

The B.Sc. Honours Program in Exercise Science

The Department of Exercise Science offers four programs at the undergraduate level. Two of these programs include, Athletic Therapy and Clinical Exercise Physiology, which are B.Sc. Specializations in Exercise Science. The remaining two programs include the B.Sc. Major in Exercise Science, and the B.Sc. Honours in Exercise Science. The B.Sc. Honours in Exercise Science, which was approved in May 2007, was deemed necessary because of the increased research activity in the Department as a direct result of the beginning of the Master's of Science program in 2005. Thus, the main intention of the Honours program is to prepare undergraduate students for graduate level studies. The Honours program is a research intense degree that will provide students the opportunity to attempt different research activities under the guidance of an experienced faculty member who performs research in one of the subdisciplines of Exercise Science. This experience will provide students with a hands-on research experience and the potential to publish in a refereed scientific journal. Overall, the Honours program will allow students to obtain the necessary knowledge, skills, and abilities to carry out research in preparation for graduate school.

In order to obtain the Honours degree, students must complete a total of 90 credits as indicated in Table 1. The majority of these 90 credits are composed of 60 credits from core courses of the Honours program. Of these 60 credits, 42 credits overlap with the Major program, and the remaining 18 credits correspond to courses that were specifically designed for the Honours program. These 18 credits of Honours-specific courses include EXCI 322, 323, 424, 425, and 426. The first two courses, EXCI 322 and 323, are taken by Honours students during their second year, whereas the latter three courses are taken during their third year in the program. Table 2 provides a summary of the core courses, otherwise known as the Honours courses, expected to be taken by students from stages 1 to 3 of the Honours program. Honours students should complete their program in three years. As is customary in other programs in the Department of Exercise Science, Honours students are expected to complete prerequisites prior to taking other core courses in the program. Table 3 provides prerequisites for courses that were specifically designed for the Honours program. Please refer to Section 31.120 of the current undergraduate calendar for further details regarding prerequisites for other core courses in the Honours program.

Table 1. Honours Program Outline.

HONOURS DEGREE			
90 credits			
Honours Program Core Courses		Elective Courses	
60 credits		30 credits	
Major 42 credits	Honours-Specific 18 credits	Outside EXCI 24 credits*	Within or Outside EXCI 6 credits

*The 24 credits outside Exercise Science include 6 credits from General Education courses.

Table 2. Summary of the courses taken by students at each stage of the Honours program.

Course Number	Course Title	Credits	Course Type
Stage 1			
EXCI 250	Research Methods	3	Major
EXCI 252	Introduction to Physical Activity, Health & Fitness	3	Major
EXCI 253	Human Anatomy I: Musculoskeletal Anatomy	3	Major
EXCI 254	Human Anatomy II: Systemic Anatomy	3	Major
EXCI 257	Human Physiology I: The Neurological, Bioenergetic, & Endocrine Systems	3	Major
CATA 262	Emergency Care in Sport & Exercise	3	Major
Total		18	
Stage 2			
EXCI 351	Introduction of Biomechanics of Human Movement	3	Major
EXCI 352	Essentials of Exercise Testing & Training in Athletic Populations	3	Major
EXCI 355	Neural Control of Human Movement	3	Major
EXCI 357	Human Physiology II: The Cardiovascular & Respiratory Systems	3	Major
EXCI 358	Physiology of Exercise	3	Major
EXCI 322	Statistics for Exercise Science	3	Honours-Specific
EXCI 323	Research Experience in Exercise Science	3	Honours-Specific
Total		21	
Stage 3			
EXCI 420	Physical Activity Epidemiology	3	Major
EXCI 445	Nutrition in Exercise & Sport	3	Major
EXCI 424	Honours Seminar I: Issues & Methods in Exercise Science	3	Honours-Specific
EXCI 425	Honours Seminar II: Current Topics in Exercise Science	3	Honours-Specific
EXCI 426	Honours Thesis	6	Honours-Specific
Choose 1 of the four following courses:			
EXCI 440	Current Developments in the Biochemistry of Exercise	3	Major
EXCI 453	Stress, Health, & Disease	3	Major
EXCI 455	Physical Activity, Health & Aging	3	Major
EXCI 458	Pediatric Exercise Science	3	Major
Total		21	

Table 3. Prerequisites for courses that were specifically designed for the Honours program.

Course	Prerequisites
EXCI 322	EXCI 250 and enrollment in the Honours program.
EXCI 323	EXCI 250 and enrollment in the Honours program.
EXCI 424	EXCI 322, 323, and enrollment in the Honours program.
EXCI 425	EXCI 322, 323, and enrollment in the Honours program.
EXCI 426	EXCI 322, 323; EXCI 424, EXCI 425 previously or concurrently; enrollment in the Honours program.

Descriptions of Courses Designed Specifically for the Honours Program

EXCI 322 - Statistics for Exercise Science

This course builds on students' experience derived from EXCI 250 to advance their knowledge of the research process by providing details of statistical techniques and methods that are common in exercise science. **Lectures only.**

EXCI 323 - Research Experience in Exercise Science

This course provides students with hands-on research experience. During the course students may learn a new technique, engage in data collection, shadow a graduate student, or produce a literature review in a related research area of their supervising professor. **Laboratory only.**

Students will be required to work with 2 supervisors on separate occasions during the semester. Each occasion will be for a duration of 6 weeks and will run consecutively.

EXCI 424 - Honours Seminar I: Issues & Methods in Exercise Science

Using a combination of guest speakers and student presentations, this seminar is geared to critically examining current issues and methods in exercise science. The emphasis of the course will be on practical and methodological issues as they relate to selected topics from these areas. Examples of topics that may be included in the course include: ethical issues in exercise science, new emerging theories in exercise science, and the utility of a particular research technique or methodology in exercise science. **Lectures only.**

EXCI 425 - Honours Seminar II: Current Topics in Exercise Science

Using a combination of guest speakers and student presentations, this seminar is geared to critically examining current topics in exercise science. The emphasis of the course will be on the theoretical basis of issues as they relate to selected topics in the specific areas of research of the students. **Lectures only.**

EXCI 426 - Honours Thesis

This 6-credit, full year course requires the student to propose and conduct a study and submit a thesis according to a recognized and approved scientific journal format. The work is supervised by a thesis chair selected by the student from within the Department of Exercise Science.