such as ecosystem health, including water, air and soil quality, plant health, microbes, and insects, sustainable agriculture and human and animal health.</td>
</tr>
</tbody>
</table>

Collaborative specializations are intra-university graduate fields of study that provide additional multidisciplinary experiences for students enrolled in and completing the degree requirements of an approved masters or doctoral program.
Animal Biosciences

A career in animal science starts here.

Research and educational programs in the Department of Animal Biosciences revolve around the basic sciences relevant to animal development and well-being.

<table>
<thead>
<tr>
<th></th>
<th>MSc (Coursework)</th>
<th>MSc (Thesis)</th>
<th>PhD</th>
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<tbody>
<tr>
<td>Duration</td>
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<td>2 years</td>
<td>3 – 5 years</td>
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<td>Advisor Required at Application</td>
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<td>✓</td>
<td>✓</td>
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<tr>
<td>Funding</td>
<td>✗</td>
<td>✓</td>
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<tr>
<td>Degree Requirement</td>
<td>Honours bachelor's degree in sciences (or equivalent)</td>
<td>Honours bachelor's degree in sciences (or equivalent)</td>
<td>An MSc degree</td>
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<td>Admission Requirement</td>
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<td>Minimum of 73% (B) during last two years of undergraduate study</td>
<td>A minimum of 73% (B) average</td>
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<tr>
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<td>Ongoing</td>
<td>Ongoing</td>
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<tr>
<td>Entry</td>
<td>Fall</td>
<td>Fall, Winter, Summer</td>
<td>Fall, Winter, Summer</td>
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</tbody>
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Fields of Research

- Animal Breeding and Genetics
- Animal Nutrition
- Animal Physiology
- Animal Behaviour and Welfare
Students and faculty have access to high quality animal research facilities, a modern and federally inspected meats laboratory, and a range of laboratory facilities in genomics, nutrient analyses, physiology, and microbiology. The department also has unique on-campus large farm animal study rooms and surgical recovery facilities for animal research.

Students are very successful after they graduate. Within 6 months of graduating, over 90% of Animal Biosciences graduates go on to future training or careers related to their program.

Find out more about our faculty here

MSc Animal Biosciences

There are two ways to complete your master’s program within the Department of Animal Biosciences: MSc by course work or MSc by thesis.

The MSc coursework is a 1-year program for specialized training in different aspects of the animal sciences.

The MSc by thesis program is a 2-year program designed for students interested in advanced research.

The innovative research conducted ranges from the applied (designed to solve practical problems in animal agriculture) to discovery-focused, cutting-edge research aimed at testing fundamental hypotheses in animal biology.

Find out more about our research here

Interested in a PhD program? Find out more here

Find out more about our PhD program here

Graduate programs offer “hands on” experiential learning opportunities for research with a large selection of livestock animals, equine, companion animals, wildlife, aquatic and more to complement a wide range of graduate courses.

Graduate Program Assistant contact
Jacob Harwood | harwood@uoguelph.ca
“It is very important that the graduate students who work with me are motivated, creative, and have initiative. In research, you need these skills to create new things and bring forward new ideas.”

Dr. Angela Cánovas
Associate Professor
Systems biology and livestock genomics

“The amount of hands-on animal work I have gained during my MSc and PhD is unmatched by any other experience I had before grad school. Furthermore, I have gained an incredible amount of presentation, networking, management, and communication skills through my programs which are extremely transferable to a future career.”

Sydney Banton
Current, PhD Animal Biosciences
MSc, Animal Nutrition, Alumni
Nutrition Manager, Petcurean Pet Nutrition
Environmental Design & Rural Development

Designing a future of strong, sustainable communities.

The School of Environmental Design & Rural Development (SEDRD) reflects the imperatives in building authentic communities where planners, leaders, communicators, landscape architects, the citizens and politicians all play important interdependent roles in community strength.

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<tr>
<th></th>
<th>MLA</th>
<th>MSc CDE</th>
<th>MSc (Planning)</th>
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<tr>
<td><strong>Duration</strong></td>
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<td>1–2 years</td>
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<td><strong>Funding</strong></td>
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<td>January 31</td>
<td>March 1 (international applicants) May 30 (domestic applicants)</td>
<td>March 31</td>
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<td>MPlan</td>
<td>PhD</td>
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<tr>
<td><strong>Duration</strong></td>
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<td>3–5 years</td>
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<td><strong>Advisor Required</strong></td>
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<td>✔️</td>
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<td><strong>Funding</strong></td>
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<td><strong>Degree Requirement</strong></td>
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<td>MSc degree</td>
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<td>January 30 (Summer Entry)</td>
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<td></td>
<td>May 30 (Fall Entry)</td>
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### Programs of Study:

- Capacity Development and Extension
- Landscape Architecture
- Rural Planning and Development
- Rural Studies PhD

Find out more about our faculty here

### MSc Capacity Development and Extension (CDE)

This program is unique in Canada and focuses on processes of learning, advocacy, leadership, communication and capacity development for rural, remotes and small communities in Canada and around the world. Students develop core competencies for facilitating social and environmental change. In addition to coursework, students write either a thesis or major research paper. The thesis option requires the completion of 6 courses in addition to the thesis, while the major paper option requires the completion of eight courses and the major research paper.

Find out more about CDE research here
Master of Landscape Architecture (MLA)

This program is for people seeking a graduate degree in an intensive, internationally-recognized design program. The MLA program is unique in being an accredited graduate degree in landscape architecture, as well as Canada’s first-established professional degree program in landscape architecture.

The MLA curriculum has three integrated streams: design theory and practice, landscape analysis and planning, and research inquiry and application. The final year of the MLA program is focused on the individual interests of each student and on completion of a master’s thesis. Internships and summer employment opportunities provide students with paid professional experience in some of North America’s most prestigious firms.

Graduate Program Assistant contacts
MLA
Diana Foolen | dfoolen@uoguelph.ca

CDE, MPLAN, MSc Planning
Lorena Barker | cde@uoguelph.ca | rpd@uoguelph.ca

“Building long-term relationships with OAC faculty is the highlight of my academic career. I’ve undertaken several research projects and published several peer-reviewed articles with faculty across the college, building my expertise, portfolio, and professional network while contributing to our field of studies.”

Emily Sousa
MSc Rural Planning and Development
Alumni Ontario Federation of Agriculture
“Students are the most important source of inspiration and partners on my journey to improve the lives of people. I wish to learn from my students. As well, I want to make them better prepared to tell their stories effectively and bring positive changes in their own lives and the communities they work with.”

Dr. Ataharul Chowdhury
Assistant Professor, Capacity Development & Extension
Capacity development for agri-food system and rural development

Rural Planning & Development

Within the Rural Planning & Development program there are two graduate degrees: a Master of Science in Rural Planning and Development (MSc) and Master of Planning (MPlan). Both programs provide the opportunity for graduate study, research and professional development in rural planning and development in either Canadian or international contexts.

MSc Rural Planning and Development

This 2-year program is intended for students with a completed undergraduate degree interested in planning and development. Students focus their program of study in either the Canadian or International stream. The program can be completed with a thesis, major research paper, or as a course-based option. The MSc program is an accredited degree by the Professional Standards Board, facilitating membership in the Canadian Institute of Planners and provincial planning organizations.

Find out more about Planning research here

Master of Planning (MPlan)

This 1-year program is intended for students with a completed undergraduate degree and 4–5 years of planning and development experience, who wish to upgrade their professional training to the Masters level without necessarily withdrawing from the work force. The MPlan program is offered in-class or via online learning, and offers students the opportunity to specialize in either the Canadian or International stream.
Canadian Stream

The focus is on rural, Indigenous, and remote communities in Canada. Students gain critical knowledge and skills sets in planning theory, planning law, plan formation, implementation, project management, and evaluation. These skills are developed and demonstrated through community-based course projects, case studies, and student research.

International Stream

Prepares students for practice and research in rural and regional development planning in the international context. It focuses on the rural regional dimension within a national or global context, in particular the policy, planning and management processes that are driving development interventions. It emphasizes applied research and practice based on a firm foundation of theory.

Interested in a PhD program? Find out more here

Find out more about our PhD program here

Graduate Program Assistant contact
Lorena Barker | rsphd@uoguelph.ca

“Agriculture in developing countries is dynamic, and embeds social and cultural systems. There is a need for interdisciplinary teams to build on traditional, scientific, and technological sources of knowledge. I support students exploring these unknown dynamics and help them foster spaces for people in less represented communities to empower themselves.”

Dr. Silvia Sarapura
Professor, Rural Planning and Development
agri-food systems and rural planning,
intersectionality in land use planning
## Environmental Sciences

**Excellence in environmental science:** make a difference to the world.

The School of Environmental Sciences (SES) uniquely integrates the physical and life sciences to address important environmental problems in agricultural, forest, and aquatic ecosystems.

<table>
<thead>
<tr>
<th></th>
<th>MES (Coursework*)</th>
<th>MSc (Thesis)</th>
<th>PhD</th>
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<tbody>
<tr>
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</tr>
<tr>
<td><strong>Admission Requirement</strong></td>
<td>Minimum of 70% (B-) during last two years of undergraduate study</td>
<td>Minimum of 70% (B-) during last two years of undergraduate study</td>
<td>A minimum of 85% (A-) average</td>
</tr>
<tr>
<td><strong>Application Deadline</strong></td>
<td>International: February 1</td>
<td>Ongoing</td>
<td>Ongoing</td>
</tr>
<tr>
<td></td>
<td>Domestic: April 30</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Entry</strong></td>
<td>Fall</td>
<td>Fall, Winter, Summer</td>
<td>Fall, Winter, Summer</td>
</tr>
</tbody>
</table>

*MES Options: Courses + Major Research Project (6 courses) or Courses only (8 courses).*
Fields of Research:

- Earth and Atmospheric Science
- Ecosystem Science and Biodiversity
- Plant and Environmental Health

Award winning faculty and research expertise spans several disciplines including apiculture, atmospheric and earth sciences, ecology, environmental microbiology, entomology and pest management, plant pathology and protection, soil science, and environmental toxicology.

Find out more about our faculty here

Master of Environmental Sciences (MES)

This program focuses on the most recent theoretical and technical advances in environmental science, through interdisciplinary and multidisciplinary teaching and research, to provide students with both a depth and breadth of knowledge. Students will develop critical thinking and communication skills so that they can excel in a career with industry, government or in the not-for-profit sector.

MSc Environmental Sciences

The objective of this thesis-based program is to develop graduates with a high level of knowledge and expertise in specific aspects of environmental science, training in laboratory and field techniques, and excellence in written and oral communication. Graduates will possess a strong foundation on which they can be highly successful in science-related positions in government, industry, and consulting, or carry out high quality research at the PhD level.

Find out more about our research here

Interested in a PhD program? Find out more here

Find out more about our PhD program here

Graduate Program Assistant contact
ses.gradsec@uoguelph.ca
“During my degree, I have learned the importance of translating my academic research and knowledge to other audiences. At the same time, I have gained so many friends, mentors, and connections in SES, and will draw on this network over the rest of my life.”

Rosemary Brockett
MSc Environmental Sciences
Current Student

“We’re not leaving this planet without plants, so we designed plant growth chambers that are capable of functioning in the atmosphere of the moon or Mars. The Controlled Environment Systems Research Facility has become one of the world’s leading research venues for technology development in the field of biological life support, which is plants in space.”

Dr. Mike Dixon
Professor
Director CESRF
Controlled environments, life support, space exploration
Food, Agricultural & Resource Economics

Training tomorrow’s research and policy leaders.

Graduate students in the Department of Food, Agricultural & Resource Economics (FARE) study issues related to trade, policy, resources and new technologies. The scope of study incorporates all parts of the food system from farm to fork.

<table>
<thead>
<tr>
<th></th>
<th>MFARE (Coursework)</th>
<th>MSc (Thesis-based)</th>
<th>PhD (Thesis-based)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration</td>
<td>1 year</td>
<td>2 years</td>
<td>4 years</td>
</tr>
<tr>
<td>Advisor Required at Application</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>Funding</td>
<td>☒*</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Degree Requirement</td>
<td>Honours bachelor’s degree in FARE/economics</td>
<td>Honours bachelor’s degree in FARE/economics</td>
<td>A Master’s degree equivalent to the MSc in FARE*</td>
</tr>
<tr>
<td>Admission Requirement</td>
<td>Minimum of 70% (B-) during last two years of undergraduate study</td>
<td>Minimum of 70% (B-) during last two years of undergraduate study</td>
<td>A minimum of 73% (B) average</td>
</tr>
<tr>
<td>Application Deadline</td>
<td>February 1</td>
<td>February 1</td>
<td>February 1</td>
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<tr>
<td>Entry</td>
<td>Fall</td>
<td>Fall</td>
<td>Fall</td>
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</table>

*MFARE students may be eligible for funding, but it is not guaranteed
Fields of Research:

- Food and agricultural economics
- Natural resource and environmental economics

Students apply their rigorous training and research experience in a number of rewarding ways. Through their research, students gain an appreciation of the policy environment within which provincial, federal and private organizations exist, and are prepared for successful careers in the government, academia and private sectors upon graduation.

Find out more about our faculty here

Master of Food, Agricultural & Resource Economics (MFARE)

This course-based program provides graduate education related to the economics of food, agriculture, and natural resources, with an emphasis on skills acquisition and development of industry-specific expertise.

A research option is available to add onto this program. MFARE students are eligible for funding, but it is not guaranteed.

MSc Food, Agricultural & Resource Economics (MSc FARE)

The MSc develops fundamental understanding of economic principles and their application in identifying and solving relevant problems related to food, agriculture, and natural resources. The program develops appropriate analytical, methodological, and communication skills for students to analyze agriculture and resource problems effectively and explain their findings.

Find out more about our research here

Interested in a PhD program? Find out more here

Find out more about our PhD program here

FARE has strong links internationally. Graduate students in the department are drawn from North America, Europe, Latin America, Africa and Asia. The multicultural nature of the graduate student body enriches the experience of both students and faculty in the department.

Graduate Program Assistant contact
Jennifer Laporte | faregrad@uoguelph.ca
“The program provides students with a strong base that we can apply to a variety of topics that fall under agricultural economics. Through coursework, I was engaged and challenged academically as I learned new concepts and methods. Through research, I have been supported and encouraged to follow my interests.”

Isabel Maddocks
MSc Food, Agricultural and Resource Economics
Current Student

“I combine economic theory and behavioral approaches to understand the economic and political context of a problem. My current projects focus on environmental and recourse economics, innovation adoption, consumer behavior, and food policy. In addition, I am deeply interested in studying social comparison and discrimination issues.”

Tongzhe Li
Professor
Director FARELab
Experimental and behavioural economics, innovation adoption
Interdisciplinary Program

For the future leaders of the dairy industry.

The Master of Dairy Technology Management (MDTM) program, a new collaborative program launched in Fall 2022, aims to produce the highly qualified personnel needed to lead the growing local, national and the international dairy industries into the future.

<table>
<thead>
<tr>
<th>Coursework + Major Project</th>
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<tbody>
<tr>
<td>Duration</td>
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<tr>
<td>Advisor Required at Application</td>
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<tr>
<td>Funding</td>
</tr>
<tr>
<td>Degree Requirement</td>
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<tr>
<td>Admission Requirement</td>
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<tr>
<td>Application Deadline</td>
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<tr>
<td>Entry</td>
</tr>
</tbody>
</table>

*Recommended preparation courses are FOOD*2010 Principles of Food Science or equivalent, and MATH*1030 Business Mathematics or equivalent.

Master of Dairy Technology Management

This unique program provided by the Departments of Food Science and Food, Agricultural & Resource Economics, brings together global expertise to delve into the essentials of dairy science, dairy plant operations, dairy products, agri-food economics, food safety and quality management, operations management, and supply and value chain management.
The Master of Dairy Technology Management is an interdisciplinary program that blends three major overarching competencies:

- Dairy Science and Technology
- Management of Operations, Food Safety Systems and Quality Assurance
- Marketing and Business Management

Designed to optimize accessibility, this course is delivered **fully online**.

The concentrated curriculum can be completed in 1 year with a full-time course load, or taken part-time over 2–3 years.

The program consists of 6 courses and a major capstone project:

- International Food Industry and Policy Analysis
- Assessment of Food and Agricultural Technologies
- Dairy Chemistry and Microbiology
- Dairy Products and Processes
- Dairy Technology Management Projects

Find out more about this program here

**Graduate Program Assistant contact**
Robin Verral | mdtm@uoguelph.ca
**Food Science**

*Where leading food scientists get a nourishing start.*

With a focus on developing sustainable, safe and innovative foods aimed at improving human health, the Department of Food Science conducts interdisciplinary research spanning the fields of chemistry, biology, natural product chemistry, microbiology, nanoscience, physics and nutritional science.

<table>
<thead>
<tr>
<th></th>
<th>MSc FSQA (Coursework)</th>
<th>MSc (Thesis)</th>
<th>PhD</th>
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</thead>
<tbody>
<tr>
<td><strong>Duration</strong></td>
<td>1 year</td>
<td>2 years</td>
<td>3–5 years</td>
</tr>
<tr>
<td><strong>Advisor</strong></td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Funding</strong></td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Degree Requirement</strong></td>
<td>Honours bachelor’s degree in sciences (with courses in food science, nutrition, public health or other related fields)</td>
<td>Honours BSc degree in Food Science, Chemistry, Biology, Microbiology, Physics, or other related degree</td>
<td>An MSc degree</td>
</tr>
<tr>
<td><strong>Admission Requirement</strong></td>
<td>Minimum of 73% (B) during last two years of undergraduate study</td>
<td>Minimum of 73% (B) during last two years of undergraduate study</td>
<td>A minimum of 73% (B) average</td>
</tr>
<tr>
<td><strong>Application Deadline</strong></td>
<td>July 1 (Domestic applicants) November 1 (International applicants)</td>
<td>July 1 (Fall), November 1 (Winter) March 1 (Summer)</td>
<td>July 1 (Fall), November 1 (Winter) March 1 (Summer)</td>
</tr>
<tr>
<td><strong>Entry</strong></td>
<td>Fall</td>
<td>Fall, Winter, Summer</td>
<td>Fall, Winter, Summer</td>
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</tbody>
</table>
Fields of Research

• Food Production
• Food Nutrition
• Food Microbiology
• Food Chemistry

The Food Science program at OAC is the only one of its kind in Ontario and has trained a large percentage of the food scientists currently employed in Ontario’s food and beverage industry; the third largest in North America.

Facilities include individual laboratories, teaching laboratories, a core laboratory (focusing on analytical chromatography), a state-of-the-art dairy processing plant, an experimental kitchen, a newly renovated food processing facility and a level II biosafety facility.

Meet our Food Science faculty here

MSc Food Safety and Quality Assurance (FSQA)

This course-based graduate program is designed to provide a balance of scientific and management principles underlying Food Safety and Quality Assurance. This program is intended for those currently employed as food scientists, food engineers, public health or food safety inspectors, as well as those who have recently graduated from programs with appropriate scientific backgrounds. Students may take this program in one of two formats: a combination of online and on campus courses with a faculty advisor-led research project; or fully online with an approved workplace project.

MSc Food Science

Graduates will gain general scientific knowledge as well as a more in-depth understanding of various aspects of food science. Extensive laboratory and technical training is obtained by conducting experiments under the supervisio of world-renowned faculty.

Find out more about our research here

Whether fresh fruits, vegetables or meats, frozen foods, dairy products, cereals or beer and wine, food scientists have transformed these products from raw ingredients to consumer goods.

Interested in a PhD program? Find out more here

Find out more about our PhD program here
Graduate Program Assistant contacts
FSQA Program Assistant
Robin Verral | fsqa@uoguelph.ca

MSc and PhD Program Assistant
Aimee Caldwell | fsgradsec@uoguelph.ca

“This program has been a key stepping stone in bringing me where I want to go. I have learned new concepts and met people from all walks of life that have taught me important skills and techniques.”

Jasmine Merchant
MSc Food Safety & Quality Assurance
Current Student

“We are entering exciting times in which we will be able to verify the integrity of our foods using different kinds of technologies. This transparency will allow us to make better choices in the way we market, move, and produce our food.”

Dr. Maria Corradini
Associate Professor and Arrell Chair in Food Quality
Food Quality, Food Safety, Nanomaterials
Plant Agriculture

Dig deep into the science of agriculture.

Strongly rooted in crop and horticultural science, graduate studies within the Department of Plant Agriculture encompasses applied bioinformatics; molecular genetics; genomics; field, horticultural and greenhouse crops; plant breeding; turf and grassland studies; environmental sustainability; weed science/ecology; and the use of plant materials for health, fibers and industrial products.

<table>
<thead>
<tr>
<th></th>
<th>MSc (Thesis)</th>
<th>PhD</th>
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</thead>
<tbody>
<tr>
<td>Duration</td>
<td>2 years</td>
<td>3–5 years</td>
</tr>
<tr>
<td>Advisor Required at Application</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Funding</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Degree Requirement</td>
<td>An honours bachelor’s degree in a plant science or biology program (or equivalent)</td>
<td>MSc degree by thesis in a field appropriate to the proposed area of specialization</td>
</tr>
<tr>
<td>Admission Requirement</td>
<td>A minimum of 73% (B) average during last two years of undergraduate study</td>
<td>A minimum of 73% (B) average</td>
</tr>
<tr>
<td>Application Deadline</td>
<td>Ongoing</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Entry</td>
<td>Fall, Winter, Summer</td>
<td>Fall, Winter, Summer</td>
</tr>
</tbody>
</table>
Fields of Research

- Plant Breeding and Genetics
- Plant Biochemistry and Physiology
- Crop Production Systems
- Bioproducts

The Department of Plant Agriculture has modern labs with state-of-the-art equipment and access to the controlled environment growth facilities and numerous field sites distributed over Ontario. Graduate students are provided hands-on learning opportunities from nationally and internationally recognized experts.

Find out more about our faculty here

MSc Plant Agriculture

This two-year program requires students to complete a research-based thesis with a specialization in one of four broad fields within plant science. Students develop an understanding of plant growth and development, weed control, and plant-environment interactions. Research for one's thesis could focus on how to increase plant production efficiency, development of new crop varieties, or discovering new environmentally friendly industrial materials.

Find out more about our research here

Interested in a PhD program? Find out more here

Find out more about our PhD program here

Canada’s largest and most diverse applied plant biology department and the largest research department at the University of Guelph.

Graduate Program Assistant contact
Tara Israel | pgrad@uoguelph.ca
“Plant Agriculture is an interdisciplinary field. With OAC, you can find yourself working in any combination of genetics, microbiology, pathology, agronomy, entomology — the list goes on. There are many opportunities and career options for you to improve people’s lives.”

**Michelle Thompson**  
PhD Plant Agriculture  
Current Student

“With the increased attention focused on soil health, forages, and livestock, it’s a really exciting time to be working in this field. With grazing and fertility management, there is a lot of potential for perennial forages to help offset greenhouse gas emissions and carbon sequestration.”

**Dr. Kim Schneider**  
Assistant Professor  
agroecology, forages and service crops
Graduate Faculty Advisors

Faculty advisors guide, inspire, and support their students to reach their scholarly potential. The advisor promotes conditions conducive to student’s research and intellectual growth, providing appropriate guidance on the progress of the research and the standards expected.

Real world research, guided by real world researchers.

Graduate programs with a thesis or major research paper (MRP) component require a faculty advisor. Thesis students should identify and confirm their faculty advisor prior to application, whereas major research paper students typically find an advisor after starting their program. When reviewing and researching potential advisors, here are a few things to keep in mind:

- Are you interested in their research?
- Does their research align with your learning and career goals?
- What is their advising style?
- Is there funding available?
Finding a Faculty Advisor

1. Explore the OAC faculty members page and identify potential professors you would like to work with.
2. Reach out via email to request a meeting with potential advisors to discuss your research interests and future research project opportunities in their lab.
3. Important information to include in your initial contact:
   - Your academic and professional background (include your academic CV)
   - Your research experience and interests
   - Why you are interested in working with them
   - If you have received or applied for any scholarships

Tip: Reach out to current graduate students who have worked with your potential advisor. This will give you the graduate student’s perspective on the lab and research.

“My advice is to find a question that you really care about, and find a supportive mentor. Keep your motivation in finding the right solution to a critical problem, and seek these solutions across disciplines. The future belongs to you.”

Dr. Amar Mohanty
Professor, Plant Agriculture
Distinguished Research Chair in Sustainable Biomaterials
Funding & Financial Support

OAC is committed to improving access to education and encouraging student wellness by creating an environment that supports and nurtures the student as a whole.

Find out more about cost of living and tuition

Dedicated to student success

OAC prides itself in attracting and recruiting the best students by acknowledging and rewarding their accomplishments.

As a research-intensive institution, we place great importance on helping students finance their education. We seek to allow students to devote their full energy to the successful completion of their program and strive to ensure that stable funding is available.

To support these commitments, OAC’s programs offer a minimum stipend, a significant range of scholarships, bursaries, awards and travel grants, as well as other funding opportunities. Some funding is awarded upon admission to a program or is based on recommendations from the admitting program.

Funding for Thesis-based Programs

Thesis-based graduate students receive a funding package made up of a number of components such as some or all of the following: Graduate Stipend, Graduate Teaching Assistantships (GTAs), Graduate Research Assistantships (GRAs), Graduate Service Assistantships (GSAs), plus scholarships/awards (internal or external).

OAC Internal and External Graduate Student Awards

Students must apply directly for internal OAC Awards, and University Awards. A comprehensive listing of University of Guelph internal graduate awards is available on the Graduate Award Search page.
OAC graduate students are also highly successful in receiving external scholarships. Graduate students in OAC are encouraged to review and apply to various external scholarship opportunities.

Find out more about applying for Scholarships here

Awards Contact
oacaward@uoguelph.ca

Highly Qualified Personnel Scholarship Program

Funded by the Alliance and Food from Thought, the Highly Qualified Personnel (HQP) program was created to support the development of highly skilled graduates who can meet the changing demands of the agri-food and rural sector. The health of these sectors depends on a vibrant talent pool of skilled, forward-thinking learners.

Masters and PhD students complete research that meets OMAFRA’s research priorities and learn firsthand how forward-thinking research can be mobilized to have a positive impact on society.

OAC Graduate students were awarded $5.2 million in scholarships and awards in 2021/2022. Over half of OAC graduate students hold at least one award thanks to the generous support of our alumni and donors.

“My message for prospective graduate students is to put yourself out there when looking for scholarships and bursaries. Apply for every award you are interested in — even if you think there is a slim chance, you will likely be surprised! Don’t doubt or question your own abilities.”

Lydia Conrad
MSc Animal Biosciences
Current Student
Professional Skills Development, Social & Wellness Opportunities

OAC prioritizes opportunities for graduate student development, wellness and building a strong student community.

There are a multitude of opportunities for OAC graduate students to engage and develop their personal and professional networks, skills and knowledge, a few examples of which are outlined here.

“I have had the opportunity to participate in activities and programs that have been incredibly rewarding. The OAC provided an environment for me to pursue my goals and interests, beyond just my research. Don’t hesitate to get involved to make the most out of your time here.”

Alyssa Francavilla, MSc
PhD Food Science Current Student
General Director, Food Science Department, Graduate Student Association

Grad Pathways

Grad Pathways is the University of Guelph’s resource hub specifically designed to support the academic, research, personal, and professional success of our graduate students and post-doctoral fellows.

Find out more here

3 Minute Thesis (3MT)

The 3 Minute Thesis competition assists students with building great communication skills by presenting their research and its wider impact in 3 minutes or less. It challenges students to present complex research in an engaging, accessible and compelling way. OAC graduate students have excelled with several winning not only the University-wide competition but both the provincial and national competitions as well.
International Exchange and Travel

As a graduate student, you may broaden your horizons with the opportunity to visit or study at another institution in Canada or abroad. The Ecuador field school (find out more about Field School here) is just one of countless examples of the graduate student travel opportunities.

Check out what is happening in our International Development office!

OAC Graduate Student Councils

OAC’s graduate student community has strong connections and countless opportunities to build your network through engagement with your graduate student councils. Graduate Student Councils enhance student experience by hosting academic and social events throughout the year and promote an engaging and collaborative environment within the departments.

Find out more about OAC graduate clubs here

“Being part of the Food from Thought initiative allowed me to learn about other OAC students’ research at conferences and symposiums. Opportunities like these helped me develop my communication skills and confidence.”

Nicole Berardi
PhD Plant Agriculture
Current Student
Past President,
Graduate Student Association
Immerse yourself in Guelph

Welcome to one of Ontario’s fastest growing, best run cities: Guelph, Ontario. With a population of over 135,000, you’ll get the feeling of a major community and the welcome of a smaller town. The architecture is rich, the downtown core is vibrant, the legacy and cultural diversity is strong, and the community and campus are interconnected. To learn more about Life at Guelph visit graduatestudies.uoguelph.ca/about/life-guelph

Ridgetown Campus is located in southwestern Ontario (1 hour south-west of London, ON and 1 hour east of Windsor, ON). It is a safe, quiet, and friendly community of 3,500 people where you will get to see the bounty of local agriculture and small-town living.

Climate

4 distinct seasons

Spring: mid-March to May
10° to 20° C (some rain)

Summer: June to August
20° to 30° C (humid)

Fall: September to November
7° to 20° C (some rain)

Winter: December to mid-March
-15° to 2° C (snow, sunny)

Arriving in Canada

Travel time by air to Toronto*

• New York 1 hr
• Chicago 1.5 hrs
• Los Angeles 5 hrs
• London 7 hrs
• Frankfurt 7.5 hrs
• Paris 8 hrs
• Istanbul 10 hrs
• Dubai 13 hrs
• Hong Kong 14.5 hrs
• Delhi 16 hrs
• Tehran 16.5 hrs

*Guelph is a one-hour drive from Toronto's Pearson International Airport. Shuttle service can be arranged to bring you directly to campus. redcarservice.com

Getting around

GO Bus transit connects the University Centre to the Greater Toronto Area and Mississauga, throughout the day during weekdays. gotransit.com
Contact or visit us!

Research and Graduate Studies
Ontario Agricultural College, Dean's Office
Johnston Hall, University of Guelph,
50 Stone Rd E, Guelph, ON N1G 2W1

gradinfo@uoguelph.ca