

PATHOLOGY AND LABORATORY MEDICINE

2023-2024 GUIDELINES

GRADUATE STUDENTS IN RESEARCH-BASED PROGRAMS

Field(s) of Research: **1. Pathology**
2. One Health

Department of Pathology and Laboratory Medicine
Schulich School of Medicine & Dentistry
Western University

MSc Program in Pathology and Laboratory Medicine Acknowledgement of Student Expectations & Responsibilities, and Criteria for Graduation

I understand that to graduate with a MSc in Pathology and Laboratory Medicine:

I have to:

1. review the guidelines for research-based programs provided to me.
2. successfully complete the following courses and non-course milestones:
 - a. Pathology 9240 [Understanding Disease];
 - b. Scientific Communication and Critical Thinking series (SCCT; see section 2.3 for details);
 - c. Pathology 9687 [Effective Proposal Writing];
 - d. Biostatistics/ Research Methods (see section 2.4 for course numbers);
 - e. Courses suggested by my supervisor(s) and/or advisory committee members.
3. maintain a cumulative average of at least 70% calculated each term over all courses taken for credit, with no grade less than 60%.
4. attend and participate in departmental activities, including but not limited to;
 - a. Dr. Robert Zhong Research Seminars, PhD public lectures, and Grand Rounds
 - b. Annual Pathology and Laboratory Medicine Research Day
5. apply for external scholarships (*eg Ontario Graduate Scholarship, Canada Graduate Scholarships-Master's Award etc.*)

I have to:

1. set up my advisory committee, in consultation with my supervisor(s), within 3 months of registration, and present my research plan to the committee within the first 6 months of registration.
2. schedule my advisory committee meetings at least once a year and present my research progress report.
3. submit my thesis and pass the thesis examination.

I have to:

1. abide by the rules and regulations required by the Graduate Education Committee, Department of Pathology and Laboratory Medicine, and Western University.
2. observe all safety regulations established by Western University.

Student Name (print)

Student Signature

Date

Please return your signed form to Graduate Program Coordinator (pathgrad@uwo.ca) within 4 weeks of starting the program.

MSc Program in Pathology and Laboratory Medicine (One Health) Acknowledgement of Student Expectations & Responsibilities, and Criteria for Graduation

I understand that to graduate with a MSc in Pathology and Laboratory Medicine (*Research field: One Health*):

I have to:

1. review the guidelines for research-based programs provided to me.
2. successfully complete the following courses and non-course milestones:
 - a. Pathology 9330 [Foundations in One Health];
 - b. Pathology 9360 [One Health in Action];
 - c. Scientific Communication and Critical Thinking series (SCCT; see section 2.3 for details);
 - d. Biostatistics/ Research Methods (see section 2.4 for course numbers);
 - e. Courses suggested by my supervisor(s) and/or advisory committee members.
3. maintain a cumulative average of at least 70% calculated each term over all courses taken for credit, with no grade less than 60%.
4. attend and participate in departmental activities, including but not limited to;
 - a. Dr. Robert Zhong Research Seminars, PhD public lectures, and Grand Rounds
 - b. Annual Pathology and Laboratory Medicine Research Day
5. apply for external scholarships (*eg Ontario Graduate Scholarship, Canada Graduate Scholarships-Master's Award etc.*)

I have to:

1. set up my advisory committee, in consultation with my supervisor(s), within 3 months of registration, and present my research plan to the committee within the first 6 months of registration.
2. schedule my advisory committee meetings at least once a year and present my research progress report.
3. submit my thesis and pass the thesis examination.

I have to:

1. abide by the rules and regulations required by the Graduate Education Committee, Department of Pathology and Laboratory Medicine, and Western University.
2. observe all safety regulations established by Western University.

Student Name (print)

Student Signature

Date

Please return your signed form to Graduate Program Coordinator (pathgrad@uwo.ca) within 4 weeks of starting the program.

PhD Program in Pathology and Laboratory Medicine Acknowledgement of Student Expectations & Responsibilities, and Criteria for Graduation

I understand that to graduate with a PhD in Pathology and Laboratory Medicine:

I have to:

1. review the guidelines for research-based programs provided to me.
2. successfully complete the following courses and non-course milestones:
 - a. Pathology 9240 [Understanding Disease];
 - b. Scientific Communication and Critical Thinking series (SCCT; see section 2.3 for details);
 - c. Pathology 9687 [Effective Proposal Writing];
 - d. Biostatistics/ Research Methods (see section 2.4 for course numbers);
 - e. Courses suggested by my supervisor(s) and/or advisory committee members.
3. maintain a cumulative average of at least 70% calculated each term over all courses taken for credit, with no grade less than 60%.
4. attend and participate in departmental activities, including but not limited to;
 - a. Dr. Robert Zhong Research Seminars, PhD public lectures, and Grand Rounds
 - b. Annual Pathology and Laboratory Medicine Research Day.
5. apply for external scholarships (*eg Ontario Graduate Scholarship, Canada Graduate Scholarship - Doctoral Award [CIHR, NSERC] etc.*).

I have to:

1. set up my advisory committee, in consultation with my supervisor(s), within 3 months of registration, and present my research plan to the committee within the first 6 months of registration.
2. schedule my advisory committee meetings at least once a year and present my research progress report.
3. schedule and pass a comprehensive examination.
4. submit my thesis and pass the thesis examination.

I have to:

1. abide by the rules and regulations required by the Graduate Education Committee, Department of Pathology and Laboratory Medicine, and Western University.
2. observe all safety regulations established by Western University.

Student Name (print)

Student Signature

Date

Please return your signed form to Graduate Program Coordinator (pathgrad@uwo.ca) within 4 weeks of starting the program.

PhD Program in Pathology and Laboratory Medicine (One Health) Acknowledgement of Student Expectations & Responsibilities, and Criteria for Graduation

I understand that to graduate with a PhD in Pathology and Laboratory Medicine (*Research field: One Health*):

I have to:

1. review the guidelines for research-based programs provided to me.
2. successfully complete the following courses and non-course milestones:
 - a. Pathology 9330 [Foundations in One Health];
 - b. Pathology 9360 [One Health in Action];
 - c. Scientific Communication and Critical Thinking series (SCCT; see section 2.3 for details);
 - d. Biostatistics/ Research Methodology (see section 2.4 for course numbers);
 - e. Courses suggested by my supervisor(s) and/or advisory committee members.
3. maintain a cumulative average of at least 70% calculated each term over all courses taken for credit, with no grade less than 60%.
4. attend and participate in departmental activities, including but not limited to;
 - a. Dr. Robert Zhong Research Seminars, PhD public lectures, and Grand Rounds
 - b. Annual Pathology and Laboratory Medicine Research Day.
5. apply for external scholarships (*eg Ontario Graduate Scholarship, Canada Graduate Scholarships – Doctoral Award [CIHR, NSERC] etc.*).

I have to:

1. set up my advisory committee, in consultation with my supervisor(s), within 3 months of registration, and present my research plan to the committee within the first 6 months of registration.
2. schedule my advisory committee meetings at least once a year and present my research progress report.
3. schedule and pass a comprehensive examination.
4. submit my thesis and pass the thesis examination.

I have to:

1. abide by the rules and regulations required by the Graduate Education Committee, Department of Pathology and Laboratory Medicine, and Western University.
2. observe all safety regulations established by Western University.

Student Name (print)

Student Signature

Date

Please return your signed form to Graduate Program Coordinator (pathgrad@uwo.ca) within 4 weeks of starting the program.

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1 GRADUATE PROGRAM OVERVIEW

1.1 Fields of study

The Department of Pathology and Laboratory Medicine at Western University offers course-based (Master of Clinical Science, MCISc) and research-based (MSc and PhD) graduate degree programs. Two fields of research (areas of specialization) are available to MSc and PhD students: *Pathology* and *One Health*.

Research Field: Pathology

Pathology is the scientific study of disease processes. Pathology applies basic research techniques in biochemistry, cell biology, genetics, immunology, and molecular biology to the study of mechanisms of cell and tissue injury and the pathogenesis of disease.

Research Field: One Health

One Health is an integrated effort across multiple disciplines working locally, nationally and globally to attain optimal health for humans, animals and the environment. One Health recognizes that the health of humans, animals, and the environment are inextricably linked as ‘one’.

These **guidelines apply to all graduate students in the research-based MSc and PhD programs (Pathology and One Health)**, in both full-time and part-time streams.

Students entering our graduate program will have completed a four-year undergraduate science program, graduate program in Medical/Public Health, or a professional degree in dentistry, medicine or other health profession. There are no set degree or course prerequisites for admission to our graduate programs, although students are encouraged to have taken courses in biological and medical sciences (for example, anatomy, physiology, biochemistry, immunology, molecular biology).

Students are admitted into our MSc or PhD programs after a supervisor is identified who agrees to supervise the student. The supervisor(s), together with the student, sets up a thesis advisory committee and determines a research project for the student. Students should meet regularly with their advisory committee for guidance on their respective research projects and to allow assessment of progress; a minimum of one meeting per year is a requirement for all graduate students in the research-based program. The Graduate Education Committee (*GEC*; see *structure of GEC in Section 24*) meets on a regular basis to oversee the program, and to monitor the progress of all students.

Training of students in research methods and techniques, necessary for their research work, takes place in the supervisor's laboratory or research facility. The supervisor and the advisory committee members monitor student's progress in mastering the required research skills. Students will also submit and defend their thesis to graduate. Upon graduation from the program, students should demonstrate specific skills as enumerated in *Sections 1.2 and 1.3*.

All students in our program take an introductory/foundation course in Pathology (Pathology 9240A) or One Health (One Health 9330A and 9360B) to gain a basic understanding of their selected field of study, a research methodology/biostatistics course to understand research design and statistical analysis of data, and Scientific Communication and Critical Thinking (SCCT) non-course milestone series. Students in the *Pathology* field also take a scientific writing course (Pathology 9687).

Successful completion of a comprehensive examination is a requirement for students in the PhD program, and for students transferring from the MSc program to the PhD program. Students who are enrolled in dual degree programs (for example, MD/MSc and MD/PhD) and registered in the Department of Pathology and Laboratory Medicine for their MSc or PhD training, must meet the requirements outlined for MSc and PhD by Pathology and Laboratory Medicine, including a comprehensive examination in the latter.

In addition to taking courses and carrying out individual research projects, graduate students are expected to participate in departmental seminars, workshops, and other departmental/academic events.

1.2 Goals at the MSc level

In our MSc program, students are introduced to the research process and obtain elementary research skills. Students learn how to pose a relevant scientific question; determine the most appropriate methodology to answer that question; master that methodology and use it to answer the question posed. By the time of graduation, students should have demonstrated a general knowledge of the discipline of Pathology /One Health and a more detailed knowledge of a specific area of current research, forming the basis of their thesis.

Students should have excellent written communication skills and should have demonstrated these in the production of a thesis proposal and progress reports throughout their two-year program, and the successful production and defense of a written thesis. Additionally, students should present their research projects in the form of abstracts at local, national or international meetings, and aim for at least one publication in a refereed journal. Although, obtaining a MSc from our department is not dependent on publications, students are encouraged to obtain authorship on a peer-reviewed publication. Students should also have excellent verbal communication skills and have demonstrated these in presentations to the supervisor and the advisory committee, in the Scientific Communication and Critical Thinking (SCCT) milestone series, and in successfully defending their thesis.

It is essential that students have familiarity with computers and their use in word-processing; data collection and statistical analyses; searching the medical literature; communications and preparing material for presentations.

1.2.1 Program-level outcomes at the MSc level

Program-level outcomes are statements that describe what students will be able to know (knowledge), do (skills), and feel (attitude) by the end of our MSc and PhD programs.

Program-level outcomes for MSc in Pathology and Laboratory Medicine

A successful graduate of The University of Western Ontario's MSc program in Pathology and Laboratory Medicine will:

1. develop broad core knowledge in pathology, from molecules to cells to systems, including molecular, cellular, anatomical, biochemical, physiological, and pathological aspects of injury and disease.

2. be familiar with and describe the underpinnings of research methodologies, the ethics of research, and the principles of research design.
3. be familiar with research equipment and tools in the general biomedical research field, and demonstrate proficiency using research equipment applicable to their individual research fields.
4. be able to design and perform hypothesis-driven research that applies concepts in biomedical sciences.
5. be able to work effectively and collegially, in collaborations or teams as well as independently, in the execution of research projects and associated analysis of scientific data.
6. develop analytical and critical thinking skills and be able to critically read and analyze scientific literature on a broad range of subject areas associated with field of pathology.
7. be able to prepare logical and organized written reports, and oral and poster presentations that effectively communicate a research study in their field to a broad range of audiences.
8. have gained experience in presenting in scientific meetings, requiring intellectual discourse on cutting-edge issues in the multidisciplinary field of pathology.
9. be an advocate for pathology, both within the scientific and lay communities.
10. be cognizant of the complexity of knowledge and of the potential contributions of other interpretations, methods, and disciplines.

Program-level outcomes for MSc Pathology and Laboratory Medicine (One Health)

A successful graduate of The University of Western Ontario's MSc program in Pathology and Laboratory Medicine (One Health) will:

1. develop broad core knowledge in human and animal health, from molecules to cells to systems, including molecular, cellular, anatomical, biochemical, physiological, and pathological aspects of injury and disease and how environmental health can affect these systems.
2. be familiar with and describe the underpinnings of research methodologies, the ethics of research, and the principles of research design.
3. be able to design and perform hypothesis-driven research that applies concepts in One Health.
4. develop analytical and critical thinking skills and be able to critically read and analyze scientific literature regarding the broad range of subject areas associated with field of pathology and One Health.
5. be familiar with appropriate research methods in the biomedical and health research field, and demonstrate proficiency using research methods applicable to their individual research fields.
6. apply a system perspective to the understanding and analysis of health, disease, and both physical and social determinants of health.

7. be able to work effectively and collegially in collaborations or teams as well as independently in the execution of research projects and associated analysis of scientific data
8. be able to prepare logical and organized written reports, and oral and poster presentations that effectively communicate a research study in their field to a broad range of audiences.
9. have gained experience in presenting in scientific meetings requiring intellectual discourse on cutting-edge issues in the multidisciplinary field of pathology.
10. be an advocate for One Health, both within the scientific and lay communities.
11. be cognizant of the complexity of knowledge and the complex interactions that take place at the human/animal/environment interface and of the potential contributions of other interpretations, methods, and disciplines.

1.3 Goals at the PhD level

Doctoral students are expected, beyond mastering basic research skills, to have demonstrated a greater degree of independence and originality in their thesis work. A PhD in our department is defined as an independent body of research, performed by the student and assessed by the PhD thesis advisory and examination committees. By the time of graduation, doctoral students should have demonstrated a general knowledge of the discipline of Pathology or One Health and a more in-depth knowledge of a specific area of research, forming the basis of their thesis. An introduction to basic teaching skills is recommended, and opportunities for teaching assistantships in Pathology courses and extra-departmental courses and laboratories are available to eligible students. Several modules, training material, and short courses are available to students interested in developing their teaching skills through the [School of Graduate and Postdoctoral Studies](#) (see [Career Development](#), and [Life & Community](#)) and the University's [Centre for Teaching and Learning](#).

At the completion of the PhD program, students should be well on their way to becoming an independent investigator. Students should be able to pose a relevant scientific question, determine the best methodology to answer that question, and apply that methodology to answer the question. In many cases, students may *invent* the methodology to be used or improve upon existing techniques.

At the PhD level, students should also have had the opportunity to write and submit applications for scholarships and, at the discretion of the supervisor(s), external research support. Further skills in written and verbal communication should be demonstrated in reports submitted to the supervisor and the advisory committee throughout their research program; a successfully defended comprehensive examination and thesis; abstracts and journal articles submitted to refereed scientific journal; and presentations at local, national and/or international meetings.

1.3.1 Program-level outcomes at the PhD level

Program-level outcomes for PhD Pathology and Laboratory Medicine

In addition to program-level outcomes listed for MSc, students in the PhD program will:

11. master the subject matter, concepts and techniques of their chosen research topic at internationally-recognized levels and standards.
12. undertake independent and/or collaborative research, apply state-of-the-art techniques to conduct scientific investigations, resulting in a substantial and publishable contribution to new knowledge.
13. produce works that critique current forms of knowledge and understanding.
14. demonstrate the ability to independently and broadly explore the scientific literature and develop novel hypotheses based upon the existing knowledge base.
15. reach an expert level of achievement in writing, research activities, problem-solving and communication
16. develop an appreciation of the limitations of one's own work and discipline, of the complexity of knowledge, and of the potential contributions of other interpretations, methods, and disciplines.

Program-level outcomes for PhD Pathology and Laboratory Medicine (One Health)

In addition to program-level outcomes listed for MSc (One Health), students in the PhD program will:

12. master the subject matter, concepts and techniques of their chosen research topic at internationally-recognized levels and standards.
13. undertake independent and/or collaborative research, apply state-of-the-art techniques to conduct scientific investigations, resulting in a substantial and publishable contribution to new knowledge.
14. produce works that critique current forms of knowledge and understanding.
15. demonstrate the ability to independently and broadly explore the scientific literature and develop novel hypotheses based upon the existing knowledge base.
16. reach an expert level of achievement in writing, research activities, problem-solving and communication
17. develop an appreciation of the limitations of one's own work and discipline, the complexity of knowledge, the need for collaboration across disciplines and consideration of complex adaptive systems and the potential contributions of other interpretations, methods, and disciplines.

1.4 Part-time graduate program in Pathology and Laboratory Medicine

The Department of Pathology and Laboratory Medicine offers part-time MSc and PhD programs. These part-time programs are designed to provide a solid research foundation for clinical residents/fellows and other medical/health professionals to facilitate their career as scientists. The

requirements, expectations, and goals for students in these part-time programs are the same as for full-time students, including required courses, non-course milestones, independent research, attendance and participation in departmental seminars and research days. However, the part-time program essentially uses the assumption that two terms of part-time study is equivalent to one term of full-time registration.

The applicant must have an undergraduate degree in sciences (or equivalent; with minimum average of 80%) and a professional degree such as a MD, DDS, or a DVM from an accredited institution for admission into the part-time MSc program. For direct admission to the PhD program, the candidate must have completed a MSc, MPH, or other graduate program in medical/health sciences. However, students admitted to the part-time MSc program may request a transfer to a PhD program, following a similar procedure as in the full-time program. The period for the transfer for a part-time student will be adjusted (contact Graduate Program Coordinator [pathgrad@uwo.ca] for more details).

2 COURSE & NON-COURSE MILESTONE REQUIREMENTS

2.1 Required courses and program-specific milestones for all research-based MSc students.

MSc, Pathology Research

MSc Pathology – Year 1		
Number/ Code	Title	Term
PATHOL 9240A	Understanding Disease	September - December
MSC SCCT1	MSc Scientific Communication and Critical Thinking 1	September - April

MSc Pathology – Year 2		
Number/ Code	Title	Term
PATHOL 9687A	Effective Proposal Writing	September - December
MSC SCCT2	MSc Scientific Communication and Critical Thinking 2	September - April

MSc, One Health Research

MSc Pathology (ONE HEALTH) – Year 1		
Number/ Code	Title	Term
PATHOL 9330A	Foundations in One Health	September - December
PATHOL 9360B	One Health in Action	January - April
MSC SCCT1	MSc Scientific Communication and Critical Thinking 1	September - April

MSc Pathology (ONE HEALTH) – Year 2		
Number/ Code	Title	Term
MSC SCCT2	MSc Scientific Communication and Critical Thinking 2	September - April

2.2 courses and program-specific milestones for all research-based PhD students

PhD, Pathology Research

PhD Pathology – Year 1		
Course Number	Title	Term
PATHOL 9240A ¹	Understanding Disease	September - December
PHD SCCT1	PhD Scientific Communication and Critical Thinking 1	September - April

¹ If not taken during MSc (transfer students)

PhD Pathology – Year 2		
Number/ Code	Title	Term
PATHOL 9687A ¹	Effective Proposal Writing	September - December
PHD SCCT2	PhD Scientific Communication and Critical Thinking 2	September - April

¹ If not taken during MSc (transfer students)

PhD Pathology – Years 3-5		
Number/ Code	Title	Term
PHD SCCT3	PhD Scientific Communication and Critical Thinking 3	September - April
PHD SCCT4 ¹	PhD Scientific Communication and Critical Thinking 4	September - April
PHD SCCT5 ¹	PhD Scientific Communication and Critical Thinking 5	September - April

¹ depending on the PhD program subtype; please see section 2.3 below.

PhD, One Health Research

PhD Pathology (ONE HEALTH) – Year 1		
Number/ Code	Title	Term
PATHOL 9330A ¹	Foundations in One Health	September - December
PATHOL 9360B ¹	One Health in Action	January - April
PHD SCCT1	PhD Scientific Communication and Critical Thinking 1	September - April

¹ If not taken during MSc (transfer students)

PhD Pathology (ONE HEALTH) – Year 2		
Number/ Code	Title	Term
PHD SCCT2	PhD Scientific Communication and Critical Thinking 2	September - April

PhD Pathology (ONE HEALTH) – Years 3 - 5		
Number/ Code	Title	Term
PHD SCCT3	PhD Scientific Communication and Critical Thinking 3	September - April
PHD SCCT4 ¹	PhD Scientific Communication and Critical Thinking 4	September - April
PHD SCCT5 ¹	PhD Scientific Communication and Critical Thinking 5	September - April

¹ depending on the PhD program subtype; please see section 2.3 below.

2.3 Scientific Communication and Critical Thinking (SCCT)

Scientific Communication and Critical Thinking (formerly known as Graduate seminar series) is a non-course, program-required milestone. This requirement provides a forum through which Pathology trainees keep abreast of new developments in basic biomedical research and engage in informal scientific discussion. In addition, it provides students experience in reading, interpreting, evaluating and presenting various biomedical topics taken directly from the primary literature. It is also meant to foster interactions and for students to learn about research taking place in the department.

This milestone series is required for all MSc, MSc to PhD transfer, PhD and direct-entry PhD, and MD/PhD students in the Research-based Graduate Programs of Pathology and Laboratory Medicine. This milestone will emphasize critical review of the literature and provide students with opportunities to improve their presentation skills and ability to critique scientific research.

Number of SCCT milestones required, depends on the graduate program subtype:

Program	SCCT enrolment [Full time program]	SCCT enrolment [Part time program]	SCCT series code
MSc	2 years	2 years	MSC SCCT1 MSC SCCT2
MSc to PhD transfer	5 years	5 years	MSC SCCT1 MSC SCCT2 PHD SCCT1 PHD SCCT2 PHD SCCT3
PhD [following completion of Masters-level program]	4 years	4 years	PHD SCCT1 PHD SCCT2 PHD SCCT3 PHD SCCT4
Direct-entry PhD	5 years	5 years	PHD SCCT1 PHD SCCT2 PHD SCCT3

[following completion of an undergraduate-level program]			PHD SCCT4 PHD SCCT5
MD/PhD	3 years	N/A	PHD SCCT1 PHD SCCT2 PHD SCCT3

2.4 Other required courses for all MSc & PhD students

Biostatistics/Research Methods course

All students (in MSc/PhD; dual degree programs; full-time and part-time) are required to take one statistical analysis/research methods course. The Departments of Statistical Sciences, Biology, and Health Sciences at Western offer various courses which may be taken to satisfy this course requirement (see courses listed below). If the student or their supervisor(s)/advisory committee believe that a course, not listed in the table below, is appropriate for student's specific research project, a request may be made to the Graduate Education Committee.

If a student has taken an equivalent course during their undergraduate program or other previous training prior to starting the graduate program in Pathology and Laboratory Medicine at Western, an exemption may be provided. For all exemptions, a request (see section 2.8 and forms section 26 for details) signed by the supervisor(s) and advisory committee will need to be submitted to the Graduate Education Committee. Students should discuss course requirements and possible exemptions from required courses with their advisory committee members during the first advisory committee meeting, or with their supervisor(s) prior to the first advisory committee (to request an exemption for a year 1/term 1 course).

Number/ Code	Title	Term
Statistical Sciences 2244A/B	Statistics for Science	September or January
Biology 2244A/B	Analysis & Interpretation of Biological Data	September or January
Health Sciences 3801A/B	Measurement and Analysis in Health Sciences	September or January
Biophysics 9522B	Inferencing from Data Analysis	January - April

2.5 Optional/additional courses

A student's supervisor(s) and/or their advisory committee may suggest additional courses. If suggested, these courses will be considered as 'required'.

Students may also be interested in taking courses offered by Pathology and Laboratory Medicine, which may not be required for the completion of their graduate program but may help students in their research projects.

Students must maintain a cumulative average of at least 70% calculated each term over all courses taken for credit, with no grade less than 60%.

Optional courses for students in MSc and PhD Pathology

Students interested in taking optional courses should seek guidance from their supervisor(s) and advisory committee.

Number/ Code	Title	Term
PATHOL 9330A	Foundations in One Health	September - December
PATHOL 9360B	One Health in Action	January - April
PATHOL 9577B	Bioinformatic Data Processing with Python	January - April
PATHOL 9587L	Emerging concepts in Health and Disease	May - August

Optional courses for MSc and PhD Pathology (One Health)

Students interested in taking optional courses should seek guidance from their supervisor(s) and advisory committee.

Number/ Code	Title	Term
PATHOL 9240A	Understanding Disease	September - December
PATHOL 9577B	Bioinformatic Data Processing with Python	January - April
PATHOL 9587L	Emerging concepts in Health and Disease	May - August
PATHOL 9687A	Effective Proposal Writing	September - December

2.6 Collaborative specializations

Western University offers a number of Collaborative Specializations. A Collaborative Specialization is an intra-university graduate field of study that provides an additional multidisciplinary experience for students enrolled in, and completing the degree requirements for, one of a number of approved MSc and/or PhD programs. Students meet the admission requirements of, and register in, the participating (or “home”) program and complete, in addition to the degree requirements of that program, the requirements specified by the Collaborative Specialization. See [Collaborative Specializations](#) for available fields of study.

Students interested in collaborative specializations would likely select a field related to their thesis research projects. Students should discuss these opportunities with their supervisor(s) and advisory committee members.

2.7 Course descriptions

Courses are numbered according to the following format:

Course number	Level
1000-1999	Year 1, undergraduate
2000-4999	Senior-level undergraduate
5000-5999	Professional degree courses
6000-6999	Continuing studies courses
9000-9999	Graduate studies courses

Course suffix format:

Letter	Description
No suffix	1.0 course not designated as an essay course
A	0.5 course offered in first term
B	0.5 course offered in second term
A/B	0.5 course offered in first and/or second term
E	1.0 essay course
F	0.5 essay course offered in first term
G	0.5 essay course offered in second term
F/G	0.5 essay course offered in first and/or second term
L	0.5 graduate course offered in summer term

PATHOL 9240A

Understanding Disease

The goal of PATHOL 9240A is to introduce students to general mechanisms of disease (for example, inflammation, injury, neoplasia, and immune disorder). These general processes may then be discussed as they apply to specific diseases of organ systems.

PATHOL 9330A

Foundations in One Health

This graduate course covers the core concepts and foundational approaches to the multi-sectoral and collaborative discipline of One Health. Topics covered include the history, evolution, and scope of the field, and the three foundational pillars of One Health (human health, animal health, and environmental health).

PATHOL 9360B

One Health in Action

Key research designs and methodologic approaches fundamental to the multi-sectoral and collaborative discipline of One Health are presented in both lectures and in-depth case studies. Topics covered include the study design and methods, data surveillance systems, engaging stakeholders, and implementing the One Health approach into action and policy change.

Biostatistics/ Research Methods

There are several statistics/research methodology courses offered through different departments/faculties at Western University. They differ in content and emphasis, hours per week and tutorial time. Students may take one of the following courses or a similar course, upon approval of the Graduate Education Committee:

Biology	2244 A/B
Statistical Sciences	2244 A/B
Health Sciences	3801 A/B
Biophysics	9522B

PATHOL9577B

Bioinformatic Data Processing with Python

Working with large and complex data sets is an increasingly prominent aspect of biological and biomedical research. One of the fundamental skills that has emerged for data processing is a fluency in a scripting language, such as Perl, Ruby or Python. This course is designed to introduce graduate students to Python and cover the concepts and skills that arise in day-to-day Bioinformatic data processing. **Participation in the course requires a personal computing laptop.*

PATHOL 9587L

Emerging concepts in Health and Disease

Pathology 9587L is a multidisciplinary course exploring advanced concepts in the pathogenesis of human diseases. Students will learn to critically evaluate scientific literature and emerging themes in select topics and present these concepts to peers. Students will emphasize new developments and will give an overall view of general mechanisms involved in the pathogenesis. Students may use this course to round out their education in areas not covered in depth by graduate courses offered by Pathology and Laboratory Medicine or by other graduate programs at Western University. *Students must be in term 3 or beyond to register for Pathology 9587L.*

PATHOL 9687A

Effective Proposal Writing

This course provides strategies for effective proposal (grant) writing. A wide range of topics are presented including scientific writing, identifying funding sources, formulating a hypothesis, designing experiments, requirements for preliminary data, formatting of research proposals, budget requirements, and ethics and biohazard issues.

2.8 Exemption from required courses

A student may submit a request, in writing to the Graduate Education Committee, to be exempted from taking any of the program's required courses. The request form is available on the Western Pathology and Laboratory Medicine website ([MSc and PhD student course exemption form](#)). The request must be accompanied by documentation that details the equivalent course already taken and/or reasons for requesting the exemption. If the student has previously taken a course, equivalent to one of the required courses for the current program, the exemption form should include supporting documents such as the course outline or course notes/exams/evaluation scheme etc. The equivalent course must have been taken within the last 5 years and the student must have received a mark of 70% or higher.

Additional notes:

1. Students who have taken an introductory/foundation course in Pathology at Western University with a mark of 70% or higher (for example, PATHOL 3500) may request an exemption from taking PATHOL 9240A.
2. Students who have taken introductory/foundation courses in One Health at Western University with a mark of 70% or higher (for example, One Health 3300A/3360B) may request an exemption from taking PATHOL 9330A/9360B.

2.9 Auditing a graduate course

Students must declare an intention to audit a graduate course by the enrollment deadline for the term, using the [graduate course audit form](#). The student must have the instructor's signed approval to audit the course, as well as approval from the supervisor(s) (if applicable) and the Graduate Chair. An Audit requires regular attendance and obligations, as stated by the course instructor, in the Comments/Expectations section of the Graduate Course Audit Form. If these requirements are not met, the audit will be removed from the student's record at the instructor's request.

After the enrollment deadline, a student may not make a change from auditing a course to taking it for credit, or vice versa, within a given term. A student may, in a subsequent term, enroll in a given course for credit that has previously been audited.

Graduate courses delivered online may not be audited without special permission from the program.

Reference: School of Graduate and Postdoctoral Studies (SGPS) [Regulation 6.05](#).

2.10 Enrolling in undergraduate courses

Graduate students may take undergraduate courses without additional charge only if needed for their degree requirements and with the approval of the Graduate Chair and the School of Graduate and Postdoctoral Studies. Graduate students taking undergraduate courses must follow the undergraduate regulations, as stipulated in the undergraduate calendar under 'add/drop deadlines'.

To register in an undergraduate course, the student must use the [Graduate Student Taking Undergraduate Course Form](#). Undergraduate courses, or combined courses in which undergraduate students predominate must be less than one-third of the student's total course requirement for the graduate degree. Graduate students may not take an undergraduate course at a Western-Affiliated University College (with the exception of programs whose home unit is an Affiliated University College).

2.11 Incomplete courses

When a student does not complete work for a one-term half course or a two-term full course by the grade submission deadline, a grade of INC (incomplete) appears on the transcript. 'INC' will be

changed to a numerical grade if the work is completed by the grade submission deadline for the term, following the one in which the INC was awarded. If a grade is not submitted by this deadline, the INC becomes a Failure.

A numerical grade submitted for an INC grade, or an F grade resulting from an INC, is final. The School of Graduate and Postdoctoral Studies will not consider a subsequent revision of either grade except on documented medical or compassionate grounds.

The INC grade does not apply to full courses that are longer than two terms (in these courses the interim grade of IPR stands until the student completes the course).

Reference: School of Graduate and Postdoctoral Studies (SGPS) [Regulation 6.07](#).

2.12 Enrolling in courses outside of your program

With the approval of the program (Pathology and Laboratory Medicine) and School of Graduate and Postdoctoral Studies (SGPS), students registered at Western may take courses at other Ontario Universities under the Ontario Visiting Graduate Student program, without additional tuition. Courses taken under this agreement must be required for the student's degree program and must be taken for credit. Please see [Ontario Visiting Graduate Students](#) for more information.

3 PROFESSIONAL AND CAREER DEVELOPMENT

Graduate students are encouraged to participate in professional development and career-related courses, workshops, talks and events. Graduate students do **NOT** need the approval of their supervisors or their programs to participate in these faculty, program and university-wide events. Professional development and career-related events can be found through the [Centre for Teaching and Learning](#), the [Academic Support & Engagement](#), the [Student Experience \(Success\) Centre](#), the [School of Graduate and Postdoctoral Studies](#) and individual faculties. Participation in professional development and career offerings is expected to occur outside of teaching assistant (TA) duties, time-critical research duties, and shall not interfere with required current Graduate program courses, meetings and responsibilities.

Own Your Future

[Own Your Future](#) is a doctoral professional development program at Western University developed by the School of Graduate and Postdoctoral Studies in collaboration with various units across campus. The program enriches doctoral education at Western by providing the opportunity for students to develop professional skills that help maximize their success in graduate school and in their future career. All PhD students in Pathology and Laboratory Medicine are encouraged to participate in Own Your Future program.

4 OTHER EXPECTATIONS AND RESPONSIBILITIES

All graduate students (MSc and PhD; full-time and part-time) **are responsible** for:

A) Courses & Program-specific milestones

1. Registering for all required courses.
2. Successfully completing all program-specific non-course milestones.
3. Students must maintain a cumulative average of at least 70% calculated each term over all courses taken for credit, with no grade less than 60%.

B) Advisory Committee Meetings

1. Setting up an advisory committee, in consultation with the supervisor(s), within the first 3 months.
2. Schedule the first meeting with the advisory committee within the first 6 months.
3. Schedule regular meetings with the advisory committee (at least one per year).
4. Prepare and submit an advisory committee meeting report to the advisory committee members, at least 1 week before the scheduled meeting.

C) Comprehensive Examination*

1. In consultation with the supervisor(s), setup a comprehensive examination committee.
2. Schedule and pass the comprehensive examination by month 19 of initial registration.

*(*Applies to PhD, MD/PhD and MSc-to-PhD transfer students)*

D) Departmental Activities

1. Attending departmental seminars & workshops.
2. Attending Grand Rounds.
3. Attending Dr. Robert Zhong Research Seminar Series.
4. Attending and participating in the Pathology and Laboratory Medicine Research Day (held in March – May).
5. Attending and participating in the departmental reviews and other special seminars.
6. Attending and participating in other departmental activities as requested by the Graduate Chair and/or the Graduate Education Committee.

E) Other Professional Expectations

1. Exhibit independent judgment, academic rigor, and intellectual honesty.
2. Devote time to scholarly studies and make timely progress towards completion of degree (greater flexibility is only for part-time students). Activities that take significant time away from students' research projects/laboratory work should be communicated and negotiated with the supervisor.
3. All thesis-based graduate program students must meet expectations and requirements of School of Graduate and Postdoctoral Studies, as listed in [Regulation 11.03](#).

F) Thesis Examination

1. In consultation with the supervisor(s), setup a thesis examination committee.
2. Schedule and pass the thesis examination.

4.1 Failing to meet the expectations and responsibilities

All students should meet the expectations and responsibilities outlined above (*Section 4*). The Department of Pathology and Laboratory Medicine has specified these expectations and milestones for satisfactory progress towards the student's graduate degree. These are devised specifically for the benefit of the student and to provide quality graduate education. Failure to meet these expectations will result in ineligibility to apply for and receive any departmental and internal scholarships and awards. The department may require students to withdraw from the program, if they continue to fail in meeting these requirements.

Reference: School of Graduate and Postdoctoral Studies (SGPS) [Regulation 4.07](#).

5 GUIDE TO PROCEDURES FOR GRADUATE STUDENTS

1. A prospective graduate student applies to the program offered by the department.
2. The application is assessed by members of the Graduate Education Committee. If the application is incomplete or does not meet the minimum criteria for admission to the program, the application is rejected, and the applicant is notified.
3. If the application is acceptable and the student meets the admission criteria, the completed application is made available to all graduate faculty in the department. Prospective students may be invited for an interview with interested graduate faculty members. When a potential supervisor is identified and agreeable to supervising the student, the **supervisor submits evidence of student stipend and research support, and a project outline (1-page summary of the proposed thesis project) to the Graduate Chair**. This information needs to be provided prior to making an offer to the student. For students applying to the part-time program, a detailed program timeline and research project outline needs to be provided by the supervisor to the Graduate Chair. The purpose of this detailed timeline and project outline for part-time studies is to confirm that adequate time will be dedicated to the project and program responsibilities, and that the research project can be completed on a part-time basis. Final acceptance depends on availability of a supervisor who is willing to supervise the prospective student and has research funds available to support the student's stipend and research activities. No student will be accepted to the program unless there is assurance of sufficient stipend and research support.

The level of stipend support is approved by the Graduate Education Committee of Pathology and Laboratory Medicine in consultation with Graduate Studies and Postdoctoral Affairs at Schulich School of Medicine and Dentistry.

4. The student is notified of acceptance into the graduate program. In general, students enter the MSc program with the privilege of applying for transfer to the PhD program in their second year (See guidelines for transfer from MSc to PhD program) and having attained an overall average of 80% or higher.
5. The supervisor, in consultation with student, then sets up an advisory committee. Names of advisory committee members need to be forwarded to the Graduate Education Committee for review and approval **within the first three months** of student's registration in the graduate program. The first meeting is scheduled **within the first 6 months** of registration.
6. The supervisor(s) and advisory committee members will monitor the progress of the student, with an expected **report in writing at least once a year** to the Graduate Education Committee - or sooner if problems arise with progress or changes are required (such as transfer to the PhD program). **The written report must be received by the Graduate Education Committee before registration in the next term is allowed**. Failure to hold regular meetings may also result in ineligibility to apply for internal awards and recommendation to withdraw from the program.

7. At least once a year, the student shall be informed in writing as to their general progress through the program. A copy of the advisory committee's evaluation form may be used for this purpose.
8. The advisory committee considers the results of examinations in courses, presentations and participation at Scientific Communication and Critical Thinking (SCCT) series and advises Graduate Education Committee of developments and changes if necessary.
9. After the first year of the MSc program, the Advisory Committee may recommend a transfer to the PhD program (*see sections 10 and 11*). Requests will not be considered for transfer to the PhD program if the student fails to follow the prescribed timeline and/or does not meet the criteria for transfer.
10. For PhD students, including MD/PhD dual-degree students and students transferring from MSc to PhD, the supervisor(s) and the advisory committee members select a research topic and set up the comprehensive examination committee. The comprehensive examination is held after the first year (*see deadlines in sections 10 and 11*).
11. Any recommendations made by the advisory committee are discussed by the Graduate Education Committee. If the advisory committee recommendations are not accepted, the two committees will meet for resolution of the problem. If necessary, the matter is referred to the whole graduate faculty of the department.
12. The supervisor(s) and advisory committee members, in consultation with the student, propose the names of examiners for the student's thesis. The Graduate Education Committee may suggest other potential examiners or make recommendations against the proposed examiners, in cases where potential conflict of interest may exist between the proposed examiners and the candidate and/or supervisor(s). Once the Graduate Education Committee approves the names of the thesis examiners, supervisor completes the *Thesis Examination Board* form, which is then forwarded to the School of Graduate and Postdoctoral Studies for final approval.
13. The supervisor(s) and advisory committee members review the thesis to ensure it is in an acceptable format and the content meets the recognized scholarly standards for the discipline and degree. The department encourages all students to have their thesis reviewed by their advisory committee members.
14. Appeal/Petition mechanisms are as specified by the School of Graduate and Postdoctoral Studies ([Regulation 14.02](#)) and departmental guidelines.

6 GRADUATE STUDENT STIPEND

The Department of Pathology and Laboratory Medicine has set stipend levels for full-time graduate students. Student's [total financial package](#) will be indicated in the initial offer letter and in the *Minimum Financial Package Letter* after starting the program. A student's stipend is guaranteed for a specific time frame, as follows:

Program	Funding eligibility
MSc ¹	2 years [6 terms]
MSc to PhD transfer	5 years [15 terms]
PhD [following completion of Masters-level program]	4 years [12 terms]
Direct-entry PhD [following completion of an undergraduate-level program]	5 years [15 terms]
MD/PhD	3 years

¹ *Students in the combined Oral Maxillofacial Surgery MD/MSc program do not receive stipend support.*

Students in the part-time MSc or PhD program will not receive stipend support.

Full time graduate students registered on or after January 1, 2012, with an admission average over 70%, will be eligible for Western Graduate Research Scholarship (WGRS). This support is part of the total financial package. To retain this funding, a student must maintain a cumulative average of 70%, calculated each term.

External Funding

All students are encouraged to seek and apply for external funding. These are funds provided beyond Western through federal and provincial department and agencies, foundations, private companies and other sources. External funding can provide you additional financial support while you pursue your studies at Western. Students are encouraged to review the [summaries](#) of the external awards available to students at Western.

7 VACATIONS, TIME OFF, & LEAVE OF ABSENCE

Graduate students in the research-based program, are allowed a **minimum of 2 weeks** (10 business days) of vacation per year (not including statutory holidays). Time off due to illness or other personal emergencies does not count towards the vacation/personal time. Students are also entitled to be away from their studies and research responsibilities during religious holidays, in accordance with [Western University Policy](#). Any additional time off must be negotiated, in a clear and transparent manner, with the supervisor in advance. When considering time off, the student should make sure not to compromise the research project (e.g. laboratory work, experimentation, and other time-sensitive activities should be either completed, or other arrangements be made in advance).

Reference: School of Graduate and Postdoctoral Studies (SGPS) [Regulation 4.10](#).

Leave of absence

The Vice-Provost, SGPS, may grant a leave of absence for pregnancy/parental, medical or compassionate grounds, normally to a maximum of three terms or 12 months, on the recommendation of the graduate program.

While on leave, students are expected to be away from normal activities as graduate students (e.g. attending classes, conducting research). However, students and supervisors may negotiate ongoing communication during this period.

The start and finish of the leave may begin or end at any point in the term; normally the leave will coincide with the start and end of terms. Students are advised to consult with their graduate program to make special arrangements especially if taking courses during this period.

The date for degree completion and funding of the degree program will be extended by the duration of the time taken on leave, i.e. one, two or three terms as appropriate.

Reference: School of Graduate and Postdoctoral Studies (SGPS) [Regulation 4.06](#).

8 HEALTH AND WELLNESS

As part of a successful graduate student experience at Western, we encourage students to make their health and wellness a priority. Western provides several on campus health-related services to help you achieve optimum health and engage in healthy living while pursuing your graduate degree. For example, to support physical activity, all students, as part of their registration, receive membership in Western's Campus Recreation Centre ([SELF-CARE](#)). Please also see [Life & Community](#).

Students seeking help regarding mental health concerns are advised to speak to someone they feel comfortable confiding in, such as their faculty supervisor, their program director (graduate chair), or other relevant administrators in their unit. Campus mental health resources may be found at [SELF-CARE in Graduate School](#)

To help you learn more about mental health, Western has developed an interactive [mental health learning module](#). This module provides participants with a basic understanding of mental health issues and of available campus and community resources. Topics include stress, anxiety, depression, suicide and eating disorders. After successful completion of the module, participants receive a certificate confirming their participation.

9 ACCESSIBILITY AND ACADEMIC ACCOMODATION

[Academic Support & Engagement \(ASE\)](#) provided by the Western Student Experience at Western, plays a central role in Western's efforts to ensure that its academic programs are accessible for all students at the graduate and undergraduate levels. ASE provides a confidential service (Accessible Education) to support graduate and undergraduate students through their academic programs. ASE works with graduate students and their programs, normally their graduate chair, to ensure that appropriate academic accommodations to program requirements are arranged. ASE can also assist students in identifying accommodations for laboratory work or research projects or finding other campus resources and services that may be of assistance. For more information, please visit the [ASE site](#).

Students seeking accommodation must make timely, formal requests and provide relevant medical, health or other documentation sufficient to allow the University to determine whether they qualify for academic accommodation and what kind of accommodation might be required. Students should consult [ASE website](#) for the required documentation and kinds of accommodation.

10 GUIDELINES FOR TRANSFER FROM MSc TO PhD PROGRAM

Most incoming graduate students register in the MSc program unless there is clear evidence of outstanding performance [for example, exceptional grades in all courses taken during undergraduate or professional degree (BSc; MD; DDS or DVM); receiving the Dean's Honour List and/or other major awards (eg Canadian Graduate Scholarships) or having received a previous accredited postgraduate degree (MSc)]. Students in the MSc program who have clearly demonstrated potential to undertake research at the doctoral level may be eligible to transfer to the PhD program, after completing the first year of MSc. Students wishing to transfer to the PhD program must follow the following procedure:

IMPORTANT DEADLINES

Months 13-16*

1. Hold advisory committee meeting
2. Submit Request to transfer to Graduate Education Committee

Month 17*

1. Provide research topic for comprehensive examination
2. Provide names of examiners

Month 18*

1. Submit final Research Proposal (see section 11)

Month 19*

1. Schedule and pass the Comprehensive Examination

**from initial reistration*

1. The student will call an advisory committee meeting to request transfer to the PhD program. Students interested in transferring to the PhD program should aim to hold the advisory committee meeting in their **4th term of registration** (between months 13-16 of registration in the program). At this advisory committee meeting, students should present their research proposal which clearly shows the PhD-level scope of their proposed work. The supervisor(s) and the advisory committee will determine whether the student meets the criteria and should be recommended to transfer to the PhD program. The criteria for entering the PhD program may include:
 - a. Academic performance – performance in undergraduate and graduate courses,
 - b. Research progress – demonstrated research ability as evaluated by departmental progress reports, publications, presentations, research seminars,
 - c. Thesis proposal – the quality and scope of the thesis proposal,
 - d. Awards - scholarships or studentships from an external granting agency,
 - e. Funding support – stipend and research support availability.

2. If the supervisor(s) and advisory committee determine that the student should transfer from the MSc program to the PhD program, the student may request a transfer to the PhD program using the [request form](#) provided on Pathology and Laboratory Medicine website. This request must be accompanied by a **supporting letter** from the student's supervisor(s) and/or the advisory committee members clearly stating support for the transfer. The letter should comment on the research project scope (suitability for PhD-level research), student performance, and availability of stipend and research funds. Stated another way, the letter should address items 1a-e above, as appropriate to rationalize progression through the PhD transfer process.
3. Consideration of the request for transfer will be made at the first regular Graduate Education Committee meeting after all the supporting documentation has been compiled. Therefore, it is absolutely **essential to meet these deadlines**. The Graduate Education Committee will review all documentation and evidence for criteria listed in item 1 to approve the transfer. The student will be notified of the Committee's decision in writing immediately following the meeting.
4. A student may appeal the Committee's decision by reinstating the request for transfer with complete documentation that addresses the Committee's concerns.
5. Following a positive decision to transfer to the PhD program from the Graduate Education Committee, the student will prepare for the comprehensive examination (*see section 11*).
6. If the request is not approved by the Graduate Education Committee, the student will proceed to complete their MSc program.

11 GUIDELINES FOR PhD COMPREHENSIVE EXAMINATION

Guidelines

Students entering the PhD program directly (including the combined MD/PhD program) or transferring from the MSc program to the PhD program are required to pass a comprehensive examination by **month 19 of the date of initial registration** in the MSc or the PhD program.

The purpose of the comprehensive examination is to determine whether a student has acquired characteristics/skills which the program believes should be exhibited by a doctoral candidate. Specifically, the comprehensive examination assesses whether the student has developed/demonstrated, 1) strong analytical and critical thinking abilities, 2) required breadth and in-depth knowledge of the discipline, 3) potential to conduct independent and original research, and 4) ability to communicate knowledge of the discipline. The result of the comprehensive examination may be a factor in determining whether a student can continue with his or her studies in the Department of Pathology and Laboratory Medicine.

The supervisor(s) and advisory committee members, in consultation with the student, will 1) formulate a research proposal topic for the comprehensive examination, and 2) suggest and set-up an examining committee. See below for details.

Research Topic

1. The format of the comprehensive examination is that of a research grant proposal and defense. The range of topics is unrestricted and may include the student's own thesis project. The topic of the examination and a suggested examination committee consisting of three examiners, will be presented by the supervisor, in consultation with the advisory committee and the student, to the Graduate Education Committee for approval. The proposed Research Topic must be received by the Graduate Education Committee **within 17 months** following initial registration in the MSc or PhD program.
2. Once the topic is approved by the Graduate Education Committee, the student will prepare a research proposal of up to 10 single-spaced typewritten pages (excluding literature references, budget, CV), in the format of a Canadian Institutes of Health Research (CIHR) grant proposal. A [template for the research proposal](#) is available on Pathology and Laboratory Medicine website. The grant is to be written by the student as an independent exercise. A primer to grant writing (Pathology 9687A) is provided to all graduate students outlining the format, the key components of grant applications, and budget requirements (see course description). The student may also schedule a meeting with the coordinator of Pathology 9687A or the Graduate Chair to discuss the format of the application.
3. The student should initially submit the summary page (one page) to the supervisor and the advisory committee for their approval before proceeding with the complete application. The advisory committee may provide feedback as to the scope of the research and the specific aims during the preparation. The student's advisory committee may also be consulted on matters of grant format.
4. The full grant proposal should include background information, hypothesis and specific aims, experimental design, expected outcome, significance, and references. Preliminary data may

be included to support the hypothesis and to show feasibility of the proposed research project. A research budget module as well as updated curriculum vitae (CV) also must be completed.

5. The supervisor(s) and advisory committee members must first approve the proposal before being considered by the Graduate Education Committee. The student must submit the Research Proposal to the Education Coordinator, Graduate Programs (pathgrad@uwo.ca). The **deadline for receipt of the full proposal is 18 months** following initial registration in the program (MSc or PhD).

Comprehensive Examination Committee

The advisory committee and the supervisor(s), in consultation with the student, will suggest the examiners appropriate for the selected research topic. The Comprehensive Examination Committee will be comprised of at least three faculty members:

Comprehensive Examiners:

1. **At least one examiner** will be a graduate faculty member of the Department of Pathology and Laboratory Medicine.
2. There are no restrictions on the departmental affiliation of the two other examiners, as long as the examiners are able to critically evaluate the comprehensive research proposal. No more than one member of the student's thesis advisory committee may serve as a comprehensive examiner.
3. Student's supervisor/co-supervisor will not serve as examiners. Supervisor/co-supervisor will be present on the examination day but will not participate in the examination and/or the evaluation.

Comprehensive Examination

The Comprehensive **Examination must take place in month 19** of the initial registration in the program or earlier. On the day of the examination, the candidate will give a 30-minute oral presentation on the research project. The examination committee will assess the student on the proposed research and its defense, their intellectual capabilities and perseverance, and background knowledge in relation to the general field of research. This generally will entail 2 rounds of questions. Typically, each examiner will have 15-20 minutes in the first round and 5-10 minutes in the second round for questions. The Chair of the Comprehensive Examination Committee, in collaboration with examiners, will finalize the questioning time for each examiner.

The student will be given a final Pass/Fail mark based on the written proposal and the oral examination. Criteria for evaluation is provided below. A fail mark will be discussed at a joint meeting of the Graduate Education Committee and the advisory committee of the student. A recommendation for a repeat examination may be made. Ordinarily, a student may repeat the comprehensive examination once. Any appeal of the result of the examination will be conducted according to the guidelines set out by the School of Graduate and Postdoctoral Studies (see section 21).

Evaluation Criteria: The Department of Pathology and Laboratory Medicine allows students to pick the topic of the research proposal (comprehensive examination). The candidate's performance is to be evaluated using the guidelines provided below, with the understanding that the candidate may not have preliminary data to support their hypothesis if the topic selected is not the same as the candidate's thesis project. In this regard, published work from the supervisor's laboratory or other research groups may be used to support of the hypothesis. However, the candidate will clearly

indicate that the work has been previously published (for example by using the subheading “Published studies supporting the hypothesis” in their proposals). In this case, emphasis will be placed on the detailed knowledge on the background, methodology, and significance when evaluating the candidate’s performance. If, however, the topic is the same as the candidate’s thesis project, preliminary data is required to support the hypothesis.

The following criteria will be used in evaluating the candidate’s research proposal:

<p>Criterion #1: Research Approach</p> <ol style="list-style-type: none"> 1. Does the candidate demonstrate a comprehensive understanding of the research topic? 2. Does the candidate exhibit critical thinking skills? 3. Does the candidate exhibit ability to present data in an organized, clear, and understandable fashion? 4. Is the rationale for the study clear? 5. Is the research design appropriate? 6. Did the candidate anticipate potential difficulties and alternative strategies?
<p>Criterion #2: Originality and Impact of the Proposal</p> <ol style="list-style-type: none"> 1. Is there potential for the creation of new knowledge? 2. Does the proposal address a significant gap in knowledge? 3. Is there potential for improvement of people’s health (translation of knowledge)? 4. Did the candidate indicate the means of knowledge dissemination and knowledge transfer?

Evaluation: After the oral examination, the examiners will deliberate in the absence of the student and provide a grade of Pass or Fail by majority consensus. The grade will comprise both the written grant proposal and the oral examination. Oral and/or written feedback may also be provided to the student and shared with the supervisor.

11.1 Summary of deadlines

Months 13-16

1. Schedule an advisory committee meeting to request transfer to the PhD program (for MSc students). PhD students will hold the Advisory Committee meeting to discuss potential research topic for the comprehensive examination.
2. MSc students will inform the Graduate Education Committee (in writing) of intent to transfer to the PhD program. This request must accompany support letter from supervisor(s) and/or advisory committee members supporting the transfer.

Month 17

1. Proposed research topic and names of examiners to be submitted to the Graduate Education Committee (MSc student requesting a transfer to the PhD program, and students in the PhD program, including the MD/PhD program).

Month 18

1. The student will submit the final Research Proposal to Education Coordinator, Graduate Programs (Graduate Program Coordinator). The proposal will be circulated to the examiners.

Month 19

1. Schedule and pass the Comprehensive Examination by the end of month 19th

12 RESPONSIBILITIES OF GRADUATE SUPERVISOR

Before accepting a graduate student into the department, it is the responsibility of the supervisor(s) to ensure the availability of adequate space and facilities for the proposed research project.

Information provided below, pertains to [SGPS Regulation 11.1](#) “Requirements of supervisors”. Supervisors are required to:

1. provide continuous supervision through the duration of the student’s studies. This includes ensuring that supervision continues through periods of supervisor absence from campus (eg maintaining full supervision during sabbatical; securing co- supervision if needed/appropriate).
2. adhere to the academic requirements of the program and SGPS regulations.
3. contribute to the program’s evaluation of the student’s progress as required by the program and SGPS.
4. ensure regular meetings of the student with the full Thesis Supervisory Committee [advisory committee] as per the program’s and/or SGPS’s regulations.
5. actively involve Thesis Supervisory Committee [advisory committee] in the process of guiding the student.
6. meet with their graduate student no later than one month after assignment of supervision, or initial registration as a student at Western, with the purpose of discussing and clarifying expectations for the role of the supervisor and the role of the student in the supervisory relationship.
7. provide timely feedback on documents/reports/materials/scholarship applications – normally 2 weeks is reasonable for a thesis chapter or equivalent.
8. provide timely response (whether acknowledgment or a substantial reply) when contacted by students, for example responding to emails within 72 hours.
9. in collaboration with the student, set and adhere to reasonable timelines for all aspects of the student’s academic work, consistent with the program’s milestones to completion.
10. respect interpersonal boundaries and demonstrate professional behaviour with the student.
11. respect appropriate times and means for communication with the student.
12. as far as allowed by the logistics of the research setting, allow and respect the student’s right to set their own daily schedule.
13. make good-faith efforts to provide the resources needed for the student’s work.
14. allow and not undermine the student’s engagement in professional development.

15. adhere to all health and safety policies, policies related to research ethics, non-discrimination/harassment policy, University policy on Academic Integrity in Research Activities, University policy on Accessibility, and SGPS policy. See below for these policies.

Links to policies:

Health and safety policies (http://www.uwo.ca/univsec/pdf/policies_procedures/section3/mapp31.pdf)

Policies related to research ethics

(http://www.uwo.ca/univsec/pdf/policies_procedures/section7/mapp712.pdf and
http://www.uwo.ca/univsec/pdf/policies_procedures/section7/mapp714.pdf)

Non-Discrimination/Harassment policy

(http://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp135.pdf)

University policy on Academic Integrity in Research Activities

(http://www.uwo.ca/univsec/pdf/policies_procedures/section7/mapp70.pdf)

University policy on Accessibility

(https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp147.pdf)

SGPS Policy (http://grad.uwo.ca/postdoctoral_scholars/current/policies_procedures.html).

13 CHANGING A SUPERVISOR

A supervisor is required for all research-based graduate students. At admission, students are given an offer letter that outlines the contractual obligations between the student and the program. Programs will make good faith effort to ensure that students receive appropriate supervision.

When the supervisor has been determined/assigned, the supervisor commits to assuming the roles and responsibilities specified by the School for Graduate and Postdoctoral Studies and the program (See section 12).

If the supervisor leaves the University due to retirement, resignation, sabbatical or extended leave, the program has a responsibility to make their best effort to appoint a replacement.

It is important to acknowledge that a supervisory change is not always possible.

The School of Graduate and Postdoctoral Studies is committed to resolving any conflicts between students and supervisors as early as possible. When the process breaks down, the following apply:

1. Students have the right to request a change of supervisor. If the student requests a change, they should contact their program Graduate Chair.
2. Supervisors cannot unilaterally terminate the thesis supervisory relationship. If a supervisor initiates this change, then the appropriate processes must be followed. Questions about the process should be directed to the Graduate Chair or the Associate Dean, Graduate and Postdoctoral Studies of the Faculty.
3. Requests for changing supervisors will be reviewed by the Graduate program. If the supervisor and student agree that a change to the supervisory relationship is needed, normally the Graduate Chair will work with the student and supervisor to find a solution as early as possible.

The new supervisor, if arranged, normally from the student's program, will assume the roles and responsibilities specified by SGPS and the program. Normally, the normal duration of the degree program for the student will not be increased.

Reference: School of Graduate and Postdoctoral Studies (SGPS) [Regulation 11.04](#).

14 GUIDELINES FOR ESTABLISHMENT OF ADVISORY COMMITTEE

1. The supervisor is the chair of the advisory committee and is responsible for nominating other members to the committee. The Chair of the Graduate Education Committee, or designate, may sit as an *ex officio* member on each committee.
2. The student should have an opportunity to discuss the committee membership and make suggestions.
3. The committee, including the supervisor, should have at least three members.
4. One member other than the supervisor should be a member of graduate faculty and preferably should have an appointment in the Schulich School of Medicine & Dentistry.
5. One or more members can be from other faculties, from other universities or from outside the university community (e.g. industry, government laboratories, etc.).
6. A [Thesis Advisory Committee Membership Approval form](#) must be submitted to the Graduate Education Committee for approval, before the end of month 3 of registration.

15 ADVISORY COMMITTEE

15.1 Role of the Advisory Committee

1. The key role of the committee is to act as a resource to the student in dealing with problems related to studies and research, and to the supervisor(s) in planning the student's program and assessing progress.
2. Members, in accepting an appointment, must recognize a commitment to these roles and be prepared to give help and advice when needed.
3. The committee is required to meet, at a minimum, once every year and review the progress of the student in research, coursework, and other professional requirements/expectations, as outlined in the guidelines for research-based students.
4. Committee members should try to attend the student's formal seminars and presentations.
5. The advisory committee members determine whether the student meets the criteria and should be allowed to proceed with the PhD comprehensive examination. The committee will also offer guidance in formulating the research topic and setting up of the comprehensive examination committee.
6. The advisory committee is required to approve the research proposal for the comprehensive examination.
7. The committee must review the results of comprehensive examinations and are responsible for making recommendations to the Graduate Education Committee on the continuation or cessation of the program.
8. The committee is responsible for making recommendations to the Graduate Education Committee on matters such as changes in the research project and the suitability of the thesis for defense.
9. Each advisor should review the student's thesis and offer feedback.

15.2 The first Advisory Committee meeting

The first meeting will be scheduled in the first 6 months of starting the graduate program. At the first meeting, the student will provide an outline of “broad objectives” of their project and the “specific short-term goals” to be achieved in the first year. A written report (see templates for [Pathology Advisory Report](#) and [One Health Advisory Report](#)) is to be provided to the Advisory Committee at least one week in advance of the meeting. This written report will be submitted to the Department along with the [evaluation report](#) and recommendations.

15.3 Subsequent/regular Advisory Committee meetings

Regular meetings are to be scheduled at least once per year. In addition to “broad objectives”, the student should outline the progress made since the last meeting. A written report which includes the proposal, progress, response to issues raised and recommendations made in the previous meeting, and future directions is to be provided to the advisory committee at least one week in advance of the meeting. This written report will be submitted to the Department along with the evaluation reports and recommendations. The written report must be received by the Graduate Education Committee before registration in the next term is allowed. Failure to hold regular meetings will also have financial consequences such as ineligibility to receive and apply for internal awards and scholarships.

15.4 Final Advisory Committee meeting

Students **must hold a final advisory committee meeting** to receive approval for writing up their thesis. Writing the thesis generally requires a few months of intense effort. Therefore, students should hold the final meeting, at least 3 months prior to planned submission of the thesis (4 months prior to thesis examination). For example, if the student is planning to hold the thesis examination in August, then the final advisory committee must be held no later than April. The student must shape the results of the research into the final advisory committee report, that will be carefully evaluated by the committee members. If the student’s request to start writing their thesis is approved, the decision will be noted on the advisory committee evaluation report. The supervisor(s), in consultation with the advisory committee members and the student, will also propose potential thesis examiners.

15.5 Lack of sufficient progress

If the overall progress of the student in the program is deemed insufficient by the advisory committee, the student will receive a written report identifying areas needing improvement. Another meeting with the advisory committee will then be scheduled within 3 months of the notification. If the student does not show satisfactory performance, then he/she may be required to withdraw from the program. On a case-by-case basis, the student may be permitted to stay in the program. However, the advisory committee and/or the Graduate Education Committee may establish strict conditions to ensure that the progress is closely monitored.

15.6 Other responsibilities of the Advisory Committee

The advisory committee is also responsible for discussing the issues/concerns raised by the Graduate Education Committee regarding the student. A summary of the discussion and the response from the advisory committee is required. This will be submitted through the advisory committee meeting evaluation report.

16 PROGRESSION, YEAR-X, & MAXIMUM PROGRAM REGISTRATION

Graduate students should familiarize themselves with normal program duration (time to completion), funding eligibility period, and maximum registration period in a graduate program.

Program	Recommended program duration [i.e. time to completion]	Funding eligibility [Faculty and Department]	Maximum period as year x [Departmental]	Maximum registration period [SGPS regulation 4.03b]
Full-time MSc	2 years	2 years	1 year	3 years
Part-time MSc	4 years	N/A	N/A	4 years
Full-time PhD	4 years	4 years	2 years	6 years
[following completion of Masters-level program]				
Part-time PhD	8 years	N/A	N/A	8 years
[following completion of Masters-level program]				
Full-time PhD	5 years	5 years	2 years	7 years
[following completion of an undergraduate-level program]				
Part-time PhD	10 years	N/A	N/A	10 years
[following completion of an undergraduate-level program]				
Full-time MSc – PhD transfers		5 years	2 years	7 years
Part-time MSc – PhD transfers		N/A	N/A	10 years

- Students entering year-x will need to [submit a progression plan](#) before starting the next term.
- Students may register beyond the maximum registration period only after obtaining permission from Vice-Provost (Graduate and Postdoctoral Studies).

17 GUIDELINES FOR REQUEST TO TRANSFER FROM PhD to MSc

School of Graduate and Postdoctoral Studies (SGPS) has introduced a procedure for students to request a transfer from their current doctoral degree studies to master's degree studies. This procedure will apply to all doctoral students, including those who were admitted through the direct entry option. Students wishing to request a transfer from doctoral to master's studies must complete the following steps:

1. The student must formally notify their program.
2. The program, along with the student, must submit a completed [Request for Transfer from Doctoral to Master's Degree form](#) to SGPS.
3. Submission of this form to SGPS will be followed up by a brief meeting between the student and the Coordinator of Graduate Student Recruitment and Retention (CGSRR).
4. The Request form will be reviewed by the Associate Dean for Graduate and Postdoctoral Studies and if approved, the transfer will be made official in PeopleSoft Enterprise (administrative system). Please note that these transfers may only occur at the beginning of a term.
5. Paperwork will be forwarded to the Graduate Program.
6. An annual meeting will take place between the CGSRR and the Associate Dean of SGPS to review reasons for doctoral to master's degree transfers across programs and possible modifications to curricular structure/milestones.

18 GUIDELINES FOR VOLUNTARY WITHDRAWAL FROM GRADUATE STUDIES

In the case where a student voluntarily chooses to withdraw from a program, they must complete the following steps:

1. Review the current information on withdrawal procedures provided on:
http://grad.uwo.ca/current_students/graduate_regulations/section_4.htm
2. The student must formally notify their program.
3. The student must go to the secure Graduate Student Web Services Portal (<https://grad.uwo.ca/student/index.cfm>) to withdraw from the program.
4. The request will be forwarded to the School of Graduate and Postdoctoral Studies (SGPS) for processing.
5. The request will be forwarded to the Program for final approval.
6. The Change of Status will be entered into PeopleSoft Enterprise (administrative system) and the student will be officially withdrawn. After the change of status, they will no longer be a student and may not attend classes, receive supervision, or have access to any resources of the University.
7. An annual meeting will take place between the Coordinator of Graduate Student Recruitment and Retention (CGSRR) and the Associate Dean of SGPS to review reasons for withdrawal across programs and possible modifications to curricular structure/milestones.

19 WITHDRAWAL AND READMISSION AFTER WITHDRAWAL

Withdrawal from a program can occur in two ways. A student can voluntarily withdraw following a formal notification to the program. Alternatively, the program or SGPS can withdraw a student for failure to meet admission conditions, progression requirements, specified deadlines for completion, or failure to pay fees. Once withdrawn from a program and the SGPS, the person withdrawn is no longer a student and may not attend classes, receive supervision, or have access to any resources of the University.

Students who have voluntarily withdrawn or who have been withdrawn by the program/SGPS and wish to complete their program must formally re-apply for admission. Credit for previous work completed must be approved by the program and SGPS.

Reference: School of Graduate and Postdoctoral Studies (SGPS) [Regulations 4.07 and 4.08](#).

20 CODE OF STUDENT CONDUCT

The purpose of the [Code of Student Conduct](#) is to define the general standard of conduct expected of students registered at The University of Western Ontario, provide examples of behaviour that constitutes a breach of this standard of conduct, provide examples of sanctions that may be imposed, and set out the disciplinary procedures that the University will follow.

20.1 Scholastic Discipline for graduate students

Members of the University Community accept a commitment to maintain and uphold the purposes of the University and, in particular, its standards of scholarship. It follows, therefore, that acts of a nature that prejudice the academic standards of the University are offences subject to discipline. Any form of academic dishonesty that undermines the evaluation process also undermines the integrity of the University's degrees. The University will take all appropriate measures to promote academic integrity and deal appropriately with [scholastic offences](#).

21 ACADEMIC APPEALS

Appeals should be discussed with the Graduate Chair and must be initiated within four weeks of receipt of the grade, comprehensive examination result, or the ruling in question. Before considering an appeal, please consult the policies and regulations on [the School of Graduate and Postdoctoral Studies \(SGPS\)](#) website, Section 14.01 (Scholastic Offences) and Section 14.02 (Academic Appeals).

Types of Appeals

1. Appeal of a course grade: If the appeal relates to a specific assignment or an examination, the student must first attempt to resolve the matter informally with the course coordinator/instructor. If the coordinator/instructor is not available or if the matter is not resolved to the student's satisfaction, the student has a right to appeal to the Graduate Chair. The Graduate Chair will be responsible for conducting the appeal or delegating the responsibility for the appeal to an alternate member of the Graduate Education Committee.

2. Extension to normal progression requirements: A student has the right to appeal to the Graduate Chair to have normal progression requirements extended on compassionate, medical, or related grounds. The Graduate Chair will be responsible for conducting the appeal which may involve consultation with members of the Graduate Education Committee. Degree requirements will not generally be waived or altered to accommodate students who have failed exams or obtained low grades; rather, the accommodation normally takes the form of giving an additional opportunity to the student to complete a requirement. It is incumbent upon the applicant to provide, in writing, a full and thorough justification of the request.

3. Result of a PhD comprehensive examination: A fail/unsatisfactory mark on a comprehensive examination will first be discussed at a joint meeting of the Graduate Education Committee (or Graduate Chair) and the advisory committee of the student. A recommendation for a repeat examination may be made. Ordinarily, a student may repeat the comprehensive examination once. A fail/unsatisfactory mark on the second attempt will not be appealable. The Graduate Chair will recommend termination of student's registration in the program to the Vice Provost (Graduate and Postdoctoral Studies). In certain cases, alternate option(s) may be presented to the student. For example, a PhD candidate may be offered continuation at the MSc level. A student may decide to withdraw from the program before the Graduate Chair makes the decision.

4. Lack of sufficient progress: As mentioned elsewhere in this document, if the overall progress, including progress in graduate research, of the student in the program is deemed insufficient by the advisory committee, the student will receive a written report identifying areas needing improvement. If the student does not show satisfactory performance in the time specified (typically 3 months), then they may be required to withdraw from the program. In matters related to the academic program, including a failure to meet progression requirements, the program or the Graduate Chair may require the student withdrawn from the program. In certain cases, alternate options may be available and presented to the student. A student may decide to withdraw from the program before the program or the Graduate Chair makes the decision.

Program Process for Types of Appeals 1 and 2 (listed above):

1. An appeal must be initiated in writing within four weeks of the issuance of the mark or ruling. Deadlines for filing appeals may be extended at the discretion of the Graduate Chair.

2. Appeals of Scholastic Offence decisions are not covered under this policy. The [SGPS Scholastic Discipline for Graduate Students](#) document provides definitions of scholastic offences, procedures followed when a scholastic offence is detected, possible penalties, and the appeals process.
3. In cases where the evaluation of an assignment or grade is appealed, the Graduate Chair will invite two disinterested third reviewers/readers. The averaged of the two new grades, from the two reviewers/readers, will be the revised final grade.
4. In cases where the Graduate Chair is involved as the course coordinator/instructor or an examiner, an alternate will take over the adjudication process.
5. After the appropriate appeal process has been exhausted within the department, the Graduate Chair will inform the student of their right to take the case to the Vice-Provost, School of Graduate and Postdoctoral Studies (SGPS). A request to appeal the decision of the program must be made to SGPS in writing, no later than three weeks after the program decision has been communicated to the student.

Some decisions may be appealed further to the Senate Review Board Academic. The Vice-Provost's rulings in academic matters are final unless overturned or modified on appeal to the Senate Review Board Academic (SRBA). A decision or ruling remains in effect unless overturned or modified by the individual or body hearing an appeal of that decision or ruling.

Program Process for Types of Appeals 3 and 4 (listed above):

1. For matters involving comprehensive examination results, student may be given an opportunity to re-take the comprehensive examination. The Graduate Chair will advise the student of the decision to terminate registration in the program. The Graduate Chair may provide alternate actions/options, if available.
2. For matters involving a lack of progress in the program, student is given an opportunity to make sufficient progress in a specified time period. Failure to show progress after this opportunity will result in a program decision to require the student to withdraw from the program. The Graduate Chair may provide alternate actions/options, if available.
3. A student may appeal the decision to terminate his or her registration. A request to appeal the decision must be made in writing. Relevant information and appeal application form is provided below.

Reference: School of Graduate and Postdoctoral Studies (SGPS) [Regulation 14](#).

For the complete policy and regulations, please also see [Graduate Student Academic Appeals](#).

Application for an Appeal to the School of Graduate and Postdoctoral Studies:
https://grad.uwo.ca/doc/academic_services/appeal/appeal_SGPS_form.pdf

22 CONFLICT RESOLUTION

Conflict is any situation where people have a difference of values, expectations, opinions, interpretations, needs or wants. Within the Department, there are resources available to you in the form of your supervisor, advisory committee, the Graduate Chair and the Graduate Education Committee. Please feel free to use them for help and advice.

Conflicts should be resolved, whenever viable, as close as possible to the source of the problem (at the lowest level of administration). Thus, in the first instance, the student and supervisor may discuss problems frankly and seek solutions. If need be, this level may also involve the Advisory Committee.

If the problem cannot be resolved at the student-supervisor level, it should be dealt with by the program (typically, the Graduate Chair and/or Department Chair). At both the student-supervisor and program levels, assistance can also be sought through other sources, such as equity services, the ombudsperson, or other forms of mediation. Informal advice at each of these levels can also be obtained from the School of Graduate and Postdoctoral Studies. Each level should make sure all reasonable efforts have been exhausted, prior to moving to the next level. If no satisfactory resolution can be found at the program level, the problem may be referred to the School of Graduate and Postdoctoral Studies. In dealing with conflict issues, all parties should follow procedures congruent with established appeal policies.

Office of the Ombudsperson:

The [Office of the Ombudsperson](#) provides a safe, confidential environment in which students can discuss a University-related problem or concern. The Office works with students to help identify the root of the problem and create strategies for resolving it.

Program-level resources:

Before resorting to formal procedures, students are encouraged to seek help and confidential advice from the following resources (as they feel comfortable).

- Supervisor(s)
- Advisory committee members
- Graduate Education Committee – Graduate student representative
- Education Coordinator, Graduate Programs
- Graduate Chair
- Graduate Education Committee
- Department Chair

23 THESIS GUIDELINES

For the most up-to-date information on thesis regulations, please see the details in SGPS [Regulation 8](#). A [thesis template and guide](#) is also available to students.

It is your responsibility to make sure you complete all requirements in a timely manner as the stipend support from your supervisor is guaranteed only for a limited period (see *section 6*).

23.1 Program regulations

In addition to the SPGS format rules and regulations, students should:

1. describe the student's own work. Any work or experiments conducted by collaborators or laboratory members should be clearly and explicitly stated in the 'Co-Authorship Statement' section of the thesis.
2. obtain permission from the publisher to reproduce any published works including data, figures/tables, and schematic illustrations. These published works also include information and figures obtained from a website (creative works of other individuals). In addition to obtaining permission from the copyright holder of the creative work, students should include proper citation to the original work.

["Reproduced" or "Reprinted" = using material from another source as-is (requires permission from the copyright holder and proper citation to the original source); "Adapted" or "Modified" = using material from another source with modification to make the material fit in student's own formatting/content (requires permission from the copyright holder and proper citation to the original source)].

Other recommendations:

1. The thesis should be written in the first person (using pronoun 'I'), as it is the students' own work.
2. The term 'data not shown' does not belong in a thesis.
3. The introductory chapter (*Chapter 1*) should provide the relevant background to the thesis work. Emphasis should be placed on the outstanding questions in the field, especially those addressed by the thesis. Students should avoid a general survey of each topic touched upon by the thesis work.
4. The middle chapters or any parts of the thesis do not have to be a published paper. However, the thesis should contain sufficient data, as expected at the MSc and PhD level, to allow reaching a significant conclusion.
5. Concluding chapter should begin with an overall summary of the thesis work. Students should use this space to emphasize how the work has advanced the field. Students may refer to the outstanding questions outlined in the introduction chapter and their hypothesis to explain how their research has solved these questions and tested the hypothesis. An important

subheading to include in the concluding chapter is “limitations of the study”. Students are encouraged to be critical of their own work and identify the limitations of their work. The thesis should then end with proposal of several “future directions” that may further address the critical issues in the field.

23.2 Thesis Examination

When the thesis is thought to meet recognized scholarly standards for the discipline and degree and is ready for examination, the supervisor(s), in consultation with the advisory committee and the student, proposes the date of examination and the names of the examiners. This information is forwarded to the Graduate Education Committee. Once the names of the examiners are approved by the Graduate Education Committee, the supervisor obtains provisional consent from the examiners and schedules a tentative examination date. The Graduate Chair then arranges the Thesis Examination Board and forwards the information to SGPS. SGPS will review/approve the Thesis Examination Board.

MSc Thesis Examination Committee

The MSc Thesis Examination Committee is comprised of **three voting members** and the non-voting Chair of the examination.

- **Chair.** Chair serves as the Vice-Provosts’ (Graduate and Postdoctoral Studies) representative and presides over the thesis examination.
- **Two program examiners.** Program examiners participate in the questioning of the candidate, evaluating the thesis and the candidate's responses at the oral defense, and cast a vote in the final determination of the acceptability. No more than one Program Examiner may be from the candidate's Thesis Supervisory Committee. Program Examiners must not have had significant involvement in the development of the thesis nor interest in the outcome.
- **University examiner.** University examiners participate in the questioning of the candidate, evaluating the thesis and the candidate's responses at the oral defense, and cast a vote in the final determination of the acceptability. University Examiner must not be from the Supervisor's home Department or have served on the student's thesis Advisory Committee.

PhD Thesis Examination Committee

The PhD Thesis Examination Committee is comprised of **four voting members** and the non-voting Chair of the examination.

- **Chair.** Chair serves as the Vice-Provosts’ (Graduate and Postdoctoral Studies) representative and presides over the thesis examination.
- **Program examiner(s).** Every PhD exam must include at least one (but no more than 2) program examiners (same department as the candidate and supervisor). Program examiner(s) participate in the questioning of the candidate, evaluating the thesis and the candidate's responses at the oral defense, and cast a vote in the final determination of the acceptability. No more than one Program Examiner may be from the candidate's Thesis Supervisory Committee [Advisory Committee]. Program Examiners must not have had significant involvement in the development of the thesis nor interest in the outcome.
- **External examiner.** External examiners participate in the questioning of the candidate, evaluating the thesis and the candidate's responses at the oral defense, and cast a vote in the final determination

of the acceptability. External examiners must not be associated or affiliated with the University of Western Ontario.

- University examiner/ Specialized Knowledge Examiner/ Indigenous Knowledge Examiner.

One to two remaining voting examiners may be from these three categories. These voting examiners participate in the questioning of the candidate, evaluating the thesis and the candidate's responses at the oral defense, and cast a vote in the final determination of the acceptability.

A University Examiner is a faculty member whose primary appointment is not in the same Department as the student's program. University examiners must hold a SGPS membership.

A Specialized Knowledge Examiner is a non-academic examiner with the appropriate knowledge, experience and expertise related to the research, and evaluates through a community, industry, cultural, career and/or applied perspective. Specialized Knowledge Examiner does not need to hold a SGPS membership.

An Indigenous Knowledge Examiner is a member of the Indigenous community with knowledge, experience and expertise related to the research. Indigenous Knowledge Examiner does not need to hold a SGPS membership.

The following arm's length rule applies to all MSc and PhD thesis examiners:

All examiners must be seen to be able to examine the student and the thesis at arm's-length, free of substantial conflict of interest from any source. The test of whether or not a conflict of interest might exist is whether a reasonable outside person could consider a situation to exist that could give rise to an apprehension of bias. Co-authors or collaborators of any component of the thesis may not serve as Examiners.

24 THE GRADUATE EDUCATION COMMITTEE / RESEARCH-BASED PROGRAM

24.1 Terms of Reference

1. Review the objectives and progress of Research-based graduate programs and make recommendations to the Department for future modifications or developments.
2. Meet on a regular basis and furnish reports of deliberations to the Department as a whole.
3. Review graduate student applications and make recommendations for acceptance or rejection.
4. Review standards and criteria for acceptance into Research-based graduate programs.
5. Review and establish rules, standards, and regulations for the content and format of examinations.
6. On recommendation from supervisors, approve examining committees and general content of the examination and ensure that proper arrangements are made for the examination.
7. Review the examination performances and biannual reports of the Advisory Committees of graduate students and make recommendations on their respective programs.
8. Review applications and make recommendations concerning awards and scholarships to graduate students.
9. Ensure proper liaison between the Graduate Education Committee and Advisory Committees, department members.
10. Periodically evaluate performance and operational methods of the committee.
11. The committee structure consists of:
 - a. Departmental Chair
 - b. Graduate Education Committee Chair (nominated/appointed by the Departmental Chair)
 - c. Four graduate faculty members.
 - d. A graduate student representative.
12. The tenure of office for faculty members will be three years; for the student representative, two years. The committee chair will be appointed by Departmental Chair. Graduate faculty members may be nominated by the Department Chair or the Graduate Education Committee Chair. The student representative will be elected by all departmental graduate students.
13. Graduate Student Representative is to be excluded from deliberations related to student grades or progress, or upon the request of any student whose documents or case is being considered.
14. Committee members concluding a term elected office will be eligible for re-election or re-nomination.

15. Committee members who miss four consecutive meetings must be removed from the committee and a new member elected.
16. Members who go on sabbatical are to be replaced and a new member elected.
17. Nominations for membership to the graduate faculty are made by the Chair of the Department after review by the Graduate Education Committee.

Notes on Confidentiality

All matters discussed at the Graduate Education Committee meetings are confidential and members are expected to maintain the Western University rules of confidentiality.

The official spokesperson for all communication of committee proceedings will be the Committee Chair.

25 DEPARTMENTAL AWARDS

The Department of Pathology and Laboratory Medicine offers numerous scholarships and awards for students in the Master of Clinical Science (MCISc) and research-based (MSc and PhD) graduate degree programs. Terms, eligibility, and application procedures for these scholarships and awards are presented on the department website.

See *Pathology and Laboratory Medicine* [Departmental Awards](#).

26 FORMS

Revised and up-to-date forms can be found on the Department of Pathology and Laboratory Medicine: [Research-based Program Forms](#).

1. Letter of [Understanding](#)

To be reviewed by all incoming graduate students and their research supervisors. Completed/signed copies to be sent to pathgrad@uwo.ca.

2. Advisory Committee [Membership Approval Form](#)

Graduate students, in collaboration with their supervisor(s), will submit a Thesis Advisory Committee Membership Approval form before the end of month 3 of registration, for approval by the Graduate Education Committee (pathgrad@uwo.ca).

3. Advisory Committee Meeting Report for [Pathology](#)

To be completed by the student and submitted to the Advisory Committee members at least one week prior to the scheduled meeting. This report is mandatory for all Advisory Committee meetings.

4. Advisory Committee Meeting Report for [One Health](#)

To be completed by the student and submitted to the Advisory Committee members at least one week prior to the scheduled meeting. This report is mandatory for all Advisory Committee meetings.

5. Advisory Committee [Evaluation Report](#)

To be completed by the supervisor(s) or an Advisory Committee member and signed by all members of the Advisory Committee including the supervisor(s). Please return the form to Graduate Program Coordinator (pathgrad@uwo.ca).

6. Course [Exemption Request](#)

To be completed by the student, signed by the Advisory Committee and the supervisor(s). Additional documents must be provided to support the request. Please return the form to Graduate Program Coordinator (pathgrad@uwo.ca).

7. Comprehensive Examination Forms

A comprehensive examination is required for all students in the PhD program, MD/PhD program, and for students in the MSc program who intend to transfer to the PhD program.

Forms to request a [transfer/ hold a comprehensive examination](#), and a template for the [comprehensive research proposal](#) is provided on the department website.

8. Year [X progression](#) form

To be completed by students who are planning to enter Year X (enrolment beyond the normal program duration). See form for details. Please return the form to Graduate Program Coordinator (pathgrad@uwo.ca).

9. Graduate Student [Exit Survey](#)

To be completed by all graduating students and returned to Graduate Program Coordinator.

For all other forms or templates, please contact Graduate Program Coordinator, 4044 Dental Sciences Building (pathgrad@uwo.ca).

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