

University of Alberta

Department of Medical Genetics Graduate Student Manual

2017-2018

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Overall Introduction

Graduate School is a post-graduate professional training program. Thus, even though a stipend is provided, Graduate school is not a job in the traditional sense. A successful graduate student is generally one that takes responsibility for their own progress and seeks out advice not only from their supervisor, but the other PIs and colleagues around them.

Part of the expectations in being a graduate student is professionalism. This includes interactions with other colleagues, the exchange of knowledge and ideas which can be obtained in many formats both formally (class, seminar, research day) and informally. It is expected that students will participate fully in all of the activities association with their training in graduate school. This is as integral to your degree as is the work that your do in the laboratory towards a thesis.

Clear expectations between the supervisor and student need to be discussed in the initial conversation and a version of the memorandum of understanding (contract and discuss of duties) must be revisited each year. The supervisor is expected to a mentor and guide for the student, provide all reagents and access to animals required to do the experiments. They should provide timely feedback on written work and publication of manuscripts. The priority of the supervisor is expected to be graduate supervision and all aspects that entails.

The student is expected to conduct their research in the most appropriate manner in a timely fashion and to complete all requirements in the Department to produce a thesis and published works. The student is expected to participate in Department activities towards training in their degree. Other opportunities for professional development are encouraged and should be supported by the supervisor (in terms of time to attend such activities) but a balance of progress in the lab and other activities has to be maintained and respected by both parties.

Admission

Applications must be made on-line and require payment of the \$100 application fee (non-refundable) at:

<https://www.ualberta.ca/graduate-studies/prospective-students/apply-for-admission>

In support of the online application, the following documents must be provided:

1. Final official transcripts and degree certificates from all post-secondary institutions attended
2. Three letters of recommendation (in sealed envelopes with a signature across the seal) either on the recommendation form and/or referee's institution letterhead
3. CV form

4. Statement of Interest form

All documents must be mailed to:

**Department of Medical Genetics, Graduate Program Admissions
8-39 Medical Sciences Building
University of Alberta
Edmonton, AB
Canada
T6G 2H7**

Admission Requirements

The Medical Genetics Graduate committee reviews applications and is responsible for rejection or acceptance in our graduate program. Recommendation for admissions will be made by the Graduate Committee, chaired by the Graduate Coordinator, to the Graduate Program in Medical Sciences.

The Department of Medical Genetics requires a **minimum GPA of 3.2** on a 4 point scale based on equivalent of the most recent two years of coursework (or last 60 course credits). The Committee gives preference to students with a background in science, preferably in the Biological Sciences. Applicants are required to prepare a brief statement indicating their interest in Medical Genetics and preferred area of research. **Meeting minimum requirements does not guarantee acceptance into the program.**

Applications from foreign students are welcome. English is the primary language of instruction at the University of Alberta and all applicants must be proficient in English. Applicants with degrees/qualifications in a language other than English need to demonstrate English Language Proficiency.

- For admissions to the Department of Medical Genetics, international students whose language of instruction was not English in their undergraduate or previous graduate program must also present a test score on one of the following English-language proficiency exams that meets the following minimums

Language Proficiency Exam	Minimum score - Overall	Minimum score - Each section
TOEFL (paper based)	600	n/a
TOEFL (internet based)	100	20
Pearson Test of English (Academic)	68	n/a
CAEL	70	70
MELAB	91	n/a

Students whose first language is not English may be required to take English language courses after commencing the program.

For detailed information please visit the websites below:

- FGSR Admissions Requirements:

- <https://www.ualberta.ca/graduate-studies/prospective-students/apply-for-admission>

How to apply:

- <https://www.ualberta.ca/graduate-studies/prospective-students/apply-for-admission>
- Graduate Manual Admission Information
<https://www.ualberta.ca/graduate-studies/about/graduate-program-manual/section-5-admissions>

Students may submit their material for admissions to the program at any time, preferably at least three months before the anticipated start of their graduate program. Applications from foreign students may take longer to process so should be submitted at least 6 months before the anticipated start of the graduate program.

Applications to the graduate program are considered at regular intervals throughout the year.

Financial Support

All graduate students will be paid under the Graduate Research Assistantship Fellowship (GRAF) as per the collective agreement. Please see the following link for more information.

http://www.gsa.ualberta.ca/en/~media/gsa/CollectiveAgreement/2016-2018_Graduate_Students_CA.pdf

Definition as taken from the collective agreement:

“Article 10: GRADUATE RESEARCH ASSISTANTSHIP FELLOWSHIPS

10.01 A Graduate Research Assistantship Fellowship (GRAF) is a form of financial assistance provided to graduate students to allow them to focus on their education and training, as it relates to their own thesis or directed research project.

10.02 The relationship between the Assistantship Supervisor and GRAF is not an employment relationship.

10.03 The GRAF is normally funded through restricted funds and may form part of a funding package to support the graduate student in their graduate studies.

10.04 The value of the Fellowship may vary by discipline and by the requirements of the restricted funds supporting the GRAF.

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10.05 There are no working hours attached to a GRAF. A graduate student can hold a GRAF and also be appointed as a Graduate Research Assistant (GRA) and/or Graduate Teaching Assistant (GTA) up to a maximum of 12 hours per week.

Tuition and fees should be paid by the student directly. For more information on fees, please visit:

<https://www.ualberta.ca/graduate-studies/current-students/tuition-and-fees>

Students are strongly encouraged to seek alternate sources of funding through competitive scholarships from the University and granting agencies. Students awarded competitive scholarships will receive stipends equivalent to the value established by the granting agency. In cases where the scholarship value is less than the GRAF stipend, the difference will be paid from the supervisor's grant.

Graduate studies requires a significant time commitment and in order to graduate within the required time limits you need to commit to full time work on your research project. However, students are allowed to do some minimal work for pay outside of the department only if it does not impact the quality of their research. This should be discussed with and approved by their Supervisor, especially if it has the potential to impact the progress of their research.

Students are allowed to participate in volunteer activities ensuring that it does not impact the progress of their thesis work and with approval of their Supervisor.

Committees

Graduate Committee:

The Graduate Program is administered by the Graduate Committee which consists of the Graduate Coordinator and two additional faculty members appointed by the Department Chair who serve three year terms. The role of the Graduate Committee is to set policy, make decisions regarding admissions and to generally administer the Graduate Program.

In order to ensure the flexibility required to tailor the program to the needs of individual students, the Graduate Committee reserves the right to permit deviations from the Graduate Student Policy in cases where sufficient reasons are given.

Supervisory Committee:

In consultation with the student, the Supervisor shall establish and arrange a meeting of a Supervisory Committee by the end of the first year of graduate studies in the Department. The role of the Supervisory Committee is to advise and guide the student regarding courses required, thesis project, and other issues related to successful completion of the graduate program.

The Supervisory Committee of M.Sc. and Ph.D. students shall consist of at least three faculty members, one of whom must be the student's Supervisor. Members of the Supervisory Committee must meet the minimum "Criteria for Supervision" of the FGSR. See Section 8 on the FGSR website (<https://www.ualberta.ca/graduate-studies/about/graduate-program-manual/section-8-supervision-oral-examinations-and-program-completion>) For Ph.D. students, it is strongly recommended but not required that one member be from outside the department of Medical Genetics. A Chair of the Committee who is not the Supervisor may be appointed at the first Committee meeting.

The Supervisor shall ensure that the Supervisory Committee meets at least once a year. The student must provide a brief written report (no more than 10 pages double

spaced) not including figures, tables or references) to all Committee members one week prior to the meeting. The progress report should include an overview of the project, a brief summary of relevant background, progress made since the last meeting and a description of the goals for the next 6 months to 1 year. Meetings may be held more frequently if deemed necessary by the Supervisor, Supervisory Committee or the student. Students can request to have a supervisory meeting. At the close of the Supervisory Committee meeting, the Committee Chair shall complete an Annual Report of the Supervisory Committee which summarizes the student's progress. This report will remain part of the student's departmental record and will be submitted to the Medical Sciences Graduate Program Committee. To maintain good standing in the Department, students must receive a satisfactory rating at these meetings.

For more information on supervision please visit:

<https://www.ualberta.ca/graduate-studies/about/graduate-program-manual/section-8-supervision-oral-examinations-and-program-completion>

Expectations & Responsibilities

Research Expectations

Students are strongly encouraged to have at least one publication or the data equivalent to one publication before the completion of an MSc and generally the data equivalent of two publications before completion of the PhD (depending on scope and impact of the publications). For a PhD student one of these PhD publications should be a first-author paper in press prior to scheduling of the final examination. Please see <http://calendar.ualberta.ca/content.php?catoid=6&navoid=843#thesis-requirements> for further details.

- Program Planning: <https://www.ualberta.ca/graduate-studies/about/graduate-program-manual/section-6-program-planning-and-registration>
- Administration of graduate program (Categories of students, grads, appeals, extensions, leaves): <https://www.ualberta.ca/graduate-studies/about/graduate-program-manual/section-7-administration-of-graduate-programs>

Seminar Attendance

It is expected that Medical Genetics graduate students attend all departmental seminars. If a student is unable to attend, the Supervisor should be notified.

Good Standing

In order to receive the benefit and privileges given students in Medical Genetics graduate program such as eligibility for scholarship awards that the department must

sign off on, students must remain in good standing in the program. To remain in good standing students must meet program requirements on schedule:

- Completion of Ethics Training requirements within 18 months of beginning the program
- Complete IDP within year 1 and Professional Development hours by 24 months into the program
- Attend all Departmental seminars
- Hold a Supervisory Committee meeting annually
- Maintain academic standard and have satisfactory performance on research progress as determined by Supervisor and Supervisory Committee.
- If completing a PhD, submit a proposal to the Medical Sciences Graduate Program Committee for approval (within 24 months) and complete the Candidacy Exam prior to the end of three years (36 months) into the program. If enter PhD program after completing a MSc then complete PhD proposal for Medical Sciences Graduate Program Committee by 18 months and complete the candidacy exam by 24 months.

Students who are in good standing will be supported by the Department in application for external scholarships and will be eligible for tuition assistance when available.

Ethics Training

All graduate students are required to take at least 8 hours of ethics training in order to graduate.

Students in the Department of Medical Genetics can obtain these eight hours by the following methods:

- The Faculty of Medicine & Dentistry Ethics and Scientific Integrity Day – 5 credit hours. This full day workshop is offered in both the Fall and Winter terms.
- Rehabilitation Research Centre Ethics Series – students will receive one hour of credit for each session that they attend to a maximum of seven credit hours.
- Ethics Workshop in Medical Genetics (ESI Day) – 3 credit hours
This workshop is offered in the Winter term on an as needed basis depending on the number of students requiring ethics training.
- GET Graduate Ethics Training Web CT course – 5 credit hours
- The Care and Use of Animals in Research – 1.5 credit hours
(Health Sciences Laboratory Animal Services)

In order to have your credits recorded, it is the responsibility of each student to provide the Department Graduate Program Administrator with a copy of your proof of

training (i.e. certificate, letter of completion, etc.). Please complete Ethics Training within the first year of your program.

Professional Development Requirement

For all graduate students beginning in September 2016 and onwards there is a requirement to submit a professional development plan (IDP) by the end of year 1 complete 8 hours of ethics training and prior to graduation. This can be accomplished in multiple ways. The FGSR website has several options listed. Sessions offered by FoMD may in some cases (where noted) also be used towards the 8 hour requirement. Check out the FGSR website at <https://www.ualberta.ca/graduate-studies/professional-development>

Registration, Course and Program Requirements

Registration

In order to keep their program active, students registered in thesis-based Master's and Doctoral programs must register each year in course work and/or thesis research (THES 901...THES909). All students must be enrolled in a minimum of 9 credits (9*) each term (September to April). This is normally a combination of graded course work and thesis research. For example, a student enrolled in MDGEN 601 (3*) would also register in THES 906 (6*) for a total of 9 (9*) credits.

All Doctoral programs require registration in a combination of course work and thesis research equivalent to a total of a minimum of 36 units of credit registration by the end of their program (course and thesis).

All thesis-based Master's require registration in a combination of course work and thesis research equivalent to a total of a minimum of 24 credits registration by the end of their program (course and thesis).

Students admitted September 2011 and onwards: Registration fees will now be assessed over the whole year such that tuition is paid in Fall, Winter, Spring and Summer. More details are available on the FGSR website:

<https://www.ualberta.ca/graduate-studies/current-students/tuition-and-fees>

Students are responsible for familiarizing themselves with the requirements and limitations of their programs as specified in each Faculty section of the Calendar, for ensuring that their programs are properly planned and in accordance with degree specifications, and for the completeness and accuracy of their registration. They are also responsible for adjustments in registration made necessary by changes to their academic status.

Students are required to register themselves in their courses each year. If assistance or Departmental approval is required please contact the Student Program Advisor or Graduate Coordinator.

Course and Program Requirements

Students will be exposed to current research in the field through four forums: coursework, student-presented journal clubs and seminars on current topics, a seminar series of invited speakers, and the research environment of the laboratory. The course requirements for the Program in Medical Sciences are 9 Medical Sciences Graduate Program approved credits for a M.Sc. and 12 Medical Sciences Graduate Program approved credits for a Ph.D., for a listing of approved courses please check the following link:

<http://www.med.ualberta.ca/programs/graduatestudies/msgp/courses>

An overview of the Medical Sciences Graduate Program of which Medical Genetics is a member is provided at:

<http://www.med.ualberta.ca/programs/graduatestudies/msgp>

MSc Students

A total of 9 approved graded course credits must be obtained. At least 6 credits must come from MDGEN courses, including at least 3 credits from MDGEN 601(3*) or MDGEN 605 (3*). In addition, MDGEN 602 (1*) must be taken 3 times.

PhD Students

A total of 12 approved graded course credits must be obtained. At least 8 credits must come from MDGEN courses, including at least 6 credits from MDGEN 601 (3*) or MDGEN 605 (3*). In addition, MDGEN 602 (1*) must be taken 3 times. We ask that 601 and 605 be taken as opposed to two 605 or two 601 courses.

Students in the Ph.D. program who have previously completed a M.Sc. require 6 MSGP-approved credits from MDGEN courses.

Minimum Passing Grade

Any requirements unique to the needs of the student will be set by the Supervisory Committee and approved by the Graduate Coordinator.

The minimum passing grade is C+ or better for undergraduate level courses and B or better for graduate level courses. Students must maintain a minimum cumulative grade point average of a B (GPA 3.0) or better throughout the course of the program.

Departmental Presentations

All students will attend all Departmental Journal Clubs even if not enrolled in MDGEN 602. Students are encouraged to volunteer for additional Journal Club presentations during their Graduate Programs.

All Graduate Students will make an oral presentation as part of the Departmental Junior (in 2nd year) and Senior (in 4th year) seminar series. Following the seminar, faculty will meet briefly with the student to provide constructive feedback.

Final Master's Examination

At a time determined in consultation with his/her Supervisory Committee, the student shall prepare a thesis according to the guidelines for thesis preparation by the FGSR. An "Approval to Write Thesis" form must be signed by Supervisor and Supervisory Committee members and provided to the Graduate Coordinator. Agreement to achieve Approval to Write Thesis is generally done within the context of a Supervisory Committee meeting.

The Committee usually consists of the Supervisory Committee. In accordance with FGSR regulations, the Final Master's Examining Committee shall consist of at least three faculty members who are normally full-time and recommended by the Department Chair for approval by FGSR. Since one member must be from outside the Department of Medical Genetics, a member from another Department may be added to the Supervisory Committee to satisfy FGSR rules. The Graduate Co-ordinator of the Department or his/her designate will chair the exam. Unless the Chair is also an Examiner, s/he will not vote on the outcome of the examination.

The thesis should be prepared using one of the formats described in the "Thesis Handbook: A Manual of Regulations and Guidelines for Thesis Preparation" and submitted to the Examiners at least three weeks before the Examination date.

A summary of FGSR formatting guidelines and forms can be obtained at the following link:

<https://www.ualberta.ca/graduate-studies/current-students/masters-thesis-based>

Overview of Exam Format and Requirements

- The Examining Committee shall conduct a final oral examination, based largely on the thesis.
- It is the responsibility of the Supervisor to ensure that proper arrangements are made for the candidate's examination and the examination is scheduled and held in accordance with FGSR regulations. The candidate is not required to make these arrangements.
- The Chair, student and all examiners should have a final draft of the thesis at the examination which they received three weeks prior to the exam date.
- The candidate should make a public presentation about the thesis, usually 45 - 50 minutes long.
- It is customary for the candidate to leave the examining room while procedures are determined and explained.
- The most questioning time should be allotted to the Internal/External Examiner and the least to the Supervisor.
- At the close of the examination, before the student is asked to withdraw, it is often beneficial to ask the candidate if there are any final comments.

- For the adjudication, no final verdict should be rendered without each examiner having given an opinion.
- The overall decision is based on the acceptability of the thesis and the acceptability of the defence.

Student Responsibilities:

- Present thesis plan to committee for acceptance a minimum of 2 months before examination.
- Prepare thesis in accordance with FGSR and Department policy.
- Provide thesis to Supervisor for review at least 6 weeks before exam.
- Submission of the thesis has to occur as a hard copy in person to members of the Examining Committee, as well as electronically by e-mail three weeks prior to the exam date.
- Prepare seminar to present before final thesis defence.
- Amend thesis if necessary and submit to FGSR within 6 months of completion of the Final Oral Exam. Please note that there are also submission deadlines for each convocation period and registration requirements to consider when submitting your thesis.

Supervisor Responsibilities:

- Inform the Graduate Administrator of meeting time, place, and Committee members with a designated Examiner and Chair, at least 3 weeks before the exam.
- Book the room for the exam through the Graduate Administrator.
- Examine amended thesis to confirm completion of revisions recommended by the Examining Committee.
- Complete Thesis Approval / Program Completion form (available from Graduate Administrator).

Final Exam

Please adhere to the following deadlines when scheduling a final examination:

>2 months before: The student presents a thesis plan to his/her Supervisory Committee. A Final Supervisory Meeting may be held to discuss and accept the thesis plan.

4 - 6 weeks before: The student presents thesis drafts to the Supervisor. The student shall allow a minimum of 2 weeks for the Supervisor to provide comments on the final draft of the thesis prior to submission to the Examining Committee. This draft should be free of typographical and formatting errors. Conversely, it is the responsibility of the Supervisor to provide timely comments on all drafts of the thesis. The Supervisor informs the Graduate Administrator of meeting time, place, and committee members with a designated examiner and chair, at least 3 weeks before the exam.

3 weeks before: The Student Program Advisor submits a *Notice of Approval of Oral Examining Committee* form to the FGSR. The student distributes a completed thesis to members of the Examining Committee.

Examination

The final exam shall be immediately preceded with an open Departmental Research Seminar given by the candidate, conducted in the normal manner with a question period and lasting approximately one hour. Immediately following the seminar, the final Examining Committee and the candidate shall proceed to the oral component of the final exam which will be held in a closed session and conducted in accordance with FGSR regulations.

Outcomes

At the close of the examination, the student will be given the opportunity to make final comments on the examination. The student will then be asked to withdraw, and Committee Members will be asked to comment on (1.) the acceptability of the thesis, and (2.) the acceptability of the defence. Following a discussion, the Examining Committee will recommend by a majority secret ballot vote one of the following possible outcomes:

- **Pass** - The thesis and defence approved. All Committee Members shall sign the signature page. Thesis must be submitted to the FGSR office within 6 months of the date of the Final Oral Examination.
- **Pass subject to minor revisions** - Thesis requires minor revisions of editorial nature. All members but the Supervisor may sign the Thesis Approval/Program Completion form. The candidate shall make the appropriate revisions. The Supervisor will withhold signature until the thesis is satisfactorily amended.
- **Adjourned** - Defence was unsatisfactory or thesis requires substantial revisions. No Committee Members will sign the Thesis Approval/Program Completion form. The Committee will specify in writing with as much detail as possible the nature of revisions and additional work, and decide upon a date to reconvene no later than 6 months from the date of the examination.
- **Fail** - Thesis rejected.

Submission of Approved Thesis

A letter will be sent to the student, supervisor, graduate coordinator, and FGSR that will outline the required revisions as determined by the examining committee and the procedure required to obtain final approval. It is the responsibility of the student to complete revisions of the thesis requested by the Examining Committee and to ensure that the revised thesis meets FGSR guidelines (<https://www.ualberta.ca/graduate-studies/current-students/academic-requirements/thesis-requirement-and-preparation>). Once Thesis revisions are completed and approved by the Supervisor, the Supervisor signs the Thesis Approval/Program Completion form. The form is then completed by the Graduate Coordinator or the Department Chair for submission with thesis to FGSR.

- The student must submit to FGSR thesis PDF/A. Please see the following link for submission requirements (<https://www.ualberta.ca/graduate->

[studies/current-students/academic-requirements/thesis-requirement-and-preparation](#)). Any additional supporting documentation must be submitted to FGSR at this time (*i.e.* copyright permission letters). In addition, the Department of Medical Genetics requires one bound copy, accompanied by high quality CD/DVD of multimedia files if appropriate. Students should note that it is customary for a bound copy of the thesis in its final form to be given to the Supervisor.

Please follow Departmental guidelines in terms of color for binding (see Graduate Administrator). For thesis binding, use a thesis binding requisition and submit to:

McCallum Printing Group

B-31 Cameron Library
University of Alberta
Edmonton, AB
780-492-9491

N.B. If the thesis is not submitted to the FGSR within the 6 month time limit, the candidate will be considered to have withdrawn (will receive a fail) from the program. After this time, the candidate must reapply and be readmitted to the FGSR before the thesis can be accepted.

Transfer into the Ph.D. program

Students who enter in the M.Sc. stream may apply to transfer to the Ph.D. program with the approval of their Supervisory Committee.

The student must then complete a Ph.D. proposal package to present to the Medical Sciences Graduate Program Committee for approval by the end of their second year in the program. The proposal should be approved at least 2-4 months prior to the candidacy exam. The candidacy exam **must** be completed by 36 months after entry into the graduate program.

All students submitting a Ph.D. proposal to the Medical Sciences Graduate Program committee will be required to have a committee meeting to discuss the proposal before the supervisory committee members can sign off on the application package. The Graduate Coordinator, or designate, will also attend this meeting. The guidelines for preparation of the PhD proposal package are determined by the Medical Sciences Graduate Program and are provided on the MSGP portion of the Faculty of Medicine and Dentistry website

(<http://www.med.ualberta.ca/programs/graduatestudies/msgp/phd>).

Deadlines for submission of proposals to the Medical Sciences Graduate Program are listed at: <http://www.med.ualberta.ca/programs/graduatestudies/msgp/deadlines>

The administrative Change of Category must not precede the approval of the Ph.D. proposal by more than 4 months.

Please note “that all program requirements, other than the thesis, must be completed within three years of the commencement of the program.

Students who enter directly into the PhD program

Students, who enter directly into the Ph.D. program, having already completed the M.Sc degree, must complete a Ph.D. proposal package to present to the Medical Sciences Graduate Program Committee for approval by the end of 18 months in the program. Students who enter directly into the PhD program having already completed the M.Sc degree should complete their candidacy exam by the end of 24 months into their program.

All students submitting a Ph.D. proposal to the MSGPC will be required to have a committee meeting to discuss the proposal before the supervisory committee members can sign off on the application package. The Graduate Coordinator, or designate, can also attend this meeting. The guidelines for preparation of the transfer package are determined by the Medical Sciences Graduate Program and are provided on the MSGP portion of the Faculty of Medicine and Dentistry website. Please see links:

<http://www.med.ualberta.ca/programs/graduatestudies/msgp/phd>

<http://www.med.ualberta.ca/programs/graduatestudies/msgp/deadlines>

Please note “that all program requirements, other than the thesis, must be completed within three years of the commencement of the program.

Ph.D. Candidacy Examination

A student wishing to pursue a Ph.D. in the Department of Medical Genetics must sit a Ph.D. Candidacy Examination after approval from their Supervisory Committee, and within 36 months or at 24 months if have previously completed M. Sc after commencement of graduate studies in the department. The purpose of this examination is to establish that the student has:

- an adequate knowledge of the discipline
- the ability to pursue and complete original research at an advanced level

The Examining Committee will consist of the Supervisory Committee (3 members), to which at least two other full-time faculty members have been added. Two of the Examining Committee members must come "new" to the Committee (at arm's length

from the student) and one member shall be from outside the Department of Medical Genetics. For definitions of examiners please see:

<https://www.ualberta.ca/graduate-studies/about/graduate-program-manual/section-8-supervision-oral-examinations-and-program-completion/8-1-supervision-and-supervisory-committees>

The examination must be chaired by a faculty member who is not the Supervisor or Co-Supervisor but is a member of the Department of Medical Genetics. The Chair is not a member of the Examining Committee and does not vote. It is the responsibility of the Supervisor to make all necessary arrangements for the Candidacy Examination.

The Candidacy Examination will consist of the submission of a written grant proposal and will consist of a one page Summary of Research (Abstract) and a Proposed Research section (limit 11 pages; for further suggestions and formatting guidelines please see **Appendix 1**). This is combined with an oral defense of the proposal. **Please note** that all proposals will be examined for plagiarism by the graduate committee prior to the oral portion of the exam. This includes for example using any other person's words as your own, citing other person's words without proper citation as appropriate for our field of study. Please see the following link for more information on understanding and avoiding plagiarism

<http://www.osja.ualberta.ca/en/Students/UnderstandingPlagiarism.aspx>
<http://www.osja.ualberta.ca/Students/AvoidingPlagiarism.aspx>

To ensure that students can demonstrate they are able to pursue and complete original research at an advanced level, the project proposals may be related, but must not be identical to any part of ongoing thesis work of the student. Non-admissible topics are, for example, based on a discussion of a potential project at a Committee meeting, on the production of preliminary data in the Supervisor's laboratory or on consultation with a Supervisor regarding future publications. The project proposal must also not overlap with any of the Supervisor's grants (funded or submitted). The topic of the proposal must be approved by the members of the Supervisory Committee and the Graduate Coordinator and must not significantly overlap with any of the Supervisor's grants (funded or submitted).

Students are expected to complete the examination within 6 weeks of having a proposal topic approved. The proposal must be submitted to the members of the Candidacy Examining Committee one week prior to the exam date.

The graduate Advisor must be informed of the exam date to allow a minimum of 3 weeks notification to FGSR. The Student Program Advisor will send a Notice and Approval of Doctoral Candidacy Examining Committee form in addition to a Candidacy Exam Time Line that will outline the procedure for students and examining committee members (see below)

Candidacy Exam Time Line

- **7 weeks** before the scheduled date of the exam, the student will provide two topic ideas with a short (no more than half a page) general description of the

topic and hypothesis. **Please use the candidacy form** which clearly states the procedure to follow (see [Appendix 1](#)). This form can also be obtained from the graduate coordinator.

- The Supervisory Graduate Committee (not the whole Examining Committee) will then have **1 week** to approve one of the topics. At 1 week after the student submitted the topics, the Supervisor (or Graduate Coordinator in absence of the Supervisor) will inform the student of their topic at 4 pm via email.
- Once a topic is approved, the student is expected to complete the Candidacy Exam within **6 weeks (5 weeks** preparation time for the student and **1 week** for review by the Committee).
- A copy of the final proposal is to be submitted to the members of Candidacy Examining Committee **1 week** prior to the exam date (by 5 pm on the day of the deadline).
- Late submission of the proposal to the Committee or a significant delay in proceeding to the exam will mean that the student will have to re-start the proposal writing process picking a new topic.

Note: If the student does not complete the Candidacy Exam within the 36 month deadline, an examination date and topic will then be assigned by the Graduate Program Committee without input from the student or supervisor.

The exam will be carried out in accordance with the guidelines of the Medical Sciences Graduate Program and the Faculty of Graduate Studies and Research.

After the exam has been completed a Report of the Completion of Candidacy Examination must be sent to MSGP and FGSR through the Graduate Administrator.

Comments for Students and Supervisors

- Submits a hard copy in person to the faculty members of the Examining Committee as well as electronically by e-mail.
- The student is expected to give a short (no more than 20 minutes) presentation on the proposal at the start of the exam. The purpose of this presentation is to explain/expand upon the written background and overall proposal hypothesis as well as the experimental approaches proposed by the student.
- The student must prepare the proposal independently of the Supervisor and Supervisory or Examining Committee Members, but may seek assistance and expertise from other colleagues including faculty, post-docs and graduate students.
- If the technical/experimental approaches chosen for the proposal are closely aligned with those currently used in the Supervisors lab, students can anticipate that the depth of knowledge and level of detail they are expected to know will be significantly greater than if new/unfamiliar experimental approaches are pursued.
- Students will also be expected to answer basic questions stemming from knowledge of the basic field of Medical Genetics
- Supervisors set an Examining Committee and date and inform Graduate Administrator to allow for submission of Notice of Candidacy Exam to FGSR at least 4 weeks prior to exam date and booking of a suitable room.

Comments for Examining Committee Members

- Following the student presentation, each examiner will be given approximately 20 minutes to ask questions, usually starting with members furthest removed from the student's academic program and progressing to the member most closely associated with the student. Generally, Examiners will be allowed to interject questions of a related nature. After a brief recess, a second round of questions (maximum of 5-10 minutes per Examiner) may be undertaken to address additional points.
- The questions are expected to primarily stem from the background/hypotheses/methodology presented in the proposal, but can also range to questions relevant to the broader discipline.
- Testing of the basic knowledge in areas relevant to the students' own research topic is also encouraged.
- The proposal is meant to provide a framework for the development of a hypothesis and experimental plan by the student. The student should not be judged solely upon whether the proposal as written would constitute a "fundable" project. Rather, the proposal is a foundation for the development of questions to determine the depth and breadth of a student's knowledge and their ability to logically develop and address a research question.
- Overall the exam is designed to test the student's level of background knowledge as well as their ability to synthesize knowledge, allowing them to demonstrate the potential for completing research at an advanced level.

Outcomes of the Exam

Following the examination, the Examining Committee may recommend one of the following possible outcomes, as required by the FGSR:

- Pass- Performance was exemplary/acceptable. Student becomes a Ph.D. candidate
- Conditional Pass- Performance was weak. Specific conditions need to be met for the student to continue with his/her program
- Adjournment- The Candidacy Examination should be adjourned in the event of compelling, extraordinary circumstances such as a sudden medical emergency taking place during the examination or possible offences under the Code of Student Behaviour.
- Fail and repeat the candidacy – Performance was inadequate.
- Fail
- For a recommendation of Fail the Committee must choose one of the three outcomes:
 1. Repeat the Candidacy Exam
 2. Change of Category to a Master's Program
 3. Recommend termination of the Doctoral Program to the FGSR

If the student's candidacy exam performance was inadequate but the student's performance and work completed to date indicate that the student has the potential to perform at the doctoral level, the Examining Committee may recommend repeat of the candidacy exam.

If the student's exam performance was inadequate and the student's performance and work completed to date indicates that the student has the potential to complete a Master's program, the Examining Committee may recommend a Change of Category to a Master's Program.

If the student's performance was inadequate and the work completed during the program is considered inadequate, the Examining Committee should recommend termination of the student's program.

If the recommendation of a repeat candidacy is formulated by the Examining Committee and approved by the Faculty of Graduate Studies and Research, the student must be notified in writing of his/her exam deficiencies by the Chair of the Examining Committee. The second Candidacy Exam is to be scheduled no later than three months from the date of the first Candidacy. The student will again be required to submit two proposal ideas, but may not include the original examined projects. In the event that the student fails the second candidacy, the Examining Committee shall recommend option 2 or 3 above.

Final Doctoral Examination

At a time determined in consultation with his/her Supervisory Committee, the student shall prepare a thesis according to the guidelines for thesis preparation by the FGSR. "Permission to Write Thesis" form must be signed by Supervisor and Supervisory Committee Members. It is expected that the data equivalent of two publications.

The Ph.D. Supervisory Committee Members shall prepare and sign a "Preliminary Acceptance of Thesis" statement before the thesis is forwarded to the External Examiner.

In accordance with FGSR regulations, the Final Examining Committee shall consist of the student's Supervisory Committee, and two additional faculty members. One faculty member on the Examining Committee must be from outside the Department, and one must be an External Examiner from outside the university.

The Department must recommend an external examiner to FGSR 2 months prior to Examination while the composition of the Examining Committee and exam date must be recommended 3 weeks prior to Examination. The External shall be a recognized authority in the special field of research of the candidate's thesis, and will be an experienced supervisor of Doctoral students. A person who has previously been associated with the candidate cannot normally be approved as an external examiner. Also note, as per FGSR regulations, the external should not contact the Supervisor or student directly regarding the thesis or arrangements related to the examination.

The thesis must be submitted to the External Examiner 4 weeks prior to the Examination by the Administrative Assistant of the Graduate Program. In order to allow sufficient time for shipping, the student must submit a copy of the thesis and the signed "Preliminary Acceptance of Thesis" form, to the Departmental Office 1 to 2 days before it is due to the External Examiner.

The thesis must be submitted to the Examining Committee 4 weeks prior to the examination. The Exam will be chaired by the Graduate Coordinator (or designate) of the Department of Medical Genetics. Further details concerning the administration of the Final Exam can be found in the FGSR Graduate Program Manual.

The Final Exam shall be immediately preceded with an open departmental research seminar given by the candidate, conducted in the normal manner with a question period and lasting approximately one hour. Following the seminar, the Final Examining Committee and the candidate shall proceed to the oral component of the Final Exam in a closed session and according to FGSR regulations. The Graduate Coordinator or his/her designate will Chair the exam. The Supervisor cannot act as chair of the Examining Committee. If the Chair is not a member of the Examining Committee, he or she will not vote on the outcome of the examination. Further details concerning the administration of the Final Exam can be found online in the FGSR Graduate Program Manual.

Outcomes

Following the examination, the Examining Committee may recommend by a majority secret ballot vote one of the following possible outcomes:

- **Pass** - thesis approved. All committee members shall sign the Thesis Approval/Program Completion form. Thesis must be submitted to the FGSR office within 6 months of the date of the Final Oral Exam. If one of the examiners fails the student, that examiner does not have to sign the Thesis Approval/Program Completion form.
- **Pass with minor revisions** - thesis approved, subject to minor revisions. Thesis requires minor revisions of editorial nature. All members except for the Supervisor may sign the Thesis Approval/Program completion form. The candidate shall make the appropriate revisions as outlined by the committee. It is expected that the student will make the changes within six months of the date of the final examination. These changes should be checked and approved by the examining committee chair or supervisor, who does not sign until the required changes are satisfactorily completed. Other committee members may also wish to withhold their signature until they can verify that their required revisions have been made to their satisfaction. Once the required revisions have been made and approved, the department shall submit a completed Thesis Approval/Program Completion form to the FGSR indicating "pass subject to revisions". If one of the examiners fails the student that examiner does not have to sign the form. The

thesis must be submitted to the FGSR office within 6 months of the date of the Final Oral Exam.

- **Adjourned** –Defence was unsatisfactory or thesis rejected pending further work. No member of the examining committee signs that Thesis Approval/Program Completion form. The Committee will specify in writing with as much detail as possible the nature of revisions and additional work, and decide upon a date to reconvene no later than 6 months from the date of the Final Oral Exam.
- **Fail** - thesis or defense unacceptable. If the examination results in a Fail, no member of the examining committee signs the Thesis Approval/Completion form. If the final examining committee agrees that the student has failed, the Committee Chair shall provide the reasons for this recommendation and the Department's recommendation for the student's program in writing to the Vice-Dean, FGSR and to the student. For failed examinations an Associate Dean, FGSR, will arrange to meet with the student and with department representatives before acting upon any department recommendation.

For further details please see section 8.3.4.10 Decision of the Doctoral Final Examining Committee in the FGSR graduate student handbook:

<https://www.ualberta.ca/graduate-studies/about/graduate-program-manual/section-8-supervision-oral-examinations-and-program-completion/8-3-conduct-of-examinations#8.3.4> Final Doctoral Exam

Thesis Submission

Extensive changes to thesis submission are now in effect. Students now have the option to submit their final thesis either electronically or in hard-copy format.

FGSR requires:

one PDF version if submitted electronically Please see the following link for submission requirements (<https://www.ualberta.ca/graduate-studies/current-students/academic-requirements/thesis-requirement-and-preparation>). There are supporting documents that must be sent to FGSR as well.

The Department still requires:

- One bound paper copy
- Generally a bound copy is also provided for the supervisor

Please follow Departmental guidelines in terms of color for binding (see Graduate Administrator). For thesis binding, use a thesis binding requisition and submit to:

McCallum Printing Group

B-31 Cameron Library
University of Alberta

Edmonton, AB
780-492-9491

N.B. If the thesis is not submitted to the FGSR within the 6 month time limit, the candidate will be considered to have withdrawn from the program. After this time, the candidate must reapply and be readmitted to the FGSR before the thesis can be accepted.

Overview of Exam Format and Requirements

- The Examining Committee shall conduct a final oral examination, based largely on the thesis.
- It is the responsibility of the Supervisor to ensure that proper arrangements are made for the candidate's examination and the examination is scheduled and held in accordance with FGSR regulations. The candidate is not required to make these arrangements.
- The Chair, student and all examiners should have a final draft of the thesis at the examination.
- The candidate should make a public presentation about the thesis, usually 45 - 50 minutes long.
- It is customary for the candidate to leave the examining room while procedures are determined and explained.
- The most questioning time should be allotted to the Internal/External Examiner and the least to the Supervisor. Initial round is 20 minutes per Examiner with unlimited time given to the External Examiner. After a short break a second round of questions of 10 minutes per Examiner with unlimited time given to the External Examiner.
- At the close of the examination, before the student is asked to withdraw, it is often beneficial to ask the candidate if there are any final comments.
- For the adjudication, no final verdict should be rendered without each Examiner having given an opinion.
- The overall decision is based on the acceptability of the thesis and the acceptability of the defence.

Student Responsibilities:

- Present thesis plan to Examining Committee for acceptance a minimum of 2 months before examination.
- Prepare thesis in accordance with FGSR and Department policy.
- Provide thesis to Supervisor for review at least 6 weeks before exam.
- Submission of thesis has to occur as a hard copy in person to the faculty members of the Examining Committee, as well as electronically by e-mail.
- Prepare seminar to present before final thesis defence.
- Make revisions if necessary and submit thesis copies to FGSR within 6 months of the Final Oral Exam.

Supervisor Responsibilities:

- Complete a Report of Final Supervisory Committee/Permission to write thesis form.

- Suggest potential external examiners to the Department at least 2 months prior to the examination.
- Inform Graduate Administrator of meeting time, date, place and committee members.
- Circulate the thesis to Supervisory Committee and complete a Preliminary Acceptance of Thesis form a minimum of 4 weeks before the examination. This form is available from the Graduate Administrator.
- Supply External Examiner with a copy of the thesis 4 weeks before the examination.
- Supply other Examining Committee members with the thesis a minimum of 3 weeks before the examination.
- Complete Notice and Approval of a Doctoral Final Oral Examining Committee a minimum of 3 weeks before exam in conjunction with Graduate Administrator.
- Examine amended thesis to confirm completion of revisions recommended by the Examining Committee.
- Complete Thesis Approval / Program Completion form (available from Graduate Administrator).

Preparation of PhD Thesis

FGSR formatting guidelines and forms can be obtained at the following links:
<https://uofa.ualberta.ca/graduate-studies/currentstudents/academic-requirements/thesis-requirementand-preparation>.

Time Limits and Program Extensions

FGSR limits Masters Programs to a maximum of 4 years.

Ph.D. candidates must take their candidacy exam within 36 months of the start of their Graduate Program. To be recommended for a Ph.D. degree, candidates must complete all requirements within 6 years of the time at which they were originally admitted by FGSR. Any time spent as a Master's student in the Department is counted in the limit.

In exceptional circumstances, FGSR may approve extensions if recommended by the department. Granted that sufficient progress has been made on the thesis, candidates should apply for extensions by submitting in writing to the Graduate Committee an explanation for the delay. Requests for repeat extensions will only be considered under compelling circumstances.

A Request for Program Extension form must be submitted to FGSR along with the following:

- Written explanation from the student
- Supporting letter from the Supervisor which will include a summary of the student's progress to date and expected date of completion
- Written justification by the Department Chair or Graduate Coordinator for the extension.

The FGSR will consider approved leaves of absence for maternity reasons and other documented, compelling reasons such as serious illness. The department will submit a written request to FGSR, outlining the reason for the request and the expected date of return. Further information on time limits can be found in Section 7 of the FGSR Graduate Program Manual.

Responsibilities and Conflict Resolution

Supervisor responsibilities:

- At beginning of graduate program complete the Initial conversation form to ensure expectations of both supervisor and student are clear.
- Complete the yearly discussion of expectations with students (Appendix C in the GSA Collective Agreement).
- arrange an appropriate academic program
- provide supportive environment for academic experience
- arrange for the Supervisory Committee to meet at least once a year
- Provide timely feedback on written work and manuscript for publication
- make adequate provisions for supervision when on leave
- arrange for the Candidacy Examination to take place according to Departmental regulations
- set up final examination

Student responsibilities:

- At beginning of graduate program complete the Initial conversation form to ensure expectations of both supervisor and student are clear.
- Complete the yearly discussion of expectations with supervisor (Appendix C in the GSA Collective Agreement).
- ensure that requirements of FGSR are met
- maintain satisfactory academic standing
- participate in academic Departmental activities
- carry out all activities required to complete sufficient work for thesis.
- exhibit a work ethic appropriate to the academic environment

Graduate Coordinator responsibilities:

- oversee admission process in consultation with the Graduate Committee
- promote the general interests of the graduate students
- mediate resolution of conflicts between student and supervisor should they arise
- ensure that examinations take place within FGSR regulations

Informal resolution of conflict

- Grievances of an academic nature sometimes arise. Students should first informally approach the instructor or Supervisor concerned. One party to a conflict is often unaware that there is a problem. In the event that the Supervisor does not react responsibly, the student could turn to another

member of the Supervisory Committee familiar with the situation. Similarly, Supervisors should communicate their concerns as they arise. Written documentation that the concerns of a Supervisor have been acknowledged by the student should be maintained.

Formal resolution of conflict

- The Graduate Coordinator is responsible for promoting the general interests of the graduate students. S/he should be consulted as soon as a conflict becomes apparent and informal resolution fails. The coordinator will arrange for necessary consultation and mediation when requested by the student or supervisor. S/he will listen in confidence, advise and do everything reasonable to achieve conflict resolution, including mediation on behalf of the student. Alternatively, the Department Chair or Chair of the Medical Sciences Committee can be approached in confidence.

Termination of a student's program

- Only the FGSR can terminate a Graduate Student's program. Students wishing to withdraw or Department Chairs who wish to recommend the termination of a student's program must do so in writing to the Dean of FGSR. Grounds for termination include failure to maintain adequate academic standing, failure to meet requirements set out in conditional admission, expiry of program time limit. Students wishing to withdraw are strongly advised to consult their supervisor, the Graduate Coordinator, and, if desired, the Associate Dean of FGSR before submitting their request. A decision by FGSR to terminate a program is subject to appeal via the FGSR academic appeals procedure. Further details on the termination procedure can be found in Section 9 of the FGSR Graduate Program Manual.

Program Withdrawals

Graduate students who wish to withdraw from a term or from their program should complete a *Withdrawal* form, available from the Department. The withdrawal must be approved by the Department and submitted to the FGSR.

After processing, a fee adjustment will be calculated, and any refund will be authorized according to the Refund Deadlines in the [University Calendar](#). The date used for calculating any refund is the one on which the FGSR received the *Withdrawal* form.

Students who withdraw without completing a *Withdrawal* form will not be eligible for any refund of fees, nor will they be exempt from paying assessed fees that are unpaid.

Absence from the Department/University

Occasionally a situation occurs in which a student must leave the Department or the University prior to completion of the thesis and/or the final defence. This will be allowed only under special circumstances. The student must first meet with his/her Supervisory Committee and present an outline of the thesis. The Committee must then determine that no additional results are necessary for the thesis to have adequate substance to warrant that the student proceed to the final examination. After Supervisory Committee approval is granted, the student will be given one year to complete and defend the thesis. If the student has not completed his or her program by the time the one year period has elapsed, s/he must apply and be readmitted to the FGSR before a thesis can be approved.

Summary of Responsibilities

Student's Responsibilities:

- Ensure that requirements of FGSR are met.
- Ensure annual registration is complete by 1 June and accurate.
- Provide a copy of Class Timetable Notice to the Student Program Advisor at the end of August.
- Maintain satisfactory academic standing; including attendance at departmental seminars and performance in the laboratory.
- Maintain detailed and accurate lab notes.
- Provide yearly reports of research progress to Supervisory Committee.
- Provide timely drafts of the thesis.
- Uphold FGSR and Faculty of Medicine and Dentistry codes of conduct
- If working offsite for an extended period of time or travel to a foreign country for a conference or lab work should register with the Office of Insurance and Risk Assessment office.

Supervisor's Responsibilities:

- Arrange proper academic program.
- Provide supportive environment and reagents for academic experience.
- Set-up Supervisory Committee within the first 3 months to develop an academic plan and make arrangements for a meeting at least once a year thereafter.
- Make adequate provisions for supervision when on leave.
- Set up a Candidacy Examination committee and make arrangements for the examination to take place according to departmental regulations.
- Arrange for final meeting of the Supervisory Committee where thesis plan is approved.
- Set up Final Examination and make recommendation to Department for invitation of external examiner. Ensure proper number of arms' length examiners are included on the final exam.
- Provide timely comments on all drafts of the thesis.

- Ensure that the final thesis is complete and ready for submission to exam committee members.
- Ensure that Preliminary Acceptance of Thesis form is completed.
- Confirm completion of thesis revisions and complete Thesis Approval/Program Completion form (available from Graduate Administrator).
- Cover the costs of thesis preparation and binding.
- Provide stipend for at least 3 months for thesis preparation for Master's and for at least 6 months for PhD students.
- Uphold FGSR and Faculty of Medicine and Dentistry codes of conduct
- If your student working offsite for an extended period of time or travel to a foreign country for a conference or lab work should register with the Office of Insurance and Risk Assessment office.

Graduate Coordinator's Responsibilities:

- Oversee admission process in consultation with the Graduate Committee.
- Promote the general interests of the graduate students.
- Ensure that s/he or her/his designate chairs all candidacy, Master's and Doctoral examinations.
- Mediate resolution of conflicts between student and Supervisor as they arise.
- Uphold FGSR and Faculty of Medicine and Dentistry codes of conduct

Convocation

The University of Alberta holds two convocations each year:

Spring Convocation in June

Fall Convocation in November

Students must complete all the following steps **before** the graduate student convocation deadlines (early October and mid-April; varies from year to year) in order to convocate.

Apply for convocation using Bear Tracks: All applications for convocation are subject to review and approval by the Faculty of Graduate Studies and Research. Applying to convocate on Bear Tracks does not guarantee convocation.

Prepare and submit thesis to the Faculty of Graduate Studies and Research.

Ensure the Department has sent the appropriate program completion form to the Faculty of Graduate Studies and Research.

Pay outstanding fees. Parchments and other official documentation will not be released to students with outstanding account balances.

For more information on convocation, including exact deadlines, please visit:

<https://www.ualberta.ca/graduate-studies/current-students/academic-requirements/convocation>

Code of Student Behavior

All students are upheld to the Code of Student Behavior.

Inappropriate academic behavior punishable under the code includes (but is not limited to) plagiarism, cheating, misrepresentation of the facts, research and scholarship misconduct.

Plagiarism is never tolerated. This could include (but not limited to) in a class presentation, in a paper for a course, or a candidacy proposal.

The code lists sanctions that may be imposed including (but not limited to) expulsion from graduate school, mark reduction, grade of F9, suspension or rescission of degree already awarded.

The Code is available at <http://www.governance.ualberta.ca/>

Code of Professionalism in the Faculty of Medicine and Dentistry

<https://cloudfront.ualberta.ca/-/media/medicine/departments/medicine/faculty-staff/adminservices/hr/codeofconduct2.pdf>

Professional Practice – FGSR resources

<https://www.ualberta.ca/graduate-studies/professional-development/professional-development-resources/professional-development-presentations-and-tip-sheets/professional-practice>

Appendix 1

Hints for Preparation of CIHR Format Based Proposal for Candidacy Exam

Reviewers of actual CIHR proposals must read many proposals and can devote only a limited amount of time to each one. Therefore, clarity and effectiveness of presentation are important for obtaining funding and will be criteria for evaluating student proposals. Readers should be able to grasp the important points during a single reading without undue study and re-reading. An effective summary is particularly important in this regard. The student should consult the CIHR guidelines for what should be included in the summary. The summary is an integral part of the proposal and it is unnecessary to repeat it in the proposal itself.

A good general plan for the research proposal is to set out the goals of the project and present the necessary background in a way that focuses on these goals in the first 3 to 4 pages. Students are strongly encouraged to include diagrams that integrate this information and illustrate the relationships between the various cellular components investigated in the proposal. In the remaining pages, the proposed experiments should be organized as several specific aims or subprojects. Each specific aim should be self-contained with a brief introduction. It should include clear statements of the hypothesis, methods, experimental design, possible pitfalls, expected outcomes, and significance of the proposed experiments. The working hypotheses and proposed experiments should be based on published results. Students are expected to employ methodologies that will actually work if the experiments were to be undertaken. Techniques and instrumentation must be relevant to what is proposed. The student can assume that s/he will have access to any existing, published reagents, constructs, antibodies, etc., and these must be properly referenced; the grant shall include a

description of the generation of any other materials required for the proposed experiments.

The proposal is expected to meet the same scholarly standards that apply to published research papers. The sources supporting all statements in the proposal concerning facts, reagents or ideas obtained from the literature must be referenced with primary research papers or review articles; the references, with full authorship and title, must provide direct and accurate support. The use of "in press" and/or "personal communication" will not be permitted. Database sources and accession numbers must also be included for nucleotide and protein sequences. Any text copied from another source must be set off in quotation marks, and the source must be referenced. The student is expected to have read and understood that part of the content of all references that is relevant to their proposal.

Formatting Guidelines

Additional guidelines for production of the written research proposal include:

Use 8.5" x 11" paper and print on one side only.

Use single-spaced type, no smaller than 12 point font. Condensed type or spacing is not acceptable.

A margin of at least one inch around the page is required.

The final submitted written document includes:

- a cover page with the title of the proposal, the student's name, and the date, time, and location of the examination
- a one-page research summary
- the research proposal of no longer than 11 pages, not including References, Tables and Figures
- Figures must have succinct legends