Plant Agriculture

Graduate Student Handbook

UNIVERSITY OF GUELPH

Ontario Agricultural College

Department of Plant Agriculture

INTRODUCTION

Welcome to the Department of Plant Agriculture and your graduate program. You have access to excellent facilities and talented faculty who are dedicated to providing a challenging environment for your academic growth. Your graduate program will be tailored to meet your specific needs and career goals, and there will be numerous opportunities for personal growth and building upon the skills that you already have. You are encouraged to take advantage of opportunities for teaching, involvement in departmental or university governance, and other research in your advisor's laboratory, to name a few.

This handbook has been designed to assist you during your tenure in Plant Agriculture. All of the University regulations for your graduate program can be found in the web version of the Graduate Calendar. For many topics, the handbook will direct you to the University Calendar which contains all of the relevant information you require.

Please read the handbook carefully, and pay particular attention to the requirements, guidelines and examinations for your degree program.

I hope that your time in the Department of Plant Agriculture is productive and enjoyable. Please feel free to contact me, Istvan Rajcan, the Associate Graduate Coordinator, Max Jones, the Department Chair, Eric Lyons, or any member of the Graduate Committee with your concerns.

Sincerely,

Istvan Rajcan
Graduate Coordinator & Professor

PLEASE NOTE:

This document is intended to provide a guide to administrative procedures for graduate students in the Department of Plant Agriculture, their Advisors, and Advisory Committee Members.

An elaborate guide is presented in the Graduate Calendar of the University of Guelph at https://www.uoguelph.ca/graduatestudies/

From time to time there may be some changes which will be brought to the attention of Department members by e-mail. Procedures and regulations presented in this guide may differ somewhat from university procedures. In those cases, Department procedures take precedence.

It is your responsibility to make sure that the **Graduate Program Assistant** (pagrad@uoguelph.ca) receives a copy of **every form** associated with your graduate program.

All Forms you need can be found here: https://graduatestudies.uoguelph.ca/current/forms

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CONTACTS

Graduate Program Personnel

Name	Position	Contact Information
Istvan Rajcan	Graduate Coordinator	Crop Science Building, Room 317 (519) 824-4120 ext. 53564 irajcan@uoguelph.ca
Max Jones	Associate Graduate Coordinator	E.C. Bovey Building, Room 4221 (519)824-4120 ext. 53016 amjones@uoguelph.ca
Tara Israel	Graduate Program Assistant	E.C. Bovey Building, Room 1105 (519) 824-4120 ext. 56077 pagrad@uoguelph.ca

Administrative Personnel

Name	Position	Contact Information
Hugh Earl	Department Chair	Crop Science Building, Room 314 (519) 824-4120 ext. 58568 hjearl@uoguelph.ca
Madalina Mihai	Administrative & Financial Officer	Crop Science Building, Room 315 (519) 824-4120 ext. 53387 mmihai@uoguelph.ca
Flora Laird *(Assigns desks & keys in Crop Science Building)*	Chair's Administrative Assistant	Crop Science Building, Room 309 (519) 824-4120 ext. 56083 pagco@uoguelph.ca
Denise Haggerty	Undergraduate Program Assistant	Crop Science Building, Room 306 (519) 824-4120 ext. 56086 pauadmin@uoguelph.ca
Sarah Bannerman	Financial Administrative Assistant *(Crop Science Building)*	Crop Science Building, Room 306 (519) 824-4120 ext. 53561 pagcrop@uoguelph.ca
Verena Kulak *(Assigns desks & keys in E.C. Bovey Building)*	DTM Program Assistant; Financial Administrative Assistant *(E.C. Bovey Building)*	E.C. Bovey Building, Room 1104 (519) 824-4120 ext. 52693 pagbovey@uoguelph.ca
Jasmine Gillyatt	Human Resources Administrative Support	Crop Science Building, Room 306 (519) 824-4120 ext. 53284 paghrc@uoguelph.ca
Mike Peppard	IT Technician	Crop Science Building, Room 203 (519) 824-4120 ext. 56591 mpeppard@uoguelph.ca

Directory

For a complete listing of Plant Agriculture personnel, please visit https://www.plant.uoguelph.ca/people-and-places

COMMITTEES

Departmental committees will represent the interests of all four divisions of Plant Agriculture. Faculty, staff and student assignments to the various committees will be undertaken in collaboration with each faculty/staff/student member and the Chair. Where possible members will be replaced on a rotating basis.

For a detailed list of departmental committees and members, please visit https://www.plant.uoguelph.ca/people-and-places/department-committees

Graduate Committee

Name	Position	Contact Information
Samadhi Jayarathna	PhD Graduate Student Representative	bjayarat@uoguelph.ca
McKenna Campbell	MSc Graduate Student Representative	mcampb45@uoguelph.ca

Graduate Teaching Committee

Name	Position
Istvan Rajcan	Committee Chair, Graduate Coordinator
Max Jones	Associate Graduate Coordinator
Manish Raizada	Committee Member
Helen Booker	Committee Member
Milad Eskandari	Committee Member
John Cline	Committee Member
Mary Ruth McDonald	Committee Member
Adrian Correndo	Committee Member
Samadhi Jayarathna	PhD Representative
McKenna Campbell	MSc Representative

Graduate Student Liaison Committee

The Graduate Student Liaison Committee (GSLC) is a committee comprised of graduate students from the Department of Plant Agriculture. The MSc and PhD graduate student representatives are elected by graduate students to chair the GSLC. The GSLC provides support for new and returning students, hosts new student orientation events each semester and helps encourage departmental participation in social events.

The GSLC acts as a graduate student support resource by helping PhD students organize mock exams with their department peers to help prepare for qualifying exams. Additionally, the GSLC sits on the Graduate Teaching and Committee, chaired by the graduate coordinator, which meets regularly to provide feedback on current graduate courses, evaluate current course offerings and discuss other various aspects of graduate related studies. The GSLC is also an on-going resource for students with specific questions or concerns and can be contacted at any time for information and advice.

At the beginning of each new semester, new students are welcomed into the department by GSLC members and are given a basic tour of the Bovey and Crop Science buildings, and introduced to department faculty including the graduate coordinator, graduate program assistant and the department chair. As well, students receive a brief tour of the university campus, including the library, bookstore, University Centre and any other facilities that the students are interested in. In September, the GSLC hosts a welcome barbeque where

new graduate students are introduced to the department and can meet other graduate students, faculty and staff.

The GSLC organizes and hosts several fund-raising social events throughout the year including pancake breakfasts, ice cream socials and special lunches where students, faculty and staff of the department can meet and interact. Additionally, every very few years, the GSLC will take orders for department-themed clothing. The GSLC strives to be an important resource for promoting participation and inclusion within the department.

For email inquiries, please contact pa-gslc@uoguelph.ca

Advisory Committee Guidelines

Forming the Advisory Committee

The advisory committee is chosen to support the student's area of research. Faculty can be chosen from amongst the graduate faculty on campus. The Advisory Committee Appointment GryphForm is due before the end of the 2nd month of your 2nd semester. You will receive an email from OGPS when this is due – **do not delay**, Colleague will not permit you to register for semester 3 until proper Advisory Committee documentation and graduate Degree Program forms have been submitted. All forms can be found on the Graduate & Postdoctoral Studies website.

The MSc student's program is established and progress kept under review by the academic unit in which the student is enrolled. The day-to-day responsibility rests with the advisor. There is an advisory committee of at least three graduate faculty members, the chair of the committee is normally the advisor of the student's program. Departments and schools are encouraged to involve graduate faculty from other academic units as members of advisory committees.

The PhD advisory committee will consist of no fewer than four members of the graduate faculty in the selection of whom the graduate student normally participates. At least one of the committee members must be in a department other than that in which the student is registered. The committee chair is normally the advisor of the student's research.

Special and Associate Graduate Faculty Status

A letter of reference from a "Regular Graduate Faculty" accompanied by a C.V. of the nominee must be submitted to the Graduate Program Assistant. The C.V. must include details on Advisory Committee experience (i.e., number of advisory committees, type of degree and role, - advisor, co-advisor, member). The reference letter must include information on the reason for nominating this person. Details on 'categories' may be found on the form.

Advisory Committee Meetings

Committee meetings need to be held on a regular basis and at least every second semester. In these meetings the student provides a report on academic and research progress to date. This is also an excellent opportunity to seek feedback and guidance from the committee members. The first committee meeting needs to occur by the end of semester one or beginning of semester two so the research proposal can be finalized.

Progress Reports

A Progress Report must be submitted **every semester** and signed by all members of the Advisory Committee.

Please refer to the GryphForms - Student Guide for step-by-step instructions on various functions of the OGPS GryphForms Portal. Please make sure that Pop-Up's are enabled.

FACILITIES

The Department of Plant Agriculture operates on two campuses (i.e., Guelph & Ridgetown). In Guelph, the Department operates out of two buildings (i.e., Crop Science & E.C. Bovey buildings). Plant Ag faculty also conduct research at several research sites and centres across Ontario.

Facilities are available for graduate student research when arranged in consultation with the advisor. There are fees associated with the use of all facilities such as field and greenhouse space. Please contact the appropriate person listed below for more information about features and use of the facility.

Growth Facilities Contacts

Building	Name	Position	Contact Information
Crop Science Building	Sue Couling	Greenhouse & Growth Cabinet Technician	519-824-4120 ext. 52476
	Donna Hancock	Greenhouse & Growth Cabinet Technician	519-824-4120 ext. 58309
E.C. Bovey Building	Ron Dutton	Greenhouse & Growth Cabinet Technician	519-824-4120 ext. 52788
	Dave Kerec	Growth Cabinet Technician	519-824-4120 ext. 52788
	Rodger Tschanz	Greenhouse & Growth Cabinet Technician	519-824-4120 ext. 52788

Department Codes

Plant Agriculture: 0128
Crop Science: 0119
E.C. Bovey: 0135

Building Codes

Building	Location	Building Number
Crop Science Building	Main	69
E.C. Bovey Building	Administration Wing	80
	Research Wing	81
	Graham Hall	32
	Header House	82
	Greenhouse Complex	83

Shipping Address

University of Guelph
50 Stone Road East
Guelph, ON, N1G 2W1

Please include location with shipping address. Example:

Department of Plant Agriculture
Bovey Building, Room 1102
University of Guelph
50 Stone Road East
Guelph, ON, N1G 2W1

New Student Orientation

Upon the student's arrival, the Advisor and their other students should assist in orientation of the laboratory.

GSLC usually conducts an orientation tour for new students during the 2nd or 3rd week of the Fall and Winter semesters.

Office Arrangements

Graduate students are assigned a desk during the first semester of their program. Desk assignments **may not be switched** without the consent of the person responsible for space assignment in your building.

Students who are off campus or beyond the program limit (MSc - 6; PhD - 9) may be requested to relinquish their desk.

Photocopying

Please see the appropriate department personnel to get an access code for the photocopiers.

- Photocopying required for graduate courses offered by the Department may be covered by the Department. Check with the course instructor about this.
- Photocopying required for research related activities is the responsibility of the advisor. Please contact your advisor to make the appropriate arrangements.
- The photocopiers are expensive to lease, maintain and repair. Find out how to operate them **before using**.

Stationary

Stationery is available to graduate students for use in their research; however, material needed for course work is the responsibility of the graduate student. See administrative support staff for location of supplies.

Room and Equipment Bookings

Most rooms in the University are booked centrally. To book a room in the Department you must send an email a member of the office staff.

Check for available rooms and equipment at http://www.plant.uoguelph.ca/booking

Research Supplies

Orders for research supplies must be placed by the Purchasing Clerk in your Building. "Request for Purchase" forms are available from the clerk. Please print clearly or type up your order. Distinguish between the number "0" and the letter "O", the number "5" and the letter "S", the number "1" and the letter "L", etc. You must provide the price of the items you are requesting. Supplies are charged to trust funds and/or projects and your advisor or laboratory technician can provide you with a 6-digit number (GL Coding) for this purpose. Once the goods are received you must submit the packing slip to the clerk. Payment of orders will be held up if the packing slip is not submitted promptly. This may affect other orders on campus.

TRAVEL

Travel Reimbursement

Some projects require the student to travel to various locations on a regular basis to conduct research. Please make arrangements with your advisor in advance on reimbursement of travel expenses. Expenses are reimbursed through the on-line Expense Claim System (ECS).

Click on 'Expense Claim System (ECS) Info' and go to 'Take the Tutorial'.

University Owned and Rented Vehicles

Individuals who are eligible to drive under the University of Guelph owned and rental vehicle programs (both within North America and worldwide) include employees, graduate students, undergraduate students and volunteers. Please note that coverage does not include countries that are subject to trade or other economic sanction or embargo by Canada.

All drivers must:

- have less than 7 demerit points against their license
- have a valid driver's license for the type of vehicle they are driving
- ensure they are qualified to drive in the province/state in which they are driving
- NOT have a learner's, probationary, graduated license, or motorcycle/moped only license
- complete and return the following form to the Insurance Office: Student & Volunteer Driver Profile

NOTE: It is the responsibility of the driver to ensure that if they have 7 or more demerits at any point in time OR have had their license suspended or revoked, to contact the Insurance Office.

Drivers involved in multiple accidents within a two-year period, a serious accident, or a serious driving infraction while driving on university-related business will be reviewed by the Insurance Office. The results of this review may require the driver to attend a Drivers Safety course in order to continue as a Driver insured under this program or could result in suspension of driving privileges.

Only passengers on university business may be transported in university owned vehicles. Authorization for transportation of others must be obtained from the Department Chair.

Vehicles are not to be taken home or used for personal business. High school students are not permitted to drive University vehicles.

SAFETY

Safety is extremely important in all aspects of your daily routine while in the Department. Safety committees exist in both the Crop Science and Bovey Buildings. These committees are just one of the many groups that enforce the safety practices and standards of the University and different levels of government.

Graduate Students are required to view safety videos, review the Department Safety Manuals and write a quiz before starting to work. Please contact your advisor or the lead technician in your program for procedure.

The University offers WHMIS seminars each semester. Graduate students are required to attend a seminar during the first semester.

Safety is everyone's business so do not be offended if you are advised of unsafe practices by another member of the Department. Before starting to work in any area, make sure you are aware of the safety practices and have been properly trained.

Up-to-date committee membership information is available at
https://www.plant.uoguelph.ca/people-and-places/department-committees

More information on safety issues can be obtained from Safety Officers (Gopi Paliyath, Bovey; Manish Raizada, Crop Science), lab technicians, from the Health and Safety Office or the student representative on the Safety Committee.

COMPUTING

Computer labs are available for graduate student use. They are located in 3rd floor lobby, Crop Science Building and Room 3109, E.C. Bovey Building. The copiers in each building may be used as printers. Installation disks are available from administrative staff. Charges are $0.07 per page for black and white and $0.20 per page for colour.

Computer and Networking Policy
https://www.plant.uoguelph.ca/about-us/department-policies

Acceptable Use Policy
https://www.uoguelph.ca/ccs/infosec/aup

Email

To better communicate with various groups of personnel within the department, there are 21 various lists available and all are accessed by sending an e-mail to pa-xxxxxx@listserv.uoguelph.ca where the 'xxxxxx' is the desired name as outlined below.

To send a message to any of the PA- lists you MUST send your message from an e-mail address that ends with "@uoguelph.ca". This should prevent any outside junk mailers using the lists.

Use "pa-all" ONLY if it is essential to contact everyone that is associated with Plant Agriculture. If you send something out using "pa-all", you would see it in your inbox as being sent to only the group you belong to (i.e. "pa-staff-e") but meanwhile it has gone out to all the people in the 10 lists. Grad students announcing their thesis defence or other seminar presentations should be using 'pa-all' to ensure all students, faculty and

staff get your message. Contact the Chair's Administrative Assistant if you need further clarification on our listserv lists.

Email Lists

Primary Lists

1. pa-faculty
2. pa-emeriti
3. pa-academic-f (sessionals in fall semester)
4. pa-academic-w (sessionals in winter semester)
5. pa-adjunct (Adjunct Professors)
6. pa-other (visitors, OMAFRA staff, some retirees)
7. pa-staff-e (permanent staff)
8. pa-staff-c (contract staff)
9. pa-pdoc (post doctoral scholars)
10. pa-msc (MSc students)
11 pa-phd (PhD Students)

Location Lists

12. pa-crop (everyone in Crop Science building)
13. pa-bovey (Plant Ag personnel in Bovey Building)
14. a-vineland (Vineland Station)
15. pa-simcoe (Simcoe Station)
16. pa-muck (Muck Station)

Specialized Lists

17. pa-office (administrative staff in ALL locations)
18. pa-grow-b (users of Bovey growth facilities, including non-Plant Ag personnel)
19. pa-grow-c (users of Crop Science growth facilities, including non-Plant Ag personnel)
20. pa-staff (lists 7 & 8)
21. pa-all (lists 1-2 & 5-10)
22. pa-researcher

Professional and Academic Integrity

Academic Integrity Course, UNIV*7100

All students registering in a graduate program will be enrolled in UNIV*7100 Academic Integrity for Graduate Students. There is no need to add this course on WebAdvisor, as it will be automatically added.

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Student Rights and Responsibilities

Non-Academic Misconduct

https://calendar.uoguelph.ca/graduate-calendar/general-information/policy-non-academic-misconduct/

Graduate Student Responsibilities

https://calendar.uoguelph.ca/graduate-calendar/general-information/policy-responsibilities-advisors-committees-student-mediation-procedures/graduate-student-responsibilities/

Office of Graduate & Postdoctoral Studies

Office of Graduate Studies is located on the 3rd floor of the University Centre next to the Registrar's area. This area can provide support for all issues of your graduate program. Much of the information you may require (along with relevant forms) is available on their website. Many tasks such as registration can be done on-line.

Policies, regulations and instructions for graduate studies may be found on the Office of Graduate Studies website. Please bookmark this page and check it first for information.

Current Students

https://www.uoguelph.ca/graduatestudies/current

Check the links on the right side of the web page for:

- Calendar
- Dates and Deadlines
- Forms and Documents

Professional Societies

Canadian Society of Agronomy
http://www.agronomycanada.com/

Canadian Society of Horticultural Science
http://www.cshs.ca/

Canadian Society for Plant Physiologists
https://www.cspb-scbv.ca/

Add/Drop a Course

The final snapshot of class lists for grade reporting purposes is run immediately following the published last day of classes in any given semester. If a student wishes to add a course after the last day of classes, a Grade Reassessment form is required in order to submit a grade. The Registrar's Office has to manually populate the grade when a student adds a course after the last day of classes.

If a student wishes to drop a course after the last day of classes, they will still appear on the class list and grade upload sheet. A grade must be submitted for this student as it is not possible to leave the grade blank. In this situation an INC or INP (whichever is appropriate to the course) would be uploaded. If the student is permitted to drop the course, the INC or INP will be replaced with *WNP (Withdrawn No Penalty).

Due to the volume of petitions for late adds and late drops, any that are received after the last day of classes will not be reviewed until after the last day for grade reports. Once reviewed and if approved, a course adjustment will be made and an email sent to the student, copying the Graduate Program Assistant and the Registrar's Office. For late adds, a Grade Reassessment form will then need to be forwarded to the Registrar's Office.

Ultimately, students are responsible for ensuring that their course registration is correct by the published deadlines, NOT near the end of the semester or at grade reporting time.

Add/Drop Course Waiver Request Form

https://www.uoguelph.ca/registrar/sites/undergraduate/files/forms/graduate_course_waiver_request.html

Important note on late drop requests

It is calendar regulation that a student who withdraws from a course after the published deadline (40th class day) will receive a WDF (withdrawn: failure). If there is extenuating circumstances that prohibit the student from dropping the course by the published deadline a Petition for Academic Consideration Form must be signed by the Graduate Coordinator, and supporting documentation is required. If medical reasons are cited, medical documentation must be included. If compassionate grounds are cited where supporting

documentation is not possible, a letter from the Graduate Coordinator and/or Advisor should be included. In all cases, an explanation from the student is required. If the student is permitted to drop the course after the published deadline, a grade of **WNP (withdrawn: no penalty)** will be recorded and will appear on the student's transcript. A course dropped prior to the published drop deadline is not recorded on the student's transcript.

The general program requirements for the MSc and PhD programs are outlined on the University of Guelph website. Specific requirements for Plant Agriculture are listed in this section: https://calendar.uoguelph.ca/graduate-calendar/graduate-programs/plant-agriculture/

Program Requirements

Graduate Courses

Students in Plant Agriculture are encouraged to take advantage of courses offered outside of the Department to gain exposure to other faculty members and disciplines.

In addition to the regulations set out in the Graduate Calendar, students are required to take the following courses:

	Seminar	**Colloquium***
MSc	Once	Once
PhD	Once	Once

*Students are expected to attend seminars and colloquia even when not registered in the course. (Note: Students on Provisional Status will have specific course requirements to meet as outlined in their offer of admission.)

MSc Timeline (by GSLC)

Try to meet at least once every other semester with your full Advisory Committee.

Semester 1

- Meet with your Advisor
- Begin coursework
- Begin proposal
- Select Advisory Committee (with help of Advisor and Graduate Coordinator)

Semester 2

- Submit Advisory Committee Appointment & Degree Program GryphForms to Department before the 20th class day of the student's second registered semester (you will NOT be allowed to register for semester 3 until these forms have been approved and submitted)
- Develop program expectations
- Begin literature review
- Develop and refine research proposal

Semesters 3 and 4

- Complete coursework
- Begin research

Semester 5

- Complete research
- Begin writing thesis

Semester 6

- Complete writing and submit first draft early in the semester
- Discuss possible timing of defense with Advisory Committee
- Ensure all necessary paperwork is in place for your defense
- Make revisions to thesis and submit drafts as appropriate
- Confirm arrangements for the defense with Graduate Program Assistant (also confirm that an internal/external examiner has been identified and invited)
- Begin planning for oral presentation
- Try to anticipate questions (with help from Advisory Committee and other grad students)

PhD Timeline (by GSLC)

Try to meet at once every other semester with your full Advisory Committee.

Semester 1

- Meet with your Advisor
- Select Advisory Committee (with help of Advisor and Graduate Coordinator)
- Begin coursework
- Begin proposal

Semester 2

- Submit Advisory Committee Appointment & Degree Program GryphForms to Department before the 20th class day of the student's second registered month of the semester
- Develop program expectations
- Begin literature review
- Develop and refine research proposal

Semesters 3

- Complete coursework
- Begin research
- Prepare for Qualifying Examination

Semester 4

- Study for Qualifying Examination

Semester 5

- Complete Qualifying Examination

Semesters 6 - 9

- Finish main elements of research
- Complete writing
- Submit first draft
- Discuss possible timing of defense with Advisory Committee
- Begin planning for oral presentation
- Try to anticipate questions (with help from Advisory Committee and other grad students).

Early in the 9th semester

- Ensure all necessary paperwork is in place for your defense
- Make revisions to thesis and submit drafts as appropriate
- Confirm arrangements for the defense with Graduate Program Assistant (also confirm that an external examiner has been identified and invited)

Completion Time

Program Duration

https://calendar.uoguelph.ca/graduate-calendar/general-regulations/registration/program-duration/

Master's students are expected to complete their studies within six semesters, and PhD students within nine semesters. MSc students transferring to the doctoral program without completing the MSc program are granted 12 semesters to complete their program. Only in exceptional cases will office space and financial assistance be provided in subsequent semesters.

Students who do not complete their program within the prescribed completion period are required to submit a single Plan of Study form for completion by the maximum program duration.

Schedule for Thesis Submission

If it is desired to complete the requirements for a degree by a specific date, a complete draft of the thesis, which has been approved by the thesis Advisor, must be in the hands of the Advisory Committee no later than 60 or 30 days before that date for, respectively, the PhD or MSc thesis. This means that the Advisor should be given a complete draft of the thesis at least 30 days prior to the date on which the student would like to give a draft to the other members of the Advisory Committee. The Advisory Committee is expected to meet with the student within two weeks after receiving the complete draft in order to critique in detail the thesis draft. At this meeting, the date to the thesis defense may be established and the Examination Request form may be signed. As well, the PhD Advisory Committee will indicate at this meeting on a form provided for this purpose, which two of the Committee will serve on the Examining Committee at the Final Oral Examination, and will nominate possible External Examiners. Obviously, faculty workloads and schedules, and the student's ability to prepare a proper scientific document can affect the above schedule. Following are the last possible dates if there is to be a reasonable chance to complete degree requirements before the end of the semester.

	Fall		**Winter**		**Spring**	
	PhD	**MSc**	**PhD**	**MSc**	**PhD**	**MSc**
Thesis to Advisor	Sep. 15	Oct. 15	Feb. 1	Mar. 1	May 15	Jun. 15
Thesis to Advisory Committee	Oct. 15	Nov. 15	Mar. 1	Apr. 1	Jun. 15	Aug. 1
Thesis to External Examiner	Nov. 15	- -	Apr. 1	- -	Aug. 1	- -

Forms to Complete During Grad Studies

Forms and Documents

https://www.uoguelph.ca/graduatestudies/current/forms

Faculty

- Advisory Committee Appointment GryphForm (before the 20th class day of the student'ssecond registered semester)
- Degree Program GryphForm (before the 20th class day of the student's second registeredsemester)
- Progress Report – every semester
- Qualifying Examination (PhD) 3rd semester for students with MSc; 5th semester for PhD students without a MSc
- Examination Request (submitted by student)
- Thesis defence – in time to submit a corrected thesis to the Dean on the 'lastdate."
- *Certification of Approval (thesis acceptance) – after changes suggested at the thesis oral aremade
- *Report of Doctoral/Master's Examination Committee – when all requirements are completed and before 'last date'
- *Recommendation for Graduate – to be signed by Department Chair (sent to Graduate Program Assistant and held in that office until completion of corrections)

*Copies of these signed forms must be submitted to the Graduate Program Assistant by email to pagrad@uoguelph.ca

Graduate Students

- Add/Drop/Course Waiver Form (provisional students only); Regular status students must use the Student Planning Website
- Advisory Committee Appointment GryphForm (before the 20th class day of the student's second registered semester)
- Degree Program GryphForm (before the 20th class day of the student's second registeredsemester)
- Examination Request Form
- Early Completion Rebate GryphForm

THE PLANT AGRICULTURE THESIS

Format

Whereas the Faculty of Graduate Studies accepts theses either in monograph (organized around a central problem) or manuscript format (published articles, submitted articles, unpublished work in publication format); and,

Whereas theses written in manuscript format must include (i) connecting materials that integrate across the different chapters/articles, include at minimum an overarching introduction and a concluding discussion chapter, and (ii) the student must be the principal or sole author of any included manuscripts and must have had a major or sole role in the design of the research, and the preparation and writing of the manuscripts;

Whereas the Department has historically discouraged a manuscript format containing a collection of manuscripts with independent formats, but there is no written policy to this effect;

Be it resolved that the Plant Agriculture thesis can be presented in either monograph format or manuscript format, but not as a collection of manuscripts with independent formats. The manuscript format should include a general introduction, literature review, and general discussion, and each manuscript chapter should contain an abstract, introduction, materials and methods, results and discussion. (approved by electronic vote in February 2011).

Thesis Submission Information

https://graduatestudies.uoguelph.ca/current/completion

Graduate Policy on Thesis Format Instructions

https://graduatestudies.uoguelph.ca/current-students/preparation-your-thesis

Writing Tips

Writing Tips for the Plant Agriculture Thesis

Written by Barry J. Shelp and David J. Wolyn

The Title should be concise and informative (as short as possible), and succinctly and unambiguously describe the contents of the paper/thesis. Use descriptive words that are strongly associated with the content (e.g., the molecule or organism studied, the treatment, the location of the field site, the response measured). Do not include the authorities for taxonomic names in the title. A general rule-of-thumb is that the title should contain the key words describing the work presented.

An Abstract summarizes, in one paragraph, the major aspects of the entire paper/thesis in the following prescribed sequence: the question(s) or purpose; the experimental design and methods; the major findings, including key quantitative results or trends; and, a brief summary of your interpretations and conclusions. The overall abstract is typically shorter than the abstracts from individual chapters. There are distinct word limits for the M.Sc. and Ph.D. theses.

Include a List of Abbreviations, only at the beginning of the thesis. In the main text of the thesis, write out full names only once in the thesis, followed by abbreviation. Thus, there is no necessity to write out the full name again later in the same chapter or in subsequent chapters.

Number all headings and subheadings, being sure to distinguish between primary, secondary and tertiary headings (see table below).

The General Introduction/Literature Review (separate chapters or a combined chapter) provides the foundation for the hypothesis/objectives given at end of this chapter or in the subsequent chapter. A critical analysis of the literature is preferred, particularly for a PhD thesis. For the studies most relevant to your thesis, provide some details so that the reader can assess the importance of the findings being discussed. For example, it is not sufficient to indicate that "low temperature increased GABA levels in plants"; a more informative statement could be "GABA concentrations were enhanced by 50% in plants subjected to 4°C." Provide the complete Latin binomial name and authority for all botanical species at their first mention in the text. Abbreviate species names after the first time (e.g. *Arabidopsis thaliana* becomes *A. thaliana*). Indicate where a figure is taken directly from the literature, and DO NOT copy that figure without permission of the journal and/or author as the journal policy stipulates; it is often simpler to redraw the figure so that permission is not required. It is often useful to provide a summary or concluding remarks at the end of the literature review so that it leads directly into the scientific hypothesis/question/model under consideration.

The literature review and scientific hypothesis/question/model form the foundation of the thesis. Your experiments should be framed as a hypothesis, question or model (for a discussion of these alternative approaches, please refer to Glass and Hall 2008 Cell 134:378). The **hypothesis** is a **simple concise statement** expressing a tentative or possible answer to the problem, a possible cause or explanation for what was observed, a generalization based on deductive reasoning, not an observation, reflects past experience with similar questions ("educated propositions" about cause), is testable by experimentation, and can be proven wrong (the null hypothesis is typically falsified thereby supporting the hypothesis), but can never be proven correct with absolute certainty. In practice, the biological/agricultural sciences rarely use the concept of "null hypothesis". The model is distinct from a hypothesis in that it is constructed after data is derived. Many scientists prefer to express their research as a series of questions, which reflect the gaps in our current knowledge and is based on inductive reasoning. All three approaches reflect the "precedence", whether this is "fundamental" or "applied" research involving model organisms (e.g., *Arabidopsis*, *Escherichia coli*), agronomic plants or horticultural plants, and are science-based rather than method-based. This is generally supported by a brief description of objectives/experiments conducted.

The thesis can be presented in conventional monograph format or manuscript format, but NOT a collection of papers with independent formats (see below). The manuscript format should include a general introduction, literature review, and general discussion, and each manuscript chapter should contain an abstract, introduction (should not exceed three pages), materials and methods, results, and discussion.

Monograph Format	Manuscript Format
... Abstract 1. Introduction 2. Literature Review 3. Materials and Methods 4. Results 5. Discussion *(including Limitations, Future Experiments/ Prospects)* 6. References ... Appendices	…. Overall Abstract 1. Chapter - General Introduction 2. Chapter - Literature Review 3. Chapter –Manuscript 3.1 Abstract 3.2 Introduction 3.3 Materials and Methods 3.4 Results 3.5 Discussion 4. Chapter - Manuscript 4.1 Abstract 4.2 Introduction 4.3 Materials and Methods 4.4 Results 4.5 Discussion 5. Chapter - General Discussion (including Future Experiments/Prospects) 6. References … Appendices

Figures and tables can be placed on a text page or on a separate page (but NOT at the end of the text) and should be designated by two numbers, one to indicate the Chapter and another to indicate its location in the Chapter sequence (e.g., 2.1). Thus, when embedding a published paper as a manuscript in the thesis, all tables and figures must be renumbered (e.g., Figure 2.1 –Figure 1 in Chapter 2; Figure 3.1-Figure 1 in Chapter 3).

Figures and tables should stand alone, be clear and legible, and give the number of biological replicates and the meaning of error bars (SD or SE) where appropriate, as well as any abbreviations used in the figure. There is generally no need for Supplemental figures and tables, although Appendices may be used to supply supporting information such as ANOVA tables.

If a manuscript chapter is published or in press, use a cover page to indicate the journal, whether or not this chapter is a modified version of that paper (it is unlikely to be exactly the same since all important figures and tables should be embedded in the text, and there is one overall format for the thesis), and the contributions of each co-author, if any. If the manuscript chapter has been submitted for publication or you are simply thinking about submitting it, there is no necessity to refer to any journal. Even if published, reference to other methods or results in the thesis should be done by referring to the appropriate chapter.

It is OK to present some preliminary data in the thesis, even when more experiments are obviously needed (perhaps in a final manuscript chapter); however, the limitations of the data should be recognized and acknowledged.

The Materials and Methods sections should contain sufficient information to allow the experiments to be repeated. For each experiment, there should be a clear description of the experimental design (e.g., RCB, split plot, pooling of samples for analysis, use of multiple chambers for providing treatments), the number of biological and technical reps, and the statistical methods used for analysis of the data. The information should be sufficient for the reader to generate the correct Analysis of Variance (ANOVA) table. All ANOVA tables should be presented in an Appendix. Also, please provide full details of the growing conditions for all materials (e.g., the light intensity and the level at which it was measured (at the shelf, top of the plant,

directly underneath the lights)), as well the source of important reagents and equipment. Even in cases where the method is already published, it is useful to provide a brief summary, and indicate where modifications have been made. Do not repeat methods if present in an earlier chapter; simply refer to the appropriate chapter or present a concise summary of the methods, along with any modifications made.

The Results sections should NOT contain methods and as little discussion as possible, unless it is a combined Results and Discussion section. The General Discussion chapter should highlight the main findings from the manuscript chapters, providing where possible, models or figures that clearly synthesize or summarize these findings. It is often useful to refer directly to the hypothesis(es) under consideration. In this section or in a separate chapter (sometimes called Summary and Future Research or Prospects), one should identify experiments that would clarify your findings, and discuss possible implications for additional research, either in your field or in a related field.

Self-plagiarism is discouraged. Since it is often difficult to think of different ways to say the same thing in the various chapters, the use of the conventional format for your thesis can help to circumvent this problem. Otherwise, self-plagiarism can be reduced dramatically by referring to previous chapters as is appropriate.

References/Citations

Only one reference section is required at the end of the thesis, before the Appendices. This should include all references used in the thesis and reduce the need for repeating references in the various chapters. A citation should occur at the end of the first sentence that uses that reference, NOT at the end of the paragraph; any material following that reference will refer to the same reference, until another reference is given. Place citations in chronological order, and then alphabetically. Place references in alphabetical order, then chronologically. For citations and references, pick a single format and stick to it.

Organization and format

Indent all paragraphs, even those immediately after a heading.

Punctuation

The *period* marks the major breath pauses in spoken English and are located at the end of sentences. If a sentence has several clauses, there is often a secondary pause at a clause boundary, marked by the comma. Where two sentences are felt to be strongly associated, you may use a *semicolon* to re-enforce to your reader their close relationship. The *colon* points forward, meaning (in effect) “here it comes”. The *dash*, on the contrary, points backwards, offering a comment on what has gone before. Words or phrases not part of the ongoing syntax of the sentence, phrases in apposition, phrases of explanation, intrusive comments, “extras” which expand or modify the meaning of a sentence without affecting its grammatical unity, are marked off from the main sentence by being included within *pairs of commas, dashes or round brackets*. The *question mark* and the *exclamation mark* are indicators of expression; avoid the use of the exclamation mark if possible.

Habits to avoid

Adapted from RA Day 1983 How to Write and Publish a Scientific Paper

i. Avoid etc. Either name all the items, if finite, or identify the list as a category.

   e.g., Write “*...domestic animals such as cats, dogs and gerbils*” or “*... giraffes, spring, cattle and other ruminants.*”

ii. Avoid putting explanations in *( )* or after *i.e.* in a technical paper requiring many explanations, these techniques tend to lead to choppy writing. Instead, incorporate explanations smoothly into the sentence, or think carefully about the technical term being used and decide whether the term itself or just the explanation is needed.

e.g., Avoid the choppiness of "*The epidermis (the outermost layer of cells) of invertebrates is covered by an impermeable cuticle (a layer of horny, noncellular material), whereas the epidermis (i.e. skin) of vertebrates is impregnated with keratin (fibrous protein).*" Instead write "*In invertebrates, the outermost layer of cells, called the epidermis, is covered by an impermeable cuticle of horny, noncellular material, whereas the epidermis or skin of vertebrates is impregnated with fibrous proteins known as keratin.*"

iii. Avoid the gimmick of posing questions to introduce a topic, such as in "*But what is acid rain?*" The purpose of the paper is to provide information, not to ask the reader for it. If a question is asked, one runs the risk that readers will respond "I don't know", or "I don't care," or will answer the question themselves, and therefore will stop reading. Especially avoid a series of questions that will frustrate readers because they don't know for sure whether any of them will be answered.

e.g., Avoid a meandering introduction such as this: "*Should writing be evaluated in introductory science courses? Should writing be evaluated in a science course? Should we even have writing assignments in science courses?*"

iv. Avoid using terms such as *clearly*, *undoubtedly* and *of course*. By doing so, one implies that the readers are ignorant if they do not come to the same conclusion. In reality, it is not up to the readers to struggle to understand, but up to the writer to write so they will not misunderstand.

v. Avoid using the pronoun *we* unless it refers specifically to the authors of the paper. Otherwise, identify it, as in "*We, the scientists of the world*" or "*We, the residents of Guelph*". (Remember, a thesis is a single-authored work and "*I*" is appropriate, *but should be avoided*.)

vi. Avoid using *you* to refer to the readers. By doing so, you imply that you have made assumptions about the readers which may be inaccurate or even insulting.

e.g., By writing, "*You should improve your writing skills to become an effective scientist*," one implies that the readers need to improve their writing skill. Instead, use third person such as "*one should...*" or "*students should "*

vii. Avoid the use of dangling modifiers. It is not always easy to recognize a dangling participle or gerund, but you can avoid such faults by giving proper attention to the manner in which words are put together to form phrases, clauses or sentences (i.e., syntax).

e.g., "*Lying on top of the intestine, you will perhaps make out a small transparent thread*" or "*He placed at Nap's disposal the marriage bed of his eldest daughter, a knobbed engine of brass and iron.*"

viii. Avoid the use of split infinitives.

e.g., Judge Thomas decided that the Grand Jury Report should be stricken because "*it would be unreasonable to expect or ask a prospective juror to honestly to promise to completely disregard these findings.*"

ix. Avoid the use of double negatives such as "*I don't know nothing about the scientific method.*"

x. Avoid the *misuse* of words. Avoid using self-cancelling or redundant words such as *viable alternative or young juveniles*. Do NOT use *amount*, *content* or *level* when *concentration* is involved. Substitute better and shorter usage where possible: e.g. *in this case* means *here*, and *in most cases* means *usually*. Avoid the use of *quite*.

Which and *that* can often be used interchangeably, sometimes they can not. *Which* is properly used in a non-restrictive sense, to introduce a clause that is not essential to the rest of the sentence; that introduces an essential clause. Examine these two sentences: "CetB mutants, *which* are tolerant to colicin E2, also have an altered..." and "CetB mutants, *that* are tolerant to colicin E2, also have an altered...". Note the substantial difference in meaning. The first sentence indicates that *all* CetB mutants are tolerant to colicin; the second indicates that only *some* of the CetB mutants are tolerant to colicin.

When a temporal relationship exists, *while* is correct; otherwise, *whereas* would be a better choice. "*Nero fiddled while Rome burned*" is fine. "*Nero fiddled while I wrote a book on scientific writing*" is not.

xi. *Tense*. There is one special convention that is very tricky. When a scientific paper has been validly published in a primary journal, it becomes knowledge. You treat published work with respect by referring to it in the present tense. It is correct to say "*Streptomycin inhibits the growth of M. tuberculosis*."

Present work must be referred to in the past tense. Present work is not presumed to be knowledge until after it has been published. One should say "*S. everycolor grew best at 37°C.*" If citing previous work, possibly your own, it is then correct to say "*S. everycolor grows best at 37°C.*"

In a typical paper, one will go back and forth between present and past tenses. Most of the abstract, materials and methods, and results should be in past tense, whereas most of the introduction and much of the discussion should be in the present tense. The principal exception to this rule is in the area of attribution and presentation. It is correct to say "*Smith (9) showed that streptomycin inhibits S. nocolor.*" It is also correct to say "*Table 4 shows that streptomycin inhibited S. everycolor at all pH values.*" Another exception is that the calculations and statistical analyses should be in the present tense, even though statements about the objects to which they refer are in the past tense.

e.g., These values *are* significantly greater than those of the females of the same age, indicating that the males *grew* more rapidly.

xii. Use headings effectively.

- Write headings as words or phrases, not complete sentences. (Sentences can be used effectively in an outline to guide the writing of the paper.)
- Write same-level headings using parallel structures (i.e. if one is a noun, all should be nouns.)
- Write same-level headings that are mutually exclusive rather than overlapping.
- Make certain that same-level headings are of equal importance.
- Do not follow a heading with solitary pronouns such as *this*, *these*, or *it*, in the first sentence of a section. Repeat the topic word to clarify.
- Try to use at least one heading per page. Infrequent use of headings limits their usefulness as a guide to the reader.
- Write at least one full sentence between any two headings. Several paragraphs are preferred.
- Follow a heading near the bottom of a page with at least two full lines of text.

- Do not follow a centre heading (first level) with only one margin heading (second level) unless it is followed by two or more paragraph headings (third level).

xiii. Comparisons. "At least two terms should be explicitly present if a comparison is to be made" (Random House Handbook). Comparative terms include *more*, *less*, *greater*, *shorter* and *better*, which are often preferred over "*compared to*". When a comparative term is used, the same sentence must clarify 'than what' (i.e., more than XXX, better than XXX, shorter than XXX).

It is incorrect to say "*The obvious advantage to the SSD method is that generations are grown in a shorter time*", whereas it is correct to say "*The obvious advantage to the SSD method is that generations are grown in a shorter time than that required for the Pedigree method*".

It is incorrect to say "**To a lesser degree, seeds are .....**", and correct to say "*To a lesser degree than that observed in tomato, seeds are ..... "*.

xiv. *Numbers* - Spell out numbers less than 10 unless followed by SI units. For example, "*three leaves*" NOT "*3 leaves*", whereas "*10 leaves*" is fine. "*3 cm*" NOT "*three cm*".

Spell out numbers if they begin a sentence (try to avoid starting sentence with numbers); for example, "*One-thousand plants*" NOT "*1000 plants*". Also, numbers and units should be separated by a space.

It is incorrect to say that "*the GABA concentration is increased by five-fold compared to the control*" when "*the GABA concentration is five times that in the control*". Thus, "*the GABA concentration is increased by four-fold*".

It is incorrect to say that "*the GABA concentration is five-fold less than the control, whereas it is connect to say that "the GABA concentration is 20% of that in the control*".

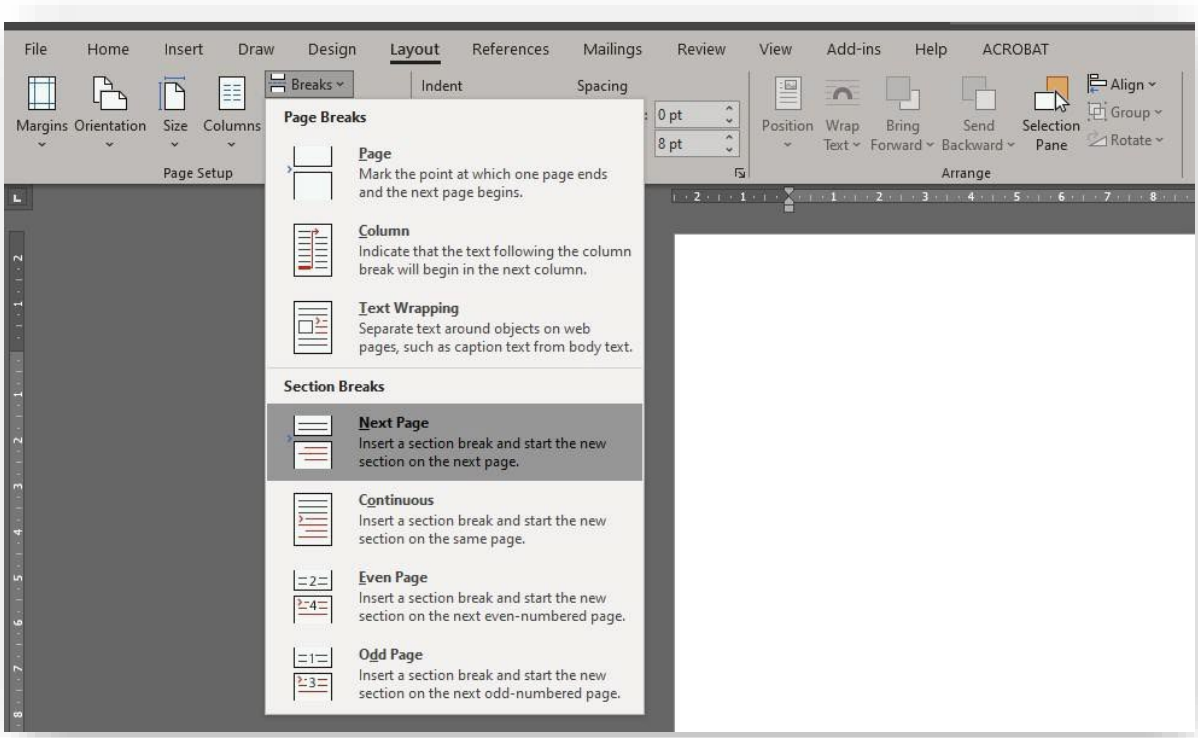
Inserting Page Numbers into a Document that Contains Landscape and Portrait Pages

The following pages provide a step-by-step procedure to insert the proper placement of page numbers in a document that contains both portrait and landscape pages.

Steps needed to insert a landscape page into a portrait document

*These steps can be skipped if your document already contains portrait and landscape pages.

1. Place the cursor on the last line of the portrait page.
2. In the Page Layout ribbon click on Breaks.
3. Under section breaks select Next Page.
4. In the Page Layout ribbon click on Orientation select Landscape.
5. Repeat steps 1-4, to switch from landscape to portrait.
6. *** It is important that Next Page is selected each time***



On the following page are examples of the final figures as they may appear in a thesis.

Figure 1:

An example of a portrait page with proper page numbering.

1

Figure 2:

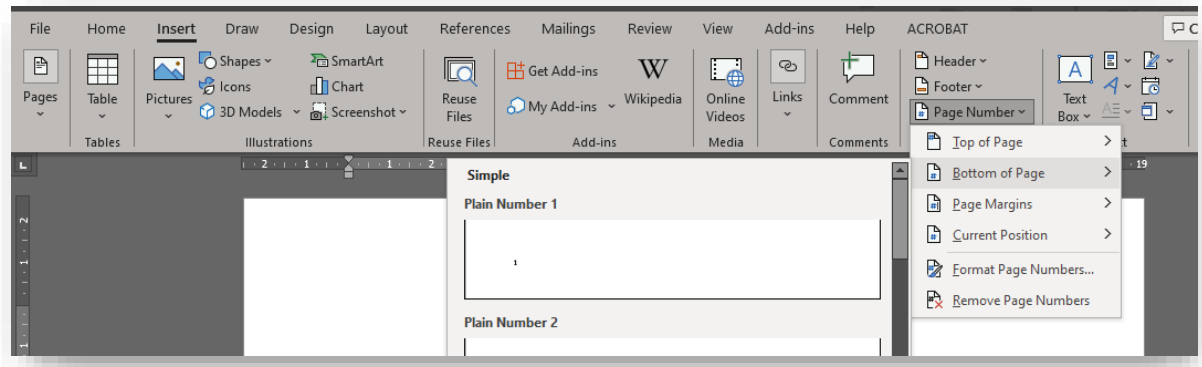
An example of a landscape page with proper page numbering.

2

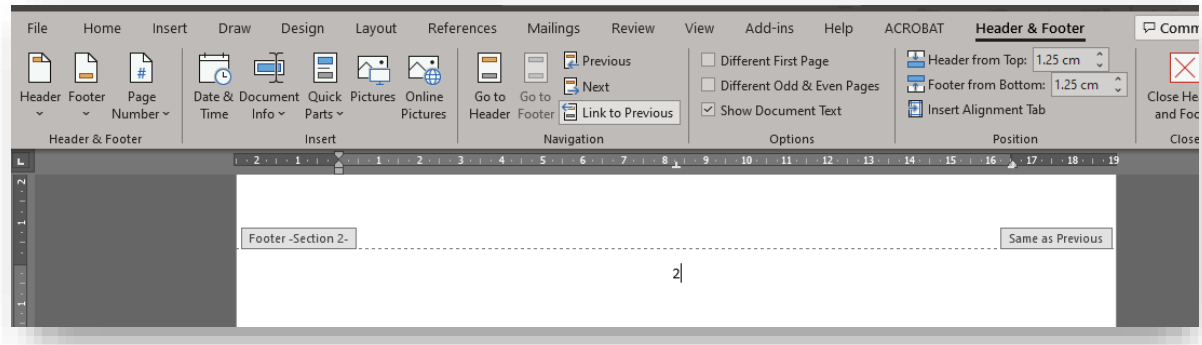
Steps needed to insert a landscape page into a portrait document

*The following procedure assumes that your document already contains portrait and landscape pages.

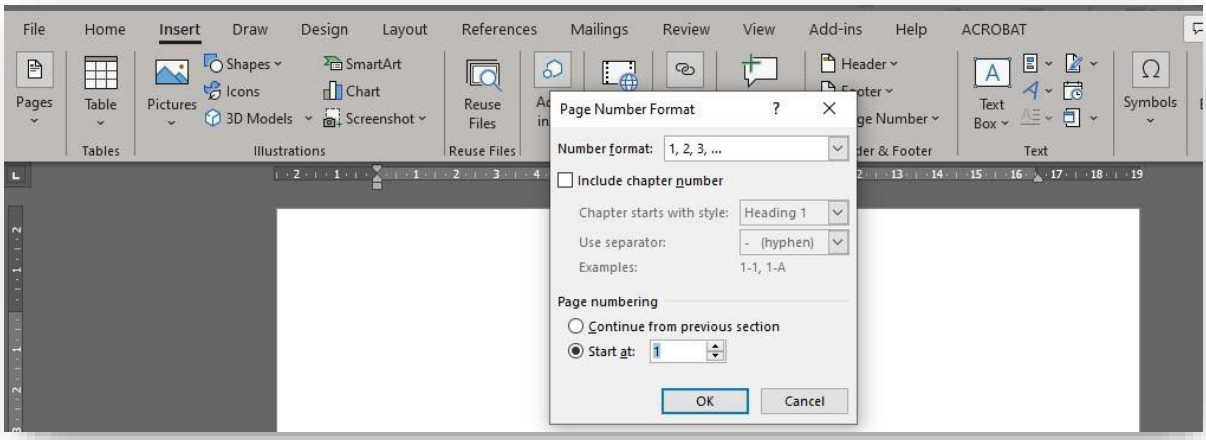
1. Number all of the portrait pages in the entire document.
    - After each transition between landscape and portrait pages a new section has been created in the document.
    - In a thesis the first pages are often numbered with Roman Numerals (i, ii, iii…).
        - This can be done by inserting a Section Break after these pages just before your first number with Arabic Numerals (1,2,3…).
        - To insert page numbers (SEE IMAGE BELOW) click on Insert ribbon and select Page Numbers and Bottom of Page and choose an appropriate style.



- To insert Roman Numerals (see image above), click on Format Page Numbers, select Number Format and choose (i, ii, iii, etc.)
- To insert Arabic Numerals, repeat the previous step but choose (1, 2, 3, etc.).
- At this point, all the pages will have sequential page numbers, but the number will not be in the correct page position for the landscape pages.
- At this point, the header and the footer must be unlinked for each section.
- Click on the Insert Ribbon, select Footer, and click on Edit Footer.
- Each Section needs to be unlinked. Place your cursor into the header section. The Design ribbon will be selected. Repeat for the footer, and each additional section for the remaining document.

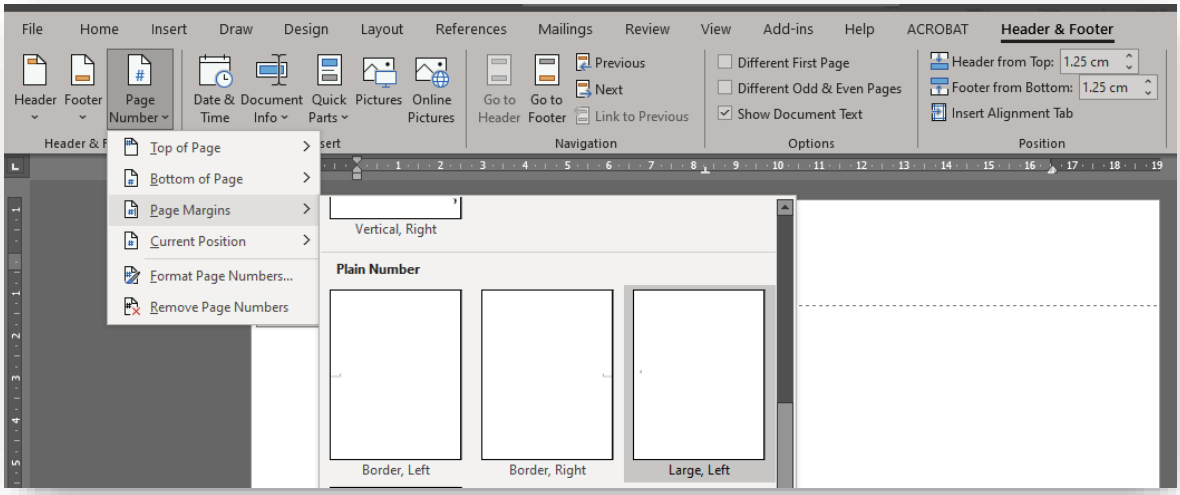


- Now that all the sections are unlinked, you can format the page numbers to each section.
    - First change the page numbers for the portrait sections. Since the sections are unlinked, the page number will need to be added at the beginning of each section (see image below). Click on the Insert Ribbon, select Page Number, then Format Page Numbers, and then enable the Start At:. Choose the appropriate page number for that section.



- Secondly, remove all the page numbers from the landscape pages. Click on a landscape page. Click on Insert Ribbon, select Page Number and click on Remove Page Number. Repeat for each landscaped page.

2. Now the page number can be inserted to the landscape pages
    - Click on INSERT, select Page Number, select Page Margins, choose Large Left (see image below)
    - The page number will be inserted on the left but in the wrong orientation. To fix the orientation, click on the number; In the Home Ribbon change the font to the appropriate style and size.
    - In the Format Shape Ribbon select Text Direction and choose Rotate Text 90°.



EXAMINATIONS

Graduate Policy on Thesis Format Instructions
https://graduatestudies.uoguelph.ca/current-students/preparation-your-thesis

Electronic Theses and Dissertation Submission Guide
https://graduatestudies.uoguelph.ca/current/completion/thesis_completion

Forms
Examination Request Form
Doctoral Final Examination Agreements

Master's Examination

The Department requires that a seminar be presented on the thesis research. The seminar is 30-45 minutes and the student shall be prepared to answer questions from the attendees.

Examination Committee
The Master's Examination Committee consists of:

- A Chair, who is not a member of the Advisory Committee, selected from the Plant Agriculture Graduate Studies Committee or a regular graduate faculty member, appointed by the Graduate Coordinator
- 2 members of the Advisory Committee,
- A member of the regular graduate faculty who is external to the Advisory Committee (preferably internal to the University).

PhD Qualifying Examination

Guidelines for Members of PhD Qualifying Examination (Oral & Written) Committees

1. In accordance with university regulations, the Examination Committee will consist of the following five members:
    a. The Chair of the Graduate Studies Committee or another member of the Graduate Studies Committee, acts as Chair of the Examination
    b. Two members of the Graduate Faculty who are not members of the Advisory Committee.
    c. Two members of the Advisory Committee, one of which may be the student's advisor.
        i. Normally at least one of the Qualifying Examination members must be from outside the department in which the student is registered. That person may be a member of the Advisory Committee. The Graduate Studies Chair assigns the Chair of the Examination Committee, the two Advisory Committee members, and the two members of the Graduate Faculty in consultation with the candidate's Advisor.
    d. The membership of the Examination Committee will be determined before the end of the student's 3rd semester.

2. The Graduate Studies Chair will receive from the Advisory Committee a written evaluation of the quality of the student's performance to date in research and student's potential as a researcher. The Graduate Studies Chair will forward this letter to the Chair of the Examination before the end of the 4th semester.
3. The Chair of the Examination will be responsible for conducting the examination, reporting on the exam, communicating with the student after the exam if necessary, and has a responsibility to intervene and moderate when appropriate.
4. Qualifying Examinations are closed to all but Graduate Faculty except with special permission from the exam chair and the candidate. There will be two components to the PhD Examination: i) oral, and ii) written.
5. The oral examination will normally take place in the 5th semester of the PhD program, following the successful submission to and approval by the Advisory Committee of the candidate's research proposal (end of 3rd semester deadline). In some instances (e.g., absence from the University for research purposes), it may be necessary to defer the Qualifying Examination to the 6th semester. For PhD transfer students, the Qualifying Examination must be taken no later than the 3rd semester after their transfer to the PhD program. Transfer students are encouraged to take the Qualifying Examination in the 1st or 2nd semester after their transfer to the PhD program.
6. Deferment of the oral examination beyond the 5th semester of the student's program would require the approval of the Chair of the Graduate Committee in consultation with the student's advisor.
7. Prior to the oral and written examination, the candidate will be given a suggested reading list or topics that define the areas of expertise required by the student. It is expected that all students will be broadly familiar with their scientific disciplines and the basis of scientific enquiry, including principles of the scientific method. In addition, topics related to the candidate's area of research will be included.
8. Specific topics on the list shall be decided upon by the entire Examination Committee, including the two external Examining Committee members.
9. The topics list and any readings are to be provided to the candidate at least 8 weeks before the date on which the oral examination will take place. The Chair of the Examination Committee or individual members will provide the candidate with the topics list.
10. The written component will consist of two questions from each examination committee member. The student will choose to answer one question from each examination committee member. The Examination Chair will not submit questions. These questions will be answered as a closed book exam. Four questions will be administered by the Chair of the Examination Committee on two consecutive days and the student will have four hours to write answers to two questions on each of the two days. The student may not consult any books, papers, notes or anything to assist them with the exam (e.g., internet, data or information on fixed or portable disk, etc.). Students may use word processing software to write the exam.
11. Chair will share with the Committee the student's transcripts and the letter regarding the student's research ability from the Advisory Committee. The Committee will receive all the written answers prior to the oral exam and the exam will be conducted within approximately one week of submitting the written answers.
12. The Chair will open the questioning period by calling on members of the Examination Committee by turn to question the candidate. The order of questioning by members of the Examination Committee is

recommended as follows: the two Graduate Faculty Members who are not members of the Advisory Committee, the Advisory Committee Member and the Advisor. There will be two rounds of questions. The first round of questions will consist of 20 minutes of questions by each examiner. A second round of questions will consist of 5-10 minutes of questioning by each examiner. The entire oral examination should not be longer than three hours in duration. The Chair will monitor time elapsed for each examiner in order to complete the exam within three hours. The Chair of the Examination will call for a break midway through the exam or at any time he/she deems necessary. The student may also ask for a break between examiners. If the time is extended, it should be done only to benefit the candidate and enable the Committee to come to a just decision.

Should the Chair feel that any examiner is taking an inordinate amount of time, however, she/he may intervene and end questioning for that examiner. The candidate's Advisor participates as an equal and active member of the Examination Committee. The questions should be directed so as to reveal the student's knowledge of their discipline, and to help evaluate their standing (i.e., potential) as a scientific investigator. **Should the Chair feel at any time during the questioning period that the nature of the questions tends to deviate from the "fair limits" of the examination as defined by the topics list and discipline, she/he has the responsibility to intervene and moderate.**

13. At the end of the question period, the Chair will ask the candidate to leave the room so that the Examination Committee can proceed with their deliberations.
14. The Chair will advise members of the Committee regarding the formalities to be followed in making the recommendation to the Dean of Graduate Studies.
15. The evaluation of the student's performance in the examination will consider whether she/he has demonstrated:
    a. 1) familiarity with the broad discipline(s) of study;
    b. 2) an ability to integrate material derived from their studies;
    c. 3) an understanding of the method(s) of science;
    d. 4) an understanding of the implications, limitations, and assumptions of the statistical procedures to be used; and
    e. 5) an understanding and familiarity with the analytical techniques and laboratory procedures to be used.
16. The Chair will ask the Committee to vote on the acceptability of the student's performance. This evaluation will be based upon both the written and oral performance of the student, and is to be assessed as an integrated evaluation considering the 5 criteria specified in section 15 (above). The oral and written parts need not be equally weighted in determining an outcome. The Chair is not a voting member of the Committee. A candidate is deemed to have passed if not more than one of the examiners votes negatively. An abstention counts as a negative vote. The Examination Committee will then be asked to sign the Report of the Qualifying Examination Committee, which reports the overall performance to be satisfactory or unsatisfactory.
17. Where deficiencies are revealed by the examination, the Examination Chair will provide in writing to the candidate by the end of the next full business week following the exam, the remedial measures required.
18. A student who does not pass on the first attempt may be given the opportunity for a second examination, not later than six months after the failed attempt, at the discretion of the Chair of the Department. The Department Chair on the advice of the Examination Committee will make a decision

permitting a second examination. The Chair of the Examination Committee or designate will provide in writing to the candidate, by the end of the next full business week following the exam, a list of the concerns of the Examination Committee. A student will only be allowed two attempts to pass the Qualifying Examination.

A second failure results in termination of the student's registration in the Faculty of Graduate Studies.

(Approved by the Department of Plant Agriculture, January 2018)

Office of Graduate Studies policy on Qualifying Exams

https://calendar.uoguelph.ca/graduate-calendar/degree-regulations/doctor-philosophy/

The PhD Qualifying Examination is a university requirement that according to calendar regulations needs to be completed by the end of semester 5 (semester 7 if the student has transferred from the MSc program). To assist in organizing the Qualifying Examination please get "background" forms from the Graduate Program Assistant.

Steps to plan for the Qualifying Examination include: Advisory Committee and the student choose four areas of specialization that will be the focus of the exam. The examination committee consists of five members from the graduate faculty including the chair/director of the academic unit (or designate) or the chair of the graduate studies committee, who acts as chair of the examination committee except when this person is also chair of the advisory committee. In that event, the chair designates another member of the graduate faculty of the unit to chair the examination; two members of the graduate faculty who are not members of the advisory committee, in addition to the chair; two members of the advisory committee. Normally, at least one of the qualifying examination committee members must be from outside the department in which the student is registered. That person may be a member of the advisory committee. The composition of the committee needs to be submitted to the Graduate Program Assistant so appropriate arrangements can be made in a timely manner.

The examination will consist of written and oral portions. The written will normally consist of four questions (one from each exam committee member). The closed book format consists of one day or two half-day sessions to complete the questions.

The oral session will be scheduled approximately one week after the completion of the written portion. Each examiner will be given 20 and 5 to 10 minutes in the first and second round of questioning.

Students are expected to demonstrate a high level of knowledge in their areas of specialization and an ability to integrate knowledge.

In accordance with university regulations, the student is deemed to have failed if two or more negative votes are recorded. The examining committee will decide if the student should be allowed to re-sit the exam which may include both portions. A student failing the examination for a second time will be required to withdraw.

The objectives of the PhD Qualifying Examination are to evaluate the student regarding:

i. background information pertaining to their field of specialization and supporting sciences;
ii. intellectual ability (i.e., ability to synthesize and integrate scientific information and to formulate hypotheses for new knowledge); and
iii. ability and promise in research.

Successful completion of the Qualifying Examination requires that the student demonstrates general knowledge at the very least equivalent to that presented in the physical and biological science courses

required of BSc (Agr) students in a plant science or related major. The student is expected to have up-to-date, comprehensive knowledge in their area of specialization plus a general appreciation of the other areas of specialization in Plant Agriculture. [Specializations for the graduate program in Plant Agriculture include Crop Breeding, Crop Cytogenetics, Crop Biotechnology, Crop Production and Agricultural Ecosystems, Crop Physiology, Plant Genetics, and Plant Physiology]. The student must also demonstrate the potential to integrate this knowledge at a level appropriate for an independent researcher. Competence in statistics and application of the scientific method is required for all students. Given the various demands on a PhD student's time, the candidate is advised to spend a good portion of, but not more than, one semester reviewing course work and literature in preparation for this examination.

PhD Final Oral Examination

The Final Oral Examination is devoted chiefly, but not necessarily entirely, to the defence of the doctoral thesis. The thesis defence involves a critical evaluation of the thesis research methods and results, and questions the interpretation and conclusions. The candidate must be aware of the literature in the thesis area and know the scientific principles upon which their thesis is based. The various regulations and sequences of events leading to this exam are outlined in the Graduate Calendar and the student shall become familiar with these far in advance. The examination is conducted by a committee consisting of five members, to include:

- a member of the Graduate Faculty who is not a member of the Advisory Committee appointedas Chair
- the external examiner
- a member of the Graduate Faculty who is not a member of the Advisory Committee selected by the Advisory Committee
- two members of the student's Advisory Committee selected by the Advisory Committee

The Department requires that a seminar be presented on the thesis research. The seminar is 30-45 minutes and the student shall be prepared to answer questions from the attendees.

Graduate Policy on Thesis Format Instructions
https://www.uoguelph.ca/graduatestudies/current-students/preparation-your-thesis

TRANSFER FROM MSC TO PHD

https://calendar.uoguelph.ca/graduate-calendar/general-regulations/admission/internal-program-transfer/

In some cases, a student may show such strong potential for research that (s)he may wish to transfer to the PhD before completing the MSc. You must convene a meeting with your Advisory Committee to discuss the possibility of a transfer.

To be considered for the transfer students need to demonstrate the followingqualities:

a. 77% or better average in their undergraduatedegree
b. 80% or better average in their graduate courses based on at least 1.0 credits
c. Outstanding performance on their research
d. Independence and original contribution to their research

e. Evidence of written communication skills as indicated by published research in a peer reviewed forum.

Once the advisory committee is satisfied the student has met these conditions, a formal application is made to the Departmental Graduate Committee which makes a recommendation to Office of Graduate Studies.

Application for transfer to the PhD program must be initiated by the student, and the associated procedures within the Department should be completed no later than the third semester. The application is first considered by the Advisory Committee and, if supported, referred to the Departmental Graduate Committee. A research proposal seminar is presented as part of the evaluation process. Students register in PLNT*6400 (Seminar) for this purpose. According to Faculty of Graduate Studies regulations, applications for transfers must be made to Office of Graduate Studies no sooner than the end of the second semester and normally no later than the end of the fourth semester.

Requirements and Procedure for Transfer

A Transfer Application form must be submitted to the Graduate Program Assistant by the student during semesters 3 or 4 for consideration. The transfer fee is payable when the application is submitted to Office of Graduate Studies.

The student must have good quality undergraduate and graduate degrees (normally B+ to A). The student must have completed at least 0.5 graduate level course credits (one 0.5-credit graduate course), plus a Seminar or equivalent course, recognized for credit at the University of Guelph, with at least A- grades.

A statement concerning research potential is essential. Supporting documentation from the advisory committee, the program graduate studies committee and the department chair is also required.

Graduate Awards and Financial Assistance

https://calendar.uoguelph.ca/graduate-calendar/awards-financial-assistance/

Each student admitted to an MSc or PhD program in the Department is normally guaranteed a minimum of $22,000 ($25,000 for PhD) per year, subject to satisfactory performance in research, course work and teaching duties. This amount normally comes from some combination of Graduate Research Assistantship, major external scholarship, or Departmental Scholarships. Students receiving NSERC PGS A or B may also be eligible for top up from the University.

Graduate Research/Teaching Assistantships and scholarships are not taxable. Many students should not be paying income tax. Please complete the following forms and send them to the department service assistant in Human Resources.

http://www.cra-arc.gc.ca/formspubs/frms/td1-eng.html

Each semester students must check WebAdvisor for their fees. You are encouraged to review the financial arrangement or other methods of payment.

Tuition and Schedule of Fees

To check your tuition fees please click on the cohort year in which you started your degree.

http://www.uoguelph.ca/registrar/studentfinance/index.cfm?app=tuition&level=gr

Graduate Research Assistantships

Graduate Research Assistantships (GRAs) are paid to graduate students in support of their scholarly activity/research and in the preparation of their thesis/major paper.

Funds to pay the GRA may be from research grants or contracts received by faculty members from external agencies or governments. In these cases, the student's research would contribute to the research of the faculty member under whose direction it is conducted and the dollar value of GRA stipends may depend on the external granting agencies' guidelines on support of graduate students through research operating grants. Alternatively, funding for the GRA may be from the University. Regardless, in either situation the GRAs must be approved by the department chair or school director on the recommendation of the advisor.

The University provides a T4A tax information slip each year to students with GRAs. For income tax purposes, the T4A documents the funds received through any graduate research assistantships. These slips are mailed to students in late February each year, for the previous tax year.

Graduate Teaching Assistantships

A Graduate Teaching Assistantship (GTA) is a stipend paid by the University for services provided by the student as a laboratory demonstrator or as a tutorial teacher. Remuneration will be at the rate agreed upon between the University and the union (CUPE Local 3913, Unit 1).

Students are expected to familiarize themselves with the regulations surrounding the Collective Agreement between the University and the union.

The Department of Plant Agriculture offers several GTAs in the Fall and Winter semesters. An e-mail message is sent to all graduate students at the beginning of the posting period. GTA positions are governed by CUPE Local 3913, Unit 1.

Applications for posted GTA work assignments are sorted in accordance with the levels of consideration. The levels of consideration will be as follows:

- 1st candidates who are still within their Job Security Period (as outlined in 11.02) are to be considered first (not applicable in Plant Agriculture because we do not guarantee entering graduate students a Graduate Teaching Assistantship).
- Next, 2nd candidates who have completed their Job Security Period and who are still within their prescribed program are to be considered next. A prescribed program is defined as the number of semesters that the University has deemed standard for the program of study. (MSc students in semesters 1-6 and PhD students in semester 1-9 or MSc students transferring to PhD without completing the MSc in semesters 1-12 during the semester in which the course is taught).
- Finally, 3rd candidates who have exceeded the prescribed program period for their program of study are considered.

Within each level of consideration as indicated above, the candidates are assessed and ranked according to the following criteria. It is the responsibility of the candidate(s) to provide evidence of qualifications at the time of application.

Qualifications (academic and professional). For example:

- undergraduate degree

Other professional certification teaching competence (if applicable). For example:

- teaching evaluation results
- teaching awards

Capability (i.e., mastery or effectiveness of skills). For example:

- effective communication
- presentation skills
- effective dissemination of knowledge for a specific audience

Prior relevant experience. For example:

- other GTA work assignments completed

Where applicants are considered to be relatively equal (in the opinion of the University), the senior applicant is awarded the work assignment.

Students are eligible to apply for GTA positions in other departments.

Graduate Service Assistantships

http://www.uoguelph.ca/registrar/calendars/graduate/current/gradawards/gradawards-uogemploy.shtml

Fellowships & Scholarships

http://www.uoguelph.ca/registrar/calendars/graduate/current/gradawards/gradawards-uogawards.shtml

Students registered in Plant Agriculture have access to several scholarships awarded annually. Some scholarships require an application and are awarded on the basis of academic performance.

Students receiving a scholarship or fellowship are responsible for direct payment of fees including tuition. If the sponsoring agency sends money for the award to the University, rather than to the student, then the University first deducts the student's fees (and tuition) and writes the student a cheque for the balance of the award. Such sponsoring agencies include NSERC, OGS and most sponsors of awards offered by the University. Student Financial Services may accept a post-dated cheque for fees provided the student has received official notification of receipt of the award but has not, at the time of registration received the money.

Students beyond the time limit suggested by the University will not be considered for scholarships. Students receiving relatively large incomes from outside the University or registered as part-time are not normally recommended for university scholarships.

The application method has changed to an online application format. Moving in this direction allows us to streamline the awards application for you while utilizing a reliable and accessible system. Rather than emailing an individualized application letter per award of interest, you will now only need to submit 1 online application form, indicating all awards that you would like to be considered for. The available scholarships will be automatically filtered to those that you are eligible for based on your program.

Within this application form, you will be asked to provide the following details:

- Thesis or Project Title
- Outline of your research project and the significance of the study
- Publications
- Presentations
- Scholarships and Awards previously received

- Involvement and Volunteerism (outline your participation in extracurricular activities and/ or volunteer activities on campus and/or in the community)
- Research Experience (i.e., Research Assistant positions, internship, relevant professional experience, etc.)
- Personal Statement (approx. 250 words)
- Contact information for up to 2 referees

Note: Your referees will be automatically contacted on your behalf and the awards office will receive their letter directly.

Submission of this application form is all that is required for consideration for OAC Fall Graduate awards, no supplementary documents are required.

To get a sense of the awards that are available and the unique criteria for these awards, visit the Student Financial Services Award Database. Please note that the new application method has not yet been updated on this website.

Department of Plant Agriculture Internal Awards

Graduate Student Involvement Award (GSIA)

Rationale

Plant Agriculture students are crucial to the operation of the Department of Plant Agriculture. Graduate students are involved in committees for faculty searches, curriculum development, social functions, journal clubs, intramural sports teams and improvement to graduate student life. In addition to course work and research, student volunteers on committees contribute a lot to the department's success. This award recognizes students for hard work and dedication to the department/college/university.

Context

Award is to be presented to any Plant Agriculture graduate student (MSc./PhD.) in recognition for going above and beyond what is expected in regards to volunteer activities in the department and on campus. The award is designed to recognize students in a professional manner and to reward students who are involved in volunteer activities in the department and on campus. A nominal monetary fee is attached to the award. The award illustrates to potential employers that the student has shown dedication to improving student life and is a strong indicator of the student's attributes.

Award guidelines

This award is to be presented to any graduate student (MSc/PhD.) who has undertaken Department or campus volunteer activities beyond what is normally expected of a graduate student within the last year (May-April). The Award of $500 is funded by the Department.

All Graduate students are eligible as this award has nothing to do with marks, research or length of time in Department. A student can win this award only once during their time in Department. The GSIA is awarded annually (usually by May 1). The GSLC PhD and MSc representatives are not eligible for the award.

Award decisions are made by PhD and MSc GSLC representatives and the Graduate Program Assistant and their decision is final. The deciding group may decide to share the award in cases where they decide that there is more than one worthy recipient.

Nominations are submitted by graduate students no later than March 1. The decision is made at a GSLC meeting in March. Nominations must include an outline of the nominee's volunteer activities and accomplishments from March of the preceding year to February of the current year. The nomination document should also be signed by a minimum of 2 nominators. Students nominated for the award cannot be GSLC representatives from the previous term.

Ontario Agriculture College Internal Awards

https://www.uoguelph.ca/oac/future-students/awards-scholarships

Some scholarships and awards are meant to replace or be the student's stipend. The advisor may elect to supplement any of these awards with a stipend.

Bursaries

To apply for a financial need-based award you must complete a Financial Needs Assessment Form and submit the form to Student Financial Services. Send to pagrad@uoguelph.ca for signature.

Financial Need-Based Awards

A limited number of emergency bursaries and/or student loans are available for students who unexpectedly find themselves in difficult circumstances. Students should discuss these unexpected difficulties/costs with their advisor and graduate coordinator. If unresolved financial difficulties remain, they should then proceed to Student Financial Services. These funds are specifically designed to cover emergency, acute, unexpected and/or one-time-only situations requiring compassion and are not designed to cover registration and living costs associated with the normal continuation of study.

Travel Scholarships

- Kasha Scientific Research Travel Grants
- Kenneth W. Knox Graduate Leadership Travel Grant
- Larry Milligan Research Travel Grant
- Michael Chepesuik International Research Travel Grant
- OAC 1950 International Research Travel Grant
- Robb Graduate Research Travel Grant
- Robinson Research Tracel Grant
- Schneller and Summers Scholarship
- Taffy Davidson Memorial Research Travel Grant
- Clan Ferguson Graduate Research Travel Grant
- John Black Graduate Travel Grant
- Registrar's Travel Grants
- Richard and Siphia Hungerford Graduate Travel Grants
- University of Guelph Travel Grants

University of Guelph Internal Awards

http://www.uoguelph.ca/registrar/calendars/graduate/current/gradawards/index.shtml

Campus Community Resources & Support

The University of Guelph provides a wide range of support services for members of the graduate student community.

Open Learning and Educational Support (OpenEd)

https://opened.uoguelph.ca/

MyGradSkills.ca

MyGradSkills.ca, developed by the Ontario Consortium for Graduate Professional Skills (GPS), is available to any Ontario graduate student, faculty member or staff member. Using their university email account, users can log in to view 18 short, self-paced training units on topics such as how to write a resume, how to conduct a job search, the art of entrepreneurship, teaching and learning, and academic and professional communications. The online professional development will benefit those who are interested in a career in academia, as well as those seeking to put their credentials to use in business, government or non-profit organizations.

Instructions to sign up for GPS

1. Go to MyGradSkills.ca
2. Enter personal information to sign up for the site. You must your Ontario university main domain email address (e.g. USERID@uoguelph.ca)
3. Once you sign up, you will receive a confirmation email to complete the sign up
4. Follow the link to confirm your user id and password
5. Once you sign in to the site, you can review the summary of available courses and enroll yourself in any of the courses free of charge

Please note: Users may go through the courses at your own pace and can stop and return to the site to continue at a later time.

Grad Pathways

Grad Pathways is the University of Guelph hub of academic and professional skills development opportunities for graduate students and postdoctoral fellows. It is administered by the Office of Graduate and Postdoctoral Studies in collaboration with on-campus and off-campus partners.

Grad Services & Organizations

Explore on- and off-campus resources to help you develop academic and professional skills.

On-campus resources include:

- Community Engaged Scholarship Institute
- Experiential Learning Hub (Career Services)
- Graduate Student Association (GSA)
- Library Programs & Services
- Office of Research
- Office of Teaching & Learning (OTL)

- Student Wellness
- Wood Centre for Business & Student Enterprise

Off-campus services and organizations include:

- Mitacs Training
- Aurora by Beyond The Professoriate
- LinkedIn Learning
- Science Business Network

Skills Development Course

Grad Pathways has created a non-credit **Skills Development Course** that allows students to earn a Record of Completion for attending 8 workshops spread across the skills domains, and then completing a short task for each. More details on the course and how to register are provided on the course webpage.

Student Wellness Services

The Department of Student Wellness is comprised of 7 different units, all of which provide health and wellbeing support and services to students and to the campus community.

- Counselling Services
- Student Health Services
- Health & Performance Centre (HPC)
- Student Support Network (SSN)
- Wellness & Education Promotion Centre
- Student Accessibility Services (SAS)
- Sexual and Gender Based Violence Support & Education

International students are required to purchase UHIP for health insurance protection while studying in Canada.

Contact Student Wellness Services

https://wellness.uoguelph.ca/contact-student-wellness-services

Quick Links

Athletics	https://www.home.gryphons.ca/
Campus Map	https://www.uoguelph.ca/maps/
Child Care	https://www.uoguelph.ca/childcare
City of Guelph	http://guelph.ca/
Computing & Communication Services	https://www.uoguelph.ca/ccs/
CourseLink	https://courselink.uoguelph.ca/shared/login/login.html
Department of Plant Agriculture	http://www.plant.uoguelph.ca/
Experiential Learning Hub	https://www.recruitguelph.ca/cecs/
Graduate & Postdoctoral Studies	https://www.uoguelph.ca/graduatestudies/
Gryphlife	https://gryphlife.uoguelph.ca/
Library	http://www.lib.uoguelph.ca/
My Grad Skills	https://www.mygradskills.ca/
Ontario Agricultural College	https://www.uoguelph.ca/oac/
Student Accessibility Services	https://wellness.uoguelph.ca/accessibility
Student Wellness	https://wellness.uoguelph.ca/
Supported Learning Groups (SLGs)	https://www.lib.uoguelph.ca/writing-studying/studying-resources-workshops/slgs
Student Life	https://www.uoguelph.ca/gsa/resources/student-life-resources
Transportation	http://guelph.ca/living/getting-around/bus/
WebAdvisor	https://www.uoguelph.ca/webadvisor
University of Guelph	http://www.uoguelph.ca/