



UNIVERSITY OF TORONTO  
FACULTY OF KINESIOLOGY & PHYSICAL EDUCATION

# Exercise Sciences Handbook 2018-19



**MOVEMENT  
SCIENCES  
TO MOVING  
KNOWLEDGE**

# CONTENTS

## THE GRADUATE DEPARTMENT OF EXERCISE SCIENCES

Welcome .....	1
Registration.....	2
Policies, Guidelines And Student Responsibilities .....	2
Official Correspondence With Students University Of Toronto Policy.....	3
Leaves Of Absence .....	3
Financial Assistance .....	3
Supervision.....	4
Annual Supervisory Committee Meetings.....	4
Code of student conduct.....	4
Good standing requirement .....	4
EXS Course Descriptions.....	5

## MASTER OF SCIENCE

MSc Degree Requirements .....	7
Grading.....	7
Original Research And Thesis .....	8
Msc Degree Time Limit.....	9
Msc Defences.....	9
Evaluation.....	10
Examination Format.....	11
Conduct of the Examination.....	12
Evaluation and Voting .....	12

## DOCTOR OF PHILOSOPHY

PhD Degree Requirements.....	13
Grading.....	14
Original Research And Dissertation.....	14
PhD Comprehensive Timeline .....	15
PhD Defences.....	16
Evaluation.....	17
Examination Format.....	19
Conduct of the Examination.....	19
Evaluation and Voting .....	20

## STUDENT SERVICES AND RESOURCES

Support and Resources .....	24
School of Graduate Studies .....	24
Faculty of Kinesiology and Physical Education Facilities.....	25
ACORN - Student Web Service .....	25
TCard Information/Library Information.....	25
Quercus .....	26
CONTACT INFORMATION.....	26

## APPENDIX A

Satisfactory Academic Progress and Good Standing Guidelines for Exercise Science Graduate Students (MSc and PhD) .....	27
Graduate Department of Exercise Sciences Annual Program Audit Process.....	30

## APPENDIX B

Tracking Degree Progress.....	31
MSc Program Timeline — Target Dates.....	31
PhD Program Timeline — Target Dates.....	32

# EXS SESSIONAL DATES 2018-2019

## FALL SESSION 2018

August 3	Course enrollment on ACORN begins
August 6	Civic Holiday (University Closed)
August 24	Last date for tuition fee deferral or payment of minimum required payment to ensure registration for 2018-19
August 24	Final date to submit MSc Final Defence request form to the EXS Graduate Programs Office (in order to avoid paying fees for Fall term)
September 3	Labour Day (University closed)
September 5	Final date for EXS7001H/EXS7002H (Summer session) grades to be submitted by instructors
September 10	First day of EXS courses
September 12	Summer session grades available for viewing by students on ACORN
September 14	Final date to submit PhD thesis (final version) to SGS to avoid fee charges for 2018-19
September 21	Final date to hold an MSc Final Defence (to be eligible to avoid fee charges for 2018-19)
September 20	Final date to submit EXS7001H/EXS7002H enrolment forms (for Fall session) to EXS Graduate Programs Office
September 20	Final date to submit Course Add/Drop forms (for courses in other departments) to EXS Graduate Programs Office
September 24	Final date to enrol in Fall session EXS courses (via ACORN)
September 26	Final date for supervisor to submit approval of MSc defence revisions to EXS Graduate Programs Office
September 27	Final date to submit MSc thesis (final version) to SGS to avoid paying fees for 2018-19 and be eligible for November convocation
September 27	Final date to submit PhD thesis (final version) to SGS to be eligible for November convocation (some tuition fees still apply)
October 8	Thanksgiving Day (University closed)
October 29	Final date to drop Fall session courses without academic penalty
November TBA	November (Fall) Convocation - dates to be posted on <a href="http://www.convocation.utoronto.ca">www.convocation.utoronto.ca</a>
December 24	Winter break (December 24-January 4) inclusive (University closed)

## WINTER SESSION 2019

January 7	University re-opens
January 7	First day of EXS courses for Winter term
January 11	Final date for EXS7001H/EXS7002H grades to be submitted by instructors
January 14	Final date to submit PhD thesis (final version) to SGS to avoid fee charges for Winter session
January 16	Fall session grades available for viewing by students on ACORN
January 16	Final date to submit EXS7001H/EXS7002H enrolment forms (for Winter session) to EXS Graduate Programs Office
January 16	Final date to submit Course Add/Drop forms (for courses in other departments) to EXS Graduate Programs Office
January 16	Final date for supervisor to submit approval of MSc defence revisions to EXS Graduate Programs Office
January 17	Final date to submit MSc thesis (final version) to SGS to avoid paying fees for Winter session and be eligible for March convocation (in absentia)
January 17	Final date to submit PhD thesis (final version) to SGS for March convocation (in absentia)
January 21	Final date to enrol in Winter session EXS courses (via ACORN)
February 18	Family Day (University closed)
February 25	Final date to drop full year and Winter session courses without academic penalty
April 11	Final date to hold an MSc Final Defence (to be eligible for June Convocation; fees still apply)
April 17	Final date for supervisor to submit approval of MSc defence revisions to EXS Graduate Programs Office
April 18	Final date to submit MSc thesis (final version) to SGS to be eligible for June convocation
April 19	Final date to submit PhD thesis (final version) to SGS for June convocation
April 19	Good Friday (University closed)

## SUMMER SESSION 2019

May 2	Final date to submit EXS7001H/EXS7002H enrolment forms (for Summer session) to EXS Graduate Programs Office
May 2	Final date to submit Course Add/Drop forms (for courses in other departments) to EXS Graduate Programs Office
May 6	Final date to enrol in May-June or May-August session courses
May 8	Final date for EXS7001H/EXS7002H grades to be submitted by instructors
May 15	Winter session grades available for viewing by students on ACORN
May 20	Victoria Day (University closed)
May 24	Final date to drop May-June F section courses without academic penalty
June TBA	June Convocation - dates to be posted on <a href="http://www.convocation.utoronto.ca">www.convocation.utoronto.ca</a>
June 17	Final date to drop May-August Y section courses without academic penalty
July 1	Canada Day (University closed)
July 2	Final date to enrol in July-August courses
July 15	Final date to drop July-August S section courses without academic penalty
July 17	Grades for May-June F section courses are available for viewing by students on ACORN
August 2	Course enrollment on ACORN begins
August 5	Civic Holiday (University Closed)
August TBD	Last date for tuition fee deferral or payment of minimum required payment to ensure registration for 2019-20
August 23	Final date to submit MSc Final Defence request form to the EXS Graduate Programs Office (in order to avoid paying fees for Fall term)

**TALENTED STUDENTS  
+  
RENOWNED SCHOLARS  
+  
OUTSTANDING RESOURCES  
AND FACILITIES  
=  
INNOVATIVE AND  
INSPIRING RESEARCH**



## **Department of Exercise Sciences**

---

Ira Jacobs, Dean  
Ashley Stirling, Vice Dean, Academic Affairs  
John Cairney, Professor and Director, Graduate Studies  
Wendy Pais, Registrar and Director of Student Services  
Zarine Ahmed, Graduate Program Coordinator  
Ashleigh Calabrese, Graduate Program Assistant

**55 Harbord Street, Toronto, ON M5S 2W6**  
**Tel: 416.978.6087**  
**Fax: 416.971.2118**  
**Email: [exs.kpe@utoronto.ca](mailto:exs.kpe@utoronto.ca)**

**[www.exs.utoronto.ca](http://www.exs.utoronto.ca)**

# THE GRADUATE DEPARTMENT OF EXERCISE SCIENCES

---

Welcome to the Graduate Department of Exercise Sciences (EXS). Our purpose is to prepare students for careers as research scientists, public policy analysts, teachers, and college and university faculty. The Graduate Department of Exercise Sciences offers students access to a diverse group of **faculty**, who provide courses and research expertise in three areas of study: behavioural, biophysical and physical cultural. Research topics may include, but are not limited to:

- Behavioural:** exercise psychology, sport psychology, health psychology, psycho-social aspects of stress.
- Biophysical:** muscle physiology, cardiovascular function and health, physiological responses to exercise in health and aging, women's health, neural control of motor function, motor learning and control and nutrition.
- Physical Cultural:** sport policy, physical cultural, ethical and philosophical issues in health and physical activity, sport and development, sport history and health communication.

Students choose to study a specific stream or adopt a multidisciplinary approach that incorporates many areas of study. The Graduate Department of Exercise Sciences is governed by the mission of the Faculty:

**To develop, advance and disseminate knowledge about physical activity, health and their interactions through education, research and leadership.**

EXS students will find that the common theme across all areas of study is a concern about the interactions between physical activity and health, where “physical activity” includes exercise, sport, dance and play, and “health” is the state of complete physical and social well-being; and not merely the absence of disease. Both the master and doctoral degree programs are designed to enhance students’ understanding of the ongoing interaction between health and physical activity, to strengthen their ability to perform independent research and significantly advance their knowledge of exercise sciences.

This handbook focuses on the procedures related to progression through the degree. More information on graduate courses and on other aspects of the program (e.g. **seminar series**) can be found on the website at <http://www.exs.utoronto.ca>.



## REGISTRATION

---

Students are considered registered once they have either had their fees deferred, if eligible, or paid the minimum payment to register as noted on their tuition invoice. Students are expected to register every year and remain continuously registered until all degree requirements have been fulfilled unless they take an approved leave, regardless of whether or not they are taking courses. Students who do not register as required, or are not permitted to register because they have reached the time limit for the degree and a program extension was not approved or appropriate, will have their registration end. Students who fail to register may not make demands upon the resources of the University, attend courses, or expect advice from their supervisor.

If you fail to register and wish to return to your studies, you must request to be reinstated in your program. Reinstatement is permitted if you are still within the maximum allowable time for your degree program.

Reinstated students in programs requiring continuity of registration must pay fees owing for any session(s) in which they did not register before and after time limit including program extension session(s). More information available on the School of Graduate Studies webpage, [Maintaining your Program](#). Please note that students cannot be enrolled in more than one full-time program at the same time.

## POLICIES, GUIDELINES AND STUDENT RESPONSIBILITIES

---

It is your responsibility to be aware of policies, procedures and deadlines during the course of the degree. You are expected to comply with the School of Graduate Studies (SGS) policies as detailed in the [School of Graduate Studies Calendar](#).

Get to know your rights and responsibilities. Find out about U of T policies, SGS regulations, memos and guidelines on intellectual property by visiting the [SGS Policies, Guidelines, Student Responsibilities](#) website.

### Student Code of Conduct

EXS students are expected to act in accordance with the Code of Student Conduct outlined in the current [School of Graduate Studies Calendar](#) as defined by the Office of Governing Council, University of Toronto.

### Avoiding Cheating and Plagiarism

U of T prohibits cheating and plagiarism and enforces severe penalties against students who break the rules outlined in the Code of Behaviour on Academic Matters, which include:

- Using unauthorized aids on an exam or test
- Looking at someone else's answers during an exam or test
- Falsifying documents or grades
- Making up sources or facts for an essay or report
- Submitting the same work in more than one course (without permission)
- Submitting someone else's work as your own

## OFFICIAL CORRESPONDENCE WITH STUDENTS UNIVERSITY OF TORONTO POLICY

---

The University and its divisions and the Department of Exercise Sciences will communicate with students primarily via email, and all students are required to obtain and maintain a University of Toronto email address. This is the only email address that will be used for official correspondence. Official correspondence may include, but is not limited to, matters related to students' participation in their academic programs, important information concerning University and program scheduling, fees information, and other matters concerning the administration and governance of the University.

### a) Postal Addresses and Electronic Mail Accounts

Students are responsible for maintaining and updating their contact information on the student information system (**ACORN**). This information must include current and valid mailing and permanent addresses as well as a University of Toronto email address. Failure to provide and maintain this information may result in a student missing important information and will not be considered an acceptable rationale for failing to receive official correspondence from the University.

### Leaves of Absence

Students considering a leave of absence from the program, must contact the Graduate Programs Office at [exs.kpe@utoronto.ca](mailto:exs.kpe@utoronto.ca) to discuss options. Once on leave, students will neither be registered nor will they be required to pay fees for this period. In general, students on leave may not make demands upon the resources of the university, attend courses, or expect advice from their supervisor.

### Withdrawal

Students considering program withdrawal, must contact the Graduate Programs Office at [exs.kpe@utoronto.ca](mailto:exs.kpe@utoronto.ca) to discuss options.

Any student that withdraws from the EXS program and is interested in rejoining, must re-apply to the program in the following year to continue the program. Re-admission is not guaranteed.

### Appeals

The Department of Exercise Sciences will follow the SGS policies for student appeals. For information regarding appeals and the nature of appeals, please contact [exs.kpe@utoronto.ca](mailto:exs.kpe@utoronto.ca).

## FINANCIAL ASSISTANCE

---

Additional information on funding your graduate education can be found on the [School of Graduate Studies website](#).

### a) EXS Funding

All degree students admitted to full-time studies in the Department of Exercise Sciences will receive a funding package. This funding package is made up from a combination of sources, including a University of Toronto Fellowship, a teaching assistantship, and for international students a Research Assistantship (RA). Master's students are currently funded for two years of full-time study. Doctoral students are guaranteed funding for four years of full-time study. Individual funding package breakdowns (annual funding letter) will be provided to students before the start of each academic year. This letter includes the total funding for the academic year, including awards and the expected installments of each. Funding is conditional on maintaining good academic standing and making good progress towards completion of degree requirements.

### b) Awards

The Department of Exercise Sciences offers several in-program awards in addition to the funding package. The EXS internal awards announcement will be sent out by the EXS Graduate Programs Office each summer, asking students to submit applications. You must be a full-time EXS student in the funded cohort in order to apply for EXS internal awards.

EXS students are eligible for a variety of external awards and scholarships, for example NSERC, CIHR, SSHRC and OGS. Scholarship competitions are held in the early fall each academic year and all eligible students are required to apply for external funding in order to maintain good academic standing. The EXS Graduate Programs Office will send detailed information about external awards (deadlines, application process, etc.) to current EXS students. Information on these awards can be found by consulting the section on Government Funded Awards on the [School of Graduate Studies website](#).

### Tuition Fees

Tuition fee invoices will be available in mid-July on ACORN.

### Tuition Fee Deferral

Students are eligible to defer their tuition fee in order to register based if they are in the funded cohort or if they are on OSAP. Students beyond their funded cohort who are receiving TAs in the amount that exceeds the minimum payment to register amount are also eligible for deferral of tuition fees to register. For more information, please contact [exs.kpe@utoronto.ca](mailto:exs.kpe@utoronto.ca).

## SUPERVISION

---

All EXS students must have a supervisor. Supervisors oversee their student's program of study, including selection of courses, delineation of material and reading lists for comprehensive exams (for PhD students), development and defence of the research proposal, progress through ethics review, conduct of research, and the writing and defence of the dissertation.

A student and supervisor should be in regular contact during the development and pursuit of the degree. Students have the right to reasonable access to their supervisors. Under normal circumstances students should expect to have written work (of reasonable length) returned to them with the supervisor's comments two weeks after submission.

The interval between meetings depends on the stage and nature of the research project. As a rule of thumb, monthly meetings between student and supervisor are desirable, if only to convey information about progress in the interim period. Each student and supervisor should establish and agree upon a minimal schedule of meetings for the duration of the program at their initial meeting.

For more information on supervision, please visit the [SGS webpage on Supervision](#).

## STRUCTURE OF THE SUPERVISORY COMMITTEE

Your Supervisory Committee should consist of three members:

### Supervisor

This is the primary member and your direct supervisor. This member must have a primary School of Graduate Studies (SGS) appointment in the Department of Exercise Sciences.

### Supervisory Committee Members:

This committee should include two additional faculty members holding appointments to the SGS, one of whom must be a Department of Exercise Sciences faculty member.

To get a faculty member SGS appointed (if they are not already), please contact the EXS Graduate Programs Office.

Once the supervisory committee is formed (by the end of January of Year 1), you need to submit the Supervisory Committee Form (available at [www.exs.utoronto.ca](http://www.exs.utoronto.ca)) to the EXS Graduate Programs Office.

## ANNUAL SUPERVISORY COMMITTEE MEETINGS

---

The School of Graduate Studies requires that all graduate students have at least one official Supervisory Committee Meeting each academic year. These meetings are necessary to maintain good standing and to make satisfactory progress to degree completion. An official meeting requires that all members of the supervisory committee participate and offer feedback to the student. The [Annual Supervisory Committee Meeting form](#) must be filled in and submitted to the EXS Graduate Programs Office before the end of May each academic year. [Guidelines for Graduate Supervision](#) for students and faculty are available on the SGS website.

## CODE OF STUDENT CONDUCT

---

EXS students are expected to act in accordance with the Code of Student Conduct outlined in the current [School of Graduate Studies](#) calendar as defined by the Office of the Governing Council at the University of Toronto.

## GOOD STANDING REQUIREMENT

---

Satisfactory progress through the graduate program is a shared responsibility between the Graduate Department of Exercise Sciences (EXS), the graduate student and the supervisor. Understanding and being in compliance with the conditions and regulations of "Good Standing," as well as maintaining satisfactory academic progress, ultimately remains the responsibility of the graduate student.

To be in good academic standing, a student registered in a degree program in the School of Graduate Studies must:

1. Comply with the [General Regulations](#) of the School of Graduate Studies as well as with the Degree Regulations and program requirements governing that degree program.
2. Make satisfactory progress towards the completion of the degree.

Please check Appendix A on page 27 for details.

## MSC TO PHD TRANSITION

---

Occasionally, exceptional MSc students may be invited by their supervisor and/or committee to transfer to the PhD Program. The decision to transfer will be determined and approved by the Graduate Committee. Details regarding MSc to PhD transfers can be obtained from the EXS Graduate Programs Office, [exs.kpe@utoronto.ca](mailto:exs.kpe@utoronto.ca).



# EXS COURSE DESCRIPTIONS

## EXS1150H Safeguarding Youth in Sport

While the vast majority of young people experience positive benefits from their sport participation, some however, experience harmful behaviours in the sport context. In order to optimize the sport experiences of young athletes, it is paramount that adults in positions of responsibility over young people in sport are aware of the potential for these negative experiences and are educated about specific strategies for prevention and intervention. As issues of athlete maltreatment continue to emerge through research and media outlets, the need for athlete protection and positive athlete development models increases. In this course students will be introduced to concepts, theories and ideologies of maltreatment and protection as they apply to sport. Students will have the opportunity to critically discuss current dilemmas within the field of athlete welfare and will be challenged to critique present research as well as educational, advocacy, and policy initiatives intended to safeguard young people in sport.

## EXS1152H: Psychological Issues in Sport-Related Concussion

The course examines psychological and psychosocial issues related to sport concussion. It reviews the development of sport neuropsychology, and identifies theory, research, and best practice in the management of sport-related concussions. Empirical research and its implications for clinical practice and return to play are emphasized.

**Pre-requisite:** Undergraduate introductory psychology, sport psychology, and research methods and evaluation or statistics.

## EXS5503H: Adaptations to Habitual Activity

This course is designed to deepen your understanding of the physiological bases of adaptation to regular exercise. Specific topics relevant to how adaptations relate to health and performance for particular populations will be addressed. You will be exposed to alternative approaches to the physiology of adaptation to exercise. Models of physiological systems, and in particular quantitative approaches, will be explored. The role of the cardiorespiratory system in health and performance will be emphasized.

## EXS5505H: Neuromotor Behaviour

This course is designed to expose the student to current issues in sensorimotor and perceptual-motor behaviour. The focus of the selected course material is on how humans plan and control goal-directed actions. The course will cover both neural and behavioural processes that underlie upper limb movements. The theoretical context will be discussed in relationship with fundamental neuroscience, while considering applications in physical activity, rehabilitation, cognitive psychology and human-machine interfaces.

**Pre-requisites:** Permission of the instructor. It is highly recommended that the student have a background in kinesiology, psychology, movement rehabilitation, neuroscience or related discipline.

## EXS5508H Neurorehabilitation & Exercise

The intent of this course is to provide students with an understanding of human cardiovascular regulation and adaptation during exercise in various cardiovascular disease states. Factors regulating cardiac and vascular function, their inter-dependence and effects of acute and chronic exercise are discussed in detail, covering various cardiovascular disease states including coronary heart disease, hypertension and heart failure. In addition, methods to assess cardiovascular function during exercise will be discussed, as well as a critical analysis of exercise interventions currently used in cardiovascular disease. The format of the course will be a mixture of lectures, critical review of journal articles and student seminar presentation.

## EXS5509H: Applied Muscle Physiology

This course provides a detailed discussion and description of the unique features of skeletal muscle as they apply to muscle adaptation. Specific topics including techniques, fibre types, stress responses, atrophy, hypertrophy, muscle damage, genetics, aging, and inflammation will be discussed and evaluated. The goal is to communicate important and relevant aspects of muscle physiology and biochemistry as well as relevant laboratory techniques to the learner such that they will have a solid understanding of investigation.

## EXS5510H: Qualitative Inquiry and Physical Cultural Studies

This course is intended to familiarize students with qualitative research approaches and methodologies used in sport, physical activity, and health-related research, and to offer an opportunity to learn and practice skills for developing, implementing, analyzing and articulating/disseminating research projects based on qualitative data. By reading, discussion, and practice, you will gain an awareness of the appropriate qualitative procedures associated with particular research questions, how to interpret and represent qualitative data in various ways, how to critically assess and employ qualitative data, and how to articulate (in a preliminary way) a theoretical point of view through oral/written reports.

## EXS5513H: Current Issues in Exercise Psychology

This course examines research, literature, and applied skills related to the psychology of physical activity, exercise, and health. The course takes a biopsychosocial approach to understanding health behaviour and draws from research and practice in exercise psychology, health psychology and behavioural medicine. A variety of topics will be presented and discussed, including but not limited to: physical activity theories, measurement of behaviour, self-concept and body image, identity and schema, affect and emotion, social relationships and support, special populations and exercise, quality of life and behavioural interventions.

## EXS5514H Sensori-Motor Neurophysiology

The objective of the course is for students to develop a comprehensive knowledge of the neural networks underlying the processes of perception and action from the micro to the macroscopic levels. Topics include: neural anatomy and physiology, neurotransmitters, cortical and subcortical structures of the central nervous system, and neurophysiological techniques employed to study the structure and function of the human nervous system. Students will then use the principles and theories uncovered during the course to develop an appreciation of neural dysfunctions leading to a cognitive or motor disorder of their choosing.

## EXS5515H: Research Methods in Physical Activity and Health

The objective of the course is for students to develop an understanding of common research approaches and procedures, and the application of statistical techniques in current use in the study of physical activity and health. Topics include: research design, descriptive and inferential statistics, non-parametric, univariate and multivariate analysis of variance, correlation, and regression.

## EXS5518H: Physical Cultural Studies and Social Theory

This course is intended to provide students with a graduate level (re) introduction to the development and current status of physical cultural studies (PCS) theory. In this course, we approach the physical cultural studies oeuvre as an inter- and trans-disciplinary approach to the analysis of human movement, embodiment and corporeal representation within and across social institutions and cultural groups. In the process of dissecting the theoretical bases of PCS, we will be visiting and revisiting classic and core theoretical statements in sociology, philosophy and the humanities on the nature of the society, and the self and culture.

## EXS5525H: Qualitative Motion Analysis

Through any combination of assigned readings, presentations, tutorials, laboratory activities, and a directed project, students will learn basic principles and practices of motion analysis used to study the biomechanics and motor control of human movement. Topics covered vary in accordance with student needs/interests, but generally relate to the acquisition, processing, and analyses of kinematic, kinetic, and electromyographic signals. The overarching objective of this course is to provide kinesiology students with knowledge and skills necessary to conduct, critically evaluate and disseminate research that incorporates motion analysis equipment, tools, and techniques.

## EXS5530H: Extreme Human Physiology

People are pushing the limits of what humans are capable of in a variety of activities and environments. This course is designed to enable students to gain an in-depth understanding of the foundational science of human physiology in extreme conditions related to exercise performance. Students will explore the existing body of literature and evidence investigating human performance in extreme conditions. They will also study current contentious issues and the applicability of research findings. The course will involve analyzing interviews with athletes and explorers who have completed remarkable activities and expeditions. The analysis will be discussed in class and students will be required to write reports summarizing their analysis and observations.

**Pre-requisites:** Undergraduate courses in human anatomy, exercise physiology or psychology, or permission of the instructor.

## EXS5531H: Skeletal Muscle Plasticity

Skeletal muscle is an extremely plastic tissue capable of altering its structure and function to a range of physiological stimuli. This course will discuss how changes in activity (either exercise or disuse) contribute to the remodelling of skeletal muscle. An emphasis will also be placed on understanding the role nutrition plays in enhancing the recovery from and/or adaptation to exercise. Populations to be discussed may include recreationally active individuals, elite and sub-elite athletes, and/or special populations (e.g. older adults). Focus will be placed on understanding the role protein metabolism plays in the dynamic remodeling of this tissue.

**Pre-requisites:** Undergraduate courses in exercise physiology, nutrition, and cell biology, or permission of the instructor.

## EXS5533H Sport Psychology

This course seeks to further our understanding of psychosocial aspects of sport participation and competition. Main outcomes include: a) developing an awareness of the foundational areas of sport psychology research and theory; b) critically examining the theory and methods used in sport psychology research; c) understanding the theoretical bases of sport psychology intervention/applications; and d) developing skills related to academic writing, presentation, and critical thinking. The course will consist of faculty-led sessions and student-led sessions. All sessions will include some lecturing, however, the emphasis will be placed on student participation and discussion of assigned readings.

## EXS5534H: Sport, Politics and Social Development

Sport has long been understood to have significant social and political implications, both positive and negative. The significance of these implications has only been bolstered by the recent institutionalization of sport in the service of international development and peace building. For example, in announcing the new Sustainable Development Goals, the United Nations referred to sport as an “important enabler of sustainable development.” With this context in mind, this course is designed to stimulate and propel scholarly discussion and analysis of the relationship between sport and social development. The course materials and discussion will approach this relationship from a variety of viewpoints, including but not limited to: history, politics, policy studies, social theory and political economy. The goal is that students will draw on the materials, discussions and activities in the course in order to conceptualize, contextualize and eventually conduct their own research and theorizing on the topic of sport and social development.

## EXS5535H: Neurorehabilitation and Exercise

Engagement in physical exercise has been commonly reported as being associated with a reduction in risk for various neurological disorders, notably for cognitive decline, dementia, Alzheimer’s, Parkinson’s and stroke incidence. Physical activity has recently drawn interest for its potential use in neurorehabilitation. That is, what is the role of physical exercise with respect to cognition, plasticity, and overall brain health for those who already suffer from such disorders? This course will discuss theoretical concepts and evidence-based literature of the role of physical exercise and their implications for rehabilitation in various neurological disorders.

**Pre-requisites:** Undergraduate courses in human anatomy, exercise physiology and psychology, or permission of the instructor.

## EXS5536H: Qualitative Inquiry in Sport and Physical Activity

Qualitative inquiry represents a diverse range of approaches to studying the experiences of individuals participating in sport and physical activity. This course seeks to examine qualitative research methods and methodologies in sport and physical activity settings. This course will examine foundational issues of epistemology, ontology, and paradigms, methods of data collection, analysis and forms of representing qualitative research findings.

## EXS5537H: Health, Media & Social Change

An interdisciplinary graduate course that combines cultural studies of media and health, physical cultural studies of sport and fitness, and critical approaches to social change. Topics to be addressed include foundations for social change, communicating the social determinants of health, media advocacy for policy and program change, activism in sport and physical cultures, and the merits and limitations of various media platforms.

## EXS5538H: Special Topics in Oncology

This course is designed to provide an overview of the role of physical activity in cancer control. Evidence for the effectiveness of physical activity in coping with treatments, recovery after treatments, and survivorship will be examined. The objectives of the course are to: (1) obtain a basic understanding of cancer including its epidemiology, treatments, and side effects, (2) gain a comprehensive understanding about the role of exercise for cancer survivors during and after treatment, (3) identify the key outcomes and determinants of physical activity, and (4) understand the effects of sedentary behaviour for cancer prevention and survivorship. A multidisciplinary perspective will be taken drawing from kinesiology, oncology, epidemiology, psychology, rehabilitation medicine, and health promotion. Each lecture will present an overview of a selected topic within the field of exercise oncology. Emphasis within the module is, however, on self-directed reading and learning. Course emphasis will be placed on student participation, critiques, presentations, and a final grant proposal.

## SRM3335H/SRD4445H Graduate Seminar Series (Masters/Doctoral)

The EXS Department offers monthly graduate seminars featuring speakers from across U of T and Canada. They present a broad variety of topics. Graduate students are expected to attend all of the graduate seminars. This is a credit/no credit course.



## MASTER OF SCIENCE

The MSc in Exercise Sciences is designed as a two-year, full-time program involving a combination of coursework and original research. It is the intent of the program to broaden the students' understanding of the various interdisciplinary aspects of the exercise sciences as well as to provide them with the necessary scholarly and technical research skills so that they may pursue a high quality research project. The research project will culminate in the presentation of a formal written thesis and oral defence.

### COURSE REQUIREMENTS FOR STUDENTS ADMITTED AS OF SEPTEMBER 2013\*

- 0.5 FCE in Exercise Sciences
- 0.5 FCE Statistics or Methodology course (in Exercise Sciences or other department)\*\*
- 1.0 FCE from Exercise Sciences or another department
- SRM3335H Graduate Seminar Course (attendance required in all Graduate Seminars)\*\*\*

\*Note that these course requirements are a minimum and the student's supervisor and/or advisory committee members may recommend additional courses.

\*\*Students who wish to take a course at another department to count towards this requirement must submit a written request/appeal to the Graduate Committee via a letter explaining the rationale for taking the course elsewhere and a detailed course outline. Email it to [exs.kpe@utoronto.ca](mailto:exs.kpe@utoronto.ca). Keep course add/drop dates in mind.

\*\*\*MSc students are required to attend all graduate seminars for two years. Students may miss up to one seminar per year due to valid reasons. If students miss a second seminar, they are required to attend an alternate graduate seminar (at another department) and provide a brief one page (single spaced) write-up about the seminar (date, speaker, topic, details, etc) by the end of the term. Students who fail to meet this requirement may not receive credit for the course.

### Additional Requirements

1. A thesis proposal written under the supervision of a thesis committee and its oral defence before an examination committee.
2. An original thesis written under the supervision of a thesis committee and its oral defence before an examination committee.
3. Annual meeting of student and supervisory committee.

Notes: FCE = full course equivalent

[1.0 FCE can mean either one full course or two (0.5) half courses]  
New students should make their course selections in consultation with their supervisor and/or supervisory committee. All students must satisfy their degree requirements. There are no exclusions or exceptions to the number or type of courses a student is required to complete.

## GRADING

Graduate students must obtain no less than 70 per cent (or a B-) in any graduate courses (or undergraduate courses if applicable) taken as a graduate student. In accordance with the [University Assessment and Grading Practices Policy](#) any grade below B- will be recorded as a failure (FZ).

## TRANSFER CREDITS

Transfer credit for graduate work completed in another program is limited to ONE full course equivalent (1.0 FCE) or 25 per cent of the course requirements for the degree, whichever is greater, provided the courses have not been credited to another degree, diploma or certificate. Such credit may be given on the recommendation of the Graduate Department of Exercise Sciences, with the approval of SGS. Students participating in an approved exchange program, on the recommendation of the Graduate Department of Exercise Sciences, may receive transfer credit for up to 50 per cent of the course requirements for their degree. In all cases, transfer credit arrangements for exchange program participants must be approved in advance by the Graduate Department of Exercise Sciences and the Vice Dean, Programs of SGS or designate.

## ORIGINAL RESEARCH AND THESIS

The purpose of the research project and thesis in the Master of Science program is to introduce students to the basic technical and scholarly skills of research in the exercise sciences. Students may choose to focus on a particular aspect of the exercise sciences or may take a multidisciplinary approach and examine a broader issue within the exercise sciences. The thesis must be based on research conducted while registered for the MSc program. The research project should be one that can be completed, from proposal to successful defence, in 18 to 24 months.

**The format of the thesis document should be determined by the supervisor and student in consultation with the advisory committee. In Exercise Sciences both “traditional” and “paper-based” formats are acceptable. The table below outlines the general formats.**

	Traditional Format	Paper Format
<b>Front Pieces</b>	Title page Abstract Table of Contents Acknowledgements List of Tables and Figures	Title page Abstract Table of Contents Acknowledgements List of Tables
<b>Introduction</b>	Introduction with research question, purpose and/or hypothesis	Introduction with research question, purpose and/or hypothesis
<b>Review of Literature</b>	Review of literature (theory and content) and assessment of related methods	Review of common elements of literature (theory and content) and assessment of related methods
<b>Methodology and Methods</b>	Methodology and Methods	Common Methods and Methodology
<b>Data and Analysis</b>	Results and Discussion. May separate findings and discussion or integrate	Paper(s) in publication format (student's version)
<b>Conclusion</b>	Conclusion Recommendations Future Directions	Integrated and extended discussion and conclusion Future Directions
<b>References Appendices</b>	References Appendices	References Appendices

The decision as to which format to use is best made early in the writing process, in consultation with your supervisor. In general, the choice depends upon the stage you are at in the preparation of publications and whether your thesis is most readily viewed as one continuous work or a set of discrete, but related studies that together tell your story. Subject to the approval of the Supervisory Committee, you may decide to omit some of your work from the results and include it instead in an appendix.

After successful defence of the thesis in an oral examination, a copy of the thesis must be provided to the School of Graduate Studies electronically. Instructions on providing a finished copy of the thesis can be found on the [SGS website](#).

## MSc DEGREE TIME LIMIT

---

Full-time students are strongly encouraged to complete all program requirements within two years. The maximum time allowed to complete the degree is five years from the first registration.

## MSc DEFENCES

---

An MSc student is formally evaluated at two stages of the research phase during their program. The first of these evaluations will be the presentation and defence of the thesis proposal. The second evaluation is the formal presentation and examination of the thesis.

### a) MSc Thesis Proposal Defence

---

The thesis proposal defence should take place after the student, in consultation with their supervisor and selected committee members, has developed a research plan, and prior to submission of the project for ethics review. The student must have had a formal supervisory committee meeting before the defence may be scheduled. Refer to the Program Timeline (page 31). It is the purpose of the proposal defence to establish the student's level of understanding of the research topic and to ensure that the proposed research design and methodology are consistent with standardized practice in the student's area of study. The proposal defence also serves to determine whether the methods chosen will enable the student to develop a scholarly piece of research. The proposal defence is seen as an opportunity for the student to give and receive feedback so that weaknesses can be identified and addressed in preparation for the final oral examination of the thesis. The proposal defence is viewed as public and all members of academic staff and graduate students are welcome to attend.

Finally, while it is important that this evaluation be viewed as a positive opportunity for scholarly exchange and discussion of the topic between the student, their committee and other members of the academic community; it must also be recognized that this defence is an evaluation of the student's readiness to move further with the research phase of their degree.

It is advised that this time also be used to update the committee on other aspects of the student's progress (e.g., coursework) and academic preparation (e.g., conference attendance, teaching experience, etc.).

### i) Planning the Proposal Defence

#### Examination Committee Composition

The student's supervisory committee forms the core of the proposal defence examination committee, although additional members may be added. The committee must be approved by the Director of Graduate Studies in advance of the defence. The quorum for the proposal defence is THREE SGS appointed members. Please contact the EXS Graduate Programs Office to get external members an SGS appointment.

#### Voting Members:

##### i. Supervisor

##### ii. Thesis Committee (two minimum in addition to supervisor)

Once the committee has read the thesis and thinks that the student is ready for the proposal defence, the student should discuss a prospective defence date and time with the Committee. Once the student has found a date and time that all members of supervisory committee are able to attend, the student should contact the EXS Graduate Programs Office and submit the **MSc Proposal Defence Request form** two weeks prior to the date of the Proposal Defence. All exam committee members must attend the defence. If a member cannot attend the proposal defence, they must contact the EXS Graduate Programs Office immediately.

The EXS Graduate Programs Office will confirm the defence booking.

A reminder email will be sent to the student and committee members one day prior to the defence.

### ii) At the Defence

#### Format of the Defence

The proposal defence will be scheduled for two hours. All members of the supervisory committee must participate in this meeting (either in person or through teleconference). The supervisor must attend in person.

1. Student presentation of the thesis proposal, (duration: 20 minutes): introduction, review of literature, objectives, hypotheses, methods and proposed statistical analyses.
2. Summary of progress to date: coursework (completed / pending grades), teaching experience, research progress, details of publications, conference presentations, lectures and other scholarly or academic activities.
3. Proposed timeline for completing graduate program.
4. Other activities: seminar attendance, journal club participation, student council activities, etc.

## Evaluation

---

### Written Thesis Proposal

Since the thesis proposal often represents the first three chapters of the thesis, it is important that there is critical discussion about both the content and the written presentation of the proposal. It is advisable that the proposal be evaluated using criteria similar to those which will form the basis of the evaluation of the final defence. The student is then aware of the expectations of the various committee members. Specific suggestions regarding content, writing style and presentation should be incorporated into the final written document.

### Presentation

The presentation should be evaluated on the basis of both content and style. It is important that the student be made aware of features associated with good scientific presentation style and format. Feedback from the presentation should serve to better prepare the student for the presentation associated with the final defence of the thesis.

### Defence of the Proposal

The student should be evaluated on their ability to defend the scientific merit of the study; to clearly explain the rationale and need for the study based on existing literature, and to discuss the strengths/potential weakness of the methods and design of the study. Whenever possible, the format of questioning and the type of questions should be similar to what would occur at the final defence.

### Notification of the Candidate and Record of Defence

Upon completion of questioning of the candidate and the discussion of the thesis proposal, the committee should ascertain what remains to be done before the student can apply for ethics approval, and subsequent to ethics approval, to begin the collection of data. Verbal and written follow up instructions should be provided to the candidate by the supervisor and copied to the EXS Graduate Programs Office. It is both the student and the supervisor's responsibility to ensure that each committee member approves the thesis proposal prior to the onset of data collection. Formal approval is verified by the signature of each committee member on the Record of MSc Proposal Defence Form (provided at the time of the defence), which is retained in the student's file.

In the instance when the proposal is deemed "unsatisfactory," a second 'defence' of the proposal should be scheduled after the student has had an opportunity to follow up with each committee member and ensure that the changes being made to the proposal are in accordance with the requirements of the committee.

## b) MSc Final Defence

---

The defence of the master's degree should serve to determine whether the completed thesis is representative of proper standards of scholarship, and to examine the student on both the substance and implications of the research. It is also the responsibility of the examining committee to ensure that all other requirements for the degree have been completed satisfactorily before the defence. The oral defence is viewed as public and all members of academic staff and graduate students are welcome to attend.

### i) Planning the MSc Final Defence

When planning a defence, please keep SGS thesis submission deadlines for convocation and fees in mind (see [page iii](#) for thesis submission deadlines). For example, if a student plans to graduate in June, they must submit their completed thesis (defended and corrections made according to defence result) in April to SGS. As the deadline date changes each year, please contact the EXS Graduate Programs Office for the current deadline dates. Submit the [MSc Departmental Defence Request form and Thesis Approval form](#) four weeks prior to the date of the MSc Departmental Defence. Allow at least four weeks to organize a final defence and keep in mind that there may be scheduling difficulties if a defence is planned around holidays/busy times of year.

It is the supervisor's responsibility to propose an external examiner and submit the contact information and CV to the EXS Graduate Programs Office for approval by the Program Director. Once approved, the supervisor needs to confirm the external examiner's availability to participate in the defence.

The supervisor needs to be confident that the final draft of the dissertation is defensible before it is given to members of the supervisory committee. Students are strongly urged to submit chapters to their supervisor throughout the process of writing. This will reduce the chance of the dissertation moving too far in an inappropriate direction. Depending on the nature of the research, it is often wise to submit selected chapters to appropriate members of the advisory committee as well.

### ii) Examination Committee Structure

The student should select a committee in collaboration with their supervisor. The committee must be approved by the Director of Graduate Studies. The quorum for the examination is FOUR SGS appointed members and the Chair.

## Voting members:

### i. Supervisor

### ii. Thesis Committee (two minimum)

iii. **External Examiner:** This individual must have an arms-length relationship to the Candidate and the project and the Candidate's supervisor, as well as be a recognized expert in the field. This individual should be "external" to the Department of Exercise Sciences and KPE. The supervisor is responsible for contacting potential external examiners/appraisers after consultation with the candidate and supervisory committee on a potential date for the defence. The final Committee composition must be approved by the Director of Graduate Studies before the thesis is distributed to the external examiner. The external examiner will have two weeks to review the MSc thesis and is responsible to submit an appraisal one week prior to the MSc Departmental Defence date.

The appraisal will be shared with the student and committee members.

## Non-Voting:

### Chair of Examination Committee

The EXS Graduate Programs Office will find a Chair for the defence. In some cases, the supervisor may be asked to help find a Chair.

### iii) Booking the Defence

Students must submit the [MSc Departmental Defence request form](#) and the [Thesis Approval Form](#) and an electronic copy of the thesis (approved by the committee) at least four weeks prior to the defence date to the EXS Graduate Programs Office. The EXS Graduate Programs Office will provide the thesis to the external examiner with detailed instructions. All exam committee members must participate in the defence. In the absence of a quorum, the defence will be cancelled.

The EXS Graduate Programs Office will confirm the defence booking.

### iv) Before the Defence

The External is required to submit the appraisal to the EXS Graduate Programs Office one week prior to the defence date. The EXS Graduate Program Office will distribute the appraisal to the student and the committee members.

A reminder email will be sent to the student, committee members, external examiner and the defence chair one day prior to the defence.

### v) At the Defence

Responsibilities of the Chair of the Examination Committee: The Chair acts on behalf of the Director of Graduate Studies and is responsible for ensuring that the examination is conducted within the guidelines outlined in this document. The Chair is expected to exercise full control over the examination and does not participate directly in the questioning of the candidate.

## It is the responsibility of the Chair:

- To guarantee that the candidate is given a fair opportunity to defend the thesis.
- To ensure that the candidate alone, and not the supervisor, or other members of the committee defends the thesis.
- To protect the candidate from harassment by one or more of the committee members.

## Responsibilities of the Members of the Examination Committee:

The Examination Committee operates within the full authority of the Graduate Department of Exercise Sciences with respect to the examination of the candidate and the thesis. The committee's specific responsibilities are:

- To verify that there has been satisfactory completion of all degree requirements and to ascertain that the appropriate documentation is available to confirm completion of these degree requirements.
- To consider the appraisal of the thesis prior to the oral defence.
- To examine the candidate on the content and implications of the thesis.
- To assess whether the thesis meets the proper standards of scholarship.
- To vote on whether the thesis and its defence are acceptable.

## Examination Format

---

Following introductions, the candidate and any observers will be asked to leave the room. The procedures for the examination are then reviewed by the Chair with the members of the examining committee. Procedures to be followed are:

The Chair must confirm that a quorum of four appointed members is present. Should there not be a quorum it is the responsibility of the Chair to decide whether to delay the examination or to postpone it to another date.

The Chair confirms that each member of the committee has sufficient knowledge of the thesis to form a judgment as to its acceptability. This ensures that there will be no abstentions during voting on the grounds of lack of knowledge of the contents of the thesis.

The Chair reminds the members of the committee of the scope of the examination, specifically that the candidate is to be judged on both the content of the thesis and the oral defence of the thesis and that all modifications, other than minor corrections (e.g., typographical errors), must be raised in the questioning of the candidate.

The Chair also reminds the committee that the study must be an independent piece of scholarship/research. This is particularly important when the study is part of a larger investigation, or when an individual other than the candidate is the principal/co-investigator. The Examination Committee must fully establish that the candidate's personal contribution is sufficient to meet the requirements of the master's degree.

The written assessment of the thesis is read by the external examiner. No other written statements are permitted other than a written report which can be made by the supervisor. All other examiners, should they wish, may make an oral statement at this time.

The Chair discusses the order of questioning, the number of rounds of questioning, and the time allotment per examiner with the committee. The recommended sequence is: external examiner, members of the supervisory committee and supervisor. It is recommended that there be two rounds of questions, with each examiner being allotted 10 to 12 minutes for questions in the first round and 5 to 10 minutes in the second round. A third round of questioning may occur if an examiner has issues concerning the thesis which have not been raised, and which are important to the outcome.



## Conduct of the Examination

---

Once the format of the examination has been agreed upon, the completion of the course requirements confirmed, and the appraisal read, the Chair will ask the candidate and any other non-voting participants to return to the room. The candidate will be asked to give a twenty-minute presentation summarizing his or her research and conclusions. The defence will be conducted in accordance with the previously outlined format. It is the responsibility of the Chair to intervene at any time during this questioning if the examination is becoming an inquisition of the candidate and/or is being unduly dominated by a committee member.

Following the rounds of questioning, the non-voting participants will be given an opportunity to question the candidate for no longer than ten minutes, after which all non-voting participants will be asked to retire. As part of the dialogue of learning and as a collegial courtesy, the candidate is given an opportunity to make final remarks or address questions for clarification to the Exam Committee. Once complete, the Chair will ask the candidate to retire.

## Evaluation and Voting

---

Prior to voting, the thesis and the oral defence of the thesis should be discussed amongst the examination committee, and the options regarding the status of the candidate's performance on the defence should be considered. Upon conclusion of the discussion, there will be a vote to accept, or not to accept the thesis. If this vote is positive, a second vote will be taken to determine the terms of acceptance of the thesis.

**Note: more than one negative vote and/or abstention will result in the thesis not being accepted and the examination will be adjourned.**

The candidate has the option of re-working, re-submitting and re-defending the thesis ONCE more within six months of the original defence.

### After the defence

After the defence, the student is responsible for making corrections (according to the result of the defence). The corrected thesis should be sent to the supervisor for review. Once approved, the supervisor needs to inform the EXS Graduate Programs Office (via email).

The EXS Graduate Programs Office will send the student a follow-up email with instructions and next steps for submitting the final thesis to SGS.





# DOCTOR OF PHILOSOPHY

The PhD candidate strives to demonstrate the ability to conduct research independently, and develop a program of research that is both original and capable of making a significant contribution to the candidate's field. The PhD program is designed as a four-year program involving a combination of coursework, written and oral comprehensive examinations, and original research. Students are encouraged to develop a program of study that will enhance their basic understanding of critical areas within exercise sciences and have a direct impact on their research program. PhD students are also expected to further develop their scholarly and technical research skills so that they may pursue a high quality research project. This research project will culminate in the presentation of a major formal written dissertation and an internal and external defence of their research.

Effective September 2013 the department changed the program requirements for this degree as follows. Students admitted in September 2013 and future sessions will follow these new requirements. Students admitted prior to September 2013 will follow the requirements in place for the year in which they were first registered.

## PhD Degree Requirements

### COURSE REQUIREMENTS FOR STUDENTS ADMITTED AS OF SEPTEMBER 2013\*

- 1.0 FCE in Exercise Sciences or another department
- 0.5 FCE Statistics or Methodology course (in Exercise Sciences or other department\*\*)
- SRD4444H Graduate Seminar Course (attendance required in all Graduate Seminars\*\*\*)

\*Note that these course requirements are a minimum and the student's supervisor and/or advisory committee members may recommend additional courses.

\*\* Students who wish to take a course at another department to count towards this requirement must submit a written request/appeal to the Graduate Committee via a letter explaining the rationale for taking the course elsewhere and a detailed course outline. Email it to [exs.kpe@utoronto.ca](mailto:exs.kpe@utoronto.ca). Keep course add/drop dates in mind.

\*\*\*PhD students are required to attend all graduate seminars for two years. Students may miss up to one seminar per year due to valid reasons. If students miss a second seminar, they are required to attend an alternate graduate seminar (at another department) and provide a brief one page (single spaced) write-up about the seminar (date, speaker, topic, details, etc) by the end of the term. Students who fail to meet this requirement may not receive credit for the course.

### Additional Requirements

1. Written and Oral Comprehensive Examinations.
2. A thesis proposal written under the supervision of a thesis committee and its oral defence before an examination committee.
3. Internal (departmental) defence of an original thesis written under the supervision of a thesis committee and its oral defence before an examination committee.
4. Final Oral Exam (defence) of an original thesis written under the supervision of a thesis committee and its oral defence before an examination committee.
5. Annual meeting of student and supervisory committee.

Doctoral students must have completed all degree requirements exclusive of thesis defence (courses and comprehensive exam and proposal defence) by June 30 of their second year in order to continue in the PhD program and achieve PhD candidacy. Detailed timeline available in the Appendix.

**Notes: FCE = full course equivalent [1.0 FCE can mean either one full course or two (0.5) half courses]**

**New students should make their course selections in consultation with the student's Supervisor and/or supervisory committee. All students must satisfy their degree requirements. There are no exclusions or exceptions to the number or type of courses a student is required to take.**

## STUDENTS REGISTERED IN THE PhD PROGRAM PRIOR TO SEPTEMBER 2013 MUST COMPLETE THE FOLLOWING REQUIREMENTS:

---

- 1.0 FCE required courses
- 2.0 FCE elective courses
- Yearly committee meetings
- Comprehensive examinations (both written and oral)
- Thesis and defence of the thesis

### 1.0 FCE Required Courses:

- 0.5 FCE course from the area of concentration
- 0.5 FCE statistics/research methods course at the graduate level

### 2.0 FCE Elective Courses:

- 1.0 FCE graduate courses in Exercise Sciences in addition to the EXS required course
- 0.5 FCE graduate course from a department outside Exercise Sciences in addition to their statistics/research methods course
- 0.5 FCE graduate course of their choice, including EXS courses

Students must have a committee meeting each year they are registered in the degree program. All members of the supervisory committee must attend the committee meeting. Meetings must be recorded on the [Supervisory Committee Meeting Form](#).

## GRADING

---

Graduate students must obtain no less than 70 per cent (or a B-) in any graduate courses (or undergraduate courses if applicable) taken as a graduate student. In accordance with the [University Assessment and Grading Practices Policy](#) any grade below B- will be recorded as a failure (FZ).

## TRANSFER CREDITS

Transfer credit for graduate work completed in another program is limited to ONE full course equivalent (1.0 FCE) or 25 per cent of the course requirements for the degree, whichever is greater, provided the courses have not been credited to another degree, diploma, or certificate. Such credit may be given on the recommendation of the Graduate Department of Exercise Sciences with the approval of SGS. Students participating in an approved exchange program, on the recommendation of the Graduate Department of Exercise Sciences, may receive transfer credit for up to 50 per cent of the course requirements for their degree. In all cases, transfer credit arrangements for exchange program participants must be approved in advance by the Graduate Department of Exercise Sciences and the Associate Dean of SGS or designate.

## ORIGINAL RESEARCH AND DISSERTATION

---

The purpose of the research and dissertation in the Doctor of Philosophy program is to give the student an opportunity to undertake advanced research and writing on a significant problem in the exercise sciences. The candidate will present a dissertation embodying the results of original investigation that was conducted by the candidate. The dissertation shall constitute a significant contribution to the knowledge of the field and must be based on research conducted while registered for the PhD degree. The results of the dissertation should be publishable, either in whole, or in part, by the student as first author. Upon successful completion of the dissertation, the graduate will be qualified to conduct original, authoritative, independent research.

## PHD DEGREE TIME LIMIT

---

All program requirements exclusive of defence must be completed within three years from first registration. Students are strongly encouraged to complete the degree within the four years. The maximum time for degree completion is six years from the first registration.

## STRUCTURE OF THE SUPERVISORY COMMITTEE

### Supervisor:

Must hold a primary SGS appointment in the Department of Exercise Sciences.

### Supervisory Committee members:

This Committee includes two additional faculty holding appointments to the School of Graduate Studies, one of whom must be a Department of Exercise Sciences faculty member.

## a) PhD COMPREHENSIVE EXAMINATION

---

The purpose of the comprehensive examination is to provide the student with an opportunity to demonstrate her or his ability to synthesize current research, discuss strengths and weaknesses of area specific research methodology and design, and to engage in knowledgeable academic discourse with other individuals in their chosen field of study. In light of the professional requirements necessary to achieve ongoing success in these objectives in multiple settings, all students in both written and oral formats should achieve these goals.

The written phase provides an opportunity to organize and integrate material from the reading lists in response to specific questions. The questions will touch on theory, methods and substantive elements of the student's preparation. The oral phase will provide an opportunity to elaborate on areas which were identified in the written phase and to explore additional components of the reading lists so that the student may demonstrate the ability to engage in knowledgeable academic discourse.

## Preparation Phase

It is strongly recommended that students have completed all coursework before starting the Comprehensive Exam Process. Only in extenuating circumstances will the student be allowed to write the Comprehensive Exam without coursework completion.

The preparation phase should start within eight months of the student joining the Graduate Department of Exercise Sciences. The first step in the formal process is a graduate supervisory committee meeting.

The graduate supervisory committee, in consultation with the graduate student, will identify three areas of knowledge which should be developed by the student. If additional expertise is required, another member may be added to the comprehensive examination committee with the approval of the Director of Graduate Studies. The areas of knowledge may inform development of the student's thesis but should not be co-extensive.

Once the areas of knowledge have been agreed upon, the members of the comprehensive examination committee will develop, in consultation with the graduate student, reading lists and a preparation plan to prepare the student for examination. The number of readings will vary by discipline. However, graduate student reading lists should in total require a minimum of three but no more than four months to complete taking into consideration the other academic demands placed on the student. Development of the reading lists should be completed following the committee meeting (detailed dates available in the PhD Program Timeline). Reading lists must be submitted to the EXS Graduate Programs Office by the supervisor for approval by the Director of Graduate Studies prior to the student's beginning to study the contents of these lists. Once approved, the EXS Graduate Programs Office will send the reading lists to the student. The Preparation/Reading Phase is 3-4 months.

## Written Questions Phase

After receiving the reading lists and at the end of the Preparation Phase, the student will receive a set of three written questions which are based on the reading lists. The dates for distribution of the written questions to the student, receipt of the completed answers, and the date for the oral component of the comprehensives will be determined at this time point. The supervisory committee, along with the student, needs to decide on a date for the Oral Comprehensive Defence (please ensure it is a Friday). The three questions will be developed by the comprehensive examination committee and submitted to the EXS Graduate Programs Office for approval from the Director of Graduate Studies two weeks in advance of the date for releasing the questions to the student. The Director of Graduate Studies will review the questions to ensure they are distinct, relate to the reading lists and meet the expectations for a doctoral comprehensive examination in the Department.

The graduate student will have 10 days to prepare written answers to the three questions which will be submitted to the EXS Graduate Programs Office. Students may consult written sources and must adhere to academic standards in referencing source material. They cannot ask questions of the members of the graduate examination committee or consult other individuals during the written phase of the examination. Questions related

to clarification must be submitted to the EXS Graduate Programs Office. The Graduate Program Coordinator will liaise with the committee to provide the necessary information to the student.

The committee will have 72 hours to evaluate the responses, decide on a pass or fail, and notify the EXS Graduate Programs Office. If the student fails the written component, the oral examination will be cancelled and the student will be asked to withdraw from the Program. A student will have the right to appeal any academic decision as per the guidelines outlined in the [General Regulations](#) related to Academic Appeals in the School of Graduate Studies Calendar. If the student passes the written component, the members of the graduate examination committee will each develop questions and probes to be employed in the oral examination.

## Oral Examination Phase

The oral examination will take place within six days of submission of answers for the written examination and the reporting of positive results for the student by the committee in the written phase. The oral examination will be based on both further probing of responses to the written and additional questions based on the reading lists. The expected duration for the oral examination is two hours but may last up to three hours. Each member of the graduate examination committee will have equal opportunity to examine the candidate. A Chair who is external to the graduate supervisory and the graduate examination committee will be responsible for the conduct of the exam.

Students will be expected to demonstrate knowledge of the theory, methods and content of the agreed upon areas of knowledge. They will be expected to synthesize information from within and across the reading lists. In the written responses they should demonstrate the ability to construct a logical and clearly written presentation of the materials and their critical analysis of the material. In the oral examination they should demonstrate the ability to present a brief synopsis on a topic area and to engage in scholarly discussion. The student will be expected to identify important contributions by particular individuals or groups to the body of knowledge.

## Evaluation of Performance

On completion of the oral examination, the graduate examination committee will assess whether the student passes or fails the oral examination. If the student fails the oral examination, they will be asked to withdraw from the program. A student will have the right to appeal any academic decision as per the guidelines outlined in the [General Regulations](#) related to Academic Appeals in the School of Graduate Studies Calendar.

### PHD COMPREHENSIVE TIMELINE:

- **3-4 months** ➔ Preparation Phase (reading)
- **2 weeks** prior to the start of the written portion of the PhD Comprehensive Exam ➔ Supervisor sends the three questions to the EXS Graduate Programs Office for approval
- **10 days** duration ➔ Written Questions Phase
- **72 hours** duration ➔ Committee Evaluation of written responses
- **6 days** within the submission of responses ➔ Oral Examination Phase



## Follow up to Examination

Regardless of the examination outcome the graduate examination committee is responsible for contributing to a written assessment of the student and their performance which will be written by the supervisor. The written assessment of performance will be given to the student and the EXS Graduate Programs Office within one week of the oral examination.

If the student passes the combined examinations, she/he will be ready to proceed to development of a proposal for doctoral research.

## PHD DEFENCES

A PhD degree candidate is evaluated at three stages of the research phase during their program. The first of these evaluations is the thesis Proposal Defence. The second evaluation is the Departmental Defence, a formal presentation and examination of the thesis and the third is a University of Toronto Final Oral Exam (FOE)/Senate Defence.

### a) PhD Thesis Proposal Defence

The thesis proposal defence should take place after the student, in consultation with their supervisor and selected committee members, has developed a research plan, and prior to submission of the project to ethics review. The student should have a supervisory committee meeting before the proposal defence. It is the purpose of the proposal defence to establish the student's level of understanding of the research topic and to ensure that the proposed research design and methodology are consistent with standardized practice in the student's area of study. The proposal defence also serves to determine whether the methods chosen will enable the student to develop a scholarly piece of research. The proposal defence is seen as an opportunity for the student to give and receive feedback so that weaknesses can be identified and addressed in preparation for the final oral examination of the thesis. The proposal defence is viewed as public and all members of academic staff and graduate students are welcome to attend.

Finally, while it is important that this evaluation be viewed as a positive opportunity for scholarly exchange and discussion of the topic between the student, their committee and other members of the academic community; it must also be recognized that this defence is an evaluation of the student's readiness to move further with the research phase of their degree.

It is advised that this time also be used to update the committee on other aspects of the student's progress (e.g., coursework) and academic preparation (e.g., conference attendance, teaching experience, etc.).

### i) Planning the Proposal Defence Examination Committee Composition

The supervisory committee forms the core examination committee, additional members may be added; committee composition must be approved by the Director of Graduate Studies before the defence can go forward. The quorum for the proposal defence is THREE SGS appointed members.

#### Voting members:

- i. Supervisor
- ii. Thesis Committee (two minimum)

After the committee is approved by the Director, the student should discuss a prospective defence date and time with the committee. Once the student has found a date and time that all members of supervisory committee are able to attend, the student should submit the [PhD Proposal Defence Request form](#) to the EXS Graduate Programs Office at least two weeks before the prospective date. All exam committee members must attend the defence.

The EXS Graduate Programs Office will confirm the defence booking.

A reminder email will be sent to the student and committee members one day prior to the defence.



## ii) At The Defence

### Format of the Defence

The proposal defence will be scheduled for two hours. All members of the supervisory committee must be present at this meeting.

1. Thesis proposal, (duration: 20 to 30 minutes): introduction, review of literature, objectives, hypotheses, methods, proposed statistical analyses.
2. Summary of progress to date: coursework (completed / pending grades), teaching experience, research progress, details of publications, conference presentations, lectures, other scholarly or academic activities.
3. Proposed timeline.
4. Other activities: seminar attendance; journal club participation, student council activities, etc.

## iii) Evaluation

### Written Thesis Proposal

Since the thesis proposal often represents the first three chapters of the thesis it is important that there is critical discussion about both the content and the written presentation of the proposal. It is advisable that the proposal be evaluated using criteria similar to those which will form the basis of the evaluation of the final defence. The student is then aware of the expectations of the various committee members. Specific suggestions regarding content, writing style and presentation should be incorporated into the final written document.

## Presentation

The presentation should be evaluated on the basis of both content and style. It is important that the student be made aware of features associated with good scientific presentation style and format, and has an opportunity to present to an audience of varied backgrounds. Feedback from the presentation should serve to better prepare the student for the presentation associated with the final defence of the thesis.

## Defence of the proposal

The student should be evaluated on her or his ability to defend the scientific merit of their study; to clearly explain the rationale and need for the study based on existing literature, and to discuss the strengths/potential weakness of the methods and design of the study. Whenever possible, the format of questioning and the type of questions should be similar to what would occur at the final defence.

## iv) Notification of the Candidate and Record of Defence

Upon completion of questioning of the candidate and the discussion of the thesis proposal, the committee should ascertain what remains to be done before the student can apply for ethics approval, and subsequent to ethics approval, to begin the collection of data. Verbal and written follow up instructions should be provided to the candidate and copied to the EXS Graduate Programs Office. It is both the student's and the supervisor's responsibility to ensure that each committee member approves the thesis proposal prior to the onset of data collection. Formal approval is verified by the signature of each committee member on the Record of PhD Proposal Defence Form (provided at the time of the defence).

	Traditional Format	Paper Format
<b>Front Pieces</b>	Title page Abstract Table of Contents Acknowledgements List of Tables and Figures	Title page Abstract Table of Contents Acknowledgements List of Tables
<b>Introduction</b>	Introduction with research question, purpose and/or hypothesis	Introduction with research question, purpose and/or hypothesis
<b>Review of Literature</b>	Review of literature (theory and content) and assessment of related methods	Review of common elements of literature (theory and content) and assessment of related methods
<b>Methodology and Methods</b>	Methodology and Methods	Common Methods and Methodology
<b>Data and Analysis</b>	Results and Discussion. May separate findings and discussion or integrate	Paper(s) in publication format (student's version)
<b>Conclusion</b>	Conclusion Recommendations Future Directions	Integrated and extended discussion and conclusion Future Directions
<b>References Appendices</b>	References Appendices	References Appendices

In the instance when the proposal is deemed “unsatisfactory”, a second “defence” of the proposal should be scheduled after the student has had an opportunity to follow up with each committee member and ensure that the changes being made to the proposal are in accordance with the requirements of the committee.

Once the student satisfactorily passes the PhD Proposal Defence, the EXS Graduate Programs Office confirms achievement of PhD Candidacy to SGS.

## b) PhD Departmental Defence

The departmental defence of the Doctoral degree program should serve to determine whether the dissertation can be successfully defended before external examiners. The dissertation should be representative of proper standards of scholarship, and the committee should examine the student on both the substance and implications of their research. It is the examining committee’s responsibility to ensure that all other requirements for the degree have been satisfactorily completed before the departmental defence. The departmental defence is viewed as public and all members of academic staff and graduate students are welcome to attend.

### ii) Thesis Format

The format of the thesis document should be determined by the supervisor and student in consultation with the advisory committee. In Exercise Sciences both “traditional” and “paper based” formats are acceptable. The table above outlines the general formats.

The decision as to which format to use is best made early in the writing process, in consultation with your supervisor. In general, the choice depends upon the stage you are in the preparation of publications and whether your thesis is most readily viewed as one continuous work or a set of discrete, but related studies that together tell your story. Subject to the approval of the supervisory committee, you may decide to omit some of your work from the results and include them instead in an appendix.

### ii) Planning the PhD Departmental Defence

When planning a defence, please keep SGS deadlines for convocation and fees in mind. For example, if a student would like to graduate in June, they must submit their completed thesis (defended and corrections made according to defence result) in April. As the deadline date changes each year, please see the “[EXS Sessional Dates 2018-2019](#)” on page iii for the exact deadline dates. You should aim to have your departmental defence at least 12 weeks before your proposed Final Oral Exam (FOE), allowing for sufficient time for any revisions. Remember to keep in mind that there may be scheduling difficulties if you are planning your defence around holidays/busy times of year.

The supervisor needs to be confident that the final draft of the dissertation is defensible before it is given to members of the supervisory committee. The final draft of the dissertation should be submitted to the supervisor at least two months before the defence. Students are strongly urged to submit chapters to their supervisor throughout the process of writing. This will reduce the chance of the dissertation moving too far in an inappropriate direction. Depending on the nature of the research, it is often wise to submit selected

chapters to appropriate members of the advisory committee as well.

### iii) Examination Committee Structure

The examination committee consists of the supervisor and the members of the thesis advisory committee and the Chair.

#### Voting members:

- i. Supervisor
- ii. Thesis Committee (two minimum)

#### Non-Voting members:

- i. Chair of Examination Committee

After the committee is approved, the student should submit a **PhD Departmental Defence Request form** and the signed **Thesis Approval** form to the EXS Graduate Programs Office at least four weeks prior to the planned defence date. The Director of Graduate Studies must approve the request to defend before a date can be confirmed. All exam committee members must attend the defence.

### iv) At the Defence

#### Responsibilities of the Chair of the Examination Committee:

The Chair acts on behalf of the Director of Graduate Studies and is responsible for ensuring that the examination is conducted properly, within the guidelines outlined in this document. The Chair is expected to exercise full control over the examination and does not participate directly in the questioning of the candidate.

#### It is the responsibility of the Chair:

- To guarantee that the candidate is given fair opportunity to defend the thesis.
- To ensure that the candidate alone, and not the supervisor or other members of the committee defends the thesis.
- To protect the candidate from harassment.

#### Responsibilities of the Members of the Examination Committee:

The Examination Committee operates within the full authority of the Graduate Department of Exercise Sciences with respect to the examination of the candidate and the thesis. The committee's specific responsibilities are:

- To verify that there has been satisfactory completion of all degree requirements and to ascertain that the appropriate documentation is available to confirm completion of these degree requirements.
- To examine the candidate on the content and implications of the thesis.
- To assess whether the thesis meets the proper standards of scholarship.
- To vote on whether the thesis and its defence are acceptable.
- To determine whether the thesis is ready to be defended at a

Final Oral Exam (FOE).

### Examination Format

Following introductions, the candidate and any observers will be asked to leave the room. The procedures for the examination are then reviewed by the Chair with the members of the examining committee. Procedures to be followed are:

- The Chair of the Examination must confirm that there is a minimum of four appointed members present. Should there not be a quorum it is the responsibility of the Chair to decide whether to delay the examination or to postpone it to another date.
- The Chair confirms that each member of the committee has sufficient knowledge of the thesis to form a judgment as to its acceptability. This will ensure that there will be no abstentions in voting on the grounds of lack of knowledge of the contents of the thesis.
- The Chair reminds the members of the committee of the scope of the examination, specifically that the candidate is to be judged on both the content of the thesis and the oral defence of the thesis and that all modifications, other than minor corrections (e.g., typographical errors), must be raised in the questioning of the candidate.
- The Chair also reminds the committee that the study must be an independent piece of scholarship/research. This is particularly important when the study is part of a larger investigation, or when an individual other than the candidate is the principal/co-investigator. The Examination Committee must fully establish that the candidate's personal contribution is sufficient to meet the requirements of the doctoral degree.
- A written report can be made by the candidate's supervisor; however, no other written statements are permitted.
- All other examiners, should they wish, may make an oral statement at this time.
- The Chair discusses the order of questioning, the number of rounds of questioning, and the time allotment per examiner with the committee. The recommended sequence is: Members of the Thesis Advisory Committee, Supervisor
- It is recommended that there be two rounds of questions, with each examiner being allotted 10 to 12 minutes for questions in the first round and 5 to 10 minutes in the second round. A third round of questioning may occur if an examiner has issues concerning the thesis which have not been raised, and which are important to the outcome of the defence.

### Conduct of the Examination

Once the format of the examination has been agreed upon and the completion of the course requirements confirmed, the Chair will ask the candidate and any other non-voting participants to return to the room. The candidate will be asked to give a twenty-minute presentation summarizing his or her research and conclusions. The defence will be conducted in accordance with the previously outlined format. It is the responsibility of the Chair to intervene at any time during this questioning if the examination is becoming an inquisition of the candidate and/or is being unduly dominated by a committee member.

Following the rounds of questioning, the non-voting participants will be given an opportunity to question the candidate for no longer than ten minutes, after which all non-voting participants will be asked to retire. As part of the dialogue of learning and as a collegial courtesy, the candidate is given an opportunity to make final remarks or address questions for clarification to the Exam Committee. Once complete, the Chair will ask the candidate to retire.

## v) Evaluation and Voting

Prior to voting, the thesis and the oral defence of the thesis should be discussed amongst the examination committee, and the options regarding the status of the candidate's performance on the defence should be considered. Upon conclusion of the discussion, there will be a vote to accept, or not to accept the thesis. If this vote is positive, a second vote will be taken to determine the terms of acceptance of the thesis.

**Note: more than one negative vote and/or abstention will result in the thesis not being accepted and the examination will be adjourned.**

The candidate has the option of re-working, re-submitting and re-defending the thesis ONCE more within six months of the original defence.

## c) Final Oral Exam (Senate Defence)

The Final Oral Exam/Senate Defence is the final step a PhD candidate must complete in order to receive his or her PhD degree. The Final Oral Exam (FOE) is a closed exam, conducted with external examiners. It should serve to determine whether the completed thesis is representative of proper standards of scholarship, and to examine the student on both the substance and implications of their research.

Once the student has received confirmation that the corrections from the departmental defence have been approved, the student can book the Final Oral Exam.

## i) Planning the Final Oral Exam/Senate Defence

### Examination Committee Structure

The quorum for a Senate Defence is no less than four voting members. There can be no more than six voting members on the examination committee. The Exam Committee consists of one to three voting members from the candidate's supervisory committee and one to three voting members who have not been closely involved in the supervision of the thesis. Eligible for inclusion in the latter group are the external examiners (two minimum). Detailed information below.

### Voting members:

- i. Supervisor
- ii. Thesis Committee (two minimum)
- iii. External Examiner

### iv. Internal-External Examiner

### Non-Voting members:

#### i. Chair of Final Oral Exam

Please note that effective July 2012 the School of Graduate Studies requires that both external examiners participate as part of the quorum. In the event that one or both of the external examiners cannot participate the School of Graduate Studies will cancel the Senate defence.

It is the supervisor's responsibility to contact a potential external examiner and confirm their availability. The supervisor then, needs to send the proposed external examiner's CV and contact info to the Graduate Program Coordinator for approval by the School of Graduate Studies.

The **PhD Final Oral Defence Request form** must be submitted to the EXS Graduate Programs Office at least eight weeks prior to the confirmed defence date. Please ensure the supervisor has already confirmed an external examiner. A copy of the thesis (in electronic format) and abstract must be submitted to the EXS Graduate Programs Office at least eight weeks before the FOE.

External examiners: There is one external examiner and one internal-external examiner involved in the final oral exam. The external examiner is not part of the University of Toronto, but should have a background in the student's thesis topic. The internal-external examiner can be external to the department but part of the University of Toronto (must have an SGS appointment). Both the external examiner and internal-external examiner must have an arm's length relationship to the supervisor and the student, and have not collaborated in any way with the research.

Once the appraisers are approved, a copy of the thesis along with an appointment letter (with instructions) will be provided by the EXS Graduate Programs Office to the external examiner at least six weeks before the final oral exam. The external examiner is required to write an appraisal for the student and submit it to the EXS Graduate Programs Office at least two weeks before the final oral exam. The EXS Graduate Programs Office will be responsible for distributing copies of the appraisal to the candidate and to all members of the examination committee (at least two weeks before the examination). Please note that the candidate may not discuss the appraisal with the external examiner and the internal-external examiner prior to the defence. A copy of the thesis will also be sent to the internal-external examiner, but no appraisal is required.

If the appraisal is not available two weeks prior to the exam, the Graduate Program Coordinator will contact the candidate to determine if he or she wishes to proceed with the exam under these circumstances. If the student wishes to proceed despite the delay in receiving the appraisal, the student must sign a waiver; otherwise, the oral exam will be postponed.

Appointing the Chair: SGS will appoint the Chair after an FOE has been scheduled.

A reminder email will be sent to the student, committee members,





external examiners and chair one day prior to the defence.

## ii) At the Defence

**Responsibilities of the Chair of the Examination Committee:**  
 The Chair acts on behalf of the Dean of the School of Graduate Studies and is responsible for ensuring that the examination is conducted properly, within the guidelines outlined in regulations for the Final Oral Exam (FOE) as established by SGS. The Chair is expected to exercise full control over the examination and does not participate directly in the questioning of the candidate. It is the responsibility of the Chair:

- To guarantee that the candidate is given fair opportunity to defend the thesis.
- To ensure that the candidate alone, and not the supervisor or other members of the committee, defends the thesis.
- To protect the candidate from harassment.

## Responsibilities of the Members of the Examination Committee:

The Examination Committee operates within the full authority of the School of Graduate Studies with respect to the examination of the candidate and the thesis. The committee's specific responsibilities are:

- To verify that there has been satisfactory completion of all degree requirements and to ascertain that the appropriate documentation is available to confirm completion of these degree requirements.
- To consider the appraisals of the thesis prior to the oral defence.
- To examine the candidate on the content and implications of the thesis.
- To assess whether the thesis meets the proper standards of scholarship.
- To vote on whether the thesis and its defence are acceptable.



## Examination Format

Following introductions, the candidate and any non-voting members will be asked to leave the room. The procedures for the examination are then reviewed by the Chair with the members of the examining committee. Procedures to be followed are:

- The Chair of the Examination must confirm that there is a minimum of four appointed members present. Should there not be a quorum it is the responsibility of the Chair to decide whether to delay the examination or to postpone it to another date.
- The Chair confirms that each member of the committee has sufficient knowledge of the thesis to form a judgment as to its acceptability. This will ensure that there will be no abstentions in voting on the grounds of lack of knowledge of the contents of the thesis.
- The Chair reminds the members of the committee of the scope of the examination, specifically that the candidate is to be judged on both the content of the thesis and the oral defence of the thesis and that all modifications, other than minor corrections (e.g., typographical errors), must be raised in the questioning of the candidate.
- The Chair also reminds the committee that the study must be an independent piece of scholarship/research. This is particularly important when the study is part of a larger investigation, or when an individual other than the candidate is the principal/co-investigator. The Examination Committee must fully establish that the candidate's personal contribution is sufficient to meet the requirements of the Doctoral degree.
- The Chair reports on the student's course requirement status (complete/incomplete).

- The written assessments of the thesis are read by both external examiners. No other written statements are permitted other than a written report which can be made by the supervisor. All other examiners, should they wish, may make an oral statement at this time.
- The Chair discusses the order of questioning, the number of rounds of questioning, and the time allotment per examiner with the committee. The recommended sequence is: External Examiner 2, External Examiner 1, Members of the Thesis Advisory Committee and Supervisor.
- It is recommended that there be two rounds of questions, with each examiner being allotted 10 to 12 minutes for questions in the first round and 5 to 10 minutes in the second round. A third round of questioning may occur if an examiner has issues concerning the thesis which have not been raised, and which are important to the outcome of the defence.

## Conduct of the Examination

Once the format of the examination has been agreed upon, the completion of the course requirements confirmed, and the appraisals read, the Chair will ask the candidate and any other non-voting participants to return to the room. The candidate will be asked to give a twenty-minute presentation summarizing their research and conclusions. The defence will be conducted in accordance with the previously outlined format. It is the responsibility of the Chair to intervene at any time during this questioning if the examination is becoming an inquisition of the candidate and/or is being unduly dominated by a committee member.

Following the rounds of questioning, the non-voting participants will be given an opportunity to question the candidate for no longer than ten minutes, after which all non-voting participants will be asked to retire. As part of the dialogue of learning and as a collegial courtesy, the candidate is given an opportunity to make final remarks or address questions for clarification to the exam committee. Once complete, the Chair will ask the candidate to retire.

### iii) Evaluation and Voting

Prior to voting, the thesis and the oral defence of the thesis should be discussed amongst the examination committee, and the options regarding the status of the candidate's performance on the defence should be considered. Upon conclusion of the discussion, there will be a vote to accept, or not to accept the thesis. If this vote is positive, a second vote will be taken to determine the terms of acceptance of the thesis.

**Note: more than one negative vote and/or abstention will result in the thesis not being accepted and the examination will be adjourned.**

The candidate has the option of re-working, re-submitting and re-defending the thesis ONCE more within six months of the original defence.

### iv) Postponement of Exams

At the request of both the graduate unit and the candidate, the SGS Associate Dean of Life Sciences may postpone or cancel the oral exam.

### Adjourned Oral Exams

In the case of an adjourned oral exam, the procedures outlined below should be followed:

1. **Written Statement:** The Examination Committee must provide the candidate, as soon as possible after the adjournment, with a written statement that specifies clearly the reasons for the adjournment and sets out the Examination Committee's requirements for a reconvened oral examination, making reference both to the written and oral components of the exam.
2. **Scheduling the exam:** The examination committee must decide the approximate date of the reconvened exam. The time between the adjourned exam and the reconvened exam should be as short as circumstances will permit and in no case shall exceed one year. The Committee should inform SGS as soon as it has determined the approximate date of the reconvened exam; SGS shall advise the candidate of this in writing, sending a copy to the EXS Graduate Programs Office.
3. **Appointing a Chair:** normally, the SGS Associate Dean, Life Sciences will chair any reconvened oral exams. If

the Dean is a member of the graduate faculty of the candidate's graduate unit, the Associate Dean of another division will chair the exam.

4. **Abstract:** a new abstract is required only if there have been changes to it.
5. No new committee members shall be added, except for necessary replacements. It is the obligation of the members of the original examiners to attend the reconvened examination if they are able to do so.
6. **External Appraisal:** a new appraisal should be obtained from the external examiner if the thesis has been changed substantially. This requirement may be waived by the SGS Associate Dean of Life Sciences at the request of both the student and the graduate unit.
7. No further adjournment will be allowed if the candidate is not successful at the reconvened exam and the candidate will be ineligible for further PhD candidacy at the University. The Examination Committee must provide the candidate, as soon as possible, with a written statement that explains clearly and directly why the examiners found the candidate's performance unsatisfactory on the written or oral components of the examination, as may be relevant.

### AFTER THE DEFENCE:

After a successful defence, the chair will submit the necessary paperwork to the School of Graduate Studies (SGS). The student will receive an email from SGS regarding next steps on submitting corrections and thesis.

# STUDENT SERVICES AND RESOURCES

## SUPPORT SERVICES AND RESOURCES

Academic success requires support beyond the classroom. The Faculty of Kinesiology and Physical Education and the University of Toronto offer many services to make your campus experience a positive one.

Below are some key resources to get you started:

- **Accessibility Services**  
Supports students through academic accommodations to achieve academic and co-curricular success
- **Health Sciences Writing Centre**  
Supports students through the various stages and potential challenges of academic writing
- **Housing Services**  
Information on campus and non-campus accommodation, vacancies, online registry and FAQs
- **Sexual and Gender Diversity Office**  
Promotes the sexual diversity of the students, staff and faculty at U of T
- **Student Life Centre**  
Learn about resources to encourage a balanced and dynamic campus life, beyond the classroom

If you do not find the resources you require on these websites, please feel free to contact the Graduate Programs Office directly via email at [exs.kpe@utoronto.ca](mailto:exs.kpe@utoronto.ca) or via phone at 416-978-6087.

### DAVID L. MACINTOSH SPORT MEDICINE CLINIC

A comprehensive sport medicine care facility, the clinic's staff includes certified athletic therapists, sport and manual physiotherapists, sport massage therapists, sport physicians, orthopaedic surgeons, a certified pedorthist and a registered psychologist (in clinical neuropsychology). The clinic's services are available to anyone with sport or exercise-related injuries or inquiries. [kpe.utoronto.ca/david-l-macintosh-sport-medicine-clinic](http://kpe.utoronto.ca/david-l-macintosh-sport-medicine-clinic)

### SEXUAL VIOLENCE PREVENTION & SUPPORT CENTRE

The Centre has a mandate to conduct intake, accept disclosure and reporting of sexual violence, and provide support to individual members of the university community who have experienced or been affected by sexual violence. Please visit The Centre's website for more information: [thesvpcentre.utoronto.ca](http://thesvpcentre.utoronto.ca) You are encouraged to review the online sexual violence prevention module at [uoft.me/SVEPtraining](http://uoft.me/SVEPtraining) before attending Orientation day.

## SCHOOL OF GRADUATE STUDIES

The School of Graduate Studies offers an immense array of services that cater to any need a student may have. These include, but are not limited to:

- Conflict resolution
- Campus life
- Equity and diversity
- Family resources
- Health and safety

For more information, please visit the [SGS Services for Students](#).

### GRAD LIFE

Grad Life is a hub to help you navigate grad life at U of T and connect you to workshops, social events, campus services and resources. They provide community through programs where you can gain balance, build skills, seek support and connect with other graduate students across disciplines. To view more information on activities and support resources, visit the [GradLife](#) website.

### GRADUATE COUNSELLING SERVICES

Health and Wellness Partnership – The School of Graduate Studies and the Office of Student Life are pleased to announce a new partnership to expand the outreach provided by Health and Wellness to our graduate student community.

To better meet the diverse needs of the graduate student population, graduate students can access counselling services at the School of Graduate Studies. The Wellness Counsellor will offer brief counselling services tailored to the challenges presented by graduate-level university life. The focus of counselling is on strengths, resiliency and skills-building.

### FINANCIAL ADVISING

It's best to seek help early so your problems don't get out of control. Most financial problems only get worse unless you seek help. Financial advising can help relieve your stress, resolve your immediate financial problems and help you plan for the future. The financial advisor is trained to assist currently registered students in all aspects of financial management, including planning a budget and debt load management. For more information or to schedule an appointment, please visit the [SGS Financial Advising](#) website.

### WELLNESS WORKSHOPS

Wellness workshops are offered by the Health and Wellness Centre. Topics of these workshops range from balanced living and emotional regulation to healthy behaviours and many others. For more information and to view the schedule of the workshops, please visit the [Wellness Workshop](#) website.



## FACULTY OF KINESIOLOGY AND PHYSICAL EDUCATION FACILITIES

---

### Athletic Centre (Corner of Harbord St. and Spadina Ave.)

With seven gymnasias, three pools (including the only Olympic-sized pool in downtown Toronto), a strength and conditioning centre, indoor track, dance studio, cardio machines, tennis and squash courts and steam rooms, there really is something for everybody! Facilities are available for use by U of T students and all other Athletic Centre members.

### Goldring Centre for High Performance Sport (100 Devonshire Place)

The Goldring Centre for High Performance Sport is a multi-storey sport and exercise facility housing a 2,000-seat, internationally rated field house for basketball, volleyball and other court sports, a state-of-the-art strength and conditioning centre, fitness studio, sport medicine clinic and research and teaching laboratories.

### Varsity Centre (Corner of Bloor St. and Devonshire Place)

The Varsity Centre – which includes a 5,000-seat stadium, 400m eight-lane track, state-of-the-art artificial turf field with a dome for winter use and 4,000-seat arena – is a sport and recreation facility like no other. Home to international, intercollegiate and intramural competitions throughout the year, Varsity Centre also hosts recreational and instructional classes, children's programs and high performance athlete training. During the winter months, the field continues to be a hive of activity under the dome, where students and members can make use of the driving range and a range of drop-in recreational activities.

## ACORN – STUDENT WEB SERVICE

---

The Accessible Campus Online Resource Network (ACORN) is U of T's user-friendly and intuitive student web service. ACORN will be your main online resource for updating contact information, student account information and student life resources. Access ACORN using your UTORid and password. Use ACORN to:

- View your daily schedule and upcoming key dates at a glance
- Defer fees
- View tuition invoices and financial account
- Update contact information
- Order transcripts
- Print tax forms
- Access information on housing, health and support, co-curricular programs and more in one place

For more information about ACORN, visit [www.introducing.acorn.utoronto.ca](http://www.introducing.acorn.utoronto.ca)

## TCARD INFORMATION/LIBRARY INFORMATION

---

The TCard is the campus ID card, which provides access to services and facilities such as Blackboard, libraries, athletic facilities, exams, meal plans, printing services, and more. Once students have their TCard, they are also able to enable their UTORid, U of T email address, and access U of T WiFi.

Starting June 1, TCards will be issued for new students at the Koffler Student Services Centre (214 College Street, first floor).

More information available at: <http://tcard.utoronto.ca/>.

### Set Up Your Email Address and Activate Your UTORid

Once you have your TCard, activate your UTORid account, which will automatically create your UTMail+ account. All U of T students are given a U of T email address through the UTMail+ service. It's your responsibility to activate and maintain this account. Enter this new email address on your ACORN record. U of T uses email to communicate with you. It's your responsibility to update your email on ACORN and to check your UTMail+ account daily.



## QUERCUS

---

Quercus is U of T's online course communication system that some of your instructors will use to communicate important course information to you. The majority of instructors will post their course outline, lab and tutorial schedules, and various course notices and policies via Quercus. Some instructors will also post your course assignment, midterm test and essay grades on Quercus. The majority of your courses will become active on Quercus during the firstweek of classes.

Login to [Quercus](#) using your UTORid.

## CONTACT INFORMATION

---

### Graduate Programs Office

If you have any questions regarding administrative matters such as registration, enrollment, grades, fees, financial support and awards, please feel free to contact Zarine Ahmed, Graduate Program Coordinator.

### 320 Huron Street, Room BN 110

(Clara Benson Building, enter via 320 Huron Street doors)

**Email:** [exs.kpe@utoronto.ca](mailto:exs.kpe@utoronto.ca)

**Tel:** 416-978-6087

**Fax:** 416-971-2118

**Faculty Website:** [www.exs.utoronto.ca](http://www.exs.utoronto.ca)

### OFFICE HOURS

Monday to Thursday: 8:30 a.m. – 12 p.m. and 1 p.m. – 4:30 p.m.

Friday: 8:30 a.m. – 12 p.m.

# APPENDIX A. Satisfactory Academic Progress and Good Standing Guidelines for Exercise Science Graduate Students (MSc and PhD)

## I. Introduction

Satisfactory progress through the graduate program is a shared responsibility between the Graduate Department of Exercise Sciences (EXS), the graduate student and the supervisor. Understanding and being in compliance with the conditions and regulations of “Good Standing”, as well as maintaining satisfactory academic progress, ultimately remains the responsibility of the graduate student. For questions, clarifications and details regarding the good standing process please contact the Graduate Program Coordinator (Zarine Ahmed at [exs.kpe@utoronto.ca](mailto:exs.kpe@utoronto.ca)). To be in good academic standing, a student registered in a degree program in the School of Graduate Studies must:

1. Comply with the **General Regulations** of the School of Graduate Studies as well as with the Degree Regulations and program requirements governing that degree program.
2. Make satisfactory progress towards the completion of the degree.

## II. What Constitutes “Good Standing” for an MSc student?

To be in good academic standing, an MSc student must comply with the **General Regulations** of the School of Graduate Studies as well as with the EXS program requirements. More specifically, these requirements include:

1. Grades of at least a B- for required coursework.
2. A minimum of one supervisory committee meeting per year with an assessment of satisfactory progress. Please note that two consecutive committee meetings with assessments of unsatisfactory progress may constitute grounds for termination. A student who, through his or her own neglect, fails to meet with the supervisory committee in a given year will be considered to have received an unsatisfactory progress report from the committee.
3. Satisfactory progress towards the completion of the degree within the timeframe of a two-year period. Important milestones and expectations regarding the approximate timing of achieving such milestones are identified below.

Milestone*	Dates
Complete one course	January 31 of Year 1
Committee established	January 31 of Year 1
Completion of two courses	May 31 of Year 1
First committee meeting	May 31 of Year 1
Proposal defended	August 31 of Year 1
All courses completed	January 31 of Year 2
Second committee meeting	May 31 of Year 2
Final defence	By August 31 of Year 2

4. For MSc students, an audit result of unsatisfactory progress will be linked with the determination of not being in “Good Standing.” After each milestone achievement (except for coursework), the graduate student or the supervisory committee is required to submit relevant documentation (i.e., Annual Supervisory Committee Meeting forms) to the Graduate Program Coordinator. The documentation will be retained in the student file. The coursework completion will be checked by the EXS Graduate Programs Office during the annual audit. *\*For a full program timeline, refer to Appendix B in this handbook.*

### III. What Constitutes “Good Standing” for a PhD student?

To be in good academic standing, a PhD student must comply with the [General Regulations](#) of the School of Graduate Studies as well as with the EXS program requirements. More specifically, these requirements include:

1. Grades of at least a B- for required coursework.
2. A minimum of one committee meeting per year with an assessment of satisfactory progress. Please note that two consecutive committee meetings with assessments of unsatisfactory progress may constitute grounds for termination. A student who, through his or her own neglect, fails to meet with the supervisory committee in a given year will be considered to have received an unsatisfactory progress report from the committee.
3. Achievement of candidacy by the end of Year 3. To achieve candidacy, students in doctoral degree programs must complete all requirements for the degree exclusive of thesis research and courses such as ongoing research seminars that run continuously through the program; and have an approved thesis topic, supervisor, and supervisory committee.
4. Make satisfactory progress towards the completion of the degree within the timeframe of a four-year period. Important milestones and expectations regarding the approximate timing of achieving such milestones are identified below.

Milestones *	Dates
Complete one course	January 31 of Year 1
Committee established	January 31 of Year 1
Completion of two courses	May 31 of Year 1
First committee meeting	May 31 of Year 1
Reading lists submitted and approved	August 31 of Year 1
Comprehensive exams completed	January 31 of Year 2
All courses completed	January 31 of Year 2
Second committee meeting	May 31 of Year 2
Proposal defence	June 30 of Year 2
Senate defence	August 31 of Year 4

5. For PhD students, two sequential assessments of unsatisfactory progress will be linked with not being in “Good Standing.” After each milestone achievement (except for coursework), the graduate student or the supervisory committee is required to submit relevant documentation (i.e., Annual Supervisory Committee Meeting forms) to the Graduate Program Coordinator. The documentation will be retained in the student file. The coursework completion will be checked by the EXS Graduate Programs Office during the annual audit. *\*For a full program timeline, refer to Appendix B in this handbook.*

### IV. Milestone Achievement

To also be in compliance with SGS policy, all graduate students are required to have an annual committee meeting. At each annual meeting, the current progress (milestone achievement) of each student is to be discussed and documented. An appropriate (MSc or PhD) milestone checklist will be required to be submitted with each committee meeting form to be filed in each student’s file. At the end of each meeting (or exam) the results (achievement) of each milestone will be communicated to the student by the supervisor and where necessary additional information and guidance provided.

*Please note that additional tuition fees may still apply even if students are in good standing as those deadlines are determined by thesis submission to SGS.*



## V. Special Circumstances

There may be occasions when a graduate student is unable to successfully complete the milestone activities within the recommended timeframe due to extenuating circumstances. Such circumstances may range from medical (e.g., illness) or research-related (e.g., change in protocol, ethics review challenges) issues. Please note that working or voluntarily taking on EXTRA work are not acceptable grounds for special circumstances. Provided that these extenuating circumstances are documented in the student's file, they will be considered in the determination of satisfactory progress and good standing. Special circumstances will be reviewed by the EXS Graduate Programs Office and are not automatically approved; students will be notified of the result of any requests. For questions, clarifications and details regarding good standing process, please contact the Graduate Program Coordinator (Zarine Ahmed [exs.kpe@utoronto.ca](mailto:exs.kpe@utoronto.ca)).

## VI. Process for Addressing Satisfactory Progress and “Good Standing”

1. Once per year (in May), an academic audit will be conducted by the EXS Graduate Programs Office. This academic audit consists of a review of the documents in the student's file including notes from the annual committee meeting, coursework grades and notations of successful completion of program milestones.
2. If the appropriate indicators of satisfactory progress are achieved, the student and supervisor will be notified as such in writing.
3. If the appropriate indicators of satisfactory progress are not achieved, the student will be contacted for further information. Should the student be unable to demonstrate evidence of satisfactory progress or extenuating circumstances, an assessment of unsatisfactory progress will be made. Notice of unsatisfactory progress will be made in writing to the student and supervisor with a request for a plan for redress. Should the student provide evidence of extenuating circumstances that may account for unsatisfactory progress, the EXS Graduate Programs Office/Committee will consider these circumstances in determining whether or not “Good Standing” will be maintained.
4. A student who has been assessed as not being in “Good Standing” may return to “Good Standing” by providing written evidence to the EXS Graduate Programs Office that the appropriate milestones have been reached.

See Program Audit Process Chart on page 26.

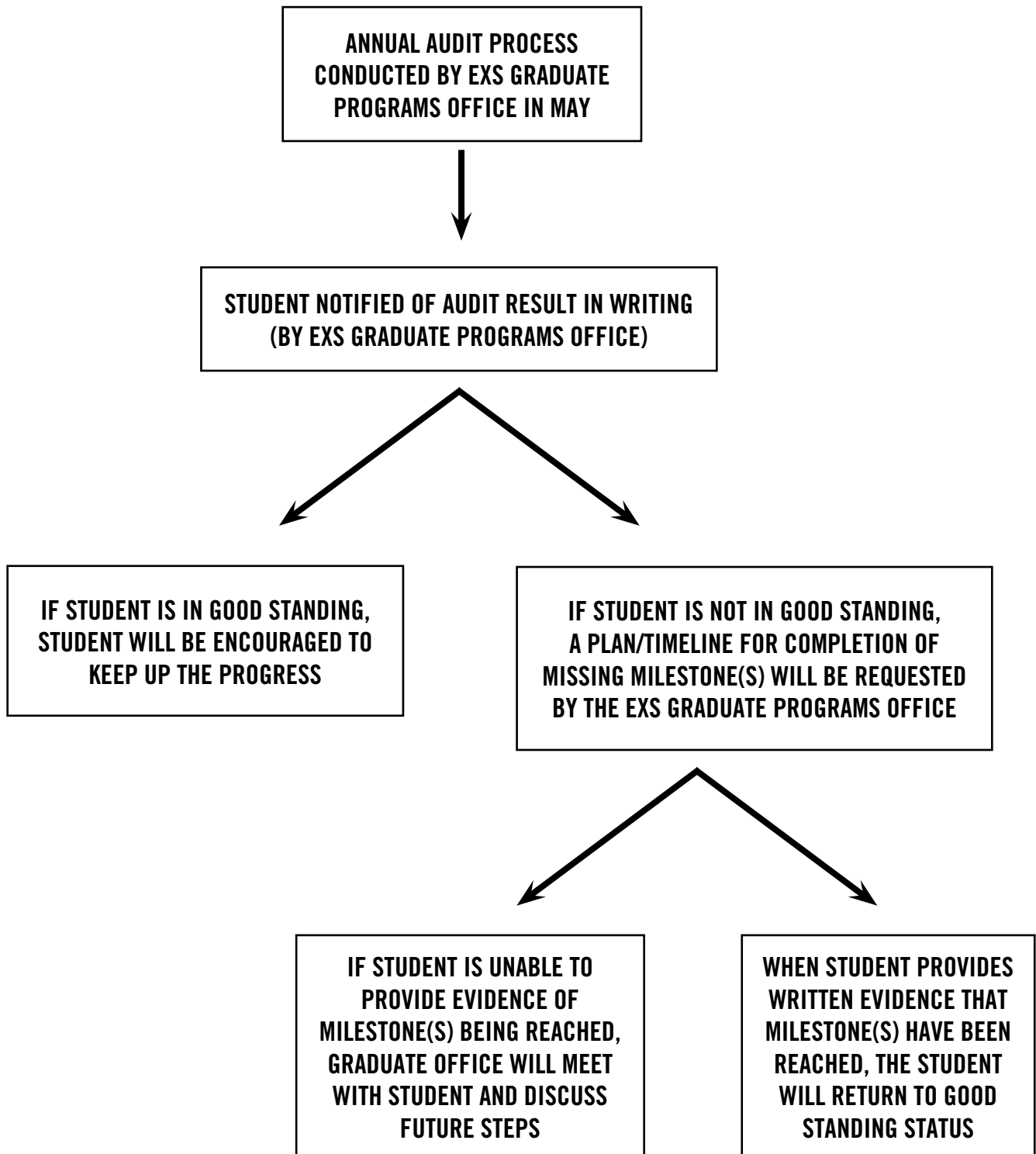
## VII. What are the Consequences of not being in “Good Standing”?

Failure to maintain good academic standing may result in various sanctions, (including ineligibility for financial assistance internal awards, travel support grants, lowest priority for bursaries, external awards and assistantships) and possible termination of registration (in repeated or extreme cases). The School of Graduate Studies may terminate the registration and eligibility of a student:

1. Who fails to comply with the [General Regulations](#) of the School of Graduate Studies, the relevant Degree Regulations, or the specific degree requirements of the graduate unit in which the student is registered; or
2. Who fails to maintain satisfactory progress in the degree program in which the student is registered, as measured either by the general standards of the School of Graduate Studies or by the specific standards of the graduate unit.

# Graduate Department of Exercise Sciences Annual Program Audit Process

---



## APPENDIX B. Tracking Degree Progress

---

### MSc Program Timeline — Target Dates

---

This timeline is to be used as a guideline for your MSc program. You may use this as a checklist to ensure you are on track for completion of the program.

#### YEAR I

<input type="checkbox"/> Approval of first-year courses	September
<input type="checkbox"/> Completion of one course	By January 31
<input type="checkbox"/> Establish advisory committee (Submit signed Supervisory Committee Form to EXS Graduate Programs Office)	By January 31
<input type="checkbox"/> Completion of two courses	By May 31
<input type="checkbox"/> First annual committee meeting (Submit signed <a href="#">Annual Supervisory Committee Meeting form</a> to EXS Graduate Programs Office)	By May 31
<input type="checkbox"/> Prepare thesis proposal	May to August
<input type="checkbox"/> Defend thesis proposal	By August 31
<input type="checkbox"/> Submit proposal for ethics review	After successful MSc thesis proposal defence

#### YEAR II

<input type="checkbox"/> Complete review of literature	August
<input type="checkbox"/> Approval of second-year courses	September
<input type="checkbox"/> Begin data collection	September
<input type="checkbox"/> Course completion	By January 31
<input type="checkbox"/> Data collection and analysis complete	January/February
<input type="checkbox"/> First draft of thesis to supervisor	March/April
<input type="checkbox"/> Revision process with supervisor	April/May
<input type="checkbox"/> Distribute thesis to committee	May
<input type="checkbox"/> Second annual committee meeting (Submit signed <a href="#">Annual Supervisory Committee Meeting form</a> to EXS Graduate Programs Office)	By May 31
<input type="checkbox"/> Book Msc departmental defence with EXS Graduate Programs Office (Submit <a href="#">Defence Booking Request form</a> , <a href="#">Thesis Approval form</a> and thesis (pdf format) to the EXS Graduate Programs Office)	By July 25
<input type="checkbox"/> Final departmental defence	By August 31
<input type="checkbox"/> Thesis corrections and submit to supervisor	TBD (Depending on defence result. Please contact the Graduate Program Coordinator for details)

## PhD Program Timeline — Target Dates

---

This timeline is to be used as a guideline for your PhD program. You may use this as a checklist to ensure you are on track for completion of the program.

### YEAR I

- |   |               |
|---|---------------|
| <input type="checkbox"/> Approval of first-year courses   | September     |
| <input type="checkbox"/> Completion of one course   | By January 31 |
| <input type="checkbox"/> Establish advisory committee (Submit signed <a href="#">Supervisory Committee Form</a> to EXS Graduate Programs Office)                  | By January 31 |
| <input type="checkbox"/> Completion of two courses  | By May 31     |
| <input type="checkbox"/> First annual committee meeting (Submit signed <a href="#">Annual Supervisory Committee Meeting Form</a> to EXS Graduate Programs Office) | By May 31     |
| <input type="checkbox"/> Reading lists to be submitted by supervisor to EXS Graduate Programs Office  | By August 31  |

### YEAR II

- |  |                       |
|--|-----------------------|
| <input type="checkbox"/> Reading lists for comprehensive examination preparation phase   | September to December |
| <input type="checkbox"/> Comprehensive examination   | By January 31         |
| <input type="checkbox"/> Course completion   | By January 31         |
| <input type="checkbox"/> Prepare thesis proposal   | January to May        |
| <input type="checkbox"/> Second annual committee meeting (Submit signed <a href="#">Annual Supervisory Committee Meeting Form</a> to EXS Graduate Programs Office) | By May 31             |
| <input type="checkbox"/> Defend thesis proposal  | By June 30            |
| <input type="checkbox"/> Submit ethics   | By August 31          |

### YEAR III

- |   |                  |
|---|------------------|
| <input type="checkbox"/> Complete review of literature and methods  | August           |
| <input type="checkbox"/> Begin data collection  | September to TBD |
| <input type="checkbox"/> Third annual committee meeting (Submit signed <a href="#">Annual Supervisory Committee Meeting Form</a> to EXS Graduate Programs Office) | By May 31        |

## YEAR IV

<input type="checkbox"/> Data collection and analysis complete	September/October
<input type="checkbox"/> First draft of thesis to supervisor	January/March
<input type="checkbox"/> Distribute thesis to supervisor committee	April
<input type="checkbox"/> Book departmental defence with EXS Graduate Programs Office (Submit <a href="#">defence booking form</a> and <a href="#">thesis approval form</a> to the EXS Graduate Programs Office)	By mid-May
<input type="checkbox"/> Fourth annual committee meeting (Submit signed Annual Supervisory Committee Meeting Form to EXS Graduate Programs Office)	By May 31
<input type="checkbox"/> Departmental defence	By first week of June
<input type="checkbox"/> Book Senate/Final Defence with EXS Graduate Programs Office (Submit <a href="#">Defence Booking Request form</a> and thesis (pdf format) to the EXS Graduate Programs Office)	By end of June
<input type="checkbox"/> Senate/final defence	By August 31
<input type="checkbox"/> Thesis corrections and submit to supervisor	TBD (Depending on defence result. Please contact the Graduate Program Coordinator for details)







UNIVERSITY OF TORONTO  
FACULTY OF KINESIOLOGY & PHYSICAL EDUCATION

---

GRADUATE DEPARTMENT  
OF EXERCISE SCIENCES

**Faculty of Kinesiology  
& Physical Education**

University of Toronto  
55 Harbord Street  
Toronto, ON M5S 2W6

**T** 416-978-6087

**F** 416-971-2118

**E** [exs.kpe@utoronto.ca](mailto:exs.kpe@utoronto.ca)

**[exs.utoronto.ca](http://exs.utoronto.ca)**

**[twitter.com/UofTKPE](https://twitter.com/UofTKPE)**

**MOVEMENT  
SCIENCES  
TO MOVING  
KNOWLEDGE**