The Faculty of Graduate Studies academic guide contains all the rules and policies pertaining to the Faculty of Graduate Studies. Adherence to these rules is of utmost importance for the effective functioning/operation of programs and for guiding and monitoring the progress of students. The integrity of the process is at stake. The major goal of this guide is to prevent potential problems that may affect the completion of a student’s program. It is the responsibility of students and the unit offering a graduate program to read and follow the policies contained herein.

All regulations as laid out in the Faculty of Graduate Studies Academic Guide are subject to revision by the appropriate bodies of the Faculty of Graduate Studies. This compendium is presented as the most recent set of regulations as a guideline for students and staff. Regulations may vary from one department or program to another. Individual departments may have additional regulations that supplement these general regulations. All such supplementary procedures and regulations must be approved as specified by the By-Laws of the Faculty of Graduate Studies, be published and available to students, and kept on file in the Faculty of Graduate Studies Office.

For those programs that are administered through a Faculty (as opposed to a Department) the term “Department” should be substituted by “Unit” within this document (i.e. Department Head becomes Unit Head.)

PREFACE

The Faculty of Graduate Studies is a pan-University faculty charged with the oversight of the administration of all graduate programs at the University. Therefore these regulations apply to all graduate students in all programs in all academic units. Individual units may require specific requirements above and beyond those in the following document, and students should consult unit supplemental regulations for these specific regulations. All unit supplemental regulations require approval of the Faculty of Graduate Studies.

Definitions

The “Dean of the Faculty of Graduate Studies” shall be taken to mean the Dean of the Faculty of Graduate Studies or designate.

“Unit” shall be taken to mean the academic unit where the graduate student is pursuing his/her studies. Generally, this is the department. For Faculty-based programs, the Dean is the de facto Head of the unit. The term “unit” shall also include Schools of Faculties within the University. The Dean of the Faculty of Graduate Studies is the de facto Head of interdisciplinary programs administered by the Faculty of Graduate Studies. The Head of any unit may designate any of his/her responsibilities in this policy to another member of the unit, such as the Graduate Chair.

Section 1: Application, Admission, and Registration Policies

1.1 Application and Admission Procedures

The application (and all required documentation) is to be submitted directly to the Faculty of Graduate Studies. Applicants should contact the department to which they are applying for the procedures, requirements and departmental application deadlines in effect.

1.1.1 Process:

1.1.1 (a) A completed official application for admission form must be submitted, together with the application fee and supporting documentation, to the Faculty of Graduate Studies, via the online system, UMGradConnect.

NOTE: International students must pay special attention to the appropriate requirements with Dept. of Electrical & Computer Engineering E2-390 EITC Bldg., 75A Chancellors Circle University of Manitoba Winnipeg, Manitoba R3T 5V6

Please contact us by email only. inquiries@EE.UManitoba.CA

We cannot answer questions regarding the graduate program over the telephone.

Admissions information & instructions (ECE Graduate Program) are available at: http://umanitoba.ca/ace/pros_students/grad/admissions.html
respect to transcripts (see application form for details).

1.1.1 (b) Applications are subsequently reviewed by the unit offering the program which will
decide whether the applicant meets the unit’s criteria including, but not limited to, space,
facilities, and advisors.

1.1.1 (c) Notification of recommended/rejected applications is sent by the Head of the unit to the
Faculty of Graduate Studies. Applications recommended for admission are checked to determine
if they meet the Faculty of Graduate Studies’ eligibility requirements. The Faculty of Graduate
Studies then notifies applicants of their acceptance or rejection.

1.1.2 Deadlines for Recommended Applications (from Departments to the Faculty of
Graduate Studies)

The following are the deadlines for receipt by the Faculty of Graduate Studies of
recommendations from graduate units. Individual units may have earlier deadlines.

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<tr>
<th>Session</th>
<th>Start Date</th>
<th>Canadian/US</th>
<th>International</th>
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<tr>
<td>FALL</td>
<td>September</td>
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<td>WINTER</td>
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<td>SUMMER</td>
<td>May</td>
<td>March 1</td>
<td>December 1</td>
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**IMPORTANT:** Applicants are required to submit the application and documentation to the
Faculty of Graduate Studies for an earlier deadline than those listed above. Applicants are
advised to confirm the deadline of the unit to which the application is being made. Contact
information for each unit can be found at
http://umanitoba.ca/faculties/graduate_studies/admissions/index.html

The deadlines are meant to accommodate the needs of students in securing appropriate
documentation. Late applications may be considered for the next available start date.

1.1.3 Application Fee

A $100.00 (CDN) fee must accompany admission applications from all Canadian, Permanent
Resident or International applicants. If submitting a paper application, a $120.00 (CDN) fee must
accompany the admission application.

1.1.4 Transcripts

Unofficial copies of transcripts and final degree certificates are acceptable for initial assessment
purposes. Upon admission to the Faculty of Graduate Studies, applicants must arrange for
official transcripts from all post-secondary institutions attended to be sent to the Faculty of
Graduate Studies, within one month of date on the admission letter. All transcripts must arrive
in sealed, university stamped envelopes sent directly from the issuing institution(s) and
be accompanied by official and literal English translations (where applicable). For
international degrees or where the transcripts does/will not clearly state that a degree has been
conferred, a copy of the official degree certificate is also required.

1.1.5 Transcripts: International

Where academic records from a country other than Canada are produced in a language other
than English, the applicant must arrange for the submission of official literal translations of all
records. To be official, original language documents and English translations must arrive
together in envelopes which have been sealed and endorsed by the issuing institution.

1.1.6 Transcripts: University of Manitoba

University of Manitoba students are not required to submit University of Manitoba transcripts.

1.1.7 Proficiency in English

A successfully completed English Language Proficiency Test from the approved list is required of
all applicants unless they have received a high school diploma or university degree from Canada
or one of the countries listed on the English Language Proficiency Test Exemption List (see next

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DEADLINES

**International Students**

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**Canadian Students**

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The Faculty of Graduate Studies requires a passing, acceptable English Language Test score in order to offer admission. Please note: In all cases, test scores older than two years are invalid.

Thresholds required for successful completion are indicated in parentheses.

- University of Michigan English Language Examination Assessment Battery (MELAB) (80%)
- Test of English as a Foreign Language (TOEFL)– Paper-based test (550); Internet based -iBT (86)
- Canadian Test of English for Scholars and Teachers (CanTEST) (band 4.5 in listening and reading and band 4.0 in writing and oral interview)
- International English Language Testing System (IELTS) (6.5)
- Academic English Program for University and College Entrance (AEPUCE) (65%)
- Canadian Academic English Language Assessment (CAEL) (60 overall and 60 on each subset)
- PTE Academic (61% overall)

Note: In addition, foreign language students may be asked by the unit to complete the CanTEST prior to or following registration in the Faculty of Graduate Studies and, if need be, the unit may recommend remedial measures in language skills based on the results of the CanTEST. Some units may require a specific test or test scores greater than those indicated below and students should check departmental supplemental regulations for details.

### 1.1.8 English Language Proficiency Test Exemption List

Applicants holding secondary school diplomas and/or recognized university degrees from countries on the Faculty of Graduate Studies English Language exemption list are not required to submit an English Language Proficiency score. For more information please see our website, at http://umanitoba.ca/faculties/graduate_studies/admissions/english_exemption_list.htm

### 1.1.9 Letters of Recommendation

Letters of Recommendation are to be completed via UMGradConnect, the online application. Applicants are required to add their ‘Recommendation Provider(s)’ contact information so that each recommender is sent an automated email notification.

Generally, two Letters of Recommendation must be submitted to the Faculty of Graduate Studies. For the number of recommendation letters necessary, applicants should review our ‘Additional Document Requirements’ webpage, http://umanitoba.ca/faculties/graduate_studies/admissions/additional_requirements.html

Two (2) Letters of Recommendations are required unless otherwise requested by the Academic Advisor (Professor).

### 1.1.10 Admission Tests

Some units require admissions tests, such as the Graduate Record Examination (GRE) or the Graduate Management Aptitude Test (GMAT). These requirements are listed in the supplemental regulations of the particular unit, and if required, the scores must be submitted at the time of application.

Department of Electrical & Computer Engineering does NOT require GRE scores.

### 1.1.11 Entrance Requirements

The minimum standard for acceptance into any category in the Faculty of Graduate Studies is a 3.0 Grade Point Average (GPA) or equivalent in the last two previous years of full time university study (60 credit hours).

Note: This is the minimum requirement of the Faculty of Graduate Studies and units may have higher standards and additional criteria.

### 1.1.12 Eligibility of University of Manitoba Staff Members
A staff member at the University of Manitoba at the rank of Assistant Professor or above is not eligible to apply for admission to a graduate program in the unit in which the appointment is held.

### 1.2 Registration Procedures

#### 1.2.1 Registration

Undergraduate students are not allowed to register in graduate courses; that is, admission to the Faculty of Graduate Studies is a condition for registration in courses at the 6000 level and above.

All graduate students must initially register in the term specified in their letter of acceptance as specified in the Academic Schedule of the Graduate Calendar. Any student not registering by registration deadline for the term specified in their letter of offer will be required to re-apply for admission. In exceptional circumstances and with prior approval from the unit, a student may defer registration for up to one term following acceptance into the Faculty of Graduate Studies. In the case of international students, admission may be deferred, with prior approval from the unit, for up to one year following acceptance.

**All programs must be approved by the Head of the major unit or designate.** Approval to take courses from units outside the major unit must be obtained from the outside unit.

The approval or denial of admission and registration to two programs rests with the Dean of the Faculty of Graduate Studies in consultation with the unit concerned. The approval/denial must be submitted to the Faculty of Graduate Studies prior to the student’s admission/registration.

Where a student does register in two programs, the student must declare themself as part-time in at least one of the programs. Students should note that completing a graduate program as a part-time student will affect their eligibility for The University of Manitoba Graduate Fellowship (UMGF) and may limit other funding possibilities.

#### 1.2.2 Re-Registration

Any student whose program of study extends for more than one year must re-register in the fall, winter and summer terms of each succeeding year of his/her program until a degree is obtained (or in the case of pre-Master’s students, their program is completed). **Failure to re-register will result in the discontinuation of his/her graduate status.** A student who has been discontinued and would like to be considered for continuation in a program must apply for re-admission, which is not guaranteed.

The notation ‘Discontinued Graduate Program’ will be placed on the academic record of any graduate student who has failed to maintain continuous registration.

#### 1.2.3 Registration Revisions

For designated periods subsequent to registration, approved revisions may be made. It is required that students adhere to dates and deadlines as published in the Academic Schedule of the Graduate Academic Calendar.

**Note:** Graduate students are not permitted to withdraw from courses without written permission from their unit Head on recommendation from their advisor/co-advisor (and/or advisory committee). The notation “Required to Withdraw” will be placed on the academic record of any graduate student who has withdrawn from courses without such approval.

#### 1.2.4 Advisor Student Guidelines

All students in thesis/practicum programs, in consultation with their advisor/co-advisor, are required to complete the Advisor Student Guidelines as soon as possible after registration but no later than at the time of submission of the first Progress Report. The Advisor Student Guidelines form is available through JUMP.

#### 1.2.5. Western Deans’ Agreement

This agreement was established in 1974 as an expression of co-operation and mutual support...
among universities offering graduate programs in western Canada. Its primary purpose is the reciprocal enrichment of graduate programs throughout western Canada. This agreement is not intended to preclude other agreements between participating institutions.

1.2.5.1 The Western Deans’ Agreement normally provides an automatic tuition fee waiver for visiting students. Graduate students paying normal required tuition fees to their home institution will not pay tuition fees to the host institution.

1.2.5.2 Only degree level courses from recognized post-secondary institutions will be considered; courses that are part of certificate or diploma programs will not be approved.

1.2.5.3 Program fees are always to be paid to the home institution, regardless of coursework taken at another institution. Students may be required to pay student, activity, application, or other ancillary fees to the host institution, according to general policies in effect at the host institution. Wherever possible, these fees will also be waived.

1.2.5.4 Students will qualify for the fee waiver if they:
   a) present the “Authorization Form: Western Deans’ Agreement” signed by the Dean or designate and the unit Head or advisor/co-advisor of a participating Western institution specifying the courses to be taken for credit toward a graduate degree program at their home institution;
   b) are in good standing in a graduate program at the home institution;
   c) have paid all current and back fees at the home institution.

1.2.5.5 Students must meet all requirements as prescribed by the host university’s regulations, deadlines, class capacities, and course prerequisites.

1.2.5.6 Registration is possible in courses at both the graduate and undergraduate levels, and in credit courses offered through distance education or other means. To be eligible, courses must be an integral part of the applicant’s graduate degree program. Fee waiver is not permitted for audit or non-credit courses.

1.2.5.7 Students must have the Authorization Form approved by the relevant unit Head and the Faculty of Graduate Studies at the host institution at least two weeks prior to the commencement of the course(s) requested. The fee waiver is not available retroactively.

1.2.5.8 Students are subject to regulations of the home institution governing credit for the courses to be undertaken. As a condition of registration at the host institution, students will arrange for official transcripts from the host institution to be sent to the home institution confirming successful completion of courses selected.

1.2.5.9 Students must send confirmation of registration and notice of any change to the Registrar’s Office of the home institution at the time of registration or course change is completed.

1.2.5.10 Students may not claim fee waivers under the terms of this Agreement for a period of more than 12 months in total.

1.2.5.11 Each institution has its own regulations regarding the maximum number of transfer credits permitted in a given degree program. A list of the participating Universities can be found at http://wcdgs.ca/

1.3 Course Classifications

1.3.1 General Classifications

Students who register through Aurora Student Information System (Aurora Student) must also have prior approval of the unit Head or designate. Students registering through Aurora Student should add only those courses that are a Major (Standard “S”) course in their program. Courses with Auxiliary “X”, Audit “A”, or Occasional “O” status (see below) must be added by the unit.

“X” Auxiliary course: Course is not a major requirement of the program but is required by the student’s advisor/co-advisor. **Extra courses that are not part of the Master’s or Ph.D. program but which are specified and required by the student’s advisor/co-advisor, may be classified as X (Auxiliary) and the grade will not be included in the degree GPA which appears on the transcript. However, X course grades may be used in the calculation of the GPA for continuation in the
program and a minimum grade requirement may be required for X coursework by the unit. (Please consult the individual unit’s supplemental regulations.) Additionally, X courses are used in the calculation of the GPA for the purposes of Admission and Awards. (The University of Manitoba Graduate Fellowship (UMGF) and International Graduate Student Scholarship (IGSS) use X courses in the calculation of the GPA.) The student’s advisor/co-advisor and unit Head must determine if there is a valid need for the registration in courses under the X classification. A maximum of 12 credit hours under the X course classification is permitted while registered in a given program.

“A” Audit course: Course is not taken for credit. No grade is recorded. Additional fees will be assessed.

“O” Occasional course: Course is not a requirement of the program. Additional fees will be assessed.

** Note: Changes in course classifications are regarded as course/program changes and may not be made without approval (refer to the “Registration Revision” section of this Guide) or after the deadline dates for course changes as indicated in the Academic Schedule of the Calendar.

1.3.2 Continuing Courses (CO)

For those graduate level courses (6000, 7000, and 8000) which are being taken by students enrolled in the Faculty of Graduate Studies and which continue beyond the normal academic term, the instructor shall recommend that a mark classification of “CO” be used until such time as a final grade can be established. If the course is not completed by August 31, the student must re-register for the course(s).

In the absence of an assigned mark of “CO”, the student may receive a mark of “F” in that term.

Note: A CO will normally not be permitted longer than twelve months. In exceptional circumstances, where a CO grade is requested for a second twelve months, at the time the CO grade is submitted, the instructor and unit Head must also submit the “Recommendation for Continuing Status of a Course” form stating the reason for the CO and the deadline by which the course must be completed.

1.3.3 Incomplete Courses

Students who are unable to complete the term work prescribed in a course may apply to the instructor prior to the end of term for consideration of a grade classification of “Incomplete”. It is understood that the student is to write the final examination if one is scheduled for the course.

Taking into account the results of the final examination, the value of the term work completed, and the extent of the incomplete term work, the instructor shall calculate the temporary grade using a zero value for incomplete work.

Normally, the following maximum extensions are allowed:

August 1st for courses terminated in April

December 1st for courses terminated in August

April 1st for courses terminated in December

If a final grade is not reported within one month of the extension deadline, the Incomplete (I) classification will be dropped and the grade will remain as awarded. The student will no longer have an opportunity to improve the grade. In no case will the satisfaction of the incomplete requirements result in a lower grade being awarded.

1.4 Student Status/Categories of Students

1.4.1 Full-Time And Part-Time Students

Graduate students who are participating in studies on a regular basis in an academic term and/or are registered in the academic year are considered to be full-time students. Graduate student
status is not determined by the number of credit hours taken per term. Therefore, such students who spend much of the time in a laboratory or library engaged in research or writing a thesis/practicum, or who spend part of the academic year engaged in research elsewhere, are regarded as full-time students.

Student status should be determined by the student and advisor/co-advisor, and changes must be requested on the “Change of Status” form (http://umanitoba.ca/faculties/graduate_studies/forms/index.html). The form must be approved by the unit Head and submitted to the Faculty of Graduate Studies.

Declaration of full/part time status must be made prior to the end of the registration revision period in the Fall and/or Winter terms and within one month of the start of the Summer term.

For every full year (twelve months) a Master’s student is declared as part time they will receive an additional four months in time to complete their program. For every two years (24 months) a Master’s student is declared as part time they will receive an additional year (12 months) in time to complete their program. For every two years (24 months) a Ph.D. student is declared as part time they will receive an additional four months in time to complete their program. Retroactive status changes will not be made.

1.4.2 Pre-Master’s Or Qualifying Students

In specific cases where the academic background of the student is judged to be insufficient for the given program in a unit, the unit may recommend that the student be admitted to a pre-Master’s program of study. The pre-Master’s program is intended to bring the student’s standing to approximately the level of an Honours graduate in the major unit, and to provide any necessary prerequisites for courses.

1.4.3 Occasional Students

A student wishing to take graduate courses with no intention of applying them toward an advanced degree at The University of Manitoba is classified as an occasional student. Occasional students must meet the same degree and grade point average entrance requirements as regular graduate students and must write final examinations in the courses taken (unless audited), but will not receive credit toward a degree. In special circumstances, an occasional student may apply for permission to proceed to a degree program and also apply for transfer, for credit, of courses previously taken in the occasional category.

Note:

1. Transfer of courses from the “occasional” category to a degree program is not automatic: request for advance credit must be made within the first year of a degree program.

2. Fees paid by a student while registered as an occasional student are not transferable, at a later date, to a degree program.

3. Registration in the occasional student category can be for no more than one academic year without reapplication.

4. At least 60% of coursework per academic year must be taken at the graduate level while registered as an occasional student.

1.4.4 Joint Masters (With the University of Winnipeg)

The University of Manitoba and the University of Winnipeg offer four joint Master’s programs: History, Religion, Public Administration, and Peace and Conflict Studies. The University of Manitoba Faculty of Graduate Studies is responsible for the administration of the joint programs, and students must complete the regular University of Manitoba application and registration forms. Students taking pre-Master’s qualifying work for these programs register at the university where the courses are being taken.

1.4.5 Visiting Students

Visiting students are students who are registered at another institution who are taking one or more courses at The University of Manitoba on a Letter of Permission from their home university. Visiting students must submit an online application along with a $100.00 (CDN) application fee, in addition to copies of transcripts from all institutions attended and a successfully completed English Language Proficiency Test from the approved list, if applicable. Applications must be

Visiting Students must obtain an Academic Advisor who is a member of the UM ECE Department and who agrees to supervise the student during the student’s stay at the University of Manitoba.
submitted to the Faculty of Graduate Studies a minimum of one (1) month prior to the start of the intended term of study.

**Note:**

1. Fees paid by a student while registered as a visiting student are not transferable, at a later date, to a degree program.
2. Registration in the visiting student category can be for no more than one academic year without reapplication.
3. At least 60% of coursework per academic year must be taken at the graduate level while registered as a visiting student.

### SECTION 2: Academic Performance - General

#### 2.1 General Note

**Students are ultimately responsible for ensuring that they meet all degree and program requirements.** The advisor (and if appropriate co-advisor), advisory committee, and unit must ensure that each student follows the guidelines and meets the program requirements. The Faculty of Graduate Studies performs a final check of program requirements for each student just prior to graduation. Students are cautioned, therefore, to periodically check all regulations with respect to the degree requirements. Failure to meet all the requirements will render a student ineligible to graduate.

Units may make recommendations with respect to the regulations concerning minimum academic performance; however, enforcement of academic regulations rests with the Faculty of Graduate Studies. The following procedures apply to recommendations made by units:

- The unit is responsible for informing the Faculty of Graduate Studies when a student’s performance is unsatisfactory in research or coursework and the unit must outline any recommended remedial action(s).
- The unit must notify the student of the deficiency and of its recommendation.
- If the student fails to satisfy any remedial action recommended, the student may be required to withdraw from the Faculty of Graduate Studies.

**Note:**

When a graduate student is required to withdraw from a program of study, the notation on the academic record will be: “Required to withdraw”.

A student who has been required to withdraw from a graduate program may be permitted to apply for admission to another graduate program only if the application for admission is approved by the Dean of the Faculty of Graduate Studies.

Voluntary withdrawal from a program is only permitted if the student is in good academic standing.

Recommendations of units will supersede student requests for voluntary withdrawal.

#### 2.2 Academic Performance

Student progress shall be reported **at least** annually to the Faculty of Graduate Studies on the “Progress Report” form (http://umanitoba.ca/faculties/graduate_studies/forms/index.html).

Students who fail to maintain satisfactory performance may be required to withdraw on the recommendation of the Graduate Chair/unit Head to the Dean of the Faculty of Graduate Studies on the “Progress Report” form. Two consecutive “in need of improvements” normally requires the student to withdraw.

#### 2.3 Performance in Coursework

A minimum degree grade point average (GPA) of 3.0 with no grade below C+ must be maintained to continue in the Faculty of Graduate Studies. Units may specify, in their supplementary regulations, standards that are higher than those of the Faculty of Graduate Studies. Students who fail to maintain the specified grades will be required to withdraw unless a
A student may be permitted to remove deficiencies in grades by repeating the course or replacing it with an equivalent substitute course. Each failed course may be repeated or replaced only once, to a maximum of 6 credit hours of coursework. If a course is repeated or replaced, the most recent grade obtained will be used in the determination of the degree grade point average. Students receiving a grade of C or less in more than 6 credit hours of coursework are required to withdraw, unless otherwise stated in the unit’s supplemental regulations.

Note:
In exceptional circumstances, the unit may appeal to the Faculty of Graduate Studies for approval of remedial recommendation(s) falling outside those prescribed above.

Supplemental exams are not permitted to students in the Master’s or Ph.D. program, unless otherwise stated in the unit’s supplemental regulations.

All actions taken administratively are to be reported, in summary form, to the Faculty of Graduate Studies Executive Committee.

SECTION 3: General Regulations: Pre-Master’s

3.1 Admission and Program Requirements

Graduates of bachelor degree programs with a minimum grade point average (GPA) of 3.0 in the last two full years of university study will be considered for admission to a pre-Master’s program. These are the minimum requirements of the Faculty of Graduate Studies. Units may specify higher or additional criteria. Admission to a pre-Master’s program does not guarantee future admission to a Master’s program. As the pre-Master’s program of study is intended to bring a student’s background up to the equivalent of the required 4-year degree, units should assign to students, as part of their pre-Master’s program of study, an appropriate number of applicable upper level (3000 or 4000) undergraduate courses. Courses at the 7000 level or above cannot be taken in a pre-Master’s program. Courses taken as part of the pre-Master’s program may not be transferred to a Master’s program at a later date.

The Pre-Master’s program is available only to students who:
1. have received a Bachelor's degree from an accredited university offering only a three-year Bachelor's degree program;
2. do not have a 4-year Bachelor’s or Master’s degree in electrical or computer engineering or a related field.

A minimum GPA of 3.0 and acceptance by an Academic Advisor in the Department of Electrical & Computer Engineering at the University of Manitoba is required.

REQUIRED CREDIT HOURS

Credit hours required for the completion of the Pre-Master’s program is dependent on the advice of the Academic Advisor and should be approved by ECE Graduate Committee.

3.2 Academic Performance

3.2.1. The unit Head is responsible for assigning the courses and monitoring the progress of each student.

3.2.2. A minimum degree grade point average of 3.0 with no grade below C+ must be maintained to continue in a pre-Master’s program. Students who fail to maintain this standing will be required to withdraw unless remedial action recommended by the unit (as described below) is approved by the Dean of the Faculty of Graduate Studies.

3.2.3. Students deficient in 6 hours of credit or less may be permitted to write a supplemental examination (when offered in the unit’s supplemental regulations) in courses in which a grade of C or less was obtained.

3.2.4. Students deficient in 6 hours of credit or less with a grade of C, D, or F in a course or courses may be permitted, if the overall average is C or better, to write one supplemental examination in each course (when offered in the unit’s supplemental regulations), to repeat the courses, or to take equivalent substitute courses.

Note: In exceptional circumstances, when a student is deficient in more than 6 credit hours, the student may be permitted to repeat the pre-Master’s year, or to write supplemental examinations (when offered), or to substitute equivalent coursework in order to make up the deficiencies.

A student may be permitted to repeat the pre-Master’s year only once, and to remove...
deficiencies in grades by writing a supplemental examination or repeating courses only once for each course to a maximum of 9 credit hours of coursework.

If a course is repeated or a supplemental examination is written, the most recent grade obtained in that course will be used in the determination of the degree GPA.

The degree GPA is cumulative in a pre-Master’s program if more than one year is required to complete the course requirements.

All action taken administratively is to be reported in summary form to the Faculty of Graduate Studies Executive Committee.

SECTION 4: General Regulations: Master’s

4.1 General

Although general regulations apply to all students, individual units may have additional regulations that supplement these general regulations. All such supplemental regulations must be approved (as specified by the By-Laws of the Faculty of Graduate Studies), be published and available to students (http://umanitoba.ca/faculties/graduate_studies/admin/supplemental_regulations.html), and be kept on record in the Faculty of Graduate Studies. All students should consult unit supplemental regulations for specific details regarding admission, progression and completion. Individual units may offer Master’s programs by one or more of the following programs:

- Thesis/practicum-based;
- Course-based/comprehensive;
- Project;
- Accredited professional.

4.2 Diploma Programs

The regulations for the Master’s program shall also prevail for diploma programs. All students should consult the unit supplemental regulations regarding diploma programs.

4.3 Admission

4.3.1 General Criteria

Students who are eligible to be considered for direct admission to a program of study leading to the Master’s degree include:

- Graduates of four-year undergraduate degree programs (or equivalent as deemed by the Faculty of Graduate Studies) from:
  - Canadian institutions empowered by law to grant degrees; or
  - Colleges and universities outside Canada which are officially recognized by the Faculty of Graduate Studies.

- Graduates from first-cycle Bologna compliant degrees.

- Students who have completed the pre-Master’s program from:
  - The University of Manitoba; or
  - Canadian institutions empowered by law to grant degrees; or
  - Colleges and universities outside Canada which are officially recognized by the Faculty of Graduate Studies.

All students applying for a Master’s degree program must have attained a minimum GPA of 3.0 in the last two full years (60 credit hours) of study. This includes those applying for direct admission and those entering from a pre-Master’s program. Students who meet the minimum requirements for admission to the Faculty of Graduate Studies are not guaranteed admission.

4.3.2 Pre-Master’s Programs

In specific cases where the academic background of the student is judged to be insufficient for...
the given program in a unit, the unit may recommend that the student be admitted to a pre-Master's program of study (Section 3).

The pre-Master’s program of study is intended to bring a student’s background up to the equivalent of the required 4-year degree in the major unit, and to provide the student with any necessary prerequisites for courses to be taken in the Master’s program.

### 4.4 Program Requirements

In general, students must complete one of the programs of study described below for the Master’s degree. However, the program of study is determined by the unit and may follow the unit’s supplemental regulations. Any single course cannot be used for credit toward more than one program.

All students must complete GRAD 7500 Academic Integrity Tutorial (0 credit hours) within one year of initial registration.

#### 4.4.1 Thesis/Practicum Route

A minimum of 12 credit hours of coursework, unless otherwise stated in the unit’s supplemental regulations, plus a thesis or practicum. The minimum must include at least 6 credit hours at the 7000 level or above, with the balance of the coursework at the 3000 level or above. A maximum of 24 credit hours of coursework is allowed unless the unit’s supplemental regulations indicate otherwise. The student must complete the thesis/practicum at The University of Manitoba.

In both the M.Sc. and M.Eng. programs, a research presentation at least once (normally in the second year of the program) at GradCon is required prior to graduation.

The Master of Science program in ECE is a thesis-based program.

The Master in Engineering is a project-based degree. The project is decided by the Academic Advisor.

**M.Sc. COURSE REQUIREMENTS:** 18 credit hours of Advisor approved coursework

- A. 12-credit hours at or above the 7000 level
- B. 6-credit hours (your elective) must be at or above the
  - 1. 3000 Level - if taken from a Department other than ECE (Computer Science, Physics, Math, Mechanical Engineering, etc.)
  - 2. 4000 Level - if taken in ECE Department
- C. At least 12 credit hours of the 18 credit hours required for the M.Sc. program must be from ECE

**M.Sc. RESEARCH & THESIS:** A Master of Science Thesis is REQUIRED

1. Student must submit a Research Proposal for approval by the Student's Academic Advisor
2. After approval for the research proposal the student may begin his/her research under the guidance of his/her Academic Advisor
3. The student must produce a thesis (in consultation with the Academic Advisor) to be distributed to the student’s examining committee upon approval of the Academic Advisor.

   a. students should be very careful to note work done by others and list others’ work properly to avoid plagiarism
   b. students should obtain copyright permission when quoting the work of others when necessary to avoid copyright infringements, which can include significant fines
   i. If you have questions regarding plagiarism
### 4.4.2 Course-based/Comprehensive Examination Route

A minimum of 24 credit hours of coursework and comprehensive examination(s). The minimum must include at least 18 credit hours at the 7000 level or above with the balance of the coursework at the 3000 level or above. A maximum of 48 credit hours of coursework is allowed unless supplemental regulations indicate otherwise.

### 4.4.3 Accredited Professional Route

The credit hours and course requirements shall reflect the requirements of the unit's external accrediting body.

### 4.4.4 Language Reading Requirements

Some units specify a language requirement for the Master’s degree. Students should check unit supplemental regulations regarding this requirement.

### 4.4.5 Advanced Credit

Advance credit for courses completed prior to admission to a Master’s program will be considered on an individual basis. The student’s unit makes the request to the Faculty of Graduate Studies by completing the "Recommendation for Advance Credit (Transfer of Courses)" form (http://umanitoba.ca/faculties/graduate_studies/forms/index.html).

- Application for advance credit must be made within the first year of the program (see Lapse of Credit of Courses in this section).
- No more than half of the required coursework for the program can be given advance credit.
- A course may not be used for credit toward more than one program.
- The student must register at The University of Manitoba for at least two terms within a single academic year as a full-time student and must also complete the thesis at The University of Manitoba.

Regardless of the extent of advanced credit received, all students are required to pay applicable program fees.

### Supplemental Regulation

- OR copyright matters, please contact your Academic Advisor first.
- II. Penalties regarding plagiarism and copyright infringements are severe.
- **Thesis & Defense:** ECE requires that a student
  - a. submit a thesis
  - b. defend his/her thesis

### M.ENG. COURSE REQUIREMENTS: Transferring Credits:

- A maximum of 1/2 the credit hours may be transferred into this M.Eng. program with approval from the FGS;
- Credit hours may only be transferred from another degree program from a recognized university where a degree has not been awarded;
- Credit hours must relate directly to the student's degree program;
- Credit hours may not have been used for any other degree;
- Approval of courses for transfer is required and is done by the FGS.

**FINAL PROJECT:** In addition, the student is required to complete and defend an advisor-approved proposal and engineering project. The effort involved in this project should be at least the equivalent of six (6) credit hours of coursework.

Advance Credit must be approved by the Student’s supervisor, the ECE Graduate Committee, and the FGS.
### 4.4.6 Transfer Credit

Courses within a program of study may be taken elsewhere and transferred for credit at The University of Manitoba. All such courses:

- must be approved for transfer to the program of study by the unit and the Faculty of Graduate Studies before the student may register for them;
- are considered on an individual basis;
- cannot be used for credit towards another degree;
- may be taken at other universities while registered in a program at The University of Manitoba, provided that the credit does not exceed 50% of the minimum credit hours of coursework required.

Permission is granted in the form of a Letter of Permission which may be obtained by making an application to the Registrar’s Office; an original transcript and course equivalency must be provided.

### 4.4.7 Time in Program

The minimum time for students in the Master’s program is equivalent to two terms. Most units require more than this and students should check unit supplemental regulations regarding specific requirements.

The maximum time allowed for the completion of the Master’s degree is four years for students declared as full-time and six years for students declared as part-time (see section 1.4.1). Individual units and/or programs may have specified minimum and maximum time limits, and students should periodically check unit supplemental regulations regarding these specific requirements.

Requests for extensions of time to complete the degree will be considered on an individual basis and must be submitted to the Dean of the Faculty of Graduate Studies at least three, but no more than four, months prior to expiration of the respective maximum time limit.

A student who has not completed the degree requirements within the time limit or within the time limit of the extension will be required to withdraw from the Faculty of Graduate Studies and the notation on the student record will be “Required to withdraw”.

### 4.5 Student’s Advisor/Co-Advisor

Each student should have an advisor upon entry into the program, and must have one assigned no later than one term following registration. The advisor must:

- hold at least a Master’s degree or equivalent
- be a member of the Faculty of Graduate Studies,
- have expertise in a discipline related to the student’s program, and
- hold an appointment in the student’s unit.
- have no conflict of interest with the student (as defined by the University of Manitoba Conflict of Interest Policy).

It is the responsibility of the unit Head to determine whether faculty members meet these criteria, and also to report to the Dean of the Faculty of Graduate Studies on equivalency as necessary. Any exceptions or special circumstances must be recommended by the unit Head and approved by the Dean of the Faculty of Graduate Studies who considers each case on an individual basis.

In units where the choice of thesis/practicum topic and thesis/practicum advisor are postponed after a student’s entry into the program, the unit Head, within one term, shall appoint a faculty member to advise the student in the interim period before the regular advisor is assigned or chosen.

In special circumstances, an advisor and co-advisor, upon approval of the unit Head may advise a student. The co-advisor must meet all of the same qualifications and expectations as the advisor. When an advisor and co-advisor are assigned, together they shall fulfill the role of the advisor (that is, neither shall fulfill any other advisory or examining committee membership requirements for that student). One advisor must be identified as the primary advisor; however,

1. An Academic Advisor must be identified at the time of admission.
2. The Advisor must be a faculty member of the Dept. of ECE approved by the Dept. Head.

Should the Academic Advisor not be a member of UM ECE Dept., or be an Adjunct, the Academic Advisor must be approved as an Academic Advisor of the Dept. by the Department Head, a member of the Faculty of Graduate Studies, AND there must be a Co-Advisor who is a faculty member of the UM ECE Dept.
both co-advisors’ signatures are required on all documents where the advisor’s signature is required.

The advisor/co-advisor will advise the student on a program of study, direct research, and supervise the thesis or practicum work.

A staff member at the University of Manitoba at the rank of Assistant Professor or above cannot have an advisor or co-advisor with an appointment in the same unit.

The advisor and co-advisor (if applicable) and student must discuss, and complete, the Faculty of Graduate Studies Advisor Student Guidelines (ASG) prior to the commencement of any research and no later than the submission of the first Progress Report for the student. The advisor/co-advisor and the student are required to sign the agreement. If the parties cannot agree on any component(s) of the ASG, the matter should be referred to the unit Graduate Chair, Head of the unit or the Dean of the Faculty of Graduate Studies.

Should, during the student’s program, the relationship between the student and advisor/co-advisor significantly deteriorate, the matter should be referred to the unit Graduate Chair, the Head of the unit or to the Dean of the Faculty of Graduate Studies.

All students should consult unit supplemental regulations for specific details regarding advisor/co-advisor requirements.

### 4.6 Advisory Committee

#### 4.6.1 Thesis/Practicum Route

Advisory committees are normally selected by the advisor/co-advisor in consultation with the student and should consist of individuals whose expertise is consistent with that necessary to provide additional advice to the student during his/her research program. The advisory committee must consist of a minimum of three members (including the advisor/co-advisor), two of whom must be members of the Faculty of Graduate Studies, one of whom must hold a primary appointment from within the unit and one of whom must hold no appointment within the unit. It is expected, under normal circumstances, that advisory committee members have a Master’s degree or equivalent and have no conflict of interest with the student (as defined by the University of Manitoba Conflict of Interest Policy). Advisory committees may include one non-voting guest member who has expertise in a related discipline but is not a member of the Faculty of Graduate Studies. A staff member at the University of Manitoba at the rank of Assistant Professor or above cannot have an advisory committee member with an appointment in the same unit. Graduate students may not serve on graduate student advisory committees.

The composition of, and any changes to, the advisory committee, including the advisor/co-advisor, must be approved by the Faculty of Graduate Studies. The advisor/co-advisor is the Chair of the advisory committee.

Additional specifications regarding the advisory committee are found in the unit supplemental regulations and students should consult these regulations for specific requirements.

#### 4.6.2 Course-based/Comprehensive Examination Route

Normally, advisory committees are not required in these routes, however any appropriate specifications regarding an advisory committee can be found in the unit’s supplemental regulations and students should consult these regulations for specific requirements.

#### 4.6.3 Accredited professional programs

Normally, advisory committees are not required in these routes, however any appropriate specifications regarding an advisory committee can be found in the unit’s supplemental regulations and students should consult these regulations for specific requirements.

### 4.7 Courses and Performance

#### 4.7.1 Course or Program Changes

The Department of Electrical & Computer Engineering does NOT require an Advisory Committee at the Master’s level.
Students are not permitted to change their program of study, including withdrawal from individual courses, without the approval of their advisor/co-advisor (and/or advisory committee) and unit Head. Withdrawal from courses or changes of course category without such approval will result in the student being required to withdraw from the Faculty of Graduate Studies.

### 4.7.2 Lapse of Credit of Courses

Courses completed more than seven years prior to the date of awarding of a degree may not normally be used for credit toward that degree.

The student’s Academic Advisor, Course Instructor, and Department must verify that the old course outline meets current course requirements and that the information in the old course is current and pertinent.

### 4.7.3 Academic Performance

Student progress shall be reported at least annually to the Faculty of Graduate Studies on the “Progress Report” form (http://umanitoba.ca/faculties/graduate_studies/forms/index.html). Students who fail to maintain satisfactory performance may be required to withdraw on the recommendation of the Graduate Chair/unit Head to the Dean of the Faculty of Graduate Studies on the “Progress Report” form. Two consecutive “in need of improvements” normally requires the student to withdraw from the Faculty of Graduate Studies.

### 4.7.4 Performance in Coursework

A minimum degree grade point average (GPA) of 3.0 with no grade below C+ must be maintained to continue in the Faculty of Graduate Studies. Units may specify, in their supplementary regulations, standards that are higher than those of the Faculty of Graduate Studies. Students who fail to maintain the specified grades will be required to withdraw unless a unit recommends remedial action. Any such action must be approved by the Dean of the Faculty of Graduate Studies.

### 4.7.5 Performance not related to Coursework

In some units, students are required to demonstrate satisfactory academic performance in areas not related to performance in courses, such as attendance at or participation in course lectures, seminars and in laboratories and progress in research, thesis or practicum. The specific nature of satisfactory academic performance is outlined in individual unit supplemental regulations and students should consult these supplemental regulations for specific requirements. Unacceptable performance must be reported to the Faculty of Graduate Studies on the “Progress Report Form” (http://umanitoba.ca/faculties/graduate_studies/forms/index.html). Students who fail to maintain satisfactory performance may be required to withdraw on the recommendation of the unit Head to the Dean of the Faculty of Graduate Studies.

### 4.8 Requirements for Graduation

All students must:
- maintain a minimum degree grade point average of 3.0 with no grade below C+,
- meet the minimum and not exceed the maximum course requirements, and
- meet the minimum and not exceed the maximum time requirements.

Individual units may have additional specific requirements for graduation and students should consult unit supplemental regulations for these specific requirements.

#### 4.8.1 Thesis/Practicum Route

##### 4.8.1.1 Thesis vs. Practicum

Students must demonstrate their mastery of the field and that they are fully conversant with the relevant literature through their thesis/practicum.

A practicum differs from the thesis in its emphasis on the application of theory, it is however similar in scope, span, and rigour. The rigour required for the practicum is equal to that required for the thesis. The practicum takes the form of an exercise in the practical application of knowledge and skill. It usually involves the careful definition of a problem, the application of appropriate knowledge and skills to the problem, and a report of the results in a manner suitable for evaluation by an examining committee. Individual units have specific requirements for graduation and students should consult unit supplemental regulations for specific requirements.

The thesis is developed under the mentorship of the advisor/co-advisor. Individual units may have specific guidelines regarding the thesis proposal and its acceptance by the student’s advisor/co-advisor.

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As a requirement of the ECE Dept., students must make an oral presentation at least once in their program at GradCon.

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A. THESIS GUIDELINES

(See Appendix.)

WRITING STYLE -- The University of Manitoba recognizes APA Style (American Psychological Association) for thesis and reports.
advisory committee/unit Head; students should consult unit supplemental regulations for specific requirements. Research must be approved by the appropriate Human Research Ethics Board or Animal Care Committee, if applicable, before the work has begun on the thesis research.

4.8.1.2 Examining Committee

The advisor/co-advisor will recommend an examining committee to the unit Head for approval, which shall then be reported to the Faculty of Graduate Studies on the “Master’s Thesis/Practicum Title and Appointment of Examiners” form (http://umanitoba.ca/faculties/graduate_studies/forms/index.html). This form must be approved by the Dean of the Faculty of Graduate Studies prior to the distribution of the thesis.

normal circumstances, the examining committee will be the same as the advisory committee unless otherwise stipulated in the unit’s Supplemental regulations. The examining committee must consist of a minimum of three members (including the advisor/co-advisor), two of whom must be members of the Faculty of Graduate Studies, one of whom must hold a primary appointment from within the unit, and one of whom must hold no appointment within the unit. All examiners must be deemed qualified by the unit Head and be willing to serve. It is expected that, under normal circumstances, Examination Committee members have a Master’s degree or equivalent. The composition of, and any changes to, the examining committee, including the advisor/co-advisor, must be approved by the Faculty of Graduate Studies. Individual units require specific requirements for examination and students should consult unit supplemental regulations for specific requirements.

The Head of the unit arranges for the distribution of the thesis/practicum to the examiners. It is the duty of all examiners to read the thesis/practicum and report on its merits according to the following categories:

- Acceptable, without modification or with minor revision(s); or
- Acceptable, subject to modification and/or revision(s); or
- Not acceptable.

If two or more examiners do not approve the thesis, then the student is deemed to have failed the distribution.

4.8.1.3 Oral Examination

For units requiring students to pass an oral examination on the subject of the thesis/practicum and matters relating thereto, the format of the oral examination is described in the supplementary regulations of the unit. Students should consult these supplemental regulations for specific requirements. A student has the right to an examination of the thesis/practicum if he/she believes it is ready for examination. It is the unit’s responsibility to warn the student of any risk involved should he/she decide to proceed against the unit’s recommendation.

All members of the examining committee should be present at the examination. If an examining committee member cannot attend the defence, prior approval must be obtained from the Faculty of Graduate studies for the defence to proceed. Under no circumstances can the student participate by video conferencing. Regardless of open or closed status, no recording devices will be permitted.

The oral examination shall be open to all members of The University of Manitoba community except in exceptional cases. The oral examination may be closed, for example, when the results of the thesis/practicum research must be kept confidential for a period of time. In such cases, the examining committee and unit Head shall recommend such action to the Dean of the Faculty of Graduate Studies who shall then approve that the final examination be closed to all but the examining committee and the Dean of the Faculty of Graduate Studies.

DISTRIBUTION:
It is the student’s responsibility to distribute copies of their thesis to the Examining Committee

1. Distribution Copies
   A. Hard-copy printouts
      1. single sided printing
      2. unbound (unless otherwise specified by the advisor)
      3. All copies must be identical
      4. one copy is given to each Examining Committee member
   B. Electronic copies
      1. This format MUST be accepted by the Academic Advisor AND committee members
      2. If the electronic format is accepted, the student may send out PDFs of his/her thesis electronically to Examining Committee members
   C. ALL copies must be identical

2. Student delivers copies to all committee members.
3. The Academic Advisor should send an email to all members to inform them of the due date for their responses.
4. The Examining Committee will take approximately three weeks to evaluate the thesis.
5. After the thesis has been delivered neither the student nor the Academic Advisor is permitted to contact committee members; otherwise the student’s presentation may be canceled.
6. The Examining Committee members will contact the student’s Academic Advisor with comments and recommendations regarding the thesis. After committee members have contacted the student’s Advisor, he/she will arrange the student’s defense.

The announcement is made by the ECE Department, at least 10 working days prior to the Oral unless otherwise approved by the Graduate Chair and/or Dept. Head.

ORAL PRESENTATION

1. Announcement of Oral: must be announced at least 10 working days prior to the presentation
2. Presiding over the Oral: Normally the student’s Academic Advisor will be the chair of the oral exam; however, the student or the Advisor may make a request to the Department Head to appoint an arm’s length ECE faculty member as the chair.
3. Participation in the oral exam via SKYPE or other VoIP
   A. This is in case one of the examining committee members (not the student’s Advisor) is available via VoIP
   B. You must receive permission from your
Following completion of the examination of the thesis/practicum, examiners will consider the oral examination and the written thesis/practicum. The examiners will also determine the nature of and procedures for approval of any revisions that will be required prior to submission of the thesis to the Faculty of Graduate Studies. The advisor/co-advisor is normally responsible for ensuring that revisions are completed according to the instructions from the examining committee. The judgement of the examiners shall be reported to the Faculty of Graduate Studies in the qualitative terms “approved” or “not approved” on the thesis/practicum final report form (http://umanitoba.ca/faculties/graduate_studies/forms/index.html). Each examiner must indicate his/her opinion by his/her signature. If two or more examiners do not approve the thesis, then the student is deemed to have failed the defence. The examining committee may recommend to the Faculty of Graduate Studies that the thesis is of sufficient merit to receive an award.

| Academic Advisor and the ECE Associate Head (Graduate Program) |
| C. You must pay any expenses incurred |

4. Student's Presentation Length: 30-35 minutes
5. Examining Committee Questions -- 60-75 minutes. This may include 10 minutes of questions from the audience
6. Decision: 20-30 minutes.
   A. The Academic Advisor will then ask the student and all audience members to leave the room to allow the Examining Committee to evaluate the student's work.
   B. The Examining Committee may ask the student to step back into room to clarify information given at the presentation or to ask additional questions.
   C. The Examining Committee may then ask everyone to step back into the room to hear their decision

Entire Oral Presentation Length -- Entire oral presentation should not be more than 2 hours

4.8.1.4 Failure

In the case of a failure of the thesis/practicum at the Master's level, a detailed written report will be prepared by the Chair of the examination committee and submitted to the Faculty of Graduate Studies, who will make the report available to the student and advisor/co-advisor. A student will be required to withdraw when the thesis/practicum has been rejected twice at the stage where:

- The examining committee reports on the merits of the written thesis;
- The defence; or
- A combination of both stages.

The examining process should be completed within one month of distribution of the thesis/practicum.

| 4.8.2 Course-based/Comprehensive Examination Route |

Students must demonstrate his/her mastery of their field. The specific procedures for evaluation of this mastery are stated in individual units' supplemental regulations. Students should consult unit supplemental regulations for specific requirements. In those units where comprehensive examinations are required, students should consult unit supplemental regulations for specific requirements. The results of the comprehensive examinations shall be submitted to the Faculty of Graduate Studies on the Report on Comprehensive Examination form (http://umanitoba.ca/faculties/graduate_studies/forms/index.html) in the terms "pass" or "fail." No student may sit comprehensive examinations more than twice. Any student who receives a "fail" on the comprehensive examination twice will be required to withdraw from the Faculty of Graduate Studies.

The M.Eng. oral examination of the project will follow the same procedure as for the M.Sc. oral defense described above.

4.9 Style and Format

The thesis/practicum must be written according to a standard style acknowledged by a particular field of study (see Appendix 1).

4.10 Deadlines for Graduation

The final requirements of the degree, in the form of the final report on the thesis/practicum (and the corrected copy of the thesis/practicum); comprehensive examination; or M. Eng. project, design thesis, must be submitted to the Faculty of Graduate Studies by the appropriate deadline.
For those programs that do not have a culminating exercise (thesis/practicum/comprehensive examination/M.Eng. project/Design thesis) the unit must forward potential graduate names to the Faculty of Graduate Studies by the deadline. The deadline for each of the graduation dates is published on the Faculty of Graduate Studies website at umanitoba.ca/faculties/graduate_studies/deadlines/index.html.

4.11 Details for Submissions of the Final Copy
Following the approval of the thesis/practicum by the examining committee and the completion of any revisions required by that committee, the thesis/practicum, must be submitted to the Faculty of Graduate Studies as follows:

- One digital version submitted as an e-thesis/practicum at the MSpace website (https://mspace.lib.umanitoba.ca/index.jsp)
- Final approval and release forms.

4.12 Publication and Circulation of Thesis/Practicum
Every graduate student registering in a thesis/practicum Master’s program at The University of Manitoba shall be advised that, as a condition of being awarded the degree, he/she will be required to grant a license of partial copyright to the University and to the Library and Archives Canada for any thesis or practicum submitted as part of their degree program.

Note: This license makes the thesis/practicum available for further research only. Publication for commercial purposes remains the sole right of the author.

The thesis release form, including the copyright declaration/infringement form, must be completed on MSpace. This and other related regulations may give rise to important questions of law, and students may need additional legal advice on the copyright laws of Canada and/or other countries. Students who wish to obtain legal advice concerning their subsequent rights are advised to do so prior to signing the agreements. Signing of the license agreements is normally done after the contents of the thesis/practicum have been delineated and the importance of copyright and/or patents fully comprehended.

Publication in the above manner does not preclude further publication of the thesis or practicum report or any part of it in a journal or in a book. In such cases, an acknowledgement that the work was originally part of a thesis/practicum at The University of Manitoba should be included.

Notes:

- Patents—Refer to section 6 “Policy of Withholding Theses Pending Patent Applications” in this Guide.

Restriction of Theses/Practica for Publication—In exceptional cases, not covered by the regulation concerning patents, where adequate cause can be shown to delay publication, the student and advisor/co-advisor may request in writing that the Dean of the Faculty of Graduate Studies restrict access for a period up to one year after submission of the digital version of a thesis or practicum to The University of Manitoba. The Dean shall determine for what period, if any, access will be so restricted.

Library and Archives Canada—Library and Archives Canada obtains a copy of the thesis via the University’s MSpace repository.

SECTION 5: Doctor of Philosophy General Regulations
The degree of Doctor of Philosophy (Ph.D.) is granted only upon evidence of general proficiency and of distinctive attainment in a special field. In particular, the candidate must demonstrate an ability for independent investigation, original research or creative scholarship. This is expected to be presented in a thesis with a degree of literary skill and by an oral examination wherein the candidate exhibits mastery of their field. The Ph.D. is a research degree and is not conferred by The University of Manitoba solely as a result of coursework study.

Although general regulations apply to all students, individual units may have additional regulations that supplement these general regulations. All such supplemental regulations must be approved (as specified by the By-Laws of the Faculty of Graduate Studies), be published and available to students (http://umanitoba.ca/faculties/graduate_studies/admin/supplemental_regulations.html), and be kept on record in the Faculty of Graduate Studies. All students should consult unit supplemental

Normally the student must hold a M.Sc. degree in Electrical or Computer Engineering or a closely related discipline from a recognized university. Exceptions will require permission of the Electrical and Computer Engineering Graduate Committee, and the FGS.

ADMISSIONS CRITERIA
- All prospective students must receive tentative acceptance by a professor in the Department of Electrical and Computer Engineering at the University of Manitoba PRIOR to formal submission of an application to FGS.
- Tentative acceptance by a professor or submission of
### 5.1 Admission

#### 5.1.1 General criteria

Normally, the completion of a Master’s degree or equivalent from a recognized university and a cumulative GPA of 3.0 or equivalent in the last two previous years of full time university study (60 credit hours) is the minimum requirement for admission to the Ph.D. program. However, the criteria for admissions into the Ph.D. program are more stringent than for Masters’ programs; therefore, the completion of a Master’s program does not guarantee admission into the Ph.D. program. Some units require completion of a thesis-based Master’s program prior to admission to a Ph.D. program.

#### 5.1.2 Direct Admission from the Bachelor’s Honours or equivalent

With special recommendation of the unit concerned, applicants with an honours Bachelor’s degree or equivalent may be considered for entry to Ph.D. study. These students must be outstanding in their academic background (GPA well above 3.0 in the last two full years of undergraduate study). Once admitted, these students must complete at least 24 credit hours of coursework, unless the individual unit’s approved supplemental regulations specify otherwise, and will be assessed Ph.D. fees for 3 years.

#### 5.1.3 Transfer from the Master’s to the Ph.D. program

Students who have not completed a Master’s program may transfer to the Ph.D. program within the same unit upon the recommendation by the Head of the unit to the Faculty of Graduate Studies. The recommendation should be made within 18 months of the student’s commencement of the Master’s program. The coursework completed and time spent in the Master’s program will normally be credited towards the Ph.D. program. Students must complete at least 24 credit hours of coursework, unless the individual unit’s approved supplemental regulations specify otherwise.

The request to transfer from a Master’s to the Ph.D. program must be submitted to the Faculty of Graduate Studies at least one month prior to the term for which the student intends to commence the Ph.D. program. The following are required when making the request: The online Application for Admission indicating a request for transfer. If the transfer is made within one year, no additional application fee must be paid. In the case where the student does not hold a Master’s degree, a letter of recommendation from the Head of the unit is also required.

If the transfer occurs within 12 months of the initial registration in the Master’s program, the student will be assessed Ph.D. fees for 3 years. If the transfer occurs after 12 months, the student will be assessed Ph.D. program fees for 2 years (as they will have already paid fees for the Master’s program). Students are cautioned that such transfers may impact on The University of Manitoba Graduate Fellowship duration.

Where a student with a Master’s degree or equivalent is initially admitted and registered in a Master’s program, that student may be transferred to the Ph.D. program: With special recommendation of the unit concerned, applicants with an honours Bachelor’s degree, a letter of recommendation from the Head of the unit is also required.

If the transfer occurs within 12 months of the initial registration in the Master’s program, the student will be assessed Ph.D. fees for 3 years. If the transfer occurs after 12 months, the student will be assessed Ph.D. program fees for 2 years (as they will have already paid fees for the Master’s program). Students are cautioned that such transfers may impact on The University of Manitoba Graduate Fellowship duration.

Where a student with a Master’s degree or equivalent is initially admitted and registered in a Master’s program, that student may be transferred to the Ph.D. program within the same unit on the recommendation of the student’s advisor/co-advisor and Head of the unit, provided that follow up transfer recommendation occurs within 12 months of the initial registration in the Master’s program. In such a case, the application fee is waived and fees assessed towards the Master’s program will be deducted from the full 2 years of Ph.D. program fees. Transfers later than 12 months must pay an application fee and their fees will be assessed as a 3 year Ph.D.

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<table>
<thead>
<tr>
<th>Faculty of Graduate Studies Regulation</th>
<th>Supplemental Regulation</th>
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<tbody>
<tr>
<td>regulations for specific details regarding admission, progression and completion.</td>
<td>an Admissions Application is not a guarantee of admission into the ECE Department or the University.</td>
</tr>
<tr>
<td><strong>5.1 Admission</strong></td>
<td><strong>• Undergraduate students who are enrolled at the University of Manitoba, who hold degree(s) from other universities, and who are applying to the ECE graduate program must adhere to all Faculty of Graduate Studies (FGS) and ECE Departmental requirements for admissions including submitting all documents in the manner required by FGS.</strong></td>
</tr>
<tr>
<td><strong>5.1.1 General criteria</strong></td>
<td><strong>ECE will consider GPA below 3.5; however, a 3.5 GPA or higher is recommended.</strong></td>
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<tr>
<td>Normally, the completion of a Master’s degree or equivalent from a recognized university and a cumulative GPA of 3.0 or equivalent in the last two previous years of full time university study (60 credit hours) is the minimum requirement for admission to the Ph.D. program. However, the criteria for admissions into the Ph.D. program are more stringent than for Masters’ programs; therefore, the completion of a Master’s program does not guarantee admission into the Ph.D. program. Some units require completion of a thesis-based Master’s program prior to admission to a Ph.D. program.</td>
<td><strong>• Recommendation required from the</strong></td>
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<td></td>
<td><strong>• Student’s Academic Advisor</strong></td>
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<td></td>
<td><strong>• Department Head</strong></td>
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<tr>
<td><strong>5.1.2 Direct Admission from the Bachelor’s Honours or equivalent</strong></td>
<td><strong>TIME PERIOD</strong></td>
</tr>
<tr>
<td>With special recommendation of the unit concerned, applicants with an honours Bachelor’s degree or equivalent may be considered for entry to Ph.D. study. These students must be outstanding in their academic background (GPA well above 3.0 in the last two full years of undergraduate study). Once admitted, these students must complete at least 24 credit hours of coursework, unless the individual unit’s approved supplemental regulations specify otherwise, and will be assessed Ph.D. fees for 3 years.</td>
<td><strong>Made at the time of admission to the Master’s Program (i.e. “POSSIBLE TRANSFER TO PH.D. PROGRAM WITHIN 12-MONTHS” put on Student’s application) and application to the Ph.D. must occur within 12 months of the initial registration in the Master’s program.</strong></td>
</tr>
<tr>
<td><strong>5.1.3 Transfer from the Master’s to the Ph.D. program</strong></td>
<td><strong>STATUS</strong></td>
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<tr>
<td>Students who have not completed a Master’s program may transfer to the Ph.D. program within the same unit upon the recommendation by the Head of the unit to the Faculty of Graduate Studies. The recommendation should be made within 18 months of the student’s commencement of the Master’s program. The coursework completed and time spent in the Master’s program will normally be credited towards the Ph.D. program. Students must complete at least 24 credit hours of coursework, unless the individual unit’s approved supplemental regulations specify otherwise.</td>
<td><strong>Student considered second (2nd) year in Ph.D. program -- when transferring with an M.Sc. or equivalency</strong></td>
</tr>
<tr>
<td>The request to transfer from a Master’s to the Ph.D. program must be submitted to the Faculty of Graduate Studies at least one month prior to the term for which the student intends to commence the Ph.D. program. The following are required when making the request: The online Application for Admission indicating a request for transfer. If the transfer is made within one year, no additional application fee must be paid. In the case where the student does not hold a Master’s degree, a letter of recommendation from the Head of the unit is also required.</td>
<td><strong>START DATE OF PH.D. PROGRAM</strong></td>
</tr>
<tr>
<td>If the transfer occurs within 12 months of the initial registration in the Master’s program, the student will be assessed Ph.D. fees for 3 years. If the transfer occurs after 12 months, the student will be assessed Ph.D. program fees for 2 years (as they will have already paid fees for the Master’s program). Students are cautioned that such transfers may impact on The University of Manitoba Graduate Fellowship duration.</td>
<td><strong>The Start Date of your Ph.D. program is the start date of your M.Sc. program -- this does not change</strong></td>
</tr>
<tr>
<td>Where a student with a Master’s degree or equivalent is initially admitted and registered in a Master’s program, that student may be transferred to the Ph.D. program: With special recommendation of the unit concerned, applicants with an honours Bachelor’s degree, a letter of recommendation from the Head of the unit is also required.</td>
<td><strong>CREDIT HOURS REQUIRED TO GRADUATE</strong></td>
</tr>
<tr>
<td>If the transfer occurs within 12 months of the initial registration in the Master’s program, the student will be assessed Ph.D. fees for 3 years. If the transfer occurs after 12 months, the student will be assessed Ph.D. program fees for 2 years (as they will have already paid fees for the Master’s program). Students are cautioned that such transfers may impact on The University of Manitoba Graduate Fellowship duration.</td>
<td><strong>12 credit hours (undergraduate credits will not count towards graduation)</strong></td>
</tr>
<tr>
<td>Where a student with a Master’s degree or equivalent is initially admitted and registered in a Master’s program, that student may be transferred to the Ph.D. program: With special recommendation of the unit concerned, applicants with an honours Bachelor’s degree, a letter of recommendation from the Head of the unit is also required.</td>
<td><strong>B. With an M.Sc. degree, but not declared on</strong></td>
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</tbody>
</table>

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Electrical and Computer Engineering Supplemental Regulations approved by FGS April 2014

FGS Template updated July 2016

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**Admissions form**

Transfer comment “NOT” indicated on the M.Sc. admission letter and does not make the request in the first 12-months:

In these cases, students have to pay the additional year’s fee (3 years in total) of program fees even though they are academically in a 2-year program (12 credit hours)

The student may petition to request a tuition reduction Approval of the Registrar is required.

**C. Without an M.Sc. -- transferring to the ECE Ph.D. program from the ECE M.Sc. program**

Students who have not completed a Master’s program may transfer to the Ph.D. program

- Within the same department
- With a recommendation from the
  - student’s advisor
  - department

**DEADLINE:**

The recommendation must be made within 24 months of the student’s commencement of the Master’s program

**TRANSFER M.Sc. COURSEWORK & Maximum Time in program**

The coursework completed in the Master’s program would normally become a part of the Ph.D. program

**START DATE OF PH.D. PROGRAM**

The Start Date of your Ph.D. program is the start date of your M.Sc. program -- this does not change MAXIMUM TIME IN PROGRAM -- SHORTENED

The number of years spent in the Master’s program would be counted as years in the Ph.D. program; this means that the maximum time to finish your Ph.D. would be less the number of years spent in the M.Sc. program prior to the transfer to the Ph.D.

**CREDIT HOURS REQUIRED**

24 Credit Hours for B.Sc. degree holders)

**DEADLINE**

Must be submitted to the Faculty of Graduate Studies at least ONE (1) MONTH PRIOR to the term for which the student intends to commence the Ph.D. program

**All other categories** of students

1. minimum of 18 credit hours of Advisory Committee-
approved course work is required
2. 12 credit hours must be at or above the 7000 level
3. 6 credit hours may be at or above the 3000 level from other departments or 4000 level elective courses from this department
4. 9 of the 18 credit hours must be from the ECE Department (unless approved by Advisor and Associate Head of ECE Graduate Studies)

<table>
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<tr>
<th>5.1.4 Provisional Admission to the Ph.D.</th>
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<tbody>
<tr>
<td>Students nearing the completion of the Master’s degree may be accepted provisionally to the Ph.D. program for a 12 month period (commencing with the first registration in the Ph.D. program). Further registration in the Ph.D. program is contingent upon completion of all requirements of the Master’s degree within the 12 months. Students must maintain continuous registration in their Master’s program until its completion. Students will require assistance from the unit and the Faculty of Graduate Studies to complete dual registration in the Master’s and Ph.D. program simultaneously.</td>
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<thead>
<tr>
<th>5.1.5 English Language Proficiency</th>
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<tbody>
<tr>
<td>See section 1.1.7. Some units specify an additional language requirement for the Ph.D. degree. Students should check unit supplemental regulations regarding this requirement.</td>
</tr>
</tbody>
</table>

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<tr>
<th>5.1.6 Students with Disabilities</th>
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</thead>
<tbody>
<tr>
<td>See Accommodation Policy for Students with Disabilities: <a href="http://umanitoba.ca/admin/governance/governing_documents/students/281.html">http://umanitoba.ca/admin/governance/governing_documents/students/281.html</a></td>
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<tr>
<th>5.2 Student Advisor, Co-advisor and Advisory Committee</th>
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<tbody>
<tr>
<td>5.2.1 Student Advisor</td>
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<tr>
<td>Every Ph.D. student must have an advisor, appointed by the Head of the unit. The advisor is responsible for supervising the student’s graduate program. The advisor is the student’s first point of contact at The University of Manitoba, and therefore should be familiar with the general policies and regulations of the Faculty of Graduate Studies as well as the specific supplementary regulations of their academic unit. The advisor is directly responsible for the supervision of the student’s graduate program. In this capacity, the advisor assists the student in planning the graduate program, and ensures that the student is aware of all graduate program requirements, degree regulations, and general regulations of the academic unit, the Faculty of Graduate Studies, the university, and external funding agencies. The academic advisor provides counsel for all aspects of the graduate program, and stays informed of the student's scholarly activities and progress. The student’s advisor also acts as a channel of communication to the student’s advisory committee, the unit and the Faculty of Graduate Studies. The advisor must:</td>
</tr>
<tr>
<td>* be a member of the Faculty of Graduate Studies;</td>
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<tr>
<td>* hold a Ph.D. or equivalent*;</td>
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<tr>
<td>* be active in research;</td>
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<tr>
<td>* have expertise in a discipline related to the student’s program;</td>
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<tr>
<td>* hold an appointment in the student’s unit; and</td>
</tr>
<tr>
<td>* have no conflict of interest with the student (as defined by the University of Manitoba Conflict of Interest Policy).</td>
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</tbody>
</table>

*Equivalency will be approved by the Dean of the Faculty of Graduate Studies and determined on a case by case basis and assessed by the potential advisor’s demonstrated research record and current research activities. Note that M.D., D.M.D. and J.D. are undergraduate degrees and are not considered per se to be equivalent to a Ph.D. |
Usually the student and the advisor choose to work together by mutual agreement. In units where the choice of thesis topic advisor is postponed for some time after entry into the program, the Head of the unit or the selection committee shall appoint a faculty member to advise the student as to the rules and regulations and on a program and course requirements. This interim period must not exceed eighteen months after entry in to the program before a permanent advisor is chosen.

A staff member at the University of Manitoba at the rank of Assistant Professor or above cannot have an advisor/co-advisor with an appointment in the same unit.

The advisor and co-advisor (if applicable) and student must discuss, and complete, the Faculty of Graduate Studies Advisor Student Guidelines (ASG) prior to the commencement of any research and no later than the submission of the first Progress Report for the student. If the parties cannot agree on any component(s) of the ASG, the matter should be referred to the unit Graduate Chair, the Head of the unit or the Dean of the Faculty of Graduate Studies.

Should, during the student’s program, the relationship between the student and advisor significantly deteriorate, the matter should be referred sequentially to the unit Graduate Chair, the Head of the unit, then to the Dean of the Faculty of Graduate Studies.

### 5.2.2 Co-advisor

In special circumstances, upon approval of the Head of the unit, an advisor and co-advisor may advise a student.

The co-advisor must:

- be a member of the Faculty of Graduate Studies,
- hold a Ph.D. or equivalent*,
- be active in research, and
- have expertise in a discipline related to the student's program
- have no conflict of interest with the student (as defined by the University of Manitoba Conflict of Interest Policy)

*Equivalency will be approved by the Dean of the Faculty of Graduate Studies, determined on a case by case basis and assessed by the potential co-advisor’s demonstrated research record and current research activities. Note that M.D., D.M.D. and J.D. are undergraduate degrees and are not considered per se to be equivalent to a Ph.D.

The co-advisor will usually be identified either:

- **A)** at the beginning of a student’s program in situations where:
  1. the student desires to draw equally upon the expertise of two individuals, or
  2. the project is interdisciplinary in nature and requires the expertise of two advisors from their respective disciplines, or

- **B)** mid-way through a student’s program due to:
  1. the students' project developing in such a way as he/she requiring an additional advisor from a different discipline; or
  2. the unit introducing a new Faculty member, to the standards of the unit, whose expertise facilitates the student's project.

When an advisor and co-advisor are assigned, together they shall fulfill the role of the advisor (that is, neither shall fulfill any other advisory or examining committee membership requirements for that student). One advisor must be identified as the primary advisor; however, both the advisor and co-advisor’s signatures are required on all documents where the advisor’s signature is required.

A staff member at the University of Manitoba at the rank of Assistant Professor or above cannot have an advisor/co-advisor with an appointment in the same unit.

In all instances the Faculty of Graduate Studies must be informed of the co-assignment.
5.2.3 Advisory Committee

The Head of the unit is responsible for the establishment of an advisory committee for each Ph.D. student. Advisory committees are normally selected by the advisor/co-advisor in consultation with the student and should consist of individuals whose expertise is consistent with that necessary to provide additional advice to the student during his/her program. The advisory committee must consist of a minimum of three members of the Faculty of Graduate Studies, one of whom must hold a primary appointment from within the unit and one of whom must hold no appointment within the unit. Advisory committees may include one non-voting guest member who has expertise in a related discipline but is not a member of the Faculty of Graduate Studies.

It is expected that, under normal circumstances, Advisory Committee members have a Ph.D. degree or equivalent and have no conflict of interest with the student (as defined by the University of Manitoba Conflict of Interest Policy). Equivalency will be determined by the Dean of the Faculty of Graduate Studies. Graduate students may not serve on graduate student advisory committees. A staff member at the University of Manitoba at the rank of Assistant Professor or above, cannot have an advisory committee member with an appointment in the same unit. The composition of, and any changes to, the advisory committee, including the advisor/co-advisor, must be approved by the Faculty of Graduate Studies. The advisor/co-advisor is the Chair of the advisory committee. Advisory committee meetings which must be held at least annually are not intended to take the place of meetings between the student and advisor/co-advisor, which should occur with much greater frequency than the advisory committee meetings.

5.3 Program of Study

As soon as possible, but no later than 24 months after a student has commenced their program, the student’s program of study should be registered with the Faculty of Graduate Studies and should include:

- information about the minimum or expected time for completion of the degree;
- coursework to be taken;
- any foreign language requirement;
- the research area in which the thesis will be written.

The approval of the student’s advisor/co-advisor and the Head of the unit are sufficient for registration. The program of study, including withdrawal from individual courses and any subsequent changes, must be approved by the student’s advisor/co-advisor, the advisory committee and the Head of the unit. Withdrawal from courses or changes of course category without such approval may result in the student being required to withdraw from the Faculty of Graduate Studies.

5.4 Program Requirements

All students must complete one of the following programs of study for the Ph.D. degree, unless otherwise specified in the approved unit supplemental regulations:

- Where admission to the Ph.D. is directly from a Master’s degree, a minimum of 12 credit hours at the 7000 level or higher plus a thesis is required. Any further coursework beyond the minimum 12 credit hours at the 7000 level must be at the 3000 level or above. For those students who hold a Master’s degree, a maximum of 24 credit hours of coursework is allowed toward the Ph.D. program.*

- Where admission to the Ph.D. is directly from an Honours Bachelor degree or equivalent, a minimum of 24 credit hours plus a thesis is required. The coursework must include a minimum of 18 credit hours at the 7000 level or higher with the balance of the coursework at the 3000 level or higher. For those students who do not hold a Master’s degree, a maximum of 48 credit hours of coursework is allowed toward the Ph.D. program.*

*Unless professional accreditation requirements and/or the unit’s supplemental regulations indicate otherwise.

All students must complete GRAD 7500 Academic Integrity Tutorial (0 credit hours) within one year of initial registration, unless previously completed at the Masters level.

**Additional Information**

The “Program of Study and Appointment of Advisory Committee” must be submitted within one year of the student’s start in the Ph.D. program.

**PROGRAM REQUIREMENTS**

All students must complete one of the following programs of study for the Ph.D. degree:

1. **M.Sc. degree-holders in Electrical or Computer engineering** who have been admitted directly into the Ph.D. program
   - A. minimum of 12 credit hours of Advisory Committee-approved course work is required
   - B. 7000 level or higher
   - C. At least 6 of the 12 credit hours must be from the ECE

2. **B.Sc. degree-holders in Electrical or Computer Engineering** who are
   - A. recommended for transfer into the Ph.D. program from the ECE M.Sc. program at this university
   - B. minimum of 24 credit hours of Advisory Committee-approved course work is required
     - 1. 9 credit hours **MUST** be at or above the 7000 level
     - 2. 6 credit hours may be
3. Honours Bachelor Degree or Equivalent -- NOT USUALLY AVAILABLE IN ECE DEPT
   o a minimum of 24 credit hours plus a thesis is required
     1. 18 credit hours at the 7000 level or higher
     2. the balance (6 credit hours) of the coursework at the 3000 level or above.
     3. At least 12 of the 24 credit hours MUST be from the ECE Dept.

   NOTE: For those students who do not hold a Master’s degree, a maximum of 48 credit hours of course work is allowed toward the Ph.D. program.

5.4.1 Language Reading Requirements

Some units specify a language requirement for the Ph.D. degree. Students are advised to check unit supplemental regulations regarding this requirement.

5.4.2 Advance Credit

Advance credit for courses completed prior to admission to a Ph.D. program will be considered on an individual basis. The student’s unit makes the request to the Faculty of Graduate Studies by completion of the “Recommendation for Advance Credit (Transfer of Courses)” form.

1. Application for advance credit must be made within the first year of the program (see Lapse of Credit of Courses in this section).

2. No more than half of the required coursework for the program can be given advance credit.

3. A course may not be used for credit toward more than one degree, diploma or certificate.

4. The student must register at The University of Manitoba for one academic year as a full-time student and must also complete the thesis at The University of Manitoba.

5. Regardless of the extent of advanced credit received, all students are required to pay the program fee.

5.4.3 Transfer Credit

Courses within a program of study may be taken elsewhere and transferred for credit at The University of Manitoba. All such courses:

1. must be approved for transfer to the program of study by the unit and the Faculty of Graduate Studies before the student may register for them;
2. are considered on an individual basis;
3. cannot be used for credit towards another degree;
4. may be taken at other universities while registered in a program at The University of Manitoba, provided that the credit does not exceed 50% of the minimum credit hours of coursework required.
<table>
<thead>
<tr>
<th>Faculty of Graduate Studies Regulation</th>
<th>Supplemental Regulation</th>
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<tbody>
<tr>
<td>Permission is granted in the form of a Letter of Permission which may be obtained by making an application to the Registrar's Office; an original transcript and course equivalency must be provided.</td>
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</tbody>
</table>

**5.4.4 Lapse of Credit of Courses**

Courses completed more than seven years prior to the date of awarding of a degree may not normally be used for credit toward that degree.

**Lapse of Credit of Courses**

Courses completed more than seven (7) years prior to the date of awarding of a degree may not normally be used for credit toward that degree unless the material in the course can be confirmed to be current or still relevant.

If the original instructor is not available, the course material may be reviewed by the Graduate Chair/Dept. Head.

**5.5 Time Limits**

**5.5.1 Minimum Time Limit**

The minimum time requirement for the program of study for a Ph.D. degree will normally be two years of study beyond the level of the Master’s degree, or three years beyond the level of a Bachelor’s degree. The student may be permitted to spend one of these years in an approved program of research or study elsewhere. Such permission must be approved by the Dean of the Faculty of Graduate Studies on the recommendation of the student’s advisory committee.

**5.5.2 Maximum Time Limit**

A student’s candidature shall lapse if he/she fails to complete the degree within six years following initial registration in the Ph.D. program. For those students who transfer from the Master’s to the Ph.D., years spent in the Master’s program are counted as years in the Ph.D. program. Ph.D. students who are declared as part-time will receive an additional four months in time to complete their program for every two years (24 months) they are declared as part-time (see section 1.4.1).

Requests for extensions of time to complete the degree will be considered on an individual basis and must be submitted to the Dean of the Faculty of Graduate Studies at least three, but no more than four, months prior to expiration of the respective maximum time limit.

A student who has not completed the degree requirements within the time limit or within the time limit of any extension that has been granted (see also sections “Extension of Time to Complete Program of Study” and “Leave of Absence”) will be required to withdraw from the Faculty of Graduate Studies and the notation on the student record will be “Required to withdraw”.

**5.6 Academic Performance**

Student progress shall be reported at least annually to the Faculty of Graduate Studies on the "Progress Report" form (http://umanitoba.ca/faculties/graduate_studies/forms/index.html). Students who fail to maintain satisfactory performance may be required to withdraw on the recommendation of the Graduate Chair/unit Head to the Dean of the Faculty of Graduate Studies on the "Progress Report" form. Two consecutive "in need of improvements" normally requires the student to withdraw.

**PROGRESS REPORT**

A decision regarding continuation is conveyed to the Faculty of Graduate Studies using the "Progress Report".

1. If performance is deemed to be unsatisfactory, action will be required which may include some or all of the following:

   NOTE: These recommendations must be stated on the Progress Report form, signed by the advisor, advisory committee members, and the student

   **A.** A timeline of required actions or tasks may be put forward by the advisor, Head of the Department and/or the ECE Graduate Studies Committee. If the student fails to meet any of the tasks in the allotted time,
the student will be required by the FGS to withdraw from the program;
B. The student may be required to meet with the Department Head and/or the Chair of the ECE Graduate Studies Committee. If it is confirmed that the student performance is unsatisfactory, then the student will be required by the FGS to withdraw from the Faculty of Graduate Studies;
C. Students who receive a rating of “IN Need of Improvement” twice will be required by the FGS to withdraw by the Faculty of Graduate Studies;
D. Performance Not Related to Course Work
Students may also be required to withdraw from their Ph.D. program for reasons of unsatisfactory performance other than those related to failing grades. These include, but are not restricted to such things as
1. unsatisfactory attendance
2. lack of progress in research and/or thesis

The student’s advisory committee will make a recommendation for required withdrawal to the Department Head. The Department Head will then recommend to the Dean of the Faculty of Graduate Studies that the student be required to withdraw for reasons of unsatisfactory academic performance.

5.6.1 Performance in Coursework
A minimum degree grade point average (GPA) of 3.0 with no grade below C+ must be maintained to continue in the Faculty of Graduate Studies. Units may specify, in their supplementary regulations, standards that are higher than those of the Faculty of Graduate Studies. Students who fail to maintain the specified grades will be required to withdraw unless a unit recommends remedial action. Any such action must be approved by the Dean of the Faculty of Graduate Studies.

5.6.2 Performance Not Related to Coursework
Students may be required to withdraw from their Ph.D. program for reasons of unsatisfactory performance other than those related to failing grades. These include, but are not restricted to, unsatisfactory attendance and lack of progress in research and/or thesis preparation. The student’s advisory committee will make a recommendation for required withdrawal to the Head of the unit. The Head of the unit may then recommend to the Dean of the Faculty of Graduate Studies that the student be required to withdraw for reasons of unsatisfactory academic performance.

5.7 Academic Requirement for Graduation
A cumulative degree grade point average of 3.0 or greater is required in those courses that constitute the program of study for graduation in the Faculty of Graduate Studies.

5.8 Candidacy Examination
The candidacy examination is an absolute requirement of the Faculty of Graduate Studies and, as such, cannot be waived under any circumstances. However, the format and content of the candidacy exam will vary from unit to unit. The purposes of the candidacy exam in doctoral programs is to determine the student's competence in the discipline with respect to understanding and absorbing a broad spectrum of material, and then researching, identifying, analysing, synthesizing, and communicating ideas about that material in depth.

Annual Presentation (GradCon)
All full-time Ph.D. students are also required to present a research talk every year of their program (following the first year) at the Department's annual graduate student conference, as outlined on our website.

RESEARCH
Research is evaluated though a meeting of the student’s Advisory Committee with the student. A minimum of one progress meeting must be held annually. However, more than one meeting may be held at the request of the advisor, an advisory committee member, or the student.

The purpose of the Candidacy Examination and Research Proposal Defense is to determine whether the student processes sufficient knowledge in the chosen area of research, to assess the quality of the work done by the student, and to examine the student’s future research plan and direction through examination of the
At the time specified by the advisory committee—normally within the first year after the completion of the Ph.D. program coursework but in no case later than one year prior to expected graduation—the student must successfully complete the formal candidacy examination.

The examination is conducted according to a procedure established by the unit and approved by the Academic Guide Committee of the Faculty of Graduate Studies. Please see the unit supplemental regulations for the format and composition of the examination committee for the candidacy examination. The candidacy examination must be held at The University of Manitoba.

This examination, which is independent from the thesis proposal, may be oral, written, or both and may cover subjects relevant to the general area of the candidate's research. These must be made known to the students.

A pass decision of the examiners must be unanimous. Students must be provided with feedback on their performance and access to the reasons for the pass/fail.

The Dean of the Faculty of Graduate Studies must be informed whether the candidate has passed or failed the candidacy examination on the "Report on Ph.D. Candidacy Examination" form (http://umanitoba.ca/faculties/graduate_studies/forms/index.html).

Any student who fails the candidacy examination twice will be required to withdraw from the Faculty of Graduate Studies.

On successful completion of this examination, the student will be considered a candidate for the Ph.D. degree.

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**TYPE 1) Candidacy Examination – Students Starting Prior to Fall 2012**

**OVERALL REVIEW OF THE CANDIDACY EXAM**

The Candidacy is an examination of the student's ability to proceed with the proposed research project.

1. The research proposal (not exceeding 40 pages in length), distributed to the Advisory Committee at least 3 weeks BEFORE the Candidacy, involves:
   - preparation of a written document outlining the research proposal and providing a state-of-the-art review and justification for undertaking the research.

2. The proposal should include:
   a. a review of the work done to-date
   b. a schedule of planned research

3. The written proposal is prepared under the general guidance of the Advisor and is to be reviewed by each member of the Advisory Committee.

4. The final, revised, and accepted version of the proposal should be submitted to the Advisor for a brief overview/comment before the Advisor convenes a general meeting of the Advisory Committee.

5. The Advisory Committee is required to formally meet with the student and discuss/examine the Proposal.

6. **LENGTH OF PRESENTATION:**
   a. This examination, based entirely on the written document, consists of a 30 minute (approximately) oral presentation of the proposal by the student;
   b. Followed by a question period.
      i. each member of the Advisory Committee is allowed ~20 minutes of questions
      ii. followed by a second round of questions, if required.

7. **CANDIDACY ANNOUNCEMENT:** The oral presentation and examination is normally open to all students and faculty of the university community and must be announced well in advance of the event (at least 10 working days prior to the Candidacy).
PURPOSE OF CANDIDACY
The purpose of the Candidacy Examination is to
1. ascertain whether the student has sufficient knowledge in the chosen area of research to proceed in the program
2. assess the quality of the work done by the student
3. examine the student's future research plan and direction through examination of the research proposal
4. For students examined under this type, successful completion of the Candidacy Exam is also considered as successful completion of the Thesis Proposal.

TIME-FRAME
1. Normally, the Ph.D. student must take his/her Candidacy Exam within 27-months of registering as a Ph.D. student
   a. Transfer Students (M.Sc. to Ph.D.) who transferred from an M.Sc. to a Ph.D. program must take their Candidacy within 27-months of registering as an M.Sc. student.
      ▪ If permitted by the student's advisor and by the Department, the student may take his/her Candidacy within 36-months of registering as an M.Sc. student.
   b. Transfer Students (Ph.D. to Ph.D.): Students transferring from another Ph.D. program within the ECE Ph.D. program must take their Candidacy exam within 27-months of registering as a Ph.D. student in their previous research area.
      ▪ If permitted by the student's ECE advisor and by the ECE Department, the student may take his/her Candidacy within 36-months of registering as a Ph.D. student in his/her previous research area.
2. ECE students must successfully complete their Candidacy Examination by the end of 27-months in the Ph.D. program (This 27-month period includes failure to pass the initial Candidacy Exam and “Transfer” guidelines mentioned previously). Failing successful completion of the Candidacy Requirement within the above stated time-frame, the Department can require the student to withdraw from the graduate program.

TYPE 2) Candidacy Examination – Students Starting in Fall 2012 or thereafter

OVERVIEW
For students starting their Ph.D. program in fall 2012, or thereafter, Candidacy Examination and Thesis Proposal are two distinct procedures.
The following describes the Candidacy Examination
requirements for these students.

**TIME-FRAME**
This examination must be taken within the first 12 months of the student’s initial registration in the Ph.D. program.

Failure to complete this requirement in the time allotted may be cause for the Department to request the student to **withdraw from the program.**

**FORMAT**

A. **Exam Level:** The contents of the Candidacy Exam will be at the senior undergraduate and graduate levels.

B. **Purpose:** The Candidacy Exam will primarily assess a student’s competence in taking doctoral-level studies.

C. **Candidacy Examining Committee Composition:**
The exam will have a written portion (see below for details) and may include an oral exam as well (see below for details). For the written portion of the exam in each examination area, a group of professors with expertise in the subject area will set the exam paper for all students writing the subject area in a sitting.

If an oral exam is required, the composition of the oral examining committee will be as follows:

A. Student’s Advisory Committee
   1. advisor
   2. at least one ECE faculty member
   3. an external to the department (if appointed)

B. at least one member of the ECE Graduate Studies Committee (in the student’s major area of research), or appointed by the Department Head

D. **Exam Material:** The examination will be conducted in defined subject areas (by the ECE Department) and from identified textbooks

E. **Exam Subject Area:** The Advisory Committee shall select two (2) subject areas for examination
   A. one in the student’s core area of future research
   B. one in an ancillary area

F. **Exam Results:** **PASS / FAIL / MARGINAL**
   A. **PASS:** The result of the written exam clearly shows acceptable competence. No further oral examination is required.

   B. **FAIL:** The result of the written exam clearly shows lack of competence. No further oral exam is required.

   C. **MARGINAL:** The result of the written exam does not clearly show acceptable competence; therefore further examination...
(oral) is required.

These grades are assigned to each of the examined subject areas.

1. Exam Parts: The exam consists of two (2) parts:

   A. WRITTEN: A 3-5 hour written examination in each exam subject area

       These exams are normally conducted on two days.

       Written exams are graded as PASS, FAIL, or MARGINAL (as noted above). Students earning a MARGINAL grade will have to appear for an Oral Exam (see below).

   B. ORAL: An oral exam is conducted for students who receive a MARGINAL grade in one or both their written exams. The oral exam is conducted normally between two (2) to four (4) weeks after the written examination for purposes of clarification.

       A copy of the written exam paper(s) will be made available to the student and his/her advisor prior to the oral exam to assist the student in identifying their mistakes. This pertains to the subject area(s) where the student has received a MARGINAL grade.

       The Oral Examining Committee may seek clarification of answers that were provided in the written portion of the examination and/or ask related additional questions to gauge the candidate’s knowledge in the area of intended research.

LIST OF SUBJECT AREAS: The following are subject areas approved for the Candidacy Exam. The Department reserves the right to update this list as needed. New subjected areas will be posted and announced to the students of the Department at least one semester in advance of an exam.

   1. POWER SYSTEMS
   2. ELECTROMAGNETICS
   3. CIRCUITS & ELECTRONICS
   4. MATERIALS
   5. SIGNAL PROCESSING
   6. TELECOMMUNICATIONS
   7. OPTICS / PHOTONICS
   8. COMPUTER & DIGITAL SYSTEMS
   9. ALGORITHMS & DATA STRUCTURES
   10. ENGINEERING MATHEMATICS
   11. CONTROLS
   12. NANO / MICROELECTRONICS

Students must consult the related Department webpages for details of the exams in each area, and for the required textbook and chapters.

EXAM REGISTRATION
The candidate must register for the written Candidacy Examination at the start of the semester of the exam (deadline to be set by the department).
**EXAM MATERIALS & STYLE**

The Department reserves the right to update the following as needed.

1. **Exam Texts**: Announced on the Department website at the beginning of the semester.

2. **Exam Materials**: Page of formulas, calculators, etc., items allowed into and for use during an exam in each subject area, are announced on the Department website at the beginning of the semester and sent out to all Graduate Students in the program using the students’ university email.

3. **Exam Style**: Open/Closed Book is announced on the Department website at the beginning of the semester and sent out to all Graduate Students in the program using the students’ university email.

**EXAM PERIODS**

The Candidacy Exam is held during the regular exam periods (at the end of each term), three (3) times each year:

1. Fall (December Exam Period)
2. Winter (May Exam Period)
3. Summer (August Exam Period)

**FAILED EXAM**

If the student fails the Candidacy (written and/or oral), he/she will have a **second opportunity** to take the exam in the following semester. The second round examination area(s) must be the same as the ones attempted in the first round.

Students failing one subject area will have to only re-write the failed subject area exam.

**RE-REGISTERING:**

E. Students must re-register and take the Candidacy Exam before the end of their initial 12 months in the Ph.D. program.

**Failing A Second Candidacy:**

All students must pass the written examination and, if required, oral examination, otherwise the student may be required to withdraw from the program.

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**5.9 Thesis Proposal**

Some units have specific procedures in place for approval of thesis proposals and students are advised to refer to the specific unit supplemental regulations. If units require thesis proposal approval, this exercise is independent from the candidacy examination. Regardless, the proposed thesis research must be approved by the advisory committee and, if necessary, by the Human Research Ethics Board or Animal Care Committee before the work has begun on the thesis research or project.

**5.10 Thesis**

Students under TYPE 2 Candidacy Examination (those starting their program in fall 2012 or thereafter) must also successfully defend their Thesis Proposal. The procedure for doing so is similar to the Candidacy Examination of students under TYPE 1 Candidacy Examination.

This task must be completed within the first 27 months of starting the program.

The thesis proposal document must not exceed 40 pages in length.
An essential feature of Ph.D. study is the candidate’s demonstration of competence to complete a research project and present the findings. The thesis must constitute a distinct contribution to knowledge in the major field of study, and the research must be of sufficient merit to be, in the judgement of the examiners, acceptable for publication.

The thesis must be written according to a standard style acknowledged within the candidate’s particular field of study and recommended by the unit, be lucid and well written, and be reasonably free from errors of style and grammar (including typographical errors).

The final version of the thesis must be submitted by the candidate to the Faculty of Graduate Studies following the guidelines found at:
http://umanitoba.ca/faculties/graduate_studies/thesis/guidelines.html

5.11 Thesis Examination Procedures

The final examination for the Ph.D. degree proceeds in three stages (see Figure 5-1):

1. Examination of the candidate’s thesis by an internal examining committee.
2. Examination of the candidate’s thesis by an external examiner.
3. Oral examination of the candidate by all examiners on the subject of the thesis and any matters relating thereto.

5.11.1 Formation of the Examining Committee I - University of Manitoba (Internal) Examiners

The candidate’s advisor (and, if appropriate, co-advisor) is considered to be a voting member of the examining committee. The candidate’s advisor/co-advisor, in consultation with the Head of the unit, will recommend at least three internal thesis examiners, including the advisor/co-advisor, to the Dean of the Faculty of Graduate Studies for approval via the Thesis Submission Portal on JUMP. One member must hold a primary appointment within the unit and one member must hold no appointment within the unit. All internal examiners must be members of the Faculty of Graduate Studies. It is expected that, under normal circumstances, Examining Committee members have a Ph.D. degree or equivalent. Equivalency will be determined by the Dean of the Faculty of Graduate Studies. Under normal circumstances these will be members of the candidate’s advisory committee, if not, approval must be obtained from the Dean of the Faculty of Graduate Studies.

5.11.2 Formation of the Examining Committee II - External Examiner

The candidate’s advisor/co-advisor, in consultation with the advisory committee, will recommend the names of three distinguished scholars from outside The University of Manitoba with particular experience in the field of the thesis research and Ph.D. student advisory/examination experience to serve as the external examiner to the Dean of the Faculty of Graduate Studies for approval via the Thesis Submission Portal on JUMP. The recommendations should, if possible, include a brief CV of each of the prospective external examiners and a short statement detailing the rationale behind the recommendations, the prospective external examiners’ qualifications, including a current list of his/her scholarly publications and research activities and, importantly, their experience with graduate student education. No contact should be made with any of the prospective external examiners. If any of the recommended examiners does not meet the following criteria, specified below, a detailed explanation should be included with the rationale for the recommendation.

The external examiner should:

- hold a Ph.D. or equivalent;
- hold the rank of Associate Professor, Full Professor, Senior Scholar or Emeritus Professor (or the equivalent if outside North America) at a university, or have comparable expertise and standing if not a faculty member at a university;
- have an established reputation in the area of the thesis research and be able to judge whether the thesis would be acceptable at an institution comparable to The University of Manitoba; and
- have significant recent experience with the supervision and/or examination of Ph.D. students.

The external examiner should not:
have acted as an external examiner for the same Ph.D. supervisor within the previous two years;
• have been associated with the candidate at any time or in any significant way in the past five years, present or reasonably foreseeable future (advisor/co-advisor, colleague, teacher, co-author of published material, family member etc.); or
• be associated with the candidate’s advisor/co-advisor in any of the following ways:
  • former student;
  • research advisor/co-advisor;
  • research collaborator within the last five years;
  • co-author of published material within the last five years.
  □ have had a significant academic disagreement with the candidate, the advisor/co-advisor or any member of the advisory committee.

The Dean of the Faculty of Graduate Studies will choose the external examiner from the list provided by the candidate’s advisor/co-advisor and will make the formal invitation to the external examiner. The Dean of the Faculty of Graduate Studies shall ensure the anonymity of the external examiner until it has been determined that the student can proceed to oral defence.

5.11.3 Changes in the Examining Committee

The Dean of the Faculty of Graduate Studies must approve changes in the membership of the examining committee. No changes shall be made in the examining committee after the thesis is submitted to the Faculty of Graduate Studies. Should the thesis not be submitted for examination within 12 months after the appointment of the examining committee, the committee appointment will lapse and the process shall revert to 5.11.1 above.

5.11.4 Distribution of the Thesis for Examination

Ph.D. students must submit their thesis for distribution electronically through JUMP. It is the responsibility of the Faculty of Graduate Studies to distribute the electronic version of the thesis to all examiners. The Faculty of Graduate Studies shall attempt to ensure that the thesis is distributed to examiners as soon as possible after the submission of all required documentation. The Faculty of Graduate Studies website (umanitoba.ca/faculties/graduate_studies/deadlines/index.html) should be consulted regarding dates by which theses must be submitted.

Once the thesis has been submitted to the Faculty of Graduate Studies, neither the candidate nor the advisor/co-advisor shall have any communication with the examining committee regarding the thesis. However should the need arise, the external examiner may contact the Dean of the Faculty of Graduate Studies to discuss any issues related to the thesis.

5.11.5 Responsibilities of the Examiners

In general the examiners are responsible for:

• ensuring that the thesis and the candidate meet recognised scholarly standards for a Ph.D.
• appraising the underlying assumptions, methodology, findings, and scholarly significance of the findings of the thesis
• ensuring that the thesis is organized, presents data and uses accepted conventions for addressing the scholarly literature in an acceptable manner
• evaluating that the candidate has the ability to present their findings orally and demonstrate their scholarship by responding to questions and defending the thesis

Notes:

1. Any potential breach of academic integrity should be reported to the Dean of the Faculty of Graduate Studies for investigation by the Vice President (Research and International).
2. Submission of previously published, peer-reviewed material in the thesis does not preclude its examination, either as a written document being reviewed by examiners or at the thesis defence.
5.11.6 Process

Internal Examiners

The Dean of the Faculty of Graduate Studies will request the internal examiners to give, within three (3) weeks of the distribution of the thesis, a detailed written report of the thesis and place it into one of the following categories:

1. The thesis represents a distinct contribution to the candidate’s field of research and is acceptable as it stands. Minor revisions to content, structure, or writing style may be required. The thesis may proceed to external distribution.
2. The thesis has merit and makes a contribution to the candidate’s field; however, there are research-related concerns that have the potential to be addressed in the oral defence. The structure and writing style are acceptable or require only minor revisions. The thesis may proceed to external distribution.
3. The thesis has some merit, but is not acceptable in its current state and requires major revisions to one or more of its core components, such as research content, structure or writing style. The thesis should not proceed to external distribution.
4. The thesis is unacceptable with respect to its core components, such as research content, structure, and writing style. The thesis should not proceed to external distribution.

If none or one (the dissenting voice) of the internal examiners fails the thesis (i.e. places it in categories 3 or 4 above), the thesis receives an internal pass and shall proceed to external distribution. The candidate’s advisor (and, if appropriate, co-advisor) may also wish to submit a report. Prior to external distribution, the candidate shall have the opportunity to incorporate changes suggested by the examining committee but not necessarily those of the dissenting voice. It is the responsibility of the advisor/student to provide a copy of the revised thesis to all internal committee members prior to the oral defence.

If two or more members of the internal examining committee fail the thesis (i.e. places the thesis in categories 3 or 4 above) then the thesis fails.

External Examiner

The Dean of the Faculty of Graduate Studies will request the external examiner to give, within three (3) weeks of the distribution of the thesis, a detailed written report of the thesis and rate it either as a pass or a fail. The Dean of the Faculty of Graduate Studies shall ensure the anonymity of the external examiner until it has been determined that the student can proceed to oral defence.

- If the external examiner passes the thesis, the student can proceed to oral defence.
- If the external examiner fails the thesis, the unit Head shall convene a meeting of the internal examining committee and the student’s advisor/co-advisor to decide how to bring the thesis to an acceptable scholarly standard. In normal circumstances, this will involve additional scholarly work which the unit Head will describe, in writing, to the advisor/co-advisor, the candidate and the Dean of the Faculty of Graduate Studies.
- If the external examiner fails a resubmitted thesis, this constitutes a second failure. In the case of a second failure, the candidate cannot proceed to oral defence, and the candidate is required to withdraw from the Faculty of Graduate Studies.

The awarding of a passing grade by an individual internal examiner does not preclude them from awarding a failing grade at a subsequent stage in the examination process.
The awarding of a passing grade by an external examiner does not preclude them from awarding a failing grade at a subsequent stage in the examination process.

**Reports**

If advancement to the oral examination is approved, as outlined above, the Dean of the Faculty of Graduate Studies shall provide electronic copies of all reports to each of the advisor/co-advisor, examiners and Head of the unit.

### 5.12 The Oral Examination

#### 5.12.1 Scheduling

Units cannot proceed with scheduling the oral defence prior to receiving the approved examiner’s reports from the Faculty of Graduate Studies. The examination must be held at The University of Manitoba. It is the responsibility of the unit to ensure that all room booking arrangements are made and appropriate facilities meet minimum standards expected for a Ph.D. defence. In addition, the candidate must submit, in electronic format biographical information and an abstract of the thesis to the Faculty of Graduate Studies.

#### 5.12.2 Attendance

The Dean of the Faculty of Graduate Studies or designate shall act as Chair of the examination committee.

The attendance of the external examiner in person at the candidate’s oral examination is encouraged. If the external examiner will not be present in person, his/her participation via video conferencing is expected. If the external examiner cannot participate, he/she will be asked to provide questions in advance. These questions will be read to the candidate at the defence by the Chair.

All internal members of the examining committee are required to be present at the defence, unless exceptional circumstances prevent this. Under such circumstances, and with the prior approval of the Dean of Graduate Studies, one internal member may participate via video conferencing. Consequently, no more than one internal member and the external examiner may participate via video conferencing.

Under no circumstances can the candidate participate by video conferencing.

Normally, the oral examination shall be open to all members of The University of Manitoba community and the general public. In exceptional cases the final oral examination may be closed; for example, when the results of the thesis research must be kept confidential for a period of time. In such cases, the examination committee and Head of the unit shall request prior approval in writing from the Dean of the Faculty of Graduate Studies. If approved, the final oral examination shall be closed to all but the examining committee and the Dean of the Faculty of Graduate Studies or designate.

Regardless of open or closed status, no recording devices will be permitted.

#### 5.12.3 Format of the Examination

The first part of the oral examination shall consist of an oral presentation by the candidate. This is followed by examination of the candidate by the examination committee. If time permits the Chair, at their discretion, may allow questions from members of the audience.

#### 5.12.4 Procedures for the Conduct of the Examination

The Chair should discuss the examination procedures with the examiners in camera prior to the beginning of the formal examination.

The Chair will introduce the candidate and request him/her to give a concise (20 to 25 minute) oral presentation of the thesis to include a summary of the problem addressed, the results obtained and the conclusions drawn from the study.

Following the presentation, the Chair will invite questions from each member of the examining committee, taking care to ensure that each examiner has approximately equal time for questions. The total time for questions by the examining committee must not exceed two (2) hours.
5.12.5 Decision of the Committee:

Following completion of the formal examination, the candidate and audience must leave the examination room. The decision of the examining committee will be based both on the content of the thesis and on the candidate's ability to defend it.

The judgement of the examiners shall be reported by the Chair to the Faculty of Graduate Studies in the qualitative terms “pass” or “fail” on the “Final Examination of the Ph.D. Thesis” form.

- **Pass:** the candidate has satisfactorily presented their findings orally and answered, to the satisfaction of the examination committee, the methodology, observations and conclusions presented in the thesis. The advisor/co-advisor is charged with ensuring that any minor editorial or typographical revisions are satisfactorily completed. Those examiners in agreement must indicate, by their signatures, concurrence with the passing grade.

- **Fail:** the candidate has failed to adequately orally present, or satisfactorily respond to questions posed related to, the thesis. This shall include significant defects in conception, methodology or context. Those examiners in agreement must indicate, by his/her signature, concurrence with the failing grade.

If the external examiner or two or more internal examiners indicate a fail, the candidate fails the examination. A copy of the report, including providing written detailed reasons for the decision, will be made available to the candidate by the Dean of the Faculty of Graduate Studies.

5.13 Candidate Awards

The examination committee may recommend in writing to the Faculty of Graduate Studies that the thesis is of sufficient merit to receive an award.

5.14 Graduation

The candidate will be recommended for the Ph.D. degree upon receipt by the Faculty of Graduate Studies of favourable reports by the thesis examining committee, a corrected copy of the electronic version of the thesis submitted to MSpace, final approval and release forms, and providing all other degree requirements have been satisfied.

**Patents** – Refer to section 6 “Policy of Withholding Theses Pending Patent Applications” in this Guide.

**Restriction of Theses for Publication** – In exceptional cases, not covered by the regulation concerning patents, where adequate cause can be shown to delay publication, the student and advisor/co-advisor may request in writing that the Dean of the Faculty of Graduate Studies restrict access for a period up to one year after the submission of the digital version of a thesis to The University of Manitoba. The Dean shall determine for what period, if any, access will be so restricted.

**Library and Archives Canada** – Library and Archives Canada obtains a copy of the thesis via the University’s MSpace repository.

5.15 Student Withdrawal

A student will be required to withdraw when the Ph.D. thesis has been rejected twice at the stage where:

a) The internal examining committee reports on the merits of the written thesis;

b) The external examiner reports on the merits of the written thesis;

c) The oral examination; or

d) A combination of any of these stages.

Content or Manuscript Submission

In 1970 The University of Manitoba Board of Governors and Senate approved a policy on accepting research grants from outside agencies. This policy defined the right of agencies to defer release of information and thus ensure freedom of publications for research findings of University personnel. Occasionally, the University may also wish to restrict the release of a thesis pending patent application. For additional details, see The University of Manitoba governing document: [http://umanitoba.ca/admin/governance/governing_documents/community/235.html](http://umanitoba.ca/admin/governance/governing_documents/community/235.html)

This situation may arise in the two circumstances defined below, both of which are governed by the same set of regulations.

1. Where a research project is known to contain patentable items as defined in the research contract, then it is the responsibility of the advisor/co-advisor to give written information of the restrictions on publication to the student prior to the start of the thesis research. If the student agrees to carry out the research, then the regulation given below will apply.
2. Where a patentable item is found during the course of research, then the advisor/co-advisor and the student may make application for patent rights through the University Patent Committee, and the following regulation will apply concerning the release of the thesis.

Regulations Concerning Release of a Thesis During Application and Negotiation For Patents

The Dean of the Faculty of Graduate Studies will receive the approved thesis. On written joint request of the advisor/co-advisor and the student, the Dean will retain the thesis for a period not to exceed one year.

Regulations Concerning Release of Thesis Pending Manuscript Submission

The Dean of the Faculty of Graduate Studies will receive the approved thesis. On written joint request of the advisor and the student, the Dean will keep the thesis for a period up to one year.

In exceptional cases, not covered by the regulation concerning patents, where adequate causes can be shown to delay publication, the student and advisor/co-advisor may request in writing that the Dean of the Faculty of Graduate studies restrict access for a period up to one year after submission of the digital version of a thesis or practicum to The University of Manitoba. The Dean shall determine for what period, if any, access will be so restricted.

SECTION 7: Extension of Time to Complete Program of Study Content

All requests for extensions will normally be dealt with administratively and reported, in summary form, to the Executive Committee of Graduate Studies for information. The student must complete the “Request for Extension” form [http://umanitoba.ca/faculties/graduate_studies/forms/index.html](http://umanitoba.ca/faculties/graduate_studies/forms/index.html) and submit it to his/her major unit for recommendation to the Faculty of Graduate Studies at least three, but no more than four months prior to expiration of the respective maximum time limit. Requests for an extension are reviewed by the Faculty of Graduate Studies on a case by case basis.

Requests for extension must be accompanied by a realistic timeline that has been agreed upon by the student and advisor/co-advisor and endorsed by the unit Head. The extension time requested must closely reflect the time required to complete the program.

The normal time requested for extensions is four to eight months. More than one extension period may be considered. However the total approved for all extensions will not normally exceed one year. The Dean may request a report from the student and/or the advisor/co-advisor during the extension that the timeline is being fulfilled, prior to approving the final period of the extension.

Section 8: Leaves of Absence

8.1 Regular Leave

A regular leave is intended to allow students to meet responsibilities/plans related to family, travel or employment and circumstances not covered by the parental or exceptional leaves. At the student’s request, the Head of the unit may recommend to the Dean of the Faculty of Graduate Studies that a student be granted a leave of absence for a period of time not to exceed one year. While on a regular leave of absence, a student is not expected to conduct study and/or
thesis research work. A student on a regular leave of absence is required to maintain continuous registration. A student on a regular leave of absence will not be assessed program fees, if any are owing, during the period of the leave; however, the appropriate continuing fee will be assessed.* Any program fees deferred as a result of a regular leave will be assessed when the student returns from leave. A regular leave of absence status does not extend time limits as outlined in Faculty of Graduate Studies regulations.

**Note:** At the time of approval of an application for leave, the procedures for the return of the student to the unit at the completion of the leave must be stipulated.

*Program Fees: The continuing fee in effect at the time of the granting of the leave will be levied. However, if the student returns from leave in January, the normal tuition fee will be levied less the continuing fee already paid.

### 8.2 Exceptional Leave

In exceptional circumstances for medical or compassionate reasons (e.g. the need to care for an ailing family member), at the request of the student the Head of the unit may recommend to the Dean of the Faculty of Graduate Studies that a student be granted an exceptional leave of absence for a period of time not to exceed one year. Supplemental documentation should support the requested dates of the leave. Exceptional leaves must correspond with the start and end of (an) academic term(s). While on an exceptional leave of absence, a student is not permitted to maintain study and/or thesis research work, would not be required to maintain continuous registration, nor pay tuition fees. In addition, the leave period would not be included in the time period allowed for the completion of the degree. This leave is not intended to cover circumstances related to travel, employment or financial concerns.

**Note:** At the time of approval of an application for leave, the procedures for the return of the student to the unit at the completion of the leave must be stipulated.

#### 8.2.1 Fees

Students are not expected to pay fees for the term in which they have been granted an exceptional leave. Upon return from the exceptional leave, students will be assessed fees as determined by the Registrar's Office.

### 8.3 Parental Leave

A graduate student who is expecting a child or who has primary responsibility of the care of an infant or young child immediately following a birth or adoption of a child is eligible for parental leave. The request should be made through the unit, to the Faculty of Graduate Studies for a period of time not to exceed one year. Parental leaves must correspond with the start and end of (an) academic term(s). While on leave of absence for parental reasons, a student is not permitted to maintain study and/or thesis research work. The leave period is not included in the time period allowed for completion of the degree.

**Note:** At the time of approval of an application for leave, the procedures for the return of the student to the unit at the completion of the leave must be stipulated.

#### 8.3.1 Fees

Students are not expected to pay fees for the term in which they have been granted a parental leave. Upon return from the parental leave students will be assessed fees as determined by the Registrar's Office.

### 8.4 Awards and Leave of Absence

Students granted exceptional or parental leave will retain the full value of a University of Manitoba Graduate Fellowship or other award whose terms and conditions are established by the Faculty of Graduate Studies. Such an award will be suspended at the onset of the leave and reinstated at the termination of the leave period (4 to 12 months) provided that the student returns to full time study at that time.

**Note:** Other awards will be paid according to the conditions established by the donor or granting agency.

### 8.5 Graduate Student Vacation Entitlement

Students are entitled to three weeks of vacation over a 12-month period.
## SECTION 9: Appeals – Procedures and Guidelines

### 9.1 General

Students who disagree with a decision have access to appeal routes as laid out by various Faculty of Graduate Studies and University of Manitoba appeal procedures. Student appeals may be limited by the scope of the inquiry available at each level and category of appeal, as well as the time limitations for submission of appeals.

A further limitation is that the Faculty of Graduate Studies rules and regulations, established to uphold the academic rigour of The University of Manitoba, are generally not subject to appeal unless an appeal route is otherwise stipulated. In situations where no appeal route is available, a student may make a written request to the Dean of the Faculty of Graduate Studies.

Students are referred to the appeals section of The University of Manitoba Governing Documents (http://umanitoba.ca/admin/governance/governing_documents/index.html) for further details.

For students registered in Joint Master's Programs (University of Manitoba and University of Winnipeg) there is a different process for handling appeals and academic dishonesty cases than for University of Manitoba students in regular programs (not Joint Programs). This process is outlined in the Joint Master's Program Governing Documents available at http://umanitoba.ca/faculties/graduate_studies/media/JMP_Regulations.pdf.

### 9.2 Definitions

- **“Appellant”** – the graduate student appealing a decision affecting the student's own admission to, academic standing in, awards from or disciplinary action by a unit or the Faculty of Graduate Studies;
- **“Appeal Panel”** – a panel convened from the members of the Faculty of Graduate Studies Appeals Committee by the Executive Committee of the Faculty of Graduate Studies empowered to deal with appeals stemming from decisions of units or the Faculty of Graduate Studies, or individuals designated to make such decisions;
- **“Unit”** – the unit council, or appeal body, whose decision is being appealed. This is understood to include decisions taken by individuals or committees acting in the name of the unit and also to the supplementary regulations pertinent to a unit's operation which have been approved by the Faculty of Graduate Studies;
- **“Respondent”** – a representative of the unit or the Faculty of Graduate Studies designated by the unit Head/Dean of the Faculty of Graduate Studies to represent the unit or Faculty of Graduate Studies.

### 9.3 Types of Appeal

There are several areas of appeal which are open to appellants:

- admission;
- academic;
- discipline;
- administration (e.g. Fee appeals).

In all cases, appeals should be directed to the Dean of the Faculty of Graduate Studies. A decision of the Faculty of Graduate Studies Appeal Panel is appealable only to the Senate Committee on Appeals or the University Discipline Committee, as appropriate.

### 9.4 Admission Appeals


### 9.5 Academic Appeals

#### 9.5.1 Composition
Faculty members or students are disqualified from participating on an Appeals Panel if he/she:

- holds any academic appointment in the unit in which the appellant is registered;
- is/was a student in the unit in which the appellant is registered;
- was, as an individual, or as a member of a committee or board, responsible for making the decision being appealed.

**Note:** All members of an Appeal Panel shall participate in all of the deliberations essential for the determination of the matter in dispute. If, in the course of hearing an appeal, a member is not present at the commencement of the hearing or a member cannot continue, the Panel may elect to proceed in the absence of that member. If more than one member is not present at the commencement or cannot continue, the Appeal Panel must adjourn.

9.5.2 Consideration

Appeal Panels will consider appeals:

- stemming from a decision of a unit on academic matters (e.g. failure in a course) only after they have been dealt with by the appropriate unit-level appeal process (if any), as is outlined in its supplementary regulations;
- stemming from a decision of the Faculty of Graduate Studies following the recommended action of a unit (e.g., qualifying examinations, candidacy examinations, thesis proposals, thesis examinations), only after they have been dealt with by the appropriate unit-level appeal process (if any), as outlined in its supplementary regulations;
- stemming from a decision of the Faculty of Graduate Studies.

In all cases, appeals should be directed to the Dean of the Faculty of Graduate Studies. A decision of the Appeal Panel is appealable only to the Senate Committee on Appeals (see http://umanitoba.ca/admin/governance/governing_documents/students/senate_committee_on_appeals_policy.html).

9.5.3 Grounds for an Academic Appeal

The Appeal Panel shall only consider an appeal if there is some evidence that:

- the unit or the Faculty of Graduate Studies failed to follow the rules of natural justice;
- the unit or the Faculty of Graduate Studies failed to follow procedures;
- a unit or Faculty of Graduate Studies regulation has been unfairly or improperly applied, or has become inapplicable through lapse of time;
- there are documented mitigating circumstances (e.g. medical, compassionate);
- there is apparent conflict between a Senate Regulation, a Faculty of Graduate Studies policy and/or a unit regulation.

**Note:** It shall be the responsibility of the appellant to indicate clearly and specifically the grounds warranting consideration of the appeal.

9.5.4 Academic Appeal Deadlines

9.5.4.1 Appeal of Term Work:

Students are encouraged to discuss matters relating to grading of term work with their instructor in the first instance. Further appeals of grades on academic term work shall be directed, by the appellant, to the unit responsible for the course within ten (10) working days after the grades for term work have been communicated to students. Following receipt of the appropriate appeal form and evidence of payment of the refundable appeal fee, the unit shall consider the appeal and provide a decision within fifteen (15) working days.

9.5.4.2 Appeal of Faculty of Graduate Studies Decision:

An appeal of action taken by any unit, committee, administrator or faculty member within the

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Electrical and Computer Engineering Supplemental Regulations approved by FGS April 2014

FGS Template updated July 2016
Faculty of Graduate Studies Regulation | Supplemental Regulation
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Faculty of Graduate Studies must be submitted in writing by the appellant to the Dean of the Faculty of Graduate Studies within fifteen (15) working days of the date from the date that the appellant was informed in writing of the action to be appealed.

9.5.4.3 Appeals to Senate:

As per The University of Manitoba Governing Documents: Students: Policy: Appeals Procedures and Guidelines (http://umanitoba.ca/admin/governance/governing_documents/students/senate_committee_on_apppeals_procedures.html), appeals to the Senate Committee on Appeals shall be filed with the University Secretary within twenty (20) working days after the mailing of the notice of decision from which the appeal is made.

9.5.5 Academic Appeals Process

9.5.5.1 Documentation

Upon receipt of a formal appeal the Dean of the Faculty of Graduate Studies may, at his/her discretion, consider the appeal or forward it to an Appeal Panel.

If the Dean considers the appeal, the student shall be informed of the outcome, in writing. The appellant may appeal the Dean’s decision to the FGS Appeals Committee, within fifteen (15) working days of the date of the letter of decision.

An Appeal Panel will be struck, and a meeting set, by the Faculty of Graduate Studies to determine whether the appellant has grounds to proceed to a Hearing. If the Appeals Panel determines that there are no grounds, a Hearing will not take place and the appellant will be notified in writing. If the Appeals Panel determines that there are grounds, the appellant will be notified and a Hearing will be scheduled.

If the Appeals Panel determines that there are grounds, the Faculty of Graduate Studies shall inform the appropriate unit head (or designate) of the nature of the appeal and request that he/she be available to respond, along with the FGS Associate Dean, at the Hearing. The respondent(s) will be requested to provide a single letter to the Chair of the Appeals Panel no later than ten (10) working days prior to the hearing in response to the appellant’s appeal.

All documentation that the Appeal Panel will consider shall be made available through the Faculty of Graduate Studies to both the appellant and the respondent(s) at least one (1) week in advance of the hearing with notification of the specific time and location of the hearing. No additional materials should be presented at the time of the hearing. In the case where a request is made to submit additional materials, the Chair may postpone the hearing and allow no more than ten (10) working days for the other party to respond to the new materials.

9.5.5.2 Hearing

The appellant and respondent shall have the right to appear before the Appeal Panel and to call witnesses that he/she wishes to appear before the panel. It is the responsibility of the party calling witnesses to ensure that the witnesses are informed of the date and time of the hearing. The Dean of the Faculty of Graduate Studies shall be notified not less than four working days prior to the hearing of the names of all witnesses that are to be called and shall inform the other party.

The appellant shall be advised by the Dean of the Faculty of Graduate Studies of the right to appear in person or to be represented by the student advocate, a fellow student or other full-time member of the University community not receiving payment for appearing, or working for legal aid.

In addition, if the appellant wishes, one member of his/her immediate family, and a lawyer, may be present, but only as observers who do not participate. The Dean of the Faculty of Graduate Studies must be notified of any persons to be accompanying the appellant at least four working days prior to the hearing.

Hearings shall be held in closed session unless at least one party requests an open hearing and all parties to the appeal agree to the request. During the hearing, the appellant or the respondent may request a change in the open or closed nature of the hearing, at which time the Appeal Panel shall determine its procedures.
As the first item of business in dealing with any appeal, the Appeal Panel shall convene (in closed session) to consider whether:

- the Hearing should be an open or closed session;
- whether there are sufficient grounds to proceed with the Hearing;
- whether the Panel has jurisdiction to determine the matter at hand.

If necessary, the Appeal Panel may hear submissions from either party on any of these points. Normally, the appellant and the respondent will be present during the presentation of the other’s case.

When an Appeal Panel determines that there are insufficient grounds or that it lacks the jurisdiction to proceed with an appeal hearing, it shall report its reasons to the Dean of the Faculty of Graduate Studies.

Both the appellant (and/or representative) and respondent(s) (and/or representative) will be invited to make opening statements, including calling any witnesses. These statements will be subject to questioning by members of the Appeal Panel and cross-examination by the other party. Both the appellant (and/or representative) and respondent(s) (and/or representative) will be invited to make closing statements at which point no new information may be introduced.

The Appeal Panel may request either the appellant or the respondent(s) to provide additional information, or of its own volition call additional witnesses, before reaching a decision. This should be accompanied by a statement that the parties have a right to be made aware of the Panel’s request for information and the results thereof.

All parts of the meeting required by the Appeal Panel to deliberate or determine resolution of the appeal shall be held in camera.

9.5.5.3 Disposition

The Chair of the Appeal Panel shall inform the Dean of the Faculty of Graduate Studies in writing of the disposition of the appeal, the reasons for the decision, and any actions that may result. The Dean of the Faculty of Graduate Studies shall, in turn, inform the appellant and the unit in writing of the disposition of the appeal, the reasons for the decision and any actions that may result. The further right of appeal to the Senate Committee on Appeals should be acknowledged, along with any relevant time limits. The Dean of the Faculty of Graduate Studies may inform the unit of any recommendations brought forward by the Appeal Panel.

9.6 Discipline Appeals

The specific jurisdiction of each of the Disciplinary Authorities is outlined in: University of Manitoba Governing Documents: Students: Bylaw: Student Discipline. See 2.3.3: Table 1: Jurisdiction of Disciplinary Authorities
http://umanitoba.ca/admin/governance/governing_documents/students/868.html

When the appeal is against a disciplinary decision made by the Faculty of Graduate Studies, the appeal routes and procedures as outlined in the following shall prevail: University of Manitoba Governing Documents: Students: Procedures: Student Discipline
(http://umanitoba.ca/admin/governance/governing_documents/students/868.html)

If the appeal is from a decision of the Dean of the Faculty of Graduate Studies the appeal statement shall be delivered to the Dean of the Faculty of Graduate Studies on behalf of the Local Discipline Committee (also commonly referred to as the “L.D.C.”)

If the appeal is from a decision of the L.D.C., the official statement shall be delivered to the Secretary of the University Discipline Committee (U.D.C.) with a copy to the Dean of the Faculty of Graduate Studies.

9.6.1 Discipline Appeal Deadlines

If a student wishes to appeal a decision, the notice of appeal must be delivered in writing to the appropriate person(s) within ten (10) working days of the student being notified of the decision the student intends to appeal.

9.6.2 Appeal of Violation/Penalty
As per section 2.7.2 of The University of Manitoba Governing Documents: Students: Procedures: Student Discipline:
http://umanitoba.ca/admin/governance/governing_documents/students/870.html

The student shall clearly indicate in the notice of appeal whether they are appealing the decision on:

(a) the finding of facts;
(b) the disposition determined by the disciplinary authority; or
(c) both (a) and (b).

9.7 Fee Appeals

Please refer to the Registrar's Office webpage on fee appeals:
http://umanitoba.ca/student/records/fees/830.htm. To initiate the Fee Appeal procedure, the student completes a Fee Appeal form, available online or in the Registrar's Office, 400 University Centre.

9.8 Grade Appeals

Please refer to the Registrar's Office webpage on grade appeals:
http://umanitoba.ca/student/records/exams_grades_hub.html. To initiate the Grade Appeal procedure, the student completes a Grade Appeal form, available online or in the Registrar's Office, 400 University Centre.

9.9 Assistance with Appeals

The Office of Student Advocacy, 519 University Centre, provides information and assistance to students regarding all appeal processes. It is strongly recommended that students contact the Office of Student Advocacy to assist them with any appeal they are considering.

**APPENDIX 1: Thesis/Practicum Types**

A student/candidate may present a thesis/practicum in one of two acceptable formats:

- Regular style
- Manuscript/grouped manuscript style

The type of thesis/practicum must be approved by the advisory committee and comply with all regulations of the Faculty of Graduate Studies and any supplemental regulations of the unit.

1.0 Regular Style

1.1 Prefatory Pages

1.1.1 Title Page

The title page should contain the following information:

- the title of the thesis/practicum,
- the name of the University,
- the degree for which the thesis/practicum is submitted,
- the name of the unit,
- the full name of the author,
- the copyright notation ©.

The title must be a meaningful description of the content of the research. The author's name should be in full, identical to the name under which they are registered and be consistent on all other documents. A sample title page can be found at:
1.1.2 Abstract

The abstract is expected to provide a concise, accurate account of the thesis/practicum. Abstract maximum length is 150 words for a Master’s and 350 words for a Ph.D. An abstract should contain a statement of the problem, methods, results and conclusions.

1.1.3 Acknowledgements

The content of this single page is left to the discretion of the author. For example, the page may make reference to the student/candidate’s advisor/co-advisor and advisory committee, to other individuals who have provided invaluable assistance to the development of the thesis/practicum, and to sources of financial assistance.

1.1.4 Dedication

A single page pertaining to a dedication is allowed.

1.1.5 Table of Contents

This must list and provide page references to, all elements of the thesis/practicum. The numbering and formatting must be identical to the way the material appears in the text. Page numbers should be right justified.

1.1.6 List of Tables

This should immediately follow the Table of Contents and be of the same format. The list must include the number, name and page number of each table.

1.1.7 List of Figures

This should immediately follow the List of Tables and be of the same format as the Table of Contents. The list must include the number, name and page number of each figure.

1.1.8 List of Copyrighted Material

On occasion students/candidates include images, figures, photos and other materials from copyrighted sources. Written permission from the copyright holder is required. This should follow the List of Tables and follow the same format as the Table of Contents. For further information on copyright see: http://umanitoba.ca/faculties/graduate_studies/thesis/copyright_permission.html.

1.2 Format

1.2.1 Styles

The thesis/practicum should be written in a standard style manual that has been recommended by the unit. Manuals recommended by the Faculty of Graduate Studies include but are not limited to:

- American Psychological Association, Publication Manual of the American Psychological Association;
- Kate L. Turabian, A Manual for Writers of Term Papers, Theses and Dissertations;
- The Modern Language Association of America, MLA Handbook for Writers of Research Papers;
- University of Chicago Press, The Chicago Manual of Style;

Students should always use the latest edition available. If there is a conflict between the instructions in this booklet and the style manual chosen, the former should be followed.

1.2.2 Spelling

Canadian, British or American spelling is acceptable, but one style must be used consistently throughout the document.

1.2.3 Format

Double space all text material; footnotes and long quotations may be single spaced. The entire thesis/practicum must be in the same text font, style, and size. Font size should be no less than
<table>
<thead>
<tr>
<th><strong>1.2.4 Margins</strong></th>
</tr>
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<tbody>
<tr>
<td>It is imperative that the specified margins be observed throughout the thesis/practicum. Leave at least a one inch (1.0”) margin from the top, bottom, left, and right hand edges of the paper. These margins apply to all material, including appendices, diagrams, maps, photographs, charts, tables, and others.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>1.2.5 Page Numbers</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Each page in the thesis/practicum must be numbered consecutively. Illustrative pages must also be numbered. Roman numerals should be used for the prefatory pages. The remaining pages of the thesis/practicum, beginning with the introduction (Chapter One) should be numbered consecutively in Arabic numerals.</td>
</tr>
</tbody>
</table>

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<tr>
<th><strong>1.3 Footnotes, References and Appendices</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructions in the style manual recommended by the unit should be followed. Regardless of which style manual is used, format selected must be consistent.</td>
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</table>

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<tr>
<th><strong>1.4 Figures, Illustrations, Photographs and Design Drawings</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.4.1 Illustrative Material</strong></td>
</tr>
<tr>
<td>All illustrative material must be consistent throughout the thesis/practicum. All figures, illustrations, photographs and drawings must be numbered consecutively in Arabic numerals and accompanied with a title. The material should appear as soon as possible after as it is mentioned in the text. All original materials should be of high quality, with sharp and clear images.</td>
</tr>
<tr>
<td><strong>1.4.2 Layout of Tables and Figures</strong></td>
</tr>
<tr>
<td>Each table and figure must have a number and title. The number and title should appear at the top of the table or figure. The title of the table or figure should be as short as possible and indicate the major focus of the material within the table or figure.</td>
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<tr>
<th><strong>1.5 Additional Materials</strong></th>
</tr>
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<tbody>
<tr>
<td><strong>1.5.1 Consent and Access to Information Forms</strong></td>
</tr>
<tr>
<td>Sample copies of consent forms that were used to obtain consent from participants to take part in the information gathering procedures for the thesis/practicum must be included in an Appendix. Any personal information must be omitted from the submitted form.</td>
</tr>
<tr>
<td>In some cases, approval from an agency, institution or corporation may have been required before the information gathering procedures could proceed. The original approval form for access should be retained by the student with a copy provided to the Faculty of Graduate Studies upon completion of the thesis/practicum.</td>
</tr>
<tr>
<td><strong>1.5.2 Use of Copyrighted Material</strong></td>
</tr>
<tr>
<td>If the thesis/practicum includes copyrighted material (images or more than a reasonable extract (according to the Copyright Act) of another person's work), permission must be obtained from the copyright holder. The Faculty of Graduate Studies has developed a form (<a href="http://umanitoba.ca/faculties/graduate_studies/forms/index.html">http://umanitoba.ca/faculties/graduate_studies/forms/index.html</a>) that can be utilized when requesting the use of copyrighted material.</td>
</tr>
<tr>
<td>In some cases, copyright holders prefer to use their own permission forms and/or will provide their permission electronically. Both of these are acceptable by the Faculty of Graduate Studies.</td>
</tr>
</tbody>
</table>
| Note that obtaining permission may take a considerable amount of time and this must be taken into consideration when meeting a thesis/practicum submission deadline. A reference to written permission having been obtained must be included under the image or text. The reference should also include the date the permission was granted, and the name/title of the copyright holder(s). The original form(s) signed by the copyright holders should be retained by the student with a copy provided to the Faculty of Graduate Studies at the completion of the
thesis/practicum.

The thesis/practicum cannot be accepted by the Faculty of Graduate Studies if permission has not been obtained. It is important that the student and their advisor ensure that the permission has been granted. In some cases, the copyright holder cannot be located or the cost is prohibitive to using the text or image. In these situations, the text or image may have to be omitted from the thesis/practicum.

Subsequently, information on where the reader can locate the image or text should be included, such as the URL, title of book/journal, volume and issue number, page number, publisher, and date of publication. A description of the purpose or significance of the text or image should be provided.

For further information on copyright see: http://umanitoba.ca/admin/vp_admin/ofp/copyright/index.html

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<tr>
<th>2.0 Manuscript/Grouped Manuscript Style</th>
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<tr>
<td>A thesis/practicum may comprise a paper, or collection of papers, which are, or are about to be, published. The number of papers that comprise this style of these will be determined between the student and the advisory committee. The formatting of the thesis/practicum must be consistent throughout the thesis/practicum and the thesis/practicum cannot merely consist of several papers or articles bound within the one document.</td>
</tr>
</tbody>
</table>

Publication or acceptance for publication of research results prior to the presentation of the thesis/practicum does not supersede the evaluation of the work by the examination committee (i.e. does not guarantee that the thesis/practicum will be found acceptable). Examiners may specify revisions regardless of the publication status.

The thesis/practicum must follow the same prefatory information (1.1), spelling, formatting margin requirements, page numbering (1.2b-d), footnotes and appendices (1.3), figures, illustrations, photographs and drawings (1.4) and any additional material (1.5) as those outlined above.

There must be an introductory chapter to the entire thesis/practicum which includes its own bibliography. The collection of papers or articles must contribute toward the overall theme that represents the thesis/practicum work and must be smoothly integrated into the flow of the thesis/practicum to produce a unified document. This may require changes or additions to, and re-writing of, any work which has been previously published.

The thesis/practicum must contain connecting text between the different chapters providing logical links to allow the integration of the information. **These connecting sections are mandatory.** Not including these sections may compromise the ability of the examiners to evaluate the thesis/practicum and accordingly there may be subsequent potential consequences.

The thesis/practicum must contain a concluding chapter that includes a discussion on how the thesis/practicum, with its findings, provides a distinct contribution to knowledge in the research area.

In the case of multi-authored papers, the nature and extent of the student/candidate’s contribution, and those of the other authors, must be explicitly specified in a section entitled “Contributions of Authors” in the “Preface” of the thesis/practicum. The advisor/co-advisor, by signing the thesis/practicum submission form, attests to the accuracy of these statements and will be asked to reaffirm at the oral defence in the case of a doctoral thesis/practicum.