



School of Human Kinetics

Graduate Program Handbook

Revised: September 1 2009

Thesis—A dissertation advancing an original point of view as a result of research...

Finding Help

ADMINISTRATION

Associate Director Auditorium Annex Rm. 156F	Brian Wilson	604-822-3884 brian.wilson@ubc.ca
Graduate Program Assistant MGYM 210	Barry Warne	604-822-4641 hkin-gradsec@interchange.ubc.ca

TECHNICAL/FACILITY STAFF

Systems Analyst MGYM 31	Cliff Storlund	604-822-8991 storlund@interchange.ubc.ca
Facilities/Media Co-ordinator MGYM 224	Tom Neville	604-822-9378 tneville@interchange.ubc.ca

The School's graduate program is governed by the UBC Faculty of Graduate Studies (FoGS). The FoGS Policy and Procedures Manual may be found at <http://www.grad.ubc.ca>. The School's policies and procedures are harmonized within those articulated by FoGS and are found at <http://www.hkin.educ.ubc.ca>. Together, these policies form the framework in which graduate studies must be completed.

HKIN Graduate Committee

COMMITTEE MEMBERSHIP

Health Sciences	N. Hodges	PE & Coaching Sci	R. Mosher
Natural Sciences	T. Lam	Social Sciences	M. Beauchamp

The Graduate Committee governs and is charged with all aspects of the Graduate Program. It also deals with student appeals for changes in programs not normally facilitated by FoGS' policies and procedures. Concerns regarding the program, interaction with faculty, or other students, should be directed to the Committee whose goal is to ensure the best possible educational outcome.

Academic Culture

The School provides a multi-disciplinary environment for research spanning a broad range of topics from the humanities to theoretical and applied social science, and to basic and applied physical science. Common links are an interest in movement as it relates to health, exercise and sport in both historical and contemporary contexts. To bring cohesion to such a diverse range of interests, the School facilitates a series of seminars with some of the top researchers in the field. These seminars are integral, increase exposure to different types of research, and help develop academic skills.

Program Duration (general timelines for degree completion)

From the official date of admission, **masters' students have five (5) years**, and **PhD students have six (6) years**, to complete degree requirements.

MHK students typically undertake coursework during the first three terms and spend the final term developing and presenting a major paper.

MA/MSc students spend the first two terms taking courses and developing a research theme. The final terms are spent proposing a research topic, collecting data and presenting a thesis defence.

PhD students typically take no more than four years to develop and complete a research program. Comprehensive exams take place prior to the end of the 2nd year, while proposing a thesis topic and being admitted to candidacy occur before the end of the 3rd year. Defending the thesis usually happens at the end of the fourth year.

Degree Requirements

Degree → Requirements ↓	Master of Arts	Master of Science	Master of Human Kinetics	PhD
Thesis/Major Paper	THESIS (12 Credits)		GRADUATING PAPER (3 Credits)	THESIS
500/600 Level Course Work	A minimum of 9 course credits related to the student's program of study determined in consultation with Thesis Supervisor		A minimum of 18 course credits related to the student's program of study determined in consultation with Supervisor	Optional
300/400 Level Course Work	A maximum of 6 course credits related to the student's program of study may be taken at the senior undergraduate (300/400) level for application to MA, MSc, and MHK degrees			*Comprehensive Exam (see below)
REQUIRED Course Work HKIN 570	RESEARCH METHODS (3 Credits) (or approved alternative) All Master's students are obliged to complete HKIN 570 (or an approved alternative). Students starting in January are to register for HKIN 570 during their first term.			**Admittance to Candidacy (see below)
RECOMMENDED Course Work	An appropriate quantitative or qualitative analysis course – e.g. EPSE 592			Optional
TOTAL Credits	30			n/a

***COMPREHENSIVE EXAM** <http://www.grad.ubc.ca/policy/index.asp?menu=007,000,000,000>
 -required upon completion of course work, and/or readings; and **scheduled prior to the second anniversary of the student's start date.**
 -normally comprises a two-part exam, which the student's committee will establish and judge. Content will be relevant to the student's general area of study and will include questions covering theory, application, and methodology.
 -successful completion is a prerequisite for the presentation and defense of the formal PhD thesis proposal.

****ADMITTANCE TO CANDIDACY**
 -normally occurs **within three years of program start date**, upon successful completion of all required course work/readings, the Comprehensive Exam, and upon presentation and approval of the thesis proposal.

PROGRAM PLANNING

In September the student and Thesis Supervisor meet to review and set goals for the forthcoming academic year. These goals are then recorded on a *Program*

Outline Form and returned to the Graduate Secretary. Unrecorded program changes may result in a delay of graduation.

Registration

CONTINUOUS REGISTRATION

Required throughout all terms (Fall, Winter, Spring/Summer), until graduation.

Failure to pay fees by appropriate deadlines results in automatic blocking of course registration, recording of grades, and graduation until fees (with interest) are paid in full.

COURSE REGISTRATION

Courses may be registered on-line, with the following **exceptions**:

HKIN 530 and HKIN 598 Contracts

- arrange study with supervisor
- download contract
<http://www.hkin.educ.ubc.ca/School/grad/530eform.pdf>
- obtain appropriate signatures (thesis supervisor and Associate Director)
- return contract to the Graduate Secretary for registration.

Undergraduate HKIN courses

- thesis supervisor sends memo to Undergraduate Secretary to register student (if space available).
- confirm registration status via the SIS (Student Information System).

Non-HKIN courses

- complete *Change in Registration* (add/drop form available on-line)
- obtain authorization from course instructor
- return to Graduate Secretary for department approval. (form will be forwarded to the Faculty of Graduate Studies for processing).

COURSE WITHDRAWAL

Deadlines are strictly followed -- see the following website for deadlines:

<http://students.ubc.ca/calendar/academicyear.cfm>

Grades

MINIMUM GRADES

- **Master's students - 60% (C)**
- **PhD students - 68% (B-)**

Minimum Grades: Courses with lower grades may be repeated for higher standing". Remedial action **MUST** be taken when students have grades below 60% for Master's and 68% for PhD. The remedial action may be either repeat the course or get 74% OR take another course in lieu (if it is not a required course). The 3rd option would be "required to withdraw". Repeat courses will have both marks appear on the transcript. The higher mark will be used to determine promotion and in any decision to admit/withdraw a student from a program. Averages calculated for other purposes include both marks.

PASS/FAIL GRADES

FoGS regulations state:

- Failed courses do not receive credit
- No more than 6 credits of Pass standing (60-67%) in course work may be credited toward a Masters program. For all other courses, a minimum of 68% must be obtained.
- Students failing a course require departmental recommendation to continue
- Students failing more than one course normally will be required to withdraw

STANDING DEFERRED

A 'deferred' standing is appropriate if medical or personal problems (of a very unusual nature) make it impossible to complete the course requirements on time, however the requirements can be completed with an extension. In this case, the student's graduate program advisor or designate should send a memo to the Dean of Graduate Studies as early as possible recommending a 'deferred' standing and the reasons for the recommendation. The instructor should note the request for a DEF standing on the grade sheet. The 'deferred' standing will then be entered in the student's record and transcript.

Audit (AUD) is granted to students who have been officially approved as having audit status. These students are expected to complete all course requirements except the final exam, and may be given Fail (F) standing if their performance is not satisfactory. See [Classification of Students](#) in Calendar Chapter 2.

Standing Deferred (SD) may be granted by the Dean of the Faculty of Grad Studies in which the student is enrolled when a student has a valid reason for not completing course requirements as scheduled and does not qualify for Aegrotat standing (see [Academic Concession](#)). Students granted an 'SD' in Winter Session courses must complete all outstanding course requirements by August 23 following. Students granted an 'SD' in Summer Session courses must complete all outstanding work by December 25 following. Students granted 'SD' are responsible for making satisfactory arrangements with their instructors for completion of outstanding course requirements. If a student fails to complete these requirements by the dates specified, the 'SD' will be replaced with a grade or standing reflecting requirements completed in the course. Students unable to meet the specified deadlines because of further medical, emotional or other difficulties must make an additional application for Academic Concession no later than August 31 for Winter Session courses or December 31 for Summer Session courses following the original deferral. See [Deferred and Supplemental Examinations](#).

UNSATISFACTORY PROGRESS

Students may be required to withdraw if academic or research progress is unsatisfactory. Students will be informed in writing by the Associate Director of inadequate progress and given an opportunity to discuss the matter with the supervisory committee prior to a withdrawal recommendation being made to FoGS.

The School may choose to establish additional criteria for measuring student progress. When this occurs, both the student and the Dean of Graduate Studies will be informed in writing of any additional requirements for re-instatement.

Thesis - Definition

A dissertation advancing an original point of view as a result of research.....

Committee Structure

Thesis Supervisor is responsible for ensuring all committee members are current members of FoGS.

1. Committee Membership normally comprises three faculty members:
 - Thesis Supervisor

- One other member from HKIN grad faculty
 - Additional faculty members from other departments *as deemed appropriate (these may include non-faculty - subject to HKIN and FoGS' approval, see "Committee Members Who Are Not...")*
2. Constituency of all Thesis Committees is subject to review by the HKIN Graduate Committee.
 3. Thesis Supervisor is responsible to the HKIN Associate Director (Grad Programs) for determining composition of supervisory committee (subject to FoGS' regulations).

COMMITTEE MEMBERS WHO ARE NOT FULL-TIME FACULTY

Although each thesis committee must be chaired by a full member of FoGS, the committee itself may include individuals who are not full members. In particular honorary or adjunct faculty, and off-campus professionals who are academically qualified to advise graduate students may be members of the committee if approved by the Associate Director (Grad Programs) and/or Dean of Graduate Studies.

- ***prior approval from the Associate Director (HKIN Grad Programs) is required. A memo from the thesis supervisor, with justification and curriculum vitae of the nominated expert(s) must be included.***

When a faculty member approaching retirement accepts an assignment as Thesis Supervisor, the faculty member and the School's Associate Director of Graduate Programs must ensure provision is made for an alternate supervisor should the need arise.

Proposing/Defending

INSTRUCTIONS

<http://www.grad.ubc.ca/students/thesis/index.asp?menu=002,000,000,000>

Official FoGS "Instructions for the Preparation of Graduate Theses" is available at the above website.

PROPOSAL

MA/MSc Students	PhD Students
<ul style="list-style-type: none"> ▪ course work: completed 15 credits including HKIN 570 (<i>or approved equivalent</i>). 	<ul style="list-style-type: none"> • course work: n/a
<ul style="list-style-type: none"> ▪ meets with thesis supervisor and committee members to review and have Thesis Proposal formally approved for presentation 	
<ul style="list-style-type: none"> ▪ thesis committee sanctions length and content of proposal which normally includes the following information: <ol style="list-style-type: none"> 1. outline of problem, including hypotheses and study's basic theoretical rationale, 2. limitations of study, 3. methods and procedures. 	
<ul style="list-style-type: none"> ▪ two weeks prior to proposal, student submits to Graduate Secretary: <ol style="list-style-type: none"> 1. names of Committee members, 2. electronic copy of abstract, 3. electronic copy of thesis proposal. 	

Committee members record approval and comments on 'Thesis Proposal Report' form and return form to Graduate Secretary.

DEFENSE

MA/MSc Students
<ul style="list-style-type: none">• supervisor requests member of Graduate Committee to 'Chair' defence,• student presents final thesis (hard copy) to all committee members,• student submits electronic copy of abstract and hard copy of thesis to Graduate Secretary.
<p>Note: <i>Revisions no longer allowed once thesis is submitted.</i></p>
<ul style="list-style-type: none">▪ Quorum, consisting of Thesis Supervisor and one other thesis committee member, must be present for Thesis Exam to begin. Exam is delayed/postponed if quorum not reached.
<ul style="list-style-type: none">▪ Chair conducts Examination accordingly:<ul style="list-style-type: none">a) announce meeting has been called for the examination of the student's thesis,b) ask student to present a 20-30 minute synopsis of the thesis; student may speak from notes and use audio-visual aids, but should not read the synopsis,c) invite questions from Committee members and audience,e) call for further questions from Committee members,f) request withdrawal of visitors,g) call for discussion of Examination and polls each Committee members:<ul style="list-style-type: none">I. approve thesis as submitted and provide a gradeII. approve thesis with specified revisions and provide a gradeIII. approve with conditions for a re-examination;IV. reject thesish) when deliberations are concluded, Chair, in the presence of the Committee, informs student of decision. <p>The Chair records the grade on the 'Master's Thesis Defense Report' if thesis is approved under I) or II) above.</p>

PHD STUDENTS

An Examining Committee approved by the Dean of the Graduate Studies evaluates the PhD student's thesis and meets for a Final Oral Examination of the thesis presentation and defense. See <http://www.grad.ubc.ca/students/oralexams> for "Oral Examination Guide". See <http://www.grad.ubc.ca/deadlines> for more detailed information on the oral examination timeline

2 months prior to submission of the completed thesis to Graduate Studies (or, approximately five months before intended exam date)

- Thesis supervisor submits Appointment of External Examiner form to Faculty of Graduate Studies
<http://www.grad.ubc.ca/forms/orals/EXTL-FORM.pdf>
- Nominate 2-3 possible External Examiners

6-7 weeks prior to intended exam date

- Submit 2 Cerlox bound copies of the Thesis to Graduate Studies together with Graduate Program Approval of Doctoral Dissertation for External Examination form:
<http://www.grad.ubc.ca/forms/orals/FinalThesisApproval.doc>

4 weeks prior to exam date

- Schedule exam date and room booking with Faculty of Graduate Studies
http://www.grad.ubc.ca/forms/orals/exam_scheduling.pdf
- Thesis Supervisor submits form: Approval of University Examiners for Doctoral Thesis form
<http://www.grad.ubc.ca/forms/orals/UE-FORM.pdf>
- Student submits electronically the Examination Programme to doctoral@interchange.ubc.ca, or on disk (PC formatted) to Graduate Studies office
<http://www.grad.ubc.ca/forms/orals/programme.doc>

SUBMISSION DEADLINES

See <http://www.grad.ubc.ca/deadlines/> for deadline dates for thesis submission to the School of Human Kinetics and to FoGS.

MICROFICHING - THE UNIVERSITY OF OREGON

The School of Human Kinetics regularly sends graduate theses for microfiching by Microform Publications at the University of Oregon. To submit a thesis for possible publication, please see the Graduate Secretary.

BINDING

Students are generally expected to provide bound copies of their theses for each Committee Member. A good contact is Centennial Bookbinding
<http://www.centennialbookbinding.com/Home/home/home> 1493 Crown N
Vancouver BC 604-983-3506

Graduating Paper – MHK

MHK students are required to pass an oral exam of their graduating paper, which is open to the university community.

<ul style="list-style-type: none"> • course work: normally has successfully completed 21 credits including HKIN 570 (<i>or approved equivalent</i>). Compliance with this expectation is the shared responsibility of the student and their faculty supervisor.
<ul style="list-style-type: none"> • meet with supervisor to discuss paper and receive approval for presentation.
<ul style="list-style-type: none"> • graduating paper should: <ul style="list-style-type: none"> a. be a scholarly work that deals in depth with a relevant aspect of human kinetics; cannot be a previously submitted essay (though such an essay may form the basis for the graduating paper). b. be organized rigorously in a form considered suitable by the profession or discipline. c. demonstrate a command of the acquired knowledge and be able to clearly communicate that knowledge to others in the profession or discipline.
<ul style="list-style-type: none"> • supervisor, in consultation with student, arranges for an additional HKIN faculty member to act as a second reader.
<ul style="list-style-type: none"> • one week prior to presentation student: <ul style="list-style-type: none"> a. submits electronic copy of abstract and hard copy of graduating paper to Graduate Secretary b. submits hard copy of graduating paper to supervisor and second reader

Upon successful completion of the Oral Examination:

- **supervisor** provides written indication that paper conforms to required standards and submits grade to Graduate Secretary
- **student** provides one unbound copy to HKIN main office, plus Cerlox bound copies to supervisor and second reader.

Students are encouraged to submit their paper for possible publication in an appropriate scholarly or professional journal.

Research Involving Human Subjects

Students whose research falls within the UBC “Definition of Research Involving Human Subjects” must receive prior approval from the appropriate Screening Committee for Research Involving Human Subjects. Research Services (827-5112) or shirley.thompson@ors.ubc.ca) may be consulted for further details. Approval may be required for a Thesis, Graduating Paper, and/or Directed Studies.

Further details may be found in the Faculty Handbook; or consult your thesis supervisor. Forms may be obtained from your thesis supervisor, or from the UBC Office of Research Services web site www.orsil.ubc.ca .

Publishing Policies – Collaborative Research

Students are encouraged to discuss possible joint authorship arrangements with their supervisors at the outset of their program, and should consider publishing results from their thesis research in academic literature. As thesis research is usually a collaborative effort, and often supported by a supervisor’s research grant,

some form of joint authorship is considered appropriate. The following are general guidelines:

1. Publications or presentations arising directly from the thesis – authorship is established by mutual agreement:
 - student may claim first authorship if responsible for first draft,
 - faculty will be listed as first author by previous agreement or by student request,
 - supervisor may claim first authorship If significant amount of additional research or analysis is required to produce publishable results, or if student does not contribute to the writing of the paper,
 - students expecting to claim sole authorship on publications based on all or part of their research, should have advance agreement with the supervisor;
2. Authorship of a report to a granting agency lies with the faculty grant holder. Usually students working on such grants have an established status as per original grant submission and are acknowledged as such in any reports;
3. Students employed as research assistants for data collection/analysis should not expect joint authorship unless they have made significant contributions to the design of the study and/or authorship of the publication arising from the work.

Faculty Specializations

PHYSICAL EDUCATION & COACHING SCIENCE

Mosher RE, PhD War Memorial Gym, Rm 216, 604-822-2517

richardm@interchange.ubc.ca

Coaching science; the elite-level pre-pubertal athlete; growth and motor development.

NATURAL SCIENCES

Blouin JS, PhD Rm 3506, Copp Building, 604-827-3372

jsblouin@interchange.ubc.ca

Neurophysiology of the spine, Head-neck control, Whiplash injuries, Postural control, Vestibulospinal and reticulospinal pathways.

Bredin S, PhD Unit I, Osborne Centre, Rm 212, 604-822- 8257

bredin@interchange.ubc.ca

Human motor learning (Skill Acquisition), Motor Expertise, Motor Development, Physical Education, Teacher Preparation, Analysis of Teaching Effectiveness

Carpenter MG, PhD Unit I, Osborne Centre, Rm 213, 604-822-8614

mark.carpenter@ubc.ca

Physiological and psychological origins of balance disorders and the efficacy of physical activity intervention programs to improve balance performance.

Chua R, PhD War Memorial Gym, Rm 212, 604-822-1624

rchua@interchange.ubc.ca

Human perception and action, visual-motor control, sensory-motor integration, perceptual-motor compatibility, coordination dynamics

Franks IM, PhD War Memorial Gym, Rm 25, 604-822-6891

ifranks@interchange.ubc.ca

Behavioural Research: cognitive aspects of movement control and learning.

Hodges N, PhD (*War Memorial Gym, Rm 300, 604-822-5895*)

nicolah@interchange.ubc.ca)

Human motor control and learning across the life-span. Motor expertise. Learning and coordination. Instructions, feedback and observational learning

Inglis JT, PhD (*War Memorial Gym, Rm 218, 604-822-1626*)

tinglis@interchange.ubc.ca

Vestibular and somatosensory control of standing balance; microneurographic recording of sensory axons; human kinaesthesia; physical therapy.

Khan K, PhD (*University Marketplace, 604-225-2562*)

kkhan@interchange.ubc.ca

Bone health with a particular emphasis on interventions in childhood and in seniors; research in seniors concerns fall prevention in high-risk groups, such as those with osteoporosis.

Koehle, Michael PhD (*Wesbrook Building, Room 352 604 822-933*)

koehle@interchange.ubc.ca

Exercise and environmental physiology from basic mechanistic research to more clinical field studies in remote environments

Lam T, PhD (*Osborne, Unit I, Rm 214, 604-827-3165*)

tania.lam@ubc.ca

Neural and sensory control of walking, gait rehabilitation, neurological injury and rehabilitation

McKenzie DC, PhD, MD (*Allan McGavin Sports Medicine Centre, 604-822-6755*)

kari@interchange.ubc.ca

Applied physiology; sports medicine.

Rhodes EC, PhD (*Aquatic Centre, Rm 10A, 604-822-4585*)

ecrhodes@interchange.ubc.ca

Bioenergetics of physical activity; metabolic physiology pertaining to training of the energy systems of the body.

Rupert J, PhD (*Wesbrook Bldg, Rm 346, (604) 822-8462*)

rupertj@interchange.ubc.ca

The genetics and genomics of physical performance and the evolution of human adaptation to high-altitude

Sanderson DJ, PhD (*War Memorial Gym, Rm 29, (604) 604-822-4361*)

david.sanderson@ubc.ca

Biomechanics: including analysis of wheelchair mechanics, locomotion, cycling; electromyography; role of biomechanical variables in modification of movement patterns.

Sheel W, PhD (*Osborne Gym, Rm 208, 604-822-4459*)

bsheel@interchange.ubc.ca

Exercise Science: exercise physiology, respiratory physiology, athletic performance

Taunton JE, MD (*Allan McGavin Sports Medicine Centre, 604-822-4122*)

jtaunton@interchange.ubc.ca

Sports medicine: over-use injuries; etiology/treatment for stress fractures, exercise-induced anemia; endocrine aspects of exercise.

Warburton DER, PhD (*Unit II, Osborne Gym, 604-822-4603*)

darrenwb@interchange.ubc.ca

Exercise Science: cardiovascular physiology, clinical exercise rehabilitation, exercise physiology, health status in high risk populations, fitness assessment

SOCIAL SCIENCES

Beauchamp MR, PhD Auditorium Annex A, R, 156, (604) 822 4864

mark.beauchamp@ubc.ca

Sport and Exercise Psychology, Psychology of Group Dynamics, Role Perceptions, Transformational Leadership, Close Relationships.

Crocker PRE, PhD War Memorial Gym, Rm 220A, 604-822-5580

pcrocker@interchange.ubc.ca

Sport & exercise psychology - stress, coping and emotion; physical self

Frisby WM, PhD Auditorium Annex, Rm 156D, 604-822-6445

frisby@interchange.ubc.ca

Socio-Managerial Research: organizational theory; gender and organizations; inclusion of disadvantaged groups; inter-organizational partnerships; community-based health promotion; qualitative research methods

Hurd Clarke L, PhD Auditorium Annex, Rm 156C, 604-822-4281

laura.hurd.clarke@ubc.ca

Health and Aging Research: ageism; body image and aging; non-surgical cosmetic procedures; older women's sexuality; osteoporosis and subjective conceptualizations of health, quality of life and well-being; and qualitative methods.

Sparks RE, PhD War Memorial Gym, Rm 210, 604-822-2767

res@interchange.ubc.ca

Socio-Managerial Research: sport marketing and communication; advertising and consumer culture; media relations and journalism studies.

Van Wynsberghe P, EdD Auditorium Annex, Rm 156g, 604-822-3580

rvanwyns@interchange.ubc.ca

Social sustainability, social movements, health promotion, impact of mega-events, case study and cross-case analysis, community service learning.

Vertinsky R, PhD War Memorial Gym, Rm 214, 604-822-6235

patricia.vertinsky@ubc.ca

Gender and sport, history and sociology of sport, health and physical activity, social critique of science, socio-cultural issues of health and physical activity.

Wilson B, PhD Auditorium Annex, Rm 156F, 604-822-3884

brian.wilson@ubc.ca

Cultural studies and sociology, with a focus on media studies, deviance, youth, social inequality, social movements, and qualitative methods.

Research Facilities

BEHAVIOURAL SPORT SCIENCES LAB

DRS. M. BEAUCHAMP, P. CROCKER

Current lab research combines a variety of interrelated areas within the realms of sport, physical activity and health promotion. Research is focused in the following areas: stress, coping and emotion in adolescent sport; friendships and social support in sporting environments; motivation for sport and physical activity participation; adolescents' perceived physical-self and health-related behaviours, and special populations. The lab is made up of post-doctoral, doctoral and master's students and research assistants with related backgrounds, whose members are actively publishing in a variety of academic journals, and regularly presenting at academic conferences..

BIOMECHANICS LABORATORY

DR. D. SANDERSON

The main research focus in the Biomechanics Laboratory, located in the confines of War Memorial Gymnasium, is gait analysis including running, walking, and cycling in both normal and non-normal situations. The lab is equipped with a flush-mounted force platform, electromyographic recording system, a high-speed camera, and a Peak Performance 3D-video system. On-going work includes a project to investigate aspects of below-knee amputee gait, asymmetry in running mechanics, and physiological and biomechanical correlates in cycling. The research work in the lab is focused on the analysis of gait including running, walking, and cycling in both normal and non-normal situations.

CARDIOVASCULAR PHYSIOLOGY & REHABILITATION

LABORATORY

DR. D. WARBURTON

Located in the Osborne Centre (Gym E), the research focus of this laboratory is the evaluation of the effects of improvements in cardiovascular function on the health status and Quality of Life of individuals with spinal cord injury, patients with cardiovascular disease and/or patients who have recently undergone transplant surgery. This laboratory also deals with the examination of the cardiovascular function of elite athletes, children, adolescents, adults and older individuals. The facility houses a mass spectrometer, an applanation tonometer, a transcranial Doppler system, a stand-alone 2-D Doppler cardiac ultrasound instrument (SonoSite), a beat-by-beat blood pressure monitor (Finapres, Ohmeda), a near-infrared spectrophotometer (Niro 300, Hammamatsu), a cardiac stress test system (including a metabolic cart, and 12-lead electrocardiography), a eight patient telemetric electrocardiography (3-lead) system, several pulse oximeters, heart rate variability analysis equipment, ten Monark rehabilitation cycle ergometers, and three electronically braked cycle ergometers. This equipment allows for the complete evaluation of left ventricular function, oxygen kinetics, endothelial function, heart rate variability, and cerebral and skeletal muscle oxygenation and blood flow during resting and/or exercise conditions.

COGNITIVE AND FUNCTIONAL LEARNING LABORATORY ('LEARN')

DR. S. BREDIN

The Cognitive and Functional Learning Laboratory ('LEARN') is located in the Osborne Centre. The research focus is on examining motor skill acquisition across the lifespan.

CULTURE, COMMUNITY AND HEALTH STUDIES LABORATORY

**DRS. W. FRISBY, L. HURD CLARKE,
P. VERTINSKY, R. SPARKS, R. VAN
WYNSBERGE & B. WILSON**

The Culture, Community and Health Studies Laboratory supports a variety of research focused on popular culture, physical activity, health promotion, and the mass media. Funded research projects currently underway include: youth-driven social movements, globalization, and community in the age of the internet; use of internet technologies in Canadian news production; tobacco marketing, anti-smoking programs, and youth smoking; community-based health promotion for women living in poverty; organizational dynamics of cross-sectoral partnerships; osteoporosis and older women's conceptualizations of health, quality of life and well-being; aging and sexuality; social determinants of blood donation.

EXERCISE PHYSIOLOGY LABORATORY

DRS. D. MCKENZIE & J. TAUNTON

The Exercise Physiology Laboratory, located in the Allan McGavin Sports >Medicine Centre, provides facilities for undergraduate and graduate >courses, and student and faculty research in clinical and applied science. Equipment includes several metabolic carts, a portable metabolic unit, pulmonary function apparatus; blood analysis equipment, lactate analyzer, treadmill, cycle, kayak, and rowing ergometers.

FALL PREVENTION RESEARCH LABORATORY

DR. K. KHAN

This laboratory, affiliated with Human Kinetics and located in the Vancouver Hospital Research Pavilion (828 West 10th Avenue), houses state of the art instruments for measuring fall risk and bone health. Instruments includes the Physiological Profile Assessment (FallScreen) for measuring vision, proprioception, strength, sway and reaction time; bone densitometer and peripheral quantitative computerized tomography (pQCT) for measuring fracture risk, as well as standard instruments for measuring anthropometry and laptop computers and software for measuring cognitive function.

GENES, RNA, INFORMATICS AND PROTEIN LAB (GRIP)

DR. J. RUPERT

The lab will ultimately be equipped to do qualitative and quantitative gene expression analysis, DNA genotyping, protein measurement and enzyme assays, and bioinformatic data analysis. Equipment will include PCR and Q-PCR machines for DNA and RNA analysis, gel electrophoresis apparatus for identifying genetic variants, spectrophotometers and plate readers for colour- and immunological-based protein assays, and computer work stations for analysis of SAGE and possibly microarray data. These facilities will complement the advanced physiological testing equipment currently being used by researchers in the school, allowing collaborative studies in exercise and adaptive physiology extending from the DNA to the whole organism, and from the individual to populations.

HUMAN LOCOMOTOR RESEARCH LAB**DR. T. LAM**

The focus of the Human Locomotor Research Laboratory is to examine the neural control and adaptability of human walking. The aim of this research is to better understand the strategies and mechanisms used by humans to adapt to different walking conditions as well as to develop and implement effective gait rehabilitation strategies for individuals with neurological impairments. The lab, which is currently under construction, is located in the Osborne Centre.

HUMAN POSTURAL CONTROL LABORATORY**DR. T. INGLIS**

Work carried out in this laboratory focuses on the sensorimotor control of standing balance and equilibrium. In particular, the role of visual, somatosensory and primarily vestibular sensory inputs are being investigated. Balance and equilibrium control is being assessed using static forceplate measurements combined with electromyographic recordings from the postural control musculature.

JOHN M. BUCHANAN EXERCISE SCIENCE LABORATORY**DR. T. RHODES**

Equipped with the most sophisticated exercise physiology modalities presently available, the John M. Buchanan Exercise Science Laboratory is situated in the UBC Aquatic Centre. Laboratory functions include functional fitness appraisals and monitoring of elite athletes, as well as research projects in the areas of exercise science and sports medicine. In addition to the fitness testing equipment the laboratory also makes use of the pool at the UBC Aquatic Centre for physical fitness and physiological testing.

MOTOR CONTROL & LEARNING LABORATORY**DR. I. FRANKS**

The Motor Learning & Control Laboratory exists to customize varied experimental tasks in the area of human motor control and skill acquisition. Individualized testing rooms are serviced by high speed data acquisition and results presentation equipment. Several computers allow on-line manipulation of real-time feedback results. In addition, the lab is now equipped with a Transcranial Magnetic Stimulator, electromyography, programmable torque motors and an eye movement recording system. Recent studies that have been conducted include investigations into: on-line movement control; cognitive preparation of complex movements; the startle response, visual control of movement, bimanual coordination, movement perturbation and movement preparation.

MOTOR SKILLS LABORATORY**DR. N. HODGES**

The lab is equipped with high speed, 3D data acquisition system for whole-body motion analyses. In addition the laboratory is equipped with computer and video-based technologies associated with recording, editing and play-back, including a large, back-projection screen.

NEURAL CONTROL OF POSTURE AND MOVEMENT**LABORATORY****DR. M. CARPENTER**

The laboratory supports a comprehensive approach to studying dynamic control of balance and movement by combining various neurophysiological and biomechanical techniques, including surface and intra-muscular electromyography, 3D full-body motion analysis and force measurement coupled with quantitative and qualitative assessment of perceived and physiological effects of fear and anxiety. Virtual reality will be used to manipulate balance-related anxiety and recreate the environmental conditions that lead to falls in everyday life. Virtual environments will be integrated with a unique moving balance platform capable of producing unexpected multi-directional balance disturbances.

NEUROPHYSIOLOGY LABORATORY**DR. T. INGLIS**

The focus of the Neurophysiology Laboratory is to evaluate the sensorimotor control aspects of the human nervous system using a variety of neurophysiological techniques. A major component of this laboratory will focus on using a nerve recording technique called microneurography. This is the first laboratory in Canada to use this technique, and one of a handful around the world. Microneurography makes it possible to record the single-unit (single axon) activity from the peripheral nerves of awake human subjects. Other neurophysiological techniques used in this laboratory are H-Reflex testing, galvanic vestibular stimulation, and the use of surface and indwelling electromyography to assess normal movement and movement in certain clinical Neurological populations.

PERCEPTUAL MOTOR DYNAMICS LABORATORY**DR. R. CHUA**

The research themes of the Perceptual-Motor Dynamics Laboratory is centred around investigations of perceptual, cognitive, and motor contributions to the preparation, regulation, and coordination of human movement. Research is directed towards elucidating the contributions of perceptual and sensory

processes to the preparation and execution of goal-directed action. Examples of research avenues include: investigations of the contributions of vision to perception and action; examinations of the relative contributions of visual and vestibular information to the guidance of human locomotion; investigations of the time course of action preparation and the affordance-based facilitation of action selection processes using electroencephalographic measures. The lab is equipped with high-speed data acquisition systems, electromyography, electrophysiological stimulation units, electroencephalography, 3D motion capture system, and work-stations for motion analysis.

PULMONARY HEALTH ANALYSIS LABORATORY

DR. W. SHEEL

The Pulmonary Health Analysis Laboratory is located in Osborne Centre (Room 202). The research work in this lab is focused on the on the complex interactions between exercise, health, and disease. The facility houses an electronically braked cycle ergometer (Lode), which can be used for upper and lower limb cycling tests. Other exercise physiology equipment includes: two metabolic carts, pulse oximeter, 3-lead ECG, high-speed data acquisition hardware and software (LabVIEW), and a pressure transducer to evaluate respiratory muscle strength.

SPINE NEUROPHYSIOLOGY LABORATORY

DR. J.S. BLOUIN

The lab is equipped with a feedback-controlled sled to simulate whiplash motion, a feedback-controlled spinal stimulator, high-speed data acquisition systems, surface electromyography, single and multi unit indwelling electromyography, electrophysiological stimulation units, 3D motion and accelerometry systems, temperature controller, and work-stations for data analysis.

SCHOOL OF HUMAN KINETICS MICROCOMPUTER LABORATORY

The School of Human Kinetics has a general microcomputer lab equipped with windows-based and Macintosh computers. The Windows machines are networked to a shared server and linked through the University backbone to the Internet. The lab is available 24 hours/day to graduate students, except when the lab is used for courses. Available lab software includes:

MS Office (Word, Excel, and Power Point); SPSS for statistical analysis, and specific HKIN course notes and labs; HKIN students also have access to a shared laser printer at a cost of 5 cents/page.

Graduate Courses

HKIN 500

See Calendar for course update.

Graduate Seminar

HKIN 530A and B *download form at:*

<http://www.hkin.educ.ubc.ca/School/grad/530eform.pdf>

Directed Studies

Each student is allowed a maximum of two Directed Study Courses each of which is to be completed in the term indicated in the registration guide:

HKIN 530A denotes first 3 credits

HKIN 530B denotes second 3 credits

Students are required to complete and sign a 'contract' (available from the HKIN website). The completed contract, with the project supervisor's signature, is then submitted to the Graduate Secretary. Copies of the completed form will be returned to the student and project supervisor once the registration has been processed.

Students may not use the same information for a master's thesis which has already received credit as a Directed Study (HKIN 530). For example, if a Directed Study is to be a review of literature on a particular topic, this review cannot then become a chapter in a 12 credit thesis. The form of the HKIN 530 project should be an independent article appropriate for submission to a journal for publication and shall conform to the format of the appropriate journal, e.g., A.P.A. Publications Manual.

HKIN 551 **Mathematical Applications in the Study of Sport & Physical Activity**

A selection of topics from : Stochastic models applied to the study of motor learning, involvement in sport, socialization through sport, etc; the assessment of change; analyses of scoring systems and playoff procedures used in various sports; game theory.

HKIN 560**Models of Sport Organization**

The purpose of the course is to analyze and discuss national sport systems from different countries, their policies, programs, and practices as well as the historical, social, political, and economic influences affecting these sport systems. This material will assist students in their understanding of the salient features of effective sport systems. Issues of centralization/decentralization, Americanization, and globalization in sport will be discussed. For students interested in working in the Canadian sport delivery system, the course will provide an advanced analysis of several sport systems and a series of alternative models which are functional in other countries.

HKIN 562**Bioenergetics of Physical Activity**

Basic energy systems of the human body; primarily concentrating on the bioenergetics of the skeletal muscle cell, recovery from muscular work, substrate utilization, muscle fibre types, strength, endurance and the physiological assessment of maximal performance.

HKIN 563**Measurement of Human Motion**

A critical evaluation of research tools used to measure and assess human motor performance including electromyography, anthropometry, ergometers, indirect calorimetry, cinematography, and indirect dynamics.

HKIN 564**Psycho Social Aspects of Physical Activity**

Selected psycho-social considerations in sport: initial and continuing involvement in the competitive sport environment

HKIN 565**Physiological Aspects of Physical Activity**

Survey of research regarding the physiological aspects of activity; the effects of altitude and environmental temperature on man's performance in exercise and sports

HKIN 567**Human Motor Performance**

Processes underlying the ability to learn and perform motor skills.

HKIN 568**Seminar in Human Motor Performance**

Reports and discussions of research literature concerning theories and findings in human performance. Special emphasis is given to understanding the basic mechanisms underlying motor performance within the framework of man as a component system.

HKIN 570**Research Methods in Human Kinetics**

Research methods applied to the study of sport and physical activity, the nature of scientific inquiry, the design of experiments, the survey as a research medium, the historical and philosophical methods of inquiry, the writing of the research report.

HKIN 571**Developmental and Adapted Physical Education**

The theory and practice of adapted physical education. Programs of general class activities; special adapted physical education and recreation for the disabled, handicapped and aged. The laboratory period affords practical experience in individual and group methods of conducting developmental continuing and corrective exercises.

HKIN 573**Seminar in Mechanical Analysis of Human Movement**

An investigation of human movement using cinematographical and other research methods. The case study approach will be used to examine kinesiological concepts and principles

HKIN 574**Seminar in Health Promotion through Physical Activity**

The relationship of new concepts in health to the promotion of health through physical activity; the application of research findings from a number of disciplines to the identification, selection, and targeting of health promotion/education strategies related to physical activity.

HKIN 580**Seminar in Current Problems in Human Kinetics**

Objectives; programs; leadership; history and trends; professional status; community organizations and auspices; attitudes and philosophy

HKIN 581**Sport, Leisure and Consumer Culture**

Sport and leisure are viewed in the context of theoretical debates about mass society and consumer culture.

HKIN 583**Physical Education, Sport and Exercise Programs**

The development of curricula, implementation and evaluation techniques in physical education, sport and exercise programs; relationships of programs in schools, community centres and other institutions

HKIN 583

Physical Education, Sport and Exercise Programs

The development of curricula, implementation and evaluation techniques in physical education, sport and exercise programs; relationships of programs in schools, community centres and other institutions

HKIN 584

Physical Growth and Motor Development

The process of human physical growth and the relationship between growth/maturation and physical activity: sequential development of locomotor and manipulative skills and the application of critical period/optimal period literature to developmental skills.

HKIN 585

Coaching Science I

The application of research findings from exercise physiology, human growth and motor development, biomechanics and sport medicine, to the coaching of athletes

HKIN 586

The application of research findings from sport psychology, sport sociology and human motor learning, to the coaching of athletes.

Coaching Science II**HKIN 590****Seminar in Research on Teaching in Physical Education**

Development, methods and results of research on teaching physical education.

HKIN 591**Seminar in the Organizational Analysis of Leisure and Sport**

Selected topics of organizational theory as applied to the analysis of leisure and sport organizations.

HKIN 595

For MHK major paper registration.

Graduating Major Paper**HKIN 598** *download form at*

<http://www.hkin.educ.ubc.ca/School/grad/598eform.pdf>

Similar to HKIN 530 in that it requires a signed contract.

Directed Field Studies in Sport and Physical Activity Agencies**HKIN 599**

For MSc and MA thesis registration.

Master's Thesis**HKIN 601****Doctoral Seminar****HKIN 699**

See PhD thesis registration

Doctoral Thesis**EPSE 592****Experimental Designs and Analysis in Educational Research**

Assumes an introductory statistics background equivalent to HKIN 371, Biometrics 300 or EPSE 482. Course requirements include completion of 5 assignments that require computer analysis of data. Students unfamiliar with basic computer skills will be given tutorials. The course emphasizes the application and understanding of applied statistics. Topics include: descriptive statistics (review), t-tests (review), the analysis of variance (with emphasis on repeated measure designs), and a brief overview of correlation and regression (simple and multiple). Students must register for this course with the instructor during the first week of classes.

WESTERN DEAN'S AGREEMENT

Under the terms of the Western Graduate Deans' Agreement, graduate students may take courses (subject to regulations of their Faculty) at other universities in Western Canada for credit toward their degree program at their home universities. **The Host University charges no fees provided the student is currently registered and paying fees at the home institution.**

Participating Universities: University of Alberta, Brandon University, University of British Columbia, University of Calgary, University of Lethbridge, University of Manitoba, University of Northern British Columbia, University of Regina, University of Saskatchewan, Simon Fraser University, University of Victoria.

UBC students wishing to participate should:

- a) complete form <http://www.grad.ubc.ca/forms/students/WDA.pdf>
- b) have it signed by School's Associate Director for Graduate Programs

The **School** sends the authorization form to the Dean's Office, FoGS for approval and signature; the **Dean of Graduate Studies** sends the approved form to the Dean's Office at the host institution

The student will receive a copy (yellow) when all signatures are in place. It is the responsibility of the student to arrange for the host university to send an official transcript of grades to the office of the Dean of Graduate Studies at UBC. When the Dean's Office receives an official transcript reflecting successful completion of the approved course, credit will be posted to the student's UBC transcript.

GRADUATE EXCHANGE AGREEMENT

This agreement, approved in 1992, allows graduate students in good standing at UBC, McGill University, University of Toronto and University of Montreal to take courses at each other's university without having to pay extra tuition fees to the host institution. See:

<http://www.grad.ubc.ca/policy/index.asp?menu=007,005,000,000>

Teaching Assistantships

Applications for Teaching Assistantships are sent to returning students in early spring with successful applicants receiving their assignments in early summer.

MA/MSc/MHK students are eligible to work as a TA for a maximum of two years during their first two years in the program; PhD students are eligible for a maximum of four years during their first four years in the program. Reassignment of Teaching Assistantships after the first year is dependent upon satisfactory academic achievement and execution of TA responsibilities.

Teaching & Academic Growth (TAG) instructional skills workshops

Workshops are designed for Teaching Assistants in tutorials or classrooms, and graduate students interested in teaching, whose first language is English or who has mastery of English. Others should register for the International Teaching Assistant Training program by contacting the Intercultural Training Resource Centre at 604-822-1437. <http://www.tag.ubc.ca>

Awards/Funding

The University offers a wide range of programs to recognize students with high academic achievement and provide financial assistance to those who cannot meet basic educational costs. Graduate awards are administered by FoGS located in the Graduate Student Centre at 6371 Crescent Road. Information on awards and application procedures is included in the UBC publication, *A Guide to Awards and Financial Aid*, which is available from the Awards office located in Brock Hall, Room 1036, 1874 East Mall. Offices are open from 8:30 a.m. to 4:00 p.m. Students can inquire about their awards through the on-line Student Service Centre at <http://students.ubc.ca/finance/>

AWARDS - UNIVERSITY AND EXTERNAL (UGF, NSERC, SSHRC, CIHR, ETC)

<http://www.grad.ubc.ca/awards>

FACULTY OF EDUCATION – OFFICE OF GRADUATE PROGRAMS AND RESEARCH

<http://www.ogpr.educ.ubc.ca/funding/education.html>

Travel Grants

FACULTY OF GRADUATE STUDIES & KILLAM PREDOCTORAL TRAVEL ALLOWANCE

<http://www.grad.ubc.ca/awards/index.asp?menu=008,000,000,000>

See above website to download form.

OFFICE OF GRADUATE PROGRAMS AND RESEARCH (OGPR), FACULTY OF EDUCATION

<http://www.ogpr.educ.ubc.ca/funding/travel.html>

See above website to download form.

HUMAN KINETICS

<http://www.hkin.educ.ubc.ca/School/grad/HKINTravel.pdf>

See above website to download form.

To be eligible for a travel grant from the School, a student must:

- present at a symposium or conference a refereed/invited paper of which he/she is the first author or co-author and the **School is acknowledged**;
- be classified as a full-time graduate student at the time the application for a travel grant is made or have made the application within 12 months of graduation.

Applications may be submitted at any time to the Associate Director on the Human Kinetics Travel Support Application form and must be co-signed by the student's supervisor. The student must include proof of acceptance of their paper at the conference as well as a copy of the approval/denial letters from FoGS and the Faculty of Education.

Subject to the availability of funds, grants up to \$500 will be awarded to assist with the cost of airfare or its equivalent. It is expected that students will seek economy fare rates. Original ticket receipts must be submitted for reimbursement for air travel.

Master's students may be awarded only **one HKIN travel grant** during their program (and only one is available from FoGS). **PhD candidates** are **eligible for two HKIN travel grants**.

The decision to award a grant will be made on the perceived merits of the applications. Preference, however, will be given to students who have not received a prior grant.

Student Loans

FINANCIAL ASSISTANCE AND AWARDS

<http://students.ubc.ca/finance/>

The Student Financial Assistance and Awards office administers all needs-based awards for both graduate and undergraduate students.

Student Loans for Full-Time Students Graduate students who are Canadian citizens and permanent residents who are paying full-time graduate tuition fees, have registered in either course work or their thesis, and can demonstrate financial need may qualify for aid through student loan programs sponsored by the Federal and Provincial Governments. Students must apply for loans through the Province in which they have established residency. Residents of British Columbia apply for loans through the BC Student Assistance Program (BCSAP), which combines the Federal Canada Student Loan Program and the Canada Study Grant for Students With Dependent Children with the Provincial BC Student Loan Program.

Paper applications are available from any post-secondary institution in B.C. In order to receive funds in time for the beginning of the Winter Session in September, applications should be submitted to the Ministry of Advanced Education Training and Technology by the last working day in June. Students who apply after that date may not receive their BCSAP assistance until well into the Winter Session.

Student Resources

HUMAN KINETICS GRADUATE SOCIETY

The Human Kinetics Graduate Society is a student-governed association that represents the interests of graduate students within the School of Human Kinetics and the Faculty of Education. It serves as a centre of communication among graduate students and faculty and is responsible for co-ordinating an annual orientation for incoming students as well as various other social functions. Through HKGS, the School of Human Kinetics is represented on the Faculty of Education Council, as well as the Graduate Student Society.

GRADUATE STUDENT SOCIETY (GSS)

<http://www.gss.ubc.ca/>

A Council composed of representatives elected by graduate students from each department administers the GSS. An Executive Committee of four is elected at large and members receive honorariums for their efforts.

The Graduate Centre houses two pubs, a ballroom, meeting rooms and other facilities. There are many ongoing events such as free pool, tai chi, and much more.

The GSS publishes a monthly newsletter, *The Graduate*, and an annual handbook in August. This handbook includes information on the Faculty of Graduate Studies, general graduate student information, libraries, funding, jobs, housing, health, transportation, sports and recreation, and other UBC resources. Handbooks are available from the GSS office or the HKIN Graduate Secretary.

THE END