



**Faculty of Natural Resources Management**

# **Graduate Studies Handbook**

**May 2021**

**The current version of the handbook is not applicable to  
the course-based Masters program**

**Please report errors to Dr. Qing-Lai Dang at  
[qdang@lakeheadu.ca](mailto:qdang@lakeheadu.ca)**

## Preamble

The intent of this handbook is to provide graduate students and personnel involved in graduate studies in the Faculty of Natural Resources Management with comprehensive information on all aspects of graduate programs within the Faculty. This handbook is an evolving document. We will continue to add or revise contents as issues arise during its use by students and supervisors, and/or programs change. Please feel free to contact [qdang@lakeheadu.ca](mailto:qdang@lakeheadu.ca) with suggestions or comments.

This handbook contains information on the specific programs in the Faculty of Natural Resources Management. The general regulations for all graduate programs in the University can be found at <https://www.lakeheadu.ca/programs/graduate/regulations>

More general information on our graduate programs can be found at: <https://www.lakeheadu.ca/programs/departments/nrm/program-options/graduate-program-options>

**It is the joint responsibility of the student and the supervisor(s) to ensure that all the program requirements are met in a timely fashion.**

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## **Thesis-based Master of Science in Forestry (MScF-TH)**

The MScF-TH ([Master of Science in Forestry \(MScF\) | Lakehead University](#)) is a research-oriented degree designed to give graduates a firm foundation in the process of scientific inquiry. Most research projects are undertaken in one or more of the biophysical forest sciences, but MScF students are increasingly opting for forest-related projects in the social sciences. Research projects are designed jointly by the student and the faculty member who serves as the student's supervisor. The MScF program requirements include 2.5 full-course equivalents of coursework and a research thesis. The minimum residency requirement for the MScF program is one academic year (three terms).

### [Admission](#)

Applicants to the Master's program holding a four-year degree of adequate standing (i.e., B or better) from a recognized university are normally admitted. Evidence of scholarly achievement and good reference letters are important for admission, as is preliminary identification of a supportive Supervisor. An applicant with inadequate academic background or standing (e.g. a three-year degree) may be invited to take four full-course equivalents (minimum) at the undergraduate level under the guidance of an interim supervisor in a Qualifying Year. If performance in these courses averages B or better, the applicant may then apply for admission to the Master's program.

Admission to all graduate study programs is governed by Lakehead University's general regulations. Additional requirements of the Faculty of Natural Resources Management include availability of a [Supervisor](#) and appropriate funding. The first step in applying is to check the regulations and send an application to the Office of Graduate Studies. However, most successful applicants also check our web pages for information on faculty and resources in the Faculty of Natural Resources Management, or in the case of PhD applicants, resources in our collaborating academic units that may help match prospective students to potential supervisors. In the best cases, applicants have already circulated their CV, a letter of their research interests, and unofficial transcripts to potential supervisors by the time they apply. They may even receive a tentative

funding commitment to assist their graduate studies before their application is received and processed by the Office of Graduate Studies. Approval for entry into a program remains with the Faculty of Graduate Studies.

Applicants whose native language is not English, and who cannot verify having studied in an English language school system for more than three years, will be required to present proof of English facility, by achieving appropriate standing on the TOEFL test (a minimum paper-based score of 550 with no component score less than 50; a computer-based score of 213 with no component score less than 17; or an internet-based score of 80 with no component score less than 19), the International English Language Testing System (IELTS, with a minimum score of 6.5 and no individual band score less than 6.0), the Michigan English Language Assessment Battery (MELAB, with a minimum score of 85), or the Canadian Academic English Language Assessment (CAEL with a minimum score of 60). In lieu of a test score, students whose native language is not English may be admitted conditionally on successful completion of the English for Academic Purposes (EAP) program offered jointly by Confederation College and Lakehead University.

### [Registration and continuous enrollment](#)

Students must consult with the Supervisor and the Graduate Studies Coordinator prior to registration to discuss and have their course of study approved. Registration can then be done online with a PIN to access WebAdvisor. A PIN is emailed to a Lakehead email account. If you have already accessed your PIN but have forgotten the number, you can have it resent to your Lakehead email account by going to the WebAdvisor log-in and clicking on "What's my PIN?" All registrations are conditional and subject to approval by the Office of the Registrar. It is always the student's responsibility to read the University Calendar and to abide by any special conditions or requisites to enrolment. Conditions, as outlined in your official Offer of Admission, or those conditions set by the Graduate Studies Committee, must be strictly followed. Students who fail to comply are subject to deregistration.

All graduate students must be continuously enrolled during every term of study unless they formally opt for a [Leave of Absence](#) from their studies.

**Photo ID:** During the first week of September, graduate students can obtain a student photo ID in the main cafeteria. Beginning the first week of classes, photo IDs can be obtained from the Library Circulation Desk.

### [Funding](#)

Students who have been offered funding (i.e., Graduate Assistantship, scholarships, awards, bursaries, faculty support) in their first year need to obtain a Financial Support Form from the Office of Graduate Studies (RC 0009). Continuing graduate students can use a separate form. Forms must be completed and brought to the Accounts Receivable and Collections Supervisor, for payment of fees by the Monday of the second week of September at the latest. Financial Services (Accounts) is in the basement of the Agora. Ask for the supervisor of Financial Services directly and do not stand in the undergraduate line for payment of fees. Students employed as a Graduate Assistant will also need to bring their Financial Support Form to the Office of Human Resources and sign on as an employee of the University. Bring a void cheque and banking information, because the University only works with Direct Deposit.

### [Supervisor](#)

A Supervisor is usually chosen for having similar research interests as the graduate student. Once a faculty member and a graduate student agree to a supervisory relationship, then the Supervisor is the first contact for all concerns that may arise during a graduate student's career. In the case of co-supervision, two faculty members work mutually in the student's interest.

A Supervisor is the student's mentor, advisor, and often provides emotional support. The graduate student and Supervisor(s) work together in creating the [Study Plan](#) and the [Study Proposal](#). The student is expected to outline relevant goals to his or her academic objectives. The Supervisor(s) is then responsible for ensuring resources are provided for the graduate student to complete a program on time. The Supervisor is to ensure that the student is aware of and understands all program requirements and degree regulations and the Supervisor is directly responsible for the ethical process and outcome of the research. The Supervisor is also charged with ensuring that the student conducts research in a manner that is as effective, safe, and productive as is possible. However, it is the student's responsibility to inform the Supervisor regularly of his or her

research activities and progress. Any periods of extended leave or unexpected expenses to be incurred by the student must be communicated to the Supervisor before they occur. Normally, either the student or the Supervisor calls Supervisory Committee meetings. Regular meetings and written agreements are recommended mileposts in a student's progress; each meeting is documented with a progress report. Likewise, regular attendance is expected by the graduate student at informally scheduled meetings with the Supervisor. Regular posted hours are a common courtesy by both parties for each day excluding holidays, when a student is expected to be present in the office or research lab. Students should feel comfortable initiating meetings with the Supervisor. Supervisors who may be absent from the University for an extended period of time are responsible for informing their students immediately. It is the Supervisor's responsibility to ensure that temporary supervision will be provided, so that the student will have guidance during that absence.

Good supervisory relationships rely on clear and mutually accepted expectations and terms of progress. At times, the research interests of a student may change or conflicts may arise between a student and Supervisor that require formal means to resolve. An appropriate course of action is a request for change of Supervisor submitted in writing to the Graduate Studies Coordinator.

### [Supervisory Committee](#)

Students typically select their Supervisory Committee in consultation with their Supervisor, following the appropriate requirements listed below. The selection process is the student's opportunity to ensure that the committee comprises the highest qualified mentors for their graduate research career. Selection of a team that works in your best interest in coaching you and understanding what your research is about is a wise decision, especially in view that the core members of the committee will also be examining your [Thesis](#) or [Dissertation](#). It is the graduate student's responsibility, shared with the Supervisor, to initiate meetings of the Supervisory Committee. The Graduate Studies Coordinator maintains an honorary position on all Supervisory Committees, representing the Faculty of Graduate Studies, but does not normally attend meetings.

A Supervisory Committee consists of at least three members (including the Supervisor). The Supervisor and at least one other member of the committee must be faculty or adjunct faculty in the Faculty of Natural Resources Management. The Supervisory Committee has the most vested interest in the educational development of a graduate also becomes the internal examining committee for the thesis (see [Public Presentation](#) and [Oral Defence](#)). Members above the minimum of three can include a range of individuals who will be ex-officio members of the Examining Committee but can be useful selections in helping a student achieve a successful research career. For example, you may wish to have a government researcher of lower rank but with good field expertise on your Supervisory Committee, or you may choose to include a representative of the industrial sponsor for your research in the Supervisory Committee, especially in the cases where a research question is posed by the industry. A meeting of the Supervisory Committee should be held within the first semester of enrolment and a record of this meeting must be provided to the Graduate Studies Coordinator for inclusion in the student's file. It is during the first meeting that an outline for a full Study Proposal (the Study Plan) is agreed to by the Supervisory Committee.

### [Thesis Research Proposal](#)

Before the completion of their second academic term (MScF students) or within their first academic year (PhD students) all graduate students must be prepared to present a full study proposal. The proposal shall address: what your study objectives are, why your study is important, and how you will conduct your research. Study objectives lead to clear questions and hypotheses. These questions or hypotheses are supported by the research rationale, i.e., why your study is important. In order to articulate importance of your study, students conduct a literature review in brief or comprehensive. A comprehensive literature review can sometimes itself be published in peer-reviewed journals. To address your research questions and/or test your hypotheses, you need to describe in detail materials and methods you will use to conduct your research. In this section, it is recommended to consider where, when, and how your research activities will take place. The proposal shall also have a section describing the schedule for the remainder of the graduate student's program.

The student works closely with the Supervisor(s) on the Study Proposal. Most students are recruited to assist funded projects from granting agencies and these projects require

deliverables. In this case, it is necessary that the student's proposal overlaps and improves an element of the funded project. It is advantageous for a student to join a larger project, because these projects have usually gone through a vigorous peer review process, which can improve the value of the student's effort. In an event that a student is recruited without a funded project, the student is strongly encouraged to work with the Supervisor(s) prior to or at the beginning of the graduate program to develop a focused research project proposal. Such a proposal may itself lead to an application for funding.

The presentation of the proposal will consist of at least one meeting of the Supervisory Committee, during which the student presents orally (usually for 10-15 minutes) and then takes questions and suggestions from the committee. Students are encouraged to schedule and post their proposal presentation as a public meeting open to faculty members and other students, in this arrangement usually to be followed by the Supervisory Committee meeting. In cases when significant revision to a first-draft proposal is required, a second Supervisory Committee meeting must be scheduled before a field season begins. Students are expected to adhere to their proposal and to discuss any major departure with their Supervisory Committee.

### [Progress Report](#)

Graduate student details about funding, coursework, area of research, Supervisory Committee members, etc. are filed annually in progress reports. Reports are filed by May 1 each year with the secretary in the Faculty of Natural Resources Management responsible for the graduate students. The report is completed together with the Supervisory Committee and reflects mutually agreed terms around the study program. The progress report is signed by both the student and the student's Supervisor.

### [Course Requirements](#)

Course requirements are designed to help the student strengthen his/her academic background to conduct an independent research project. Graduate students are expected to maintain a B or better average overall. A student who does not maintain a satisfactory academic standard at all times may be requested to withdraw from the program. Graduate students will complete all assignments and write term tests and final examinations in their courses according to the schedule prescribed by the Supervisory

Committee and the course instructor. The following are the course requirements for the MScF program:

- 1.5 FCE courses related to the student's thesis;
- NRMT 5510- Research Methods I: Philosophy and General Methods of Science;
- NRMT 5515- Research Planning.

With the approval of the academic unit, a maximum of 1.0 FCE of 4th-year level courses may be accepted towards the Master's degree, provided a similar course has not been taken previously in an undergraduate degree. The MScF Coordinator must approve any such courses if they are to be counted toward the degree requirements, and they must also be approved by the student's Supervisory Committee; otherwise, they will come each with additional course fee to be paid by the student.

All students must register the MScF thesis (NRMT 9901) in every semester.

Occasionally, students who arrive with a need to prepare themselves for the graduate degree have an offer with a specific condition to take one or more additional courses. Unless these are listed as part of a Qualifying Year, these are taken concurrently with the required courses in the first and second semesters.

On a case-by-case basis, Master's students may be permitted to register in 6000-level courses during their second year of study, but these courses are normally reserved for PhD students.

The Graduate Studies Coordinator must also approve Special Topics courses (NRMT 5132, worth 0.5 FCE; NRMT 5162, worth 1.0 FCE). These courses are created when instructors, normally faculty members, specially design a course title, topic and outline (e.g. a list of learner objectives, readings, the requirements for writing, and a grading scheme) tailored to the mutual interest of the student(s) intending to take the course and the instructor. A form must be signed by any student(s) intending to enroll in a Special Topics course, the instructor and the Graduate Coordinator, before a course listing is created by the Registrar. Normally, attendance in an undergraduate course is not part of the requirements of a Special Topics course.

## Thesis preparation and examination

Writing and preparation of a Thesis or Dissertation is a graduate student's main responsibility. The final stage of the program is to be examined on both a written Thesis or Dissertation and its Public Presentation, a two-part process that ensures students have adequately prepared themselves both with respect to their knowledge of their field of research and of the scientific method. Graduate students should familiarize themselves with the required format and the timing and deadlines for completing a Thesis. Normally, one or more drafts of the document are reviewed by a student's Supervisor before having a second-to-final draft reviewed by the Supervisory Committee, leading to an Internal Examiner's report. This review process usually starts at least **two months** prior to sending a redrafted Thesis to an [External Examiner](#). A public presentation of the Thesis or Dissertation is delivered by the student and its Oral Defence is scheduled only after both the Internal and External Examiners' reports are received by the appropriate Graduate Studies Coordinator. Before the Oral Defence is scheduled, a copy of the Thesis must be posted in the office of the Faculty of Natural Resources Management for review. Faculty must be notified that this posting has taken place at least seven days prior to the Oral Defence. Taking into consideration the results of the Oral Defence, a final set of revisions leads to the student handing in PDF version of the thesis.

To begin effective preparation of the Thesis, a graduate student incorporates and expands the literature review completed for the Study Proposal and begins formatting data and other material essential to understanding the research into a draft document. The first Thesis draft is expected by the end of the winter semester of the second academic year.

### [External Examiner](#)

The Supervisor, usually in consultation with the graduate student, suggests a suitable candidate as an External Examiner. Ideally, the Supervisor will have contacted the proposed nominee and will have determined willingness to serve as Examiner. The examiner only needs to be external to the student's Supervisory Committee. The external examiner is given a minimum of **3 weeks** to review the draft during the fall and winter semesters and **5 weeks** during the spring and summer sessions.

To proceed with the nomination of an External Examiner to the Graduate Studies Committee, an External Examiner Nomination Form is completed and submitted. The choice of the External Examiner is approved by the MScF Coordinator. The External Examiner reports on the suitability of the document to be defended and its level of satisfaction in fulfilling the requirements of the Degree. The Examination Report uses the same recommendations as the Examining Committee at the time of the Oral Defense.

### Thesis examination (2 hours)

The thesis must be approved by the Advisory Committee before being sent for the External Examiner.

The thesis defense can proceed only if both the internal examiner and external examiner pass the thesis (conditionally or unconditionally).

Normally, all members of the Examination Committee are present; *quorum* consists of 50% plus one in addition to the Chair (normally four persons). If *quorum* is not met, the Defence must be postponed. Members of the University will be invited to attend the public presentation by the student. For the *in camera* thesis defence the Chair determines the order in which Committee members ask questions, as well as the approximate time to be allotted to questions. The Committee together determines how any questions raised by the Examiners will be discussed by the candidate. The following agenda is used for the rest of the meeting:

- a. Call to order - Committee Chair
- b. Introduction of the Candidate - Supervisor
- c. Presentation of the Thesis - Candidate (no longer than 30 minutes)
- d. Open Forum for questions from the Examination Committee and the University Community
- e. After the Open Forum all attendees who are not members of the Natural Resources Management Graduate Studies Committee, PhD (Forest Sciences) Core Committee or the Examination Committee are asked to leave the room (the Candidate remains)

- f. The Internal and External Examiner reports are read by the Supervisor and the Committee Chair, respectively; then examination questions are asked by members of the Examining Committee and by the Chair (on behalf of the External Examiner if he/she has arranged only a written submission)
- g. After the questioning, the candidate is asked to leave the room.

The Chair then moderates an *in camera* session, when the Committee members decide the outcome of the thesis/dissertation and defense. This meeting should take no more than sixty minutes. The Committee will attempt to arrive at a decision by consensus, but if consensus is not possible, a vote of a majority of members is required. In the event of a tie, the Chair shall cast the deciding vote on one of the following outcomes:

1. Thesis/Dissertation and Oral Defense Accepted.  
No changes required beyond the correction of typographical errors and other minor corrections of wording. The candidate's Supervisor shall review and approve the corrections before the final copies of the dissertation are submitted to the Office of Graduate Studies.
2. Thesis/Dissertation and Oral Defense Accepted with Minor Revisions
3. Minor revisions are required beyond typographical errors and minor corrections of wording. The candidate's Supervisor shall review and approve the corrections before the final copies of the dissertation are submitted to the Office of Graduate Studies.
4. Thesis/Dissertation Accepted and Oral Defense Unacceptable  
The candidate may be required to undertake a second oral defense. The Oral Defense Examination Committee Chair shall inform the candidate in writing of the deficiencies in the oral defense and the date of the second oral defense (normally no more than six months).

After the Committee has made its decision, the candidate re-enters the examination room and the Committee Chair conveys the Committee's decision to the candidate. If the decision is favourable, the student proceeds to follow the procedures for submitting the final thesis/dissertation copies to the Office of Graduate Studies.

## Residency

The residency requirement will be a minimum of one academic year (three terms), of which two terms must be consecutive.

## Timeline Checklist

### **1st month**

- Meet with supervisor to discuss expectations of student and supervisor, degree requirements, policies and timelines.

### **1st term**

- Meet with committee (minimum attendance: Supervisor and one other Faculty member) to discuss coursework, composition of Supervisory Committee and research plan.

### **1st two terms**

- Establish a full Supervisory Committee. Three faculty members including the Supervisor and normally at least two members from the Faculty of Natural Resources Management.
- Coursework. Two and one-half courses including Research Methods I (NRMT 5510) and Research Planning (NRMT 5515) courses completed.
- Apply for scholarship funding. Major scholarships have a similar application process, with a deadline in October.
- Identify research project. If this has not occurred within first eight months, the supervisor must provide a project that can be completed in a reasonable (<18 months) time.
- Prior to commencing research, convene a Supervisory Committee meeting to discuss proposed research.

- Begin research as soon as you start your MScF program. Do not forget to register each term you are conducting research but not taking courses in the thesis placeholder course (NRMT 5901/9901).
- Have your Thesis proposal approved by your supervisory committee.

### 1st year

- Complete your data collection
- Begin data analysis

### 2nd year

- Convene a Supervisory Committee meeting at the beginning of the year to discuss research results from first year, possible further research, timeline to Thesis completion.
- Complete research.
- Complete writing the Thesis four months before the end of the second year.
- Successfully complete thesis defense before the end of the second year.

### Submission of Thesis

- Obtain approval of Supervisor. This may be an iterative process.
- Submit to Supervisory Committee members and allow two weeks for comments and approval.
- Identify External Examiner and allow four weeks for evaluation report.
- Schedule Oral Defence date and submit approved version to members of the examining committee at least one week before defence date.
- Examination, revisions, and submit signature page, thesis copies, and necessary forms to the Graduate Secretary. If this stage is not complete by the last day for registration of classes in a given semester, the Registrar will automatically

register you in the thesis placeholder course (NRMT 5901/9901) and fees will be charged for that semester. Therefore, there is a strong incentive to begin the thesis submission process early.

## **Course-based MScF**

Information to be added

## **Doctor of Philosophy in Forest Sciences (PhD)**

The PhD (Forest Sciences) is a research-based program focused on the development of researchers in the fields of forest ecology, and forest products and management. It is an interdisciplinary program and includes the participation of the Faculty of Natural Resources Management, Department of Biology, School of Outdoor Recreation, Parks and Tourism, Department of Chemical Engineering, School of Social Work, Department of Sociology and Department of History.

To fulfill the degree requirements, students must complete a minimum 1.0 full-course equivalent of coursework, a qualifying examination, the comprehensive examination, and the preparation and oral defence of a research dissertation. Students are expected to complete within four years from entry into the PhD program. Course requirements are normally completed during the first year of the program. The residency requirement is a minimum of one academic year (three terms), of which two terms must be consecutive.

### [Admittance to the PhD program](#)

Normally, an applicant to the PhD program has completed a master's degree in forestry, related science or an allied discipline; however, students lacking the appropriate background can complete additional courses (2.0 full-course equivalents) to cover deficiencies as determined by the [Supervisory Committee](#) and approved by the PhD program Committee.

Admission to all graduate study programs is governed by Lakehead University's general regulations. Additional requirements of PhD in Forest Sciences program include availability of a [Supervisor](#) who is a member of the Core PhD Faculty and appropriate funding. The first step in applying is to check the regulations and send an application to the Office of Graduate Studies. However, most successful applicants also check our

web pages for information on faculty and resources in the Faculty of Natural Resources Management, or in the case of PhD applicants, resources in our collaborating academic units that may help match prospective students to potential supervisors. In the best cases, applicants have already circulated their CV, a letter of their research interests, and unofficial transcripts to potential supervisors by the time they apply. They may even receive a tentative funding commitment to assist their graduate studies before their application is received and processed by the Office of Graduate Studies. Approval for entry into a program remains with the Faculty of Graduate Studies.

Applicants whose native language is not English, and who cannot verify having studied in an English language school system for more than three years, will be required to present proof of English facility, by achieving appropriate standing on the TOEFL test (a minimum paper-based score of 550 with no component score less than 50; a computer-based score of 213 with no component score less than 17; or an internet-based score of 80 with no component score less than 19), the International English Language Testing System (IELTS, with a minimum score of 6.5 and no individual band score less than 6.0), the Michigan English Language Assessment Battery (MELAB, with a minimum score of 85), or the Canadian Academic English Language Assessment (CAEL with a minimum score of 60). In lieu of a test score, students whose native language is not English may be admitted conditionally on successful completion of the English for Academic Purposes (EAP) program offered jointly by Confederation College and Lakehead University.

### [Registration](#)

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set by the Graduate Studies Committee, must be strictly followed. Students who fail to comply are subject to deregistration.

**Photo ID:** During the first week of September, graduate students can obtain a student photo ID in the main cafeteria. Beginning the first week of classes, photo IDs can be obtained from the Library Circulation Desk.

### [Continuous Enrolment](#)

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### [Study Plan](#)

A Study Plan consists of confirmation of the first-year program of study (coursework) and preliminary selection of a suitable thesis topic. It must be completed during the first six months. It is at this time that, with the assistance of the Supervisor, a [Supervisory Committee](#) is selected and appointed. Decisions are recorded in a [Progress Report](#) form.

## Course Requirements

Course requirements are designed to help the student strengthen his/her academic background to conduct an independent research project. The following are the course requirements for all PhD students (total of 8.0 FCEs):

- At least 1.0 FCE graduate-level courses;
- NRMT 5515- Research Planning (For those who have taken such a similar course at another institution, the advance credit for NRMT 5515 must be requested at the time of application for the program)
- Comprehensive examination NRMT 6701 (1.0 FCE)
- Preparation and oral defence of dissertation NRMT 6901 (6.0 FCE)
- NRMT 9900- PhD Dissertation must be registered every semester of the program

## Minimum academic requirements to remain in the PhD Program

PhD students are expected to maintain a B (70%) or better grade in every course that they take. A student who does not meet this minimum standard will be requested to withdraw from the program.

Course requirements would normally be completed during the first year of the program. Special Topics courses at the PhD level have different calendar numbers (NRMT 6610, worth 0.5 FCE; NRMT 6620, worth 1.0 FCE).

## Supervisor

A Supervisor is usually chosen for having similar research interests as the graduate student. Once a faculty member and a graduate student agree to a supervisory relationship, then the Supervisor is the first contact for all concerns that may arise during a graduate student's career. In the case of co-supervision, two faculty members work mutually in the student's interest.

A Supervisor is the student's mentor, advisor, and often provides emotional support. The graduate student and Supervisor(s) work together in creating the Study Plan and the

[Dissertation Research Proposal](#). The student is expected to outline relevant goals to his or her academic objectives. The Supervisor(s) is then responsible for ensuring resources are provided for the graduate student to complete a program on time. The Supervisor is to ensure that the student is aware of and understands all program requirements and degree regulations and the Supervisor is directly responsible for the ethical process and outcome of the research. The Supervisor is also charged with ensuring that the student conducts research in a manner that is as effective, safe, and productive as is possible. However, it is the student's responsibility to inform the Supervisor regularly of his or her research activities and progress. Any periods of extended leave or unexpected expenses to be incurred by the student must be communicated to the Supervisor before they occur. Normally, either the student or the Supervisor calls Supervisory Committee meetings. Regular meetings and written agreements are recommended mileposts in a student's progress; each meeting is documented with a progress report. Likewise, regular attendance is expected by the graduate student at informally scheduled meetings with the Supervisor. Regular posted hours are a common courtesy by both parties for each day excluding holidays, when a student is expected to be present in the office or research lab. Students should feel comfortable initiating meetings with the Supervisor. Supervisors who may be absent from the University for an extended period of time are responsible for informing their students immediately. It is the Supervisor's responsibility to ensure that temporary supervision will be provided, so that the student will have guidance during that absence.

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### [Supervisory Committee](#)

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decision, especially in view that the core members of the committee will also be examining your [Dissertation](#). It is the graduate student's responsibility, shared with the Supervisor, to initiate meetings of the Supervisory Committee. The PhD program Coordinator maintains an honorary position on all Supervisory Committees, representing the Program Committee, but does not normally attend meetings.

The Supervisory Committee consists of at least three members: two must be from the core faculty in the PhD program (including the Supervisor) and the third must be a member of the Faculty of Graduate Studies at Lakehead University. Other members of the Supervisory Committee may include core faculty, or non-core faculty who participate in the teaching of graduate courses, and collaborating adjunct professors. The academic program for each PhD student will be developed by the Supervisory Committee and recommended to the PhD Program Committee for approval. The primary responsibility of the Supervisory Committee is to provide advice to a student about the progress and direction of his or her research and professional development. Advice is often about:

1. Courses, readings or discussion groups that strengthen the student's background;
2. Design and execution of the thesis research;
3. Development of sound communication skills (speaking and writing), and;
4. Ethical conduct and presentation of scientific research.

### [Dissertation Proposal](#)

Within their first academic year, all PhD students must be prepared to present a full study proposal. The proposal shall address: what your study objectives are, why your study is important, and how you will conduct your research. Study objectives lead to clear questions and hypotheses. These questions or hypotheses are supported by the research rationale, i.e., why your study is important. In order to articulate importance of your study, students conduct a literature review in brief or comprehensive. A comprehensive literature review can sometimes itself be published in peer-reviewed journals. To address your research questions and/or test your hypotheses, you need to describe in detail materials and methods you will use to conduct your research. In this

section, it is recommended to consider where, when, and how your research activities will take place. The proposal shall also have a section describing the schedule for the remainder of the graduate student's program.

The student works closely with the Supervisor(s) on the Study Proposal. Most students are recruited to assist funded projects from granting agencies and these projects require deliverables. In this case, it is necessary that the student's proposal overlaps and improves an element of the funded project. It is advantageous for a student to join a larger project, because these projects have usually gone through a vigorous peer review process, which can improve the value of the student's effort. In an event that a student is recruited without a funded project, the student is strongly encouraged to work with the Supervisor(s) prior to or at the beginning of the graduate program to develop a focused research project proposal. Such a proposal may itself lead to an application for funding.

The presentation of the proposal will consist of at least one meeting of the Supervisory Committee, during which the student presents orally (usually for 10-15 minutes) and then takes questions and suggestions from the committee. Students are encouraged to schedule and post their proposal presentation as a public meeting open to faculty members and other students, in this arrangement usually to be followed by the Supervisory Committee meeting. In cases when significant revision to a first-draft proposal is required, a second Supervisory Committee meeting must be scheduled before a field season begins. Students are expected to adhere to their proposal and to discuss any major departure with their Supervisory Committee.

### [Progress Report](#)

Graduate student details about funding, coursework, area of research, Supervisory Committee members, etc. are filed annually in progress reports. Reports are filed by May 1 each year with the secretary in the Faculty of Natural Resources Management responsible for the graduate students. The report is completed together with the Supervisory Committee and reflects mutually agreed terms around the study program. The progress report is signed by both the student and the student's Supervisor.

## Qualifying Examination

A Qualifying Examination is to be held **within twelve (12) months of registration in the PhD program**. In the case of a graduate student enrolled in a Master's program who requests to transfer to the PhD program without completion of the Master's degree, a Qualifying Examination will be arranged as soon as reasonably feasible; the successful completion of the examination will permit the student to register in the PhD program. The purpose of the Qualifying Examination is to confirm the student's level of competence in fields related to his or her intended field of specialized study. The examination may reveal inadequacies in the student's preparation, which may be remedied by requiring additional coursework at the graduate or undergraduate level. The examination thereby serves as a diagnostic of the student's readiness to undertake PhD study. In cases of poor performance in the Qualifying Examination, the student is asked to revert to the Master's program, remain in the Master's program, or to withdraw from Graduate Studies.

The Examining Committee will normally comprise the student's Supervisor and other members of the Supervisory Committee. If a committee member is not available to attend (in person or virtually), a suitable replacement will be appointed by the PhD Program Coordinator.

The examination is **normally oral and lasts no more than 2 hours**. The examination will be chaired by the PhD program coordinator and attendance is restricted to the Examining Committee Chair, the Examining Committee and the student. Following the examination,.

The Examination normally starts with a presentation of no more than 30 minutes by the student, followed by rounds of questions by the examiners. **The normal duration of the Qualifying Examination is 2 hours**. Following the 2<sup>nd</sup> round of questions, the candidate will be excused from the room and the Examining Committee will have an *in camera* meeting to discuss the student's performance and decide on one of the following outcomes:

- 1) That the student be allowed to proceed with the PhD program unconditionally.

- 2) That the student be allowed to proceed with the PhD program with the condition that he/she must take one or more additional course(s). Master's students transferring into the PhD program are required to complete the course requirements (excluding their thesis) for their master's program, as well as the minimum one FCE requirement for the PhD program.
- 3) That the student transfer from the PhD to an appropriate Master's program or continue in his/her Master's program.
- 4) That the student take the examination again, at a time to be determined by the Supervisory Committee, but within six months following the first attempt. Only one repeat of the examination will be allowed.
- 5) That the student withdraw from the PhD program.

#### [Comprehensive Examination \(NRMT 6701\)](#)

The comprehensive examination will assess the student's general preparedness for the PhD degree and specific areas in his or her chosen area of study and research. It will also assess the student's ability to integrate material from divergent areas, to reconcile theoretical, methodological and empirical issues, and to think critically and creatively. The comprehensive examination will be an oral examination conducted in camera by the Comprehensive Examination Committee.

The comprehensive examination must be completed at least one year prior to graduation and is expected to be **no later than 24 months after initial registration**. Only two attempts at the comprehensive examination will be permitted. Students who fail the second attempt will be required to leave the PhD program.

The Comprehensive Examining Committee will consist of the student's Supervisory Committee and at least one additional examiner who is external to the supervisory committee.

The external examiner is appointed by the Dean of the Faculty of Graduate Studies on the recommendation of the Supervisory Committee.

The Examination will be Chaired and Moderated by the PhD program coordinator or a designate. The Chair will only vote in cases of a tie committee vote.

At least three months before the Comprehensive Examination, the Supervisory Committee will meet with the student to review the requirements for the comprehensive examination, the procedures to be followed and to set the date for the examination. A record of this information will be given to the student and another placed in the student's file.

The oral examination should normally be a maximum of three (3) hours. The examination starts with a presentation of no more than 30 minutes by the student, followed by two rounds of questions by examiners.

After the Examination, the Examination Committee will, in an *in camera* meeting, decide on one of the following outcomes:

- 1) Pass – will be awarded to a student who demonstrates an acceptable level of knowledge of his/her area of study and requires a simple majority vote by the Committee.
- 2) Re-examination – will be awarded to a student who does not have an acceptable level of knowledge of his/her area of study and requires a simple majority vote by the Committee. The re-examination must occur no earlier than one month and no later than six months after the first examination. The outcome of the re-examination can only be “pass” or “fail”.
- 3) Fail – will be awarded to a student who in the re-examination can still not demonstrate an acceptable level of knowledge of his/her area of study and requires a unanimous vote by the Committee.

A student who fails in the re-examination can be recommended to move to the Master of Science in Forestry program. The chair of the Examining Committee may ask the

Supervisory Committee to follow up on any recommendations made by the Examining Committee at the time of the oral examination.

### Dissertation examination

The dissertation must be approved by the Advisory Committee before being sent to the external examiner. The external examiner must receive the dissertation at least 3 months prior to the intended date of graduation.

Writing and preparation of the Dissertation is the student's main responsibility. The final stage of the PhD program is to examine a written Dissertation and its Public Presentation, a two-part process that ensures students have adequately prepared themselves both with respect to their knowledge of their field of research and of the scientific method. Graduate students should familiarize themselves with the required format and the timing and deadlines for completing a Dissertation. Normally, one or more drafts of the document are reviewed by a student's Supervisor before having a second-to-final draft reviewed by the Supervisory Committee, leading to an Internal Examiner's report. This review process usually starts at least **two months** prior to sending a redrafted Dissertation to an [External Examiner](#). A public presentation of the Dissertation is delivered by the student and its Oral Defence is scheduled only after both the Internal and External Examiners pass the Dissertation (conditionally or unconditionally). Before the Oral Defence is scheduled, a copy of the Dissertation must be posted in the office of the Faculty of Natural Resources Management for review. Faculty must be notified that this posting has taken place at least seven days prior to the Oral Defence. Taking into consideration the results of the Oral Defence, a final set of revisions leads to the student handing in PDF version of the thesis.

To begin effective preparation of the Dissertation, a student incorporates and expands the literature review completed for the Study Proposal and begins formatting data and other material essential to understanding the research into a draft document. PhD students aim to begin the first draft of a Dissertation at the very latest at the three-year mark after first enrolment in the program.

### [External Examiner](#)

The Supervisor, usually in consultation with the student, suggests a suitable candidate as the External Examiner. Ideally, the Supervisor will have contacted the proposed nominee and will have determined willingness to serve as Examiner.

The External Examiner must be external to the University and within the student's field of study. The External Examiner nomination form will be submitted by the Supervisor to the PhD program coordinator for approval and subsequent submission for the final approval by the Dean of the Faculty of Graduate Studies.

The Dissertation must be delivered to the external examiner at least **3 months** prior to the intended date of graduation.

Normally, all members of the Examination Committee are present; *quorum* consists of 50% plus one in addition to the Chair (normally four persons). If *quorum* is not met, the Defence must be postponed. Members of the University will be invited to attend the public presentation by the student. For the in camera thesis/dissertation defence, the Chair determines the order in which Committee members ask questions, as well as the approximate time to be allotted to questions. The Committee together determines how any questions raised by the Examiners will be discussed by the candidate. The following agenda is used for the rest of the meeting:

- h. Call to order - Committee Chair
- i. Introduction of the Candidate - Supervisor
- j. Presentation of the Dissertation - Candidate (no longer than 30 minutes)
- k. Open Forum for questions from the audience and the Examination Committee
- l. After the Open Forum all attendees who are not members of the Natural Resources Management Graduate Studies Committee, PhD (Forest Sciences) Core Committee or the Examination Committee are asked to leave the room (the PhD Candidate remains)
- m. The Internal and External Examiner reports are read by the Supervisor and the Committee Chair, respectively; then examination questions are asked by members

of the Examining Committee and by the Chair (on behalf of the External Examiner if he/she has arranged only a written submission)

- n. After the questioning the candidate is asked to leave the room.

The Chair then moderates an *in camera* session, when the Committee members decide the outcome of the thesis/dissertation and defense. This meeting should take no more than sixty minutes. The Committee will attempt to arrive at a decision by consensus, but if consensus is not possible, a vote of a majority of members is required. In the event of a tie, the Chair shall cast the deciding vote on one of the following outcomes:

1. Thesis/Dissertation and Oral Defense Accepted.

No changes required beyond the correction of typographical errors and other minor corrections of wording. The candidate's Supervisor shall review and approve the corrections before the final copies of the dissertation are submitted to the Office of Graduate Studies.

2. Thesis/Dissertation and Oral Defense Accepted with Minor Revisions

3. Minor revisions are required beyond typographical errors and minor corrections of wording. The candidate's Supervisor shall review and approve the corrections before the final copies of the dissertation are submitted to the Office of Graduate Studies.

4. Thesis/Dissertation Accepted and Oral Defense Unacceptable

The candidate may be required to undertake a second oral defense. The Oral Defense Examination Committee Chair shall inform the candidate in writing of the deficiencies in the oral defense and the date of the second oral defense (normally no more than six months).

After the Committee has made its decision, the candidate re-enters the examination room and the Committee Chair conveys the Committee's decision to the candidate. If the decision is favourable, the student proceeds to follow the procedures for submitting the final thesis/dissertation copies to the Office of Graduate Studies.

## Residency

The residency requirement will be a minimum of one year (three terms), of which two terms must be consecutive.

## PhD Timeline Checklist

### **First month**

- Meet with Supervisor to discuss expectations of student and Supervisor, degree requirements, policies and timelines.

### **First term**

- Meet with Supervisory Committee (minimum attendance: Supervisor and one other Faculty member of the PhD program core) to discuss coursework, composition of Supervisory Committee and research plan.
- Begin coursework.
- Identify research project.

### **First two terms**

- Full Supervisory Committee established. Three faculty members including Supervisor, at least two members from PhD (Forest Sciences) program core.
- Prior to commencing research, convene a Supervisory Committee meeting to discuss proposed research.
- Complete Research Planning (NRMT 5515) course if comparable course not previously taken
- Begin proposal writing.

### **By end of 12 months**

- Prior to Qualifying Examination complete research proposal and have it approved by Supervisory Committee; this will form the basis for the Qualifying Examination.

- Complete Qualifying Examination. Do not forget to register each term you are conducting research but not taking courses in the PhD Dissertation placeholder course (NRMT 6901/9900).

### **By end of 18 months**

- Convene a Supervisory Committee meeting to discuss research progress and Comprehensive Examination.
- Meet with Supervisory Committee to discuss expectations for the Comprehensive Examination, and set date and time for examination at least two months prior.

### **By end of 24 months**

- Complete coursework.
- Take comprehensive exam.
- Admission to Candidacy. Continue research.

### **Following years**

- Convene regular committee meetings to discuss research results from first year, further research plans, and timeline to completion of a dissertation
- Complete research.
- Aim to complete writing the PhD Dissertation by the end of the third year, fourth at the latest.

### **Submission of Dissertation**

- Submit request for External Examiner from 3 months before completing dissertation.
- Obtain approval of dissertation by Supervisor. This may be an iterative process.
- Submit dissertation to Supervisory Committee members, at least 2 weeks before approval is required.

- Obtain approval of Supervisory Committee.
- Identify members of the Examining Committee (Supervisor, External Examiner, University Examiner, 2-3 members of Supervisory Committee, and a presiding chair). Schedule Oral Defence >8 weeks after submission of PhD Dissertation to the Faculty of Graduate Studies.
- Oral Defence
- If this stage is not complete by the last day for registration of classes in a given semester, the Registrar will automatically register you in the PhD Dissertation placeholder course (NRMT 6901/9900) and fees will be charged for that semester. Therefore, there is a strong incentive to begin the thesis submission process early.

### **Public Presentation**

A public presentation of your research must be offered twice during your time as a graduate student. The first time may be scheduled during the Natural Resources Management Seminar Series in the fall or winter semesters of your second academic year. The second time is usually in association with – immediately before – the Oral Defence of the Thesis or Dissertation. In each case, the student's Supervisor will briefly introduce the student, and then the public presentation takes place, limited to a 30 minute period. Following the presentation, an open question period is held, during which anyone in attendance may ask questions of the student.

### **LEAVES OF ABSENCE AND TIME EXTENSIONS**

A Leave of Absence is granted only with the permission of the Supervisor and only if the leave can increase rather than decrease the student's chances of completing the graduate degree. Examples of legitimate leaves of absence include a limited term of employment closely related to the student's program, enrolment in a related, one-year academic program, health problems, parenting responsibilities, compassionate grounds or other compelling circumstances. In all other cases, a student must withdraw from the program during the period of absence. A Leave of Absence is requested with the appropriate form signed by the Supervisor and the Graduate Studies Coordinator, and the request will be submitted to the Faculty of Graduate Studies for approval.

The maximum time to complete either of the Masters programs is two years (six terms) and the maximum time to complete the PhD in Forest Science is four years (twelve terms). In the event that a Time Extension (one or more additional terms beyond the expected time) is required to complete the degree, a student must request an extension using the appropriate form. First-semester extensions must have the support of the Supervisory Committee and the Graduate Studies Committee. Additional extensions, to a maximum of two semesters, must be approved by the Graduate Studies Committee and the Faculty of Graduate Studies. Student do not normally receive financial support during Time Extensions, but must pay full tuition each semester until their degree requirements area complete.

Students who do not complete their Thesis or Dissertation and other degree requirements within the maximum time to completion and a maximum of three semesters of Time Extension fail the program. Reversal of this decision can only be by reapplication to the Faculty of Graduate Studies for readmission to the program, and then only following an absolute maximum additional period of study limited to three consecutive terms. Hint: this is a situation graduate students should avoid at all costs!

## **SCHOLARSHIPS, BURSARIES, AWARDS AND GRADUATE ASSISTANTSHIPS**

Funding in the form of a bursary or scholarship payment from a faculty research grant is intended to assist with your living expenses and tuition fees. Pay close attention in the course calendar to bursaries and awards from endowments and other funds, for which you might also qualify, and their deadlines. Many students in our faculty receive NSERC, SSHRC and other Canadian tri-council scholarships. Others receive provincially funded scholarships and awards, like the Ontario Graduate Scholarship (OGS). These are prestigious awards, for which applications are prepared well in advance, usually in consultation with the student's Supervisor and often with an industrial partner. Information is available on-line about these scholarships and awards.

Graduate assistantships (GAs) are different from scholarships, bursaries and awards, in that there is a work requirement – typically as a teaching assistant, but occasionally as a research assistant – in exchange for the payment. The Graduate Studies Coordinator approves the assignment of work for all students receiving GAs at the commencement of

each semester. Students review their assigned duties at that time, and then at the end of each semester a performance review with your assigned GA supervisor is completed. The GA supervisor is either the Faculty member assigned to teaching the course in which the student assists, or in cases involving a research assistantship, a faculty member other than the student's Supervisor. Just as in teaching assignments, research assignments can be designed to complement your thesis research, but must be in addition to your Thesis or Dissertation research.

It is the responsibility of the Graduate Studies Coordinator to fairly assign all sources of funding and teaching and research responsibilities to all graduate students. There is some variation in the amounts of funding received by graduate students, usually as a function of the type of research you become involved in, NSERC or other post-graduate scholarships, and the amount of funding associated with either of these awards.