UNIVERSITY OF ONTARIO INSTITUTE OF TECHNOLOGY

Doctor of Philosophy in Health Sciences
Faculty of Health Sciences

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1. INTRODUCTION

a. Background

The Faculty of Health Sciences at the University of Ontario Institute of Technology (UOIT) proposes a new Doctor of Philosophy (Ph.D.) in Health Sciences. The program will produce well-qualified health sciences academics and professional leaders by providing a depth of field specific expertise in their chosen field of Community, Public and Population Health (CPP); Kinesiology (KIN); or Health Informatics (HI). These fields are currently part of the Masters in Health Sciences at UOIT; the proposed Ph.D. builds on that solid record of accomplishment of graduate supervision and student training in each field.

Advances in the ability to acquire, access, analyze, and store health data have occurred at an exponential rate over the past 10 to 15 years. This rapid increase has created a myriad of issues that need to be addressed by qualified and knowledgeable experts. As such, it is critical that those graduating with a Ph.D. in Health Sciences have broad interdisciplinary knowledge of data and technology issues in health to complement the knowledge, skills, and depth of expertise required in their specific field of study. To meet these broadening demands, the proposed Ph.D. program will provide its graduates with a breadth of interdisciplinary knowledge surrounding advances in the way that we acquire and use health data, as well as the technical, ethical, social and policy implications of these advances; this will complement the development of field specific expertise.

Future Health Sciences leaders also need the research expertise to become effective research brokers in both professional and research settings. It is critical that they have a scholarly ability to evaluate and implement best practices for knowledge synthesis, dissemination and exchange, as described in the CIHR knowledge translation framework[1]. Interdisciplinary research training will be combined with field specific training to ensure that graduates are well prepared for an academic career, as well as for leadership positions in academic, scientific, clinical, and policy domains in North America's large and expanding health sector. To allow for this level of training, the program has been designed with a flexibility that allows for students to be embedded into our partner organizations. The program's rich training environments are designed to give graduates the transferrable skills necessary to expand the breadth of career opportunities for our graduates within and beyond the traditional pursuits of academia. Broad professional skills are embedded into the design of the Ph.D. to help our graduates acquire the skills necessary to succeed post program completion. For example, a key feature of the program is its flexibility. It is designed so that once the first 18 months of the program are completed, students can be physically located at partner locations while they collect thesis data and gain important industry experience. Through close consultation over the past 4 years, our community partners have expressed strong support for student placement and recognized the mutual benefit of UOIT having a Ph.D. in Health Sciences (as evidenced in their Letters of Support found in Appendix D).

Another key aim of the proposed program is to provide a solid grounding in the scholarship of knowledge translation to ensure that graduates can effectively disseminate research findings. Exposure to interdisciplinary perspectives through program content, course design, and interactions with stakeholders and community partners throughout the program will prepare graduates to be effective members of the interdisciplinary research and professional teams now demanded by the health care work domain. Advanced communication skills will ensure that graduates can articulate the scientific *and* practical significance of their research to multiple audiences (e.g. general public, health professionals, academic journals and conferences, policy makers) in multiple ways (oral presentation, scholarly writing, and modern media such as blogs and tweets).

1 http://cihr-irsc.gc.ca/e/45669.html

Pending its approval, the program should commence in September 2019.

Rationale.

UOIT is located in Durham Region and Northumberland County, one of the fastest growing areas in Canada. UOIT welcomed its first cohort of students in 2003 and will have an estimated 10,000 students (FTE) in the 2019 academic year. An engine for economic development and innovation, UOIT is expected to contribute over $1.2 billion in economic activity to Ontario's GDP over a 5-year period. In 2019-20, UOIT is projected to contribute $247 million to Ontario's GDP, which is a 20% increase from 2014-15 levels, and generate and support nearly 2,300 jobs across the province[2]. UOIT's Faculty of Health Sciences is one of the University's largest, and offers training, expertise, and innovation for the region's expanding health sector.

The Faculty of Health Sciences currently offers a Master of Health Sciences, with specialty fields in CPP, HI, and KIN. Graduates from our Master's program have taken positions in a range of health-related areas including: research and development; lifestyle (diet and exercise) consulting; research project management; implementation consulting; patient care; and clinical informatics analysis. The majority of our graduates publish their thesis work, and several have gone on to complete Doctoral degrees in other programs at UOIT or at other institutions. The excellence of our Masters graduates is demonstrated by the large number awarded OGS, NSERC, SSHRC, and CIHR funding for either their Masters or when they go on to Ph.D. study in other programs, including a CIHR VANIER, and a Banting Doctoral scholarship awarded to two recent graduates.

We recognize that successful research training requires the collaboration of all training stakeholders. As such, the proposed Ph.D. will build on existing partnerships with health care and academic institutions to advance faculty and graduate research and to ensure that trainees are exposed to interdisciplinary perspectives "beyond the classroom" setting. The list of partners is long and diverse, and includes for instance, The Abilities Centre, Lakeridge Health, Ontario Shores Centre for Mental Health Sciences, Grandview Children's Centre, Canadian Memorial Chiropractic College, Durham Region Public Health, the Canadian Sport Institute of Ontario, and a host of community organizations serving populations in the Durham Region and the greater Toronto area. These partners provide unique experiential training environments for our graduate students, as well as the expertise of professionals working in the field.

Supported by the university, we will continue to strengthen existing partnerships as well as to broaden our scope of community partners. Toward this end, the Office of Research Services (ORS), UOIT has recently added a Partnership Development role to support the Manager, Research Partnerships. The FHSc will leverage this Partnership Development Support team to strengthen our graduate programs.

This year (2018), we held the inaugural *New Year; New Ideas* Research event. This will be an annual Community Partners research event that features the innovative work our partners are doing and encourages collaborations within our partner network. We plan on holding this event at rotating community partner locations each year. This year the event was held at Ontario Shores Centre for Mental Health and addictions, and next year Lakeridge Health Corporation has already volunteered to host the event.

An important part of the program is that the structure provides the flexibility for students to spend the majority of their time at a partner site, once the first 18 months of the Ph.D. have been completed (please see the Brief Program Abstract below and section 5a for additional details on program flexibility). Further, the roster of graduate and associate graduate faculty (see Section 3a below) depicts the diverse range of disciplines represented by these experts.

[2] HDR Corporation. (2015). *Economic Impact of UOIT on Durham Region and Northumberland County*. Retrieved from the UOIT website: https://www.uoit.ca/about/economic-impact.php.

Research and training in the identified Ph.D. fields support five of six thematic research areas identified in the 2012-2018 University Strategic Research Plan, and particularly so in the areas of "human health & community wellness", "information and communication technology and informatics", and "life sciences and biotechnology". The proposed program will further intensify research activities in these areas, and moreover, will do so in a way that emphasizes and fosters the interdisciplinary collaborations already developed through the three fields in our Master's program, and through ongoing collaborative research within the faculty.

The current Masters program began in September 2009. Initially there were two declared fields in the program: Community Health and Health Informatics. Community Health was recently renamed Community, Public and Population Health to reflect the breadth of research in the faculty. This field focuses on the analysis of environmental and social conditions implicated in health and wellness from community to population level. Understanding these conditions provides a foundation for developing strategies to promote wellness in ailing communities. The field of Health Informatics focuses on the development and understanding of the latest computing and information technology competencies, methods and architectures as applied within the context of health care to support healthcare administration, management, policy, training, clinical management, and clinical research. In September 2011, a Kinesiology field was added to the MHSc. Kinesiology broadly encompasses research in health and human performance, with specific expertise in motor learning and development, human neuroscience and biomechanics, exercise physiology and rehabilitation, and health and exercise psychology. This field provides students with opportunities to identify, address, and overcome the increasingly complex health-related challenges that influence the health and wellness of individuals. It is important to note that the current research interests of the faculty within Health Sciences at UOIT encompasses the full continuum of health, that is, research spans from factors affecting morbidity and mortality, to factors promoting optimal human functioning and performance. Researchers are looking at health across the lifespan, and in a variety of special populations. The proposed Ph.D. will build on the strong foundation of ongoing research in each of the three Masters fields, exposing Doctoral students to research in their areas of expertise, as well as cognate areas that will further develop their expertise.

With its foundation in technology, the sciences, and professional practice, UOIT seeks to advance superior graduate programs that take into account the need for an increasingly technologically capable graduate for the evolving needs of the workplace. The proposed Ph.D. program will further this mission through the creation of graduates who have a breadth of understanding surrounding the implications of advances in *health data and technology*. These advances include diverse areas such as "wearables" and applications to monitor health; sensors to monitor environmental determinants of health; advanced algorithms to monitor and diagnose health status; access to health databases; use of simulation for health and healthcare training; etc. These rapid advances in the capacity to use technology to collect, analyze, sort, and store both survey and biometric information, demands sophisticated knowledge of the technical, ethical, social, and policy implications that accompany these advances.

Increasingly, the success of Ph.D. graduates in finding employment in careers both within and beyond academia is determined by the enabling competencies that they have alongside their depth of knowledge in research design and implementation (Gould, 2015; Micoli, 2015). The strong technology focus of the UOIT Ph.D. program, coupled with its emphasis on the scholarship of knowledge translation and dissemination, which government agencies, granting bodies, employers and the public have come to expect, are enabling competencies that will make UOIT's Ph.D. graduates highly sought after. Reflective of these evolving needs, the proposed program will prepare doctoral students to become leading professionals and researchers in a variety of settings. This includes, but is not limited to, tertiary institutions, research centres, hospitals and other clinical settings, community health promotion and illness prevention organizations, health and/or government policy, public health, clinical practices and

sport organizations (Kinesiology), post-Doctoral fellowships, technology transfer, and research grants officers.

The ability to evaluate the technical, ethical, social, and policy implications of advances in health data and technology will provide our graduates with a leading edge both within and beyond traditional occupations. Exposure to multiple perspectives will enable our graduates to provide leadership in diverse areas. This leadership may include a graduate from the Kinesiology field of our Ph.D. program working as a Research Director, querying the validity of data collected from wearable technology to monitor health outcomes. It might also include a graduate from the CPP field of our Ph.D. who has to implement a policy for the ethical use of data from an on-line database; or a graduate from the HI field of our Ph.D. program who has to evaluate the ethical implications of a new algorithm that determines health status from heart rate variability.

With this in mind, the UOIT Faculty of Health Sciences Ph.D. program will create graduates with the ability to:

1. Critically analyze previous research, and create new knowledge, within their chosen Ph.D. field (KIN, CPP, HI).
2. Design and implement a comprehensive program of research within their chosen Ph.D. field (KIN, CPP, HI).
3. Debate issues and solutions pertaining to data and technology use in health sciences research, training, and practice; including the technical, ethical, social, and policy implications.
4. Evaluate knowledge from interdisciplinary perspectives and interact with researchers from different disciplines to create a solid foundation for becoming members of interdisciplinary research and professional teams.
5. Effectively communicate, orally and in writing, with multiple audiences (e.g. general public, health professionals, academic journals and conferences, policy makers).
6. Develop and implement best practices for knowledge synthesis, dissemination, and exchange for the health sciences.

Brief program abstract.

The Faculty of Health Sciences at UOIT has researchers who use many different approaches to studying the complexity of human health. Human health issues are irreducible to single causes and thus, are only narrowly understood when seen through a single lens. Instead, a more thorough understanding of human health demands an interdisciplinary framework that enables the development, integration, synthesis, and translation of knowledge to fully understand and address its complexity. Creating an awareness of varied approaches to investigating complex problems enables a more comprehensive, non-reductionist view to elevate the prospects for effective solutions. Thus, the proposed program reflects and capitalizes on the diversity of the Health Sciences faculty, along with the myriad of academic and community partnerships the Faculty already has forged through its ongoing research activities and graduate student training.

The program offers an approach to Health Sciences doctoral training that considers the necessity for interdisciplinarity as a requirement for graduates to successfully enter the workforce, while providing graduates with the depth necessary to be successful in their chosen field. The specialization fields in CPP, KIN and HI mean that we will attract student-scholars from these areas. Qualified Masters-trained students from our own Masters, or other relevant Masters programs may gain entry to the Ph.D. program and would typically complete their degree in four years. Well-qualified students may be eligible for advanced entry into the program, taking courses for a year at the Masters level prior to entering the Ph.D. program. This option is available in similar programs in Canada, and within other Faculties at UOIT, but will be restricted to a few exceptional students who have demonstrated superior research abilities and who proffer a mature, well-defined Ph.D. level research portfolio (Please see section 2.b. Admission

Requirements for additional details).

The program begins with a 3 credit course entitled "Interdisciplinary Perspectives on Health Data and Technology". The course provides a framework for evaluating data and technology in health sciences research, training, and practice. The technical, ethical, social, and policy implications of data collection, analysis, and storage are critically evaluated, and discussed in an interdisciplinary context. Students will be evaluated via case studies, presentations, and class discussions. The course will invite a number of guest speakers, including UOIT faculty. Some examples might include: Dr. Isabel Pedersen, CRC in Digital Life, Media and Culture in the Faculty of Social Sciences and Humanities, an expert in the social implications of wearable technologies and digital mediums; Dr. Caroline Barakat-Haddad, an FHSc faculty expert in Environmental and Occupational Health who mines large databases to discover relationships between environmental exposures and health; Dr. Efrosini Papaconstantinou, from Nursing has an interest in the use of technology to monitor sleep; Dr. Carolyn McGregor, a former CRC in Health Informatics, is an expert in the use of Big Data to develop new algorithms to enhance prevention, monitoring and diagnosis of health conditions; Dr. Joanne Arcand, an FHSc Assistant Professor and Registered Dietician, has developed mobile applications to monitor dietary salt intake; Dr. Bernadette Murphy, a Kinesiology Professor uses technology to develop biomarkers of individuals at risk of progressing from recurrent to chronic pain; and Dr. Nick La Delfa, from Kinesiology uses simulation and modelling to develop optimal ergonomic workplace designs. The Faculty is currently interviewing for a Canada Research Chair in Healthcare Simulation, which will ensure that students are exposed to the advances in this important area of health research and training as well. A course outline for this course is available in Appendix A.

The second core course entitled "Critical Perspectives in Research and Knowledge Translation in Health Sciences" will run in the fall semester of year two[3]. This course will provide Doctoral students with the opportunity to extend their knowledge, skill, and understanding of research paradigms and knowledge translation within an interdisciplinary context. The course aims to create graduates with the advanced research expertise to become effective research and policy brokers in academic, professional, and research settings. The mechanisms of knowledge synthesis, dissemination, and exchange as well as the ethical application of knowledge in health will be critically evaluated using the CIHR knowledge translation framework[4]. A variety of knowledge translation frameworks will be integrated into this course, including knowledge to action process theory and models including integrated and end-of-grant knowledge translation; knowledge creation, and; the knowledge translation "Action" cycle. Students will therefore be able to proactively and explicitly incorporate advanced knowledge translation plans for their Doctoral dissertation work.

Guest speakers from UOIT and our partners with Doctorates who work in roles outside of academia that require knowledge translation and implementation will be involved in round table discussions within the course. For example, Dr. Kirsten Burgomaster holds a Ph.D. in Kinesiology and Human Physiology and is the Clinical Director of the Durham Regional Cancer Centre; Dr. Jennifer Leo holds a Ph.D. in Adapted Physical Activity and is the Director of Research at the Abilities Centre; Dr. Alison Burgess holds a Ph.D. in Neuroscience and is the Manager, Research Partnerships at UOIT; Dr. Laura Rendl holds a Ph.D. in Biochemistry and is a Grants Officer in the Office of Research Services at UOIT; Melanie Stuckey holds a Ph.D. in Kinesiology and Cardiovascular Physiology and is a Scientific Writer at Ontario Shores Centre for Mental Health Sciences. All of these non-academic roles for Ph.D.'s have a strong reliance on knowledge synthesis, dissemination, and exchange. Another roundtable discussion will focus around technology transfer with invited speakers from industry involved in translation of health data and technology. Potential participants from FHSc include Dr. Robert Balogh or Dr. David Rudoler who work with the

[3] In exceptional cases where the student has secured a partner placement beginning in year two, we will accommodate that placement by, for example, making the course available to the student virtually.

[4] http://cihr-irsc.gc.ca/e/45669.html

Institute of Clinical and Evaluative Sciences data, Dr. Shilpa Dogra who has worked with Statistics Canada, and Dr. Nick Wattie who works with high performance athletes and sport organizations. Dr. Jennifer Abbass Dick, Dr. JoAnne Arcand, and Dr. Bill Kapralos have all used technologies to mobilize knowledge to patients, the public, and health care professionals. A course outline including weekly topics is available in Appendix A.

A third elective course will be relevant to the student's field and/or thesis topic. The third course can be drawn from the new PhD level electives created as part of this proposal, which provide depth of disciplinary knowledge. In addition "Advanced Disciplinary Studies" courses in Kin, HI and CPP, will ensure there are options available for graduates of the UOIT MHSc who may have completed all the relevant discipline specific courses.

A Candidacy Examination and Dissertation Proposal, which includes both a written and oral component, must be successfully completed before the completion of the second full time year. The written proposal will be a comprehensive outline of their research objectives and proposed methodology, and contain a literature review that addresses the current state of knowledge of their research topic. The oral examination will evaluate the students' grasp of the literature within and beyond their particular research topic, demonstrating where their work fits within the context of their discipline. As such, candidates will need to be well prepared for a comprehensive examination in order to successfully complete this requirement. The dissertation itself will not need to be interdisciplinary, but students will be encouraged to examine and articulate the interdisciplinary and translational implications of the research where appropriate.

Biweekly seminar series: The FHSc Research Seminar series has run biweekly since 2014, exposing students to a variety of health sciences research areas and designs (Please see Appendix F for a full archive of seminar speakers and topics). The diversity of seminar speakers emphasizes the interdisciplinary, collaborative nature of health sciences research. The Faculty also has leading national and international scholars visit UOIT twice per year, once in September and once in January, to speak on topics of broad interest to faculty and community partners. This course will require compulsory 70% attendance in the first 18 months of the PhD program. Students will be required to present on their original research in the series, in the 3rd and 4th year of the PhD and attendance will be strongly encouraged, but not compulsory in order to facilitate fieldwork for those students who are located at partner locations for some or all of their data collection. This will also enable those involved in international research collaborations to be away without missing compulsory courses.

Ph.D. Dissertation: The dissertation is the primary component of the Ph.D. and must make a new contribution to the field of study. Thesis work will greatly enhance the depth of field specific knowledge. An independent contribution and novel piece of work must be completed in order to satisfy the requirements for this degree, e.g. material must not have been published prior to commencing the dissertation. Research will be carried out under the direction of the student's supervisor or co-supervisors, in co-operation with a supervisory committee. Based on their own expertise, supervisors will guide the student's choice of topic. Each student must report his or her research in a written dissertation, which can be in either traditional form or manuscript format. The dissertation will be accompanied by an oral defence.

Additional courses as required: some students may require additional coursework to prepare them for the area that they have chosen. This will be determined at the start of the program by the student and supervisor, and a written agreement will be filed with the faculty graduate assistant. For full time students, there are no additional costs involved in completing additional coursework.

Description of the ways in which the programs fit into the broader array of program offerings.

The Faculty of Health Sciences offers a number of undergraduate programs in addition to the three field in the Master of Health Sciences. These programs are:

Bachelor of Health Sciences (Honours)

- Human Health Science specialization
- Public Health specialization
- Kinesiology (general)
- Kinesiology major: Exercise Science specialization
- Kinesiology major: Health and Wellness specialization
- Kinesiology major: Rehabilitation specialization
- Kinesiology major: Fitness and Health Promotion degree completion
- Kinesiology: OTA-PTA Degree Completion
- Medical Laboratory Science

Bachelor of Science in Nursing (Honours)
Bachelor of Allied Health Science (Honours)
RPN to BScN Bridge Program

More information on the Health Sciences programs can be found in the UOIT graduate and undergraduate academic calendars at http://www.healthsciences.uoit.ca/.

The proposed Ph.D. program extends current training opportunities for UOIT's Health Sciences' undergraduate and graduate students studying in the CPP, KIN, and HI fields. The faculty also has a postgraduate diploma in Work Disability Prevention in collaboration with the Canadian Memorial Chiropractic College. The Work Disability Prevention diploma offers online courses that may serve as elective courses for Doctoral students conducting research in this area.

Currently, the majority of the core faculty members in Health Sciences maintain full graduate faculty status, and most have supervised several Master's students. Some have supervised Doctoral students in other programs at UOIT or at other institutions. Likewise, several core faculty members from the Social Science and Humanities Faculty and Faculty of Business and Information Technology also maintain graduate faculty status, and possess significant experience in graduate student supervision (see Section 3a). The disciplinary backgrounds represented by the Health Sciences graduate faculty are wide-ranging and acknowledge the full continuum of health, from complex chronic conditions to optimal human functioning/performance. They include: behaviour change, biomechanics, clinical health disciplines, computer science, epidemiology, exercise physiology, motor behaviour, neuroscience, nursing, nutrition, psychology, social policy, sociology.

Research facilities are sufficient to support the Doctoral program. A Health Sciences Librarian will be available to guide students in their retrieval of peer-reviewed literature and how to ensure the material retrieved is from high quality journals. The Academic Success Centre (ASC) combined with the Teaching and Learning Centre (TLC) at UOIT provides academic services for graduate students in building skills in writing, teaching, and studying through consultations, workshops, and online resources. There is adequate laboratory space, and equipment is available to support Doctoral student research in KIN and HI. UOIT also boasts the Automotive Centre of Excellence (ACE). This $100 million facility is the first testing and research centre of its kind in Canada, and in many respects, the world. It includes two climate chambers and a Climatic Wind Tunnel capable of wind speeds exceeding 240 kilometers per hour, temperatures ranging from -40 to +60˚C and relative humidity ranging from 5 to 95 per cent. The features of this facility enable us to perform unique research and collect data related to human health and performance.

The Faculty of Health Sciences is committed to research excellence. Dr. Pierre Côté is a Canada Research Chair (CRC) in Disability Prevention and Rehabilitation. He has led a number of ground-breaking projects which have advanced our understanding of musculoskeletal disorders. Dr. Côté's research focuses on the causes of pain and disability related to musculoskeletal disorders, the interactions between individual and societal determinants of health, and interventions that will reduce the burden of chronic pain and disability. The new CRC in Healthcare Simulation will provide important leadership in an area of growing expertise in the Faculty, and will be a strong contributor to the new Ph.D. program. Dr. Carolyn McGregor, who is an important leader in the Health Informatics field, recently completed two terms (2007 to 2017) as a Tier 2 CRC in Health Informatics. She has led pioneering research in Big Data analytics, real-time event stream processing, temporal data stream data mining, business process modelling and cloud computing. She now progresses this research within the context of critical care medicine, mental health, astronaut health, and military and civilian tactical training.

Most faculty in our CPP field currently do not require significant on-site laboratory facilities as their research largely involves collaboration with community partners and/or database access. All Kinesiology faculty members who have been at the University for more than 3 years have state-of-the-art laboratory facilities funded by the Canadian Foundation for Innovation and Ministry of Research and Innovation grants. Finally, several faculty members hold, or are actively pursuing, external funding (e.g., NSERC, CIHR, SSHRC) to support their research programs and related doctoral student training. Of note, our Faculty currently holds funding from each of the three tri-council agencies, with our researchers as Principal Investigators.

Full-time Ph.D. students at UOIT are guaranteed a minimum of $18,000 per year for four years. This will primarily come from TAships while the remainder will be provided by supervisors, research funding, and scholarships (both internal and external).

b. Student Demand

Statement on the general need and student demand.

At least three related trends spur student demand for the proposed Doctoral program in Health Sciences: (1) the need for research leaders who can excel as part interdisciplinary teams to address complex problems, and who have a broad knowledge base in the scholarship in knowledge creation, dissemination and transfer as well as the social and policy implications of health technologies and data; (2) a significant increase in the prevalence and incidence of non-communicable diseases and (3) structural changes in the economy, shifting the emphasis away from manufacturing and toward service sectors.

(1) While graduate education seeks to develop "independent scholars", in recent decades collaborative and "inter-disciplinary" approaches to research have come to dominate the landscape of science. Team science is oriented toward addressing complex societal problems that cannot be reduced or simplified to what a single discipline has the tools to address. This is exemplified by the complex health problems that society must face. Simply put, by themselves traditional (socially constructed) disciplinary boundaries narrowly circumscribe health problems, and necessarily yield only partial solutions to complex human health problems. With biological, behavioural, environmental, and political causes, such problems require commensurate intellectual tools to be appropriately addressed.

Society and funders demand that publicly funded research translate into solutions that serve not only the interest of science, but also of society. Traditional "silo-based", uni-disciplinary science education tends to be predictable, satisfying for the scholar, and contributes to scientific advance, but seldom prepares scholars for the realities of team-based science and challenges in the

workplace beyond academia. Data published in *Canada's Fundamental Science Review*[5] showed that approximately 40% of Ph.D.'s hold positions in Post-Secondary Education, with the majority being employed outside of academia and less than 20% gaining employment as a full-time professor. While our proposal retains the goal of creating "independent scholars" through rigorous training and supervision in the student's particular research domain, its appeal lies in the efforts to expand the boundaries of students' education so they gain exposure to, and knowledge of, health science paradigms and practices outside their own discipline.

It is the responsibility of a Ph.D. program to create a conscientious scholar whose research is just, rigorous, and useful to society. A Ph.D. graduate trained to be cognizant of the ways in which ethnicity, socioeconomic status, disability, sexual orientation, migration status, age, and geography intersect to determine health will be better able to meet the societal need for appropriate health research and policy/program creation. The proposed program will create a scholar who integrates Sex –and Gender- Based Analysis into their work to reflect the type of rigorous science capable of expanding our understanding of health determinants for all people. Likewise, wherever appropriate, Indigenous Health Research will be implemented and adapted into research projects to honour Indigenous culture, language, history, and traditions for equitable research opportunities. Each of the core courses have explicit learning outcomes relevant to indigenous culture. FHSc Assistant Professor Dr. Serene Kerpan is an expert in Indigenous research and scholarship and she will lend her expertise to ensure that the course content reflects these principles. Consistent with policies described in the Tri-council Policy Statement 2, chapter 9 for research involving Indigenous peoples and communities, trainees will understand the role of community-engaged research founded on reciprocity and respectful relations as a means to promote ethical research. Doctoral graduates will recognize Indigenous health research is based on the right to respectful engagement and equitable opportunities, as it honours culture, language, history, and traditions.

Finally, the proposed program recognizes the workforce demand for doctoral graduates who are not only experts in their designated fields, but also understand the broader technical, social and policy implications of health science research and translation. Conversations with our community partners have made it clear that there is a demand for a skilled, interdisciplinary scholar, which this proposal has considered in the design of this program (Please see Letters of Support in Appendix D).

(2) Dramatic demographic shifts are changing Canada at large, but are occurring at a greater pace in the Toronto area and in the Durham Region. In fact, Durham Region is one of the fastest growing regions in the Toronto area and in Canada as a whole. Its population has increased by over 100,000 from roughly 500,000 to over 600,000 from 2001 to 2011.[6] Adults aged 45 to 64 are the region's largest cohort;[7] it is anticipated that this number will almost triple in coming years.[8] Each of these factors, age, ethnicity, socioeconomic status, have a significant impact on health, and healthcare demands. Durham Region will need trained graduates to deal with complex health issues in individuals while understanding the context of local healthcare services. Addressing the health needs of a diverse population is an important societal need.[9]

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[5] Naylor, C. D., et al. (2017). *Investing in Canada's Future: Strengthening the Foundations of Canadian Research.* Retrieved from Canada's Fundamental Science Review: http://www.sciencereview.ca/eic/site/059.nsf/vwapj/ScienceReview_April2017.pdf/$file/ScienceReview_April2017.pdf, accessed 22 March, 2018.

[6] Durham Region Planning and Economic Development Department (2012). "Planning Region Planning Facts, February, 2012. [http://www.durham.ca/departments/planed/planning/stats-n-facts/census/2011/facts/2011-FACTS_Bulletin1.pdf], accessed 12 March, 2013.

[7] Durham Region Planning and Economic Development Department (2012). "2011 Census – Age, Gender, Families & Households." October, 2012. [http://www.durham.ca/departments/planed/planning/stats-n-facts/census/2011/facts/2011-FACTS_Bulletin2.pdf], accessed 12 March, 2013.

[8] Ontario Ministry of Finance (2012) "Ontario Population Projections Update". [http://www.fin.gov.on.ca/en/economy/demographics/projections/], accessed 22 February, 2018.

[9] As Theordore Roszak, emeritus professor at California State University, put it, as the population ages industrial nations "will discover that health care is the highest stage of industrial development" (see Roszak, T (2007) "The

(3) General need and student demand also stems from broad demographic and labour-market shifts toward the expansion of health care and health services. Based on data from the Statistics Canada's Labour Force Survey, the services sector share of the employment grew from 73% to 79% between 2000 and 2010, with the most substantive growth occurring in health care and social assistance sectors[10]. It has also been predicted that managers in health care fields will have the best job prospects.[11] Moreover, as with the population at large, the current health care labour force is aging, presenting a "looming shortage" in the existing health care workforce. Current professionals will require "upskilling" to accommodate the growing demand for health services. In view of the rapid and ongoing advance of health data, knowledge and technologies, higher levels of training and education will be required for health professionals to mobilize knowledge and technologies to more efficiently and effectively organize and deliver services. In fact, health care workers are more likely than others to participate in informal and formal training programs, and their employers are more likely to support these efforts.[12] These broad demographic shifts reflect ongoing changes in the labour market that are expected to continue. While the Region's population grows and labour force trends continue, there remains a deficit in workforce skills designed to serve the population. Population education attainment in the Durham Region falls well below the rest of the Greater Toronto Area Only 18.2% of the Durham population report holding a University degree, compared to 31.7% of those in the GTA and 24.7% of those in Ontario as a whole. At least in part, this gap in educational attainment is due to the historical dominance of industrial employment in the region wherein the demand for university credential has been comparatively low. Yet this region is undergoing a transition from a manufacturing to a knowledge-driven, service economy. This transition must be supported by a corresponding shift in the preparation of personnel available to fill positions in the new economy. The proposed program will help to service this need.

In the past 4 years, 15 of 72 (20.8%) of our Masters graduates have gone on to pursue PhDs elsewhere, with interest growing in recent years as the Master's program has matured.

A recent survey was sent to current full-time Faculty of Health Sciences Graduate Students who were asked the following two questions:
Are you considering doing a Ph.D. when you finish your masters?
If there was a Ph.D. offered at UOIT, would you consider doing your Ph.D. at UOIT?

Eighty-three percent of those surveyed (34/41 respondents) were considering enrolling a Ph.D. program upon completion of their Master's degree. Of those who answered the question, 95% (37/39) would consider completing their Ph.D. training at UOIT, demonstrating a strong overall demand for a Ph.D among existing UOIT graduate students.

Based on this level of interest, it is anticipated that of the average of 25 students who complete the Masters in Health Sciences each year, a minimum of 20% will be interested in progressing to a Ph.D. program at UOIT, ensuring an enrolment of at least 5 students per year initially. As the program gains a

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ecology of aging" *Shambala Sun*, November, pp. 79-85).
[10] Research and Planning Branch, MTCU, *Labour Market Information & Research*, *The Ontario Labour Market in 2010*, p.12 (based on data from the Statistics Canada's Labour Force Survey).
[11] "Labour Market: Where are job trends headed in the future?" http://www.tcu.gov.on.ca/eng/labourmarket/ojf/trainingTrends.html, accessed 22 March, 2018.
[12] See Allen, M.K., Ceolin, R. Ouellette, S., Plante, J. and Vaillancourt, C. (2007) Educating Health Workers: A Statistical Portrait 2000 to 2004. Ottawa: Culture, Tourism and Centre for Education Statistics Division. Durham Region Local Training Board (2011) *Health Care Occupations in Durham Region (Fifth Edition).* http://durhamworkforceauthority.ca/wp-content/uploads/2012/10/Health_Care_Occ__April_2011.pdf (accessed, 22 February, 2018).

reputation, it will grow and attract students from other academic institutions, as well as those working in Health Science sectors who wish to advance their knowledge.

Table 1. Projected enrolment by year of operation and program year.

YEAR OF OPERATION	Ph.D. 1	Ph.D. 2	Ph.D. 3	Ph.D. 4	Ph.D. 5	TOTAL ENROLMENT
2019	5					5
2020	5	5				10
2021	7	5	5			17
2022	7	7	5	5		24
2023	7	7	7	5	2[13]	28

Student funding is guaranteed for 4 years. Students who have completed their research, but need additional time writing their dissertation may assume part-time status after the 4 years have been completed. A Ph.D. program should typically be considered a full-time venture, however we recognize that special circumstances may arise and part-time enrolments will be considered on a case by case basis as approved by the FHSc Dean. This is reflective of the overall flexibility of the program which aims to simultaneously serve students and our community partners by allowing them to work together to enhance the effectiveness of the overall program. Dedication to preparing our students to meet the changing demands of the workforce will be ongoing. Community partner input will continually guide the direction of our program of study.
Note: Part-time students will not receive the funding packages or guaranteed TA/RA placement that full-time enrolled students receive. In most cases, they will be employed full-time by either UOIT or our partners, and in many cases the employers will be providing tuition support. Part time tuition is $8,338.08 per year and part-time enrolment is for a minimum of 4 years and a maximum of 8 years, while full-time is for a minimum of 2 years and a maximum of 6 years.

Note: Our institution recognizes that under certain circumstances, students may need to absent themselves from regular study while remaining connected to the program. Examples include, but are not limited to: Mat/Paternity leave; medical leave; extraordinary employment demands; compassionate circumstances. Such circumstances must be officially requested through the School of Graduate and Postdoctoral Studies and approved by the Dean of Graduate Studies. The time limits for completing the degree program will be extended by the duration of the leave taken.

c. Societal Need

Evidence of the need for graduates of the programs.

Canada's Fundamental Science Review[5] underscores the need for rigorous scientific research to yield positive social and cultural benefits, transform education, and fuel economic growth and innovation. The panel calls for Health Science researchers to address the health threats arising from climate change, population aging (and the rising burden of dementia) and the consequent pressure put on Medicare programs. Toward achieving this end, the Faculty of Health Sciences at UOIT is made up of scholars whose research acknowledges the full continuum of health. This broad spectrum of backgrounds is what is required to arrive at effective solutions for the multifaceted health challenges of today.

As mentioned previously, our Ph.D. graduates will be trained to be cognizant of the ways in which ethnicity, socioeconomic status, disability, sexual orientation, migration status, age, and geography

[13] Some students may take five years rather than four years to complete so we have estimated two students in year five of the program.

intersect to determine health, and will therefore be better able to meet the societal need for appropriate health research and policy/program creation. Students will be provided the opportunity to learn about engaging in research with unique communities, such as Indigenous Peoples, in the Research with Communities: Approaches and Best Practices doctoral level course. Students will learn the logistical, methodological, and ethical requirements of conducting research with community partners so that they are able to work with unique, vulnerable, or marginalized groups to answer complex research questions that address social needs in Canada. An awareness of social issues and the knowledge and skills on how to work with communities to address these issues ensures that FHSc Ph.D. graduates are well placed for leadership roles in a variety of arenas.

d. Duplication

Description of similar or complementary programs elsewhere in Ontario.

Students in the FHSc Doctoral program will work together in an interdisciplinary settings to evaluate advances in the way that we acquire and use health data, and the technical, ethical, social, and policy implications of these advances; as well as evaluating and implementing best practices for knowledge synthesis, dissemination, and exchange. Students from different fields will work together on evaluating issues from these multiple perspectives ensuring that both the content and the evaluation exposes them to an interdisciplinary perspective. The uniqueness of the FHSc Doctoral program is the way that it intentionally combines this interdisciplinary perspective with advanced training in individual fields (KIN, CPP, HI), preparing students for both traditional academic positions as well as a broad range of leadership positions within health sciences.

There is only one other PhD program in Health Sciences in Ontario. There are an additional 18 programs that have some overlap with the proposed program but are not a PhD in Health Sciences.

Institution: **Brock University**
Program Name and Credential: Ph.D.: Applied Health Sciences
Program Description: includes specialty areas in behavioural and population health, health biosciences, and social and cultural health studies, pursuing the overarching aim of rigorous assessment of conditions contributing to health of individuals and groups.
Similarities and Differences: The fields overlap with those proffered for the proposed program, however, the Brock program lacks the interdisciplinary focus necessary for the creation of a leader in professional pursuits beyond academia. It also lacks the explicit exposure to technology and associated issues and knowledge translation frameworks for the entire cohort.
Links: (http://www.brocku.ca/graduate-studies/graduate-programs)

Institution: **Carleton University**
Program Name and Credential: Ph.D.: Health Sciences
Program Description: provides in-depth advanced learning and hands-on, interdisciplinary research in health sciences. Explores the complexities of health problems and solutions through thesis and courses developed to explore interdisciplinary health topics.
Similarities and Differences: The importance placed on interdisciplinary research echoes our programs sentiment, but this program does not include different fields and does not emphasize the role of technology.
Links: https://graduate.carleton.ca/cu-programs/health-sciences-2/

Institution: **Queen's University**
Program Name and Credential: Ph.D.: Kinesiology and Health Studies
Program Description: Studies human movement and responses thereto from a variety of perspectives – e.g., mechanical, physiological, health promotion, psychological, socio-cultural). Areas include: biomechanics/ergonomics, exercise physiology, physical activity epidemiology, health promotion, psychology of sport & physical activity, socio-cultural studies of sport, health and the body.

Similarities and Differences: There is overlap with the proposed Kinesiology field and its emphasis on health promotion corresponds with some aspects of the proposed field in Community, Public and Population Health (although advertised areas pertaining to psychology and socio-cultural studies relate to Sport and physical activity). It also aims to be "multi-disciplinary", an initial step toward generating the interdisciplinary education that we aspire to in the proposed program. However, it does not include exposure to technology and associated issues and knowledge translation frameworks of our proposed degree. Queen's School of Medicine includes a Department of Community Health & Epidemiology, and offers a Doctoral degree in Epidemiology (along with a non-thesis Master in Public Health).
Links:http://www.queensu.ca/skhs/ http://www.queensu.ca/comhealth-epid/index.html

Institution: **Western University**
Program Name and Credential: Ph.D.: Health & Rehabilitation Sciences
Program Description: – includes "health promotion" as an interdisciplinary field that examines facets of individual, group, and community health. Likewise, fields of "health and aging" and "child & youth health" take an interdisciplinary approach to explore health issues related to populations of various ages.
Similarities and Differences: This program corresponds with certain aspects of the proposed Kinesiology and Community, Public and Population Health fields. There appears little by way of explicit efforts to include an interdisciplinary approach to the examination of these problems, though in certain cases student supervision draws from various disciplines. Lacks emphasis on health technologies
Links:http://www.uwo.ca/fhs/health_rehab_sci/index.html

An indication as to why the program is being offered on a "stand-alone" basis rather than as a joint program offered with another institution

The proposed program can and should operate on a "stand alone" basis for at least three related reasons:

1) No other program in the province offers the unique combination of fields that are included in the program being proposed herein. Some larger institutions offer separate degrees in similar fields, but as such they do not as readily encourage interdisciplinary education. The FHSc PhD program focuses on health data and technology, and the technical, ethical, social, and policy implications of these advances as well as best practices for knowledge synthesis, dissemination, and exchange. This is combined with advanced training in individual fields (e.g. KIN, CPP, HI). This approach is unique and will prepare students for a broader range of career options than a traditional Ph.D. program.

2) While the proposed Doctoral program will attract students from other parts of Ontario, Canada, and the world, our unique positioning vis-à-vis a large population east of Toronto offers an important attraction for the very brightest students, as well current health professionals interested in advancing their education, credentials, and careers.

3) The region offers significant research opportunities in health and health care for graduate students. Our network of research-interested partners in various region-wide health care organizations (e.g., Lakeridge Health, Ontario Shores, Grandview Children's Centre, the Central East Local Health Integration Network, Durham Region Health Department) and community-based organizations (e.g., Durham Region Social Services, Community Development Council of Durham) already is large and will only expand. UOIT's unique position enables the development of important partnerships across the region.

2. DEGREE REQUIREMENTS

a. Program Learning Outcomes

Connect with the Teaching and Learning Centre to review learning outcomes.

DLE	Learning Outcome	Element	Assessment
1) Depth and breadth of knowledge A thorough understanding of a substantial body of knowledge that is at the forefront of their academic discipline or area of professional practice including, where appropriate, relevant knowledge outside the field and/or discipline.	• Investigate previous research, and create new knowledge, within their chosen Ph.D. field (KIN, CPP, HI). • Evaluate the various advances in health data technology • Critically appraise current Health Data Technologies particularly in reference to implications related to their use in health research	• Compulsory HLSC 7014G, HLSC 7010G & HLSC 7095G Research Seminar 7012G • Requirement of one discipline specific elective course.	Students will be assessed using a combination of traditional evaluation methods including: • scholarly written work, oral presentations, critical thinking conveyed through in-class participation, oral and written examinations In particular, HLSC 7014GG and HLSC 7010G will give students core knowledge of the substantial body of information at the forefront of current health practices. Doctoral student supervisors will use their field-rich expertise to judge students' knowledge base and help keep them on track with their knowledge expansion • Student thesis, Candidacy exams
2) Research and scholarship a) The ability to conceptualize, design, and implement research for the generation of new knowledge, applications, or understanding at the forefront of the discipline, and to adjust the research design or methodology in the light of unforeseen problems; b) The ability to make informed judgments on complex issues in specialist fields, sometimes requiring new methods; and c) The ability to produce original research, or other advanced scholarship, of a quality to satisfy peer review, and to merit publication.	• Design and implement an original program of research to generate new knowledge within their chosen Ph.D. field (KIN, CPP, HI) • Evaluate where their research fits within the broader context of their field of study to contribute and disseminate new knowledge • Defend the significance (to science and society) of further exploration of knowledge gaps associated with their particular health sciences research question	• Compulsory HLSC 7014GG, HLSC 7010G & HLSC 7095G Research Seminar 7012G • Requirement of one discipline specific elective course.	Students will be assessed using a combination of traditional evaluation methods including: • scholarly written work, oral presentations, critical thinking conveyed through in-class participation, oral and written examinations In particular, HLSC 7096G will give students the opportunity to demonstrate advanced research and scholarship by meeting the learning outcomes and disseminating knowledge

3) Level of application of knowledge The capacity to: a) undertake pure and/or applied research at an advanced level; and b) contribute to the development of academic or professional skills, techniques, tools, practices, ideas, theories, approaches, and/or materials.	• Develop an advanced research design that addresses a clearly articulated health science research question • Critically appraise relevant literature within and beyond the discipline of CPP, HI or Kin and identify knowledge gaps which are fruitful areas for further investigation • Construct unique solutions to problems surrounding data and technology use in health sciences research, training, and practice	• Compulsory HLSC 7014G, HLSC 7010G & HLSC 7095G Thesis 7096G Research Seminar 7012G • Requirement of one discipline specific elective course	• In particular, HLSC 7095G**,** and HLSC 7096G will give students the opportunity to demonstrate applied research at a level that contributes to the development of techniques, practices, ideas, theories, or approaches to their specific domain of study.
4) Professional capacity/ autonomy a) The qualities and transferable skills necessary for employment requiring the exercise of personal responsibility and largely autonomous initiative in complex situations; b) The intellectual independence to be academically and professionally engaged and current; c) the ethical behaviour consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research; and d) The ability to evaluate the broader implications of applying knowledge to particular contexts.	• Evaluate knowledge from interdisciplinary perspectives and interact with researchers from different disciplines to create a solid foundation for becoming members of interdisciplinary research and professional teams • Discriminate different pedagogical and ethical principles involved in using technology to enhance the human experience, health related training, research and practice • Investigate the social and policy implications of advances in health data technology in our everyday lives, health care, and research	• Compulsory HLSC 7014G, HLSC 7010G & HLSC 7095G • Thesis 7096G • Research Seminar 7012G • Requirement of one discipline specific elective course.	• Oral presentations and panel discussions with discipline experts on social, policy and ethical implications of technology advances for healthcare professionals • Two mandatory presentations will occur as a part of the faculty seminar series. One will be on the thesis proposal and one will take place closer to the completion of the dissertation, or after data has been collected • Submission of REB approval, obtaining informed consent from research participants

5) Level of communication skills The ability to communicate complex and/or ambiguous ideas, issues and conclusions clearly and effectively.	• Formulate effective ways to communicate (health science related?) research with multiple audiences (e.g. general public, health professionals, academic journals and conferences, policy makers). • Articulate the scientific and practical significance of research findings within their original work. • Design and execute best practices for knowledge synthesis, dissemination and exchange within the field of health science research	• Compulsory HLSC 7014G, HLSC 7010G & HLSC 7095G • Thesis 7096G • Research Seminar 7012G • Requirement of one discipline specific elective course	Communication will be heavily assessed within both core and elective courses. Class discussions, oral presentations, critical questioning demonstrated through class participation and coherent, scholarly writing will be included as methods of assessment.
6) Awareness of limits of knowledge An appreciation of the limitations of one's own work and discipline, of the complexity of knowledge, and of the potential contributions of other interpretations, methods, and disciplines.	• Acknowledge the value of health sciences research methods and interpretations that are different from one's own work • Evaluate the literature in the health sciences field relative to their research, leading to the identification of gaps and limitations of past research approaches. • Weigh the limitations of their own research design and the knowledge generated therefrom	• Compulsory HLSC 7014G, HLSC 7010G & HLSC 7095G • Thesis 7096G • Research Seminar 7012G • Requirement of one discipline specific elective course.	• In-class discussions and presentation, literature reviews, candidacy exam and research proposal.

The plans for documenting and demonstrating the level of student performance have been designed specifically to be consistent with the degree level expectations. The program-level learning outcomes are based on the DLEs and onto these were mapped appropriate courses and methods of assessment. In accordance with section 4.5.15.3 of the Graduate Academic Calendar, student progress is evaluated at the end of each semester for every student engaged in research. Each student's research supervisory committee is responsible for evaluating research progress in relation to the student's overall research plan. Students may receive an evaluation of *Satisfactory Research Progress, Difficulties with Research Progress, or Unsatisfactory Research Progress*. Please see Appendix G for additional details regarding Progress Reports and program continuance.

The program will be externally reviewed during cyclical reviews, and assessed on an ongoing basis through indicators such as student grades, retention, and evaluation by supervisors. Classes and assessment practices as outlined in the proposal will be closely monitored on an ongoing basis through the internal curriculum committee. We will also monitor closely the career success of our students upon completion through alumni networking events and electronic communication.

All students are also required to complete a candidacy examination which includes both a written proposal and oral examination. The written proposal will be a comprehensive outline of their research objectives and proposed methodology, and contain a literature review that addresses the current state of knowledge of their research topic. The oral examination will evaluate the students' grasp of the literature within and beyond their particular research topic, demonstrating where their work fits within the context of their discipline. This will allow for an evaluation of the readiness of the candidate to

proceed and also an opportunity to provide further guidance. The dissertation and thesis defence is the culmination of their study in the program and will undergo a rigorous review and approval process.

b. Admission Requirements

The following academic requirements have been established by the UOIT Office of Graduate Studies and are the minimum required for entry into a Doctoral program at UOIT:

- Completion of a research project or thesis-based master's level degree from a recognized institution in the same area od graduate study or a closely related subject; and
- A minimum B+ average (GPA: 303 on a 4.3 scale).

Doctor of Philosophy (Ph.D.) in Health Sciences

In addition to the general admission requirements for Graduate Studies at UOIT, as described above from section 4.4.2 of the *Graduate Academic Calendar*, all applicants for the Doctor of Philosophy in Health Sciences program must provide the following program-specific requirements:

1) At least two letters of support from academic referees
2) A statement of academic interest describing the student's intended area of research, research experiences, and career aspirations;
3) Identification of a supervisor, and significant support from that supervisor, indicating the student's exceptional academic qualities and prospects and their willingness to supervise that student

Completion of a Master's thesis is preferred over a non-thesis masters, but is not required. Exceptional students who have demonstrated superior academic credentials and outstanding research potential in their master's degree program will be considered on a case-by-case basis, in consultation with the Dean. Similarly, master's education in health-related areas is preferred, but applicants from other research or education backgrounds may be admitted as special cases. Efforts will be taken to ensure a balanced student intake across our three programs of study, with an approximate distribution of 2 Community, Public, and Population Health, 2 Kinesiology, and 1 Health Informatics student each year, once student excellence and supervisor fit has been considered.
Co-supervisors and committee members from other faculties will be considered wherever applicable with an aim toward enhancing the interdisciplinary nature of the program.

Doctor of Philosophy (Ph.D.) in Health Sciences – Advanced entry from the Master's program

In exceptional circumstances, students will be granted advanced entry after 1 year of the Master's program. Applicants for the "Advanced entry" Ph.D. pathway must have met both the University and Program Specific requirements, as well as have:

1) Completed at least four Masters courses, including the two core courses and either Biostatistics or Qualitative Methods or equivalent

As above, completion of an honours thesis or comparable research experience is preferred, but not required. Undergraduate education in health-related areas is preferred, but exceptional applicants from other research or education backgrounds with sufficient prerequisite subject knowledge may be admitted as special cases in consultation with the Dean.

c. Calendar Copy

The Doctor of Philosophy in Health Sciences (PhD) program focuses on providing students with opportunities to develop the knowledge and skills required to conduct high-quality research that culminate in a PhD thesis.

Graduate training focuses on research conducted in one of three fields in the Health Sciences:

- Community, Public and Population Health
- Health Informatics
- Kinesiology

The PhD in Health Sciences offers an interdisciplinary approach to health sciences doctoral training alongside depth of study in their individual field. The program prepares graduates for diverse careers within and beyond academia in tertiary institutions, research centres, hospitals and other clinical settings, community health promotion and illness prevention organizations, health and/or government policy, public health, clinical practices (Kinesiology), post-Doctoral fellowships, technology transfer, and research grants officers. For those students interested in securing academic appointments post-graduation, or for those who wish to broaden their skillset in general, UOIT has both an Academic Success Centre and the Teaching and Learning Centre to build the teaching skills necessary to successfully pursue an academic career trajectory. Wherever possible, we will endeavour to provide students with the opportunity to teach at least one course during their four years.

Coursework provides graduates with a framework for evaluating data and technology in health sciences research, training, and practice, where the technical, ethical, social, and policy implications of data collection, analysis, and storage are critically evaluated, and discussed in an interdisciplinary context. The mechanisms of knowledge synthesis, dissemination, and exchange as well as the ethical application of knowledge in health are critically evaluated using the CIHR knowledge translation framework http://cihr-irsc.gc.ca/e/45669.html). Graduates will gain the expertise to become effective research brokers in academic, professional, and research settings. Advanced communication skills will ensure that graduates can articulate the scientific and practical significance of their research to multiple audiences in multiple ways.

1) **Courses**: 4 courses -- 2 required, 1 elective (one semester each): as well as the research seminar which is compulsory.
   a) Interdisciplinary Perspectives on Health Data and Technology (required) Fall Year One
   b) Critical Perspectives in Research and Knowledge Translation for Health (required) Fall Year Two
   c) Advanced
   d) One elective course (e.g., content or design-focused depending on the student's needs) (one semester;[14]
   e) Research Seminar each semester

2) **Candidacy examination** (includes written proposal and oral examination).
   a) **Thesis proposal** (written component): The thesis proposal should consist of a title page, abstract (350 word limit), background and problem statement, conceptual approach, literature review (brief), research design (e.g., sample, data collection and analysis procedures), and limitations. The proposal also should include a timeline for completion of various stages of the research. The written component should be succinct (depending on the research area, this may range from 4000 to 8000 words, excluding references, figures, tables, and intelligible to a non-specialist) that synthesizes relevant literature from the subject area (The supervisory committee is expected to guide students in preparation of the proposal and will meet at least once before the thesis proposal).

2) [14] Depending on the student's background and prior education, supervisors may require that students complete one or more additional courses. Also, one elective courses may be waived for students with sufficient background in their chosen field.

b) **Oral examination:** The oral component will consist of a 30-minute presentation about the proposed research, with rounds of questions (from the Examination Committee). Questions will focus on theoretical foundations, frameworks, relevant prior work in the discipline, and appropriateness of the chosen research methodology. It will normally take place during the Winter term of the second year (pro rata for part-time students). The examination will provide students with an opportunity to articulate the scholarly context of the dissertation research they propose to undertake, and ultimately to assess their readiness to proceed. It will address broadly two questions: (1) where does my dissertation research fit within the broader literature in the area, and what gap does it fill? (2) What are the "collaborative or interdisciplinary" implications of the research? And (3), how effective ate the selected conceptual frameworks, research design, and methodologies in answering the research question and how are their limitations addressed? The examination committee will consist of the supervisory committee (candidate's research supervisor(s) and two other UOIT faculty members), the Associate Dean Research and Graduate Studies (AD-RGS) (or designate) who serves as Chair, and an external referee.

3) **Dissertation** and oral examination. (As usual.)

Year	Semester	Milestone
1	Term 1 - Fall	• Interdisciplinary Perspectives on Health Data and Technology • Elective (can be taken here or in winter depending on availability) • Ph.D. Research • Research Seminar
	Term 2 - Winter	• Ph.D. Research • Research Seminar
	Term 3 - Spring/Summer	• Ph.D. Research
2	Term 4 - Fall	• Critical Perspectives in Research and Knowledge Translation in Health Sciences • Research Seminar (cont.) • Ph.D. Research
	Term 5 - Winter	• Ph.D. Proposal and Candidacy Exam • Research Seminar (cont.) • Ph.D. Research
	Term 6 - Spring/Summer	• Ph.D. Research
3	Term 7- Fall	• Ph.D. Research • Research Seminar (cont.)
3-4	Terms 8 – 12	• Research Seminar (cont.) • Ph.D. Research: Data collection, analysis, etc. to completion & oral examination

3. RESOURCE REQUIREMENTS

a. Faculty Members, Current and New Faculty requirements

a. Faculty Members

Core faculty. The faculty members who will be involved in the graduate programs are full-time, tenure-track or tenured members of the university staff. Table 3.1 lists the faculty members by rank, field, home unit, and supervisory privileges. All of these faculty members have research and teaching records that qualify them to participate actively in the supervision of master's and doctoral students. 23 faculty members have full privileges (from having successfully graduated a minimum of two graduate students) and most of the 8 newer faculty will have met the requirements for full privileges by the time the program begins. The Curricula Vitae for all faculty members are provided in Volume II of this submission. They include individuals from all three fields of the proposed PhD:

Health Informatics includes the use of IT and technology based innovations to optimize the way in which health data is acquired, stored and retrieved, and the use of analysis of this data to generate new knowledge. This data can also be used to create high fidelity simulation environments for the training of undergraduate students in a variety of health disciplines. FHSc has a strong commitment to simulation research as evidenced the fact that they are in the process of hiring a Canada Research Chair in Healthcare Simulation, who would be attached to the Health Informatics field. UOIT has a number of academics whose work includes an informatics and simulation approach to health, and are currently attached to Masters in Health Sciences, who would also be involved in supervision of informatics PhDs (Drs. Carolyn McGregor, Fletcher Liu, Isabel Pederson, Winnie Sun). Other faculty members from Kinesiology (Dr. Nick LaDelfa), and Community, Public and Population Health (Drs. David Rudoler and Carolyn Barakat-Haddad) do research which involves modelling of various types of health data, Jennifer Percival is a former Health Informatics faculty member who has adjunct status and will also be available to serve on committees. Drs. Isabel Pederson, Carolyn McGregor and Wally Bartfay have a wealth of supervisory experience, and the earlier career faculty have a growing track record of Masters supervision.

Kinesiology includes faculty members in Neuromechanics (Drs. Bernadette Murphy, Paul Yielder, Nick La Delfa, Lori Livingston), Exercise Physiology (Dogra and Sprenger), Sport Psychology (Dr. Nick Wattie), Human Growth and Motor Development (Lloyd) and Physical Activity and Indigenous Health (Dr. Serene Kerpan). Murphy has strong track record of supervision at both Masters and PhD level. Drs. Yielder, Livingston, Lloyd and Dogra have a strong track record of Masters supervision with Drs. Paul Yielder and Lori Livingston also having previous PhD supervisory experience and Dogra currently supervising her first PhD student in Applied Bioscience. Drs. Nick Wattie and Nick La Delfa and Sprenger are early career researchers with a growing record of Masters supervisory experience, who will have full privileges by the time the PhD is approved, and Kerpan is a new hire, who will initially have co-supervisory privileges.

Community, Public and Population Health employs qualitative and quantitative research methodologies to examine, analyze, and gain an understanding of the environmental conditions and social determinants implicated in community health and wellness. CPP includes researchers such as Robert Balogh, Wally Bartfay and Wendy Stanyon who have supervised more than 14 Masters thesis students each and a number of faculty with a solid track record of 5 to 10 completed supervisions including Drs. Emma Bartfay, Toba Bryant, Joanne Arcand, Brenda Gamble, Holly Jones-Taggart, Hilde Zitzelsberger, and Manon Lemonde. Drs. Caroline Barakat-Haddad, Mika Nonoyama, Efrosini Papaconstantinou, and Ellen Vogel have all supervised at least two completed Masters theses and are currently supervising a number of other Masters students. Dr. Otto Sanchez has previously supervised 2 PhD students in addition to 9 Masters students. Dr. Pierre Côté has completed 2 Masters supervisions but he is currently supervising 8 Masters and 2 PhD students. His excellent record of accomplishment as a CRC, and in both funding and peer reviewed research publication (over 200 articles), means that he can provide strong leadership in

this field.

Faculty research is further encapsulated by the following four research pillars:

Biomedical and Clinical Health Research: molecular & cellular biology; chronic disease physiology; neuroscience; biomechanics & ergonomics; exercise physiology; nutritional science; behavioural sciences; sport performance

Health Policy, Systems, and Services: policy development and implementation; systems & services evaluation; health management; clinical information systems; data analytics; e-health

Sociocultural & Environmental Health: social health; indigenous health; special populations; environmental & occupational health; mental health; intellectual & developmental disabilities; preventative health & health promotion; sport science

Technology, Training, Education, & Knowledge Innovation: modeling & simulation training; immersive environments; skill acquisition; developmental pathways; performance excellence; learning; expertise development

Teaching strengths

Collectively, the faculty members have extensive experience supervising undergraduates, graduate students, and post-doctoral fellows (see Table 3,2). In addition, faculty have taught the graduate levels courses that will be offered as electives in the proposed program, including: Theory and Application of Biomedical Signals and Images, Studies in Kinesiology Studies in Community Health, Patient Journey Modelling, Advanced Qualitative Research Methods, Applied Biostatistics in Health Sciences, Health Research Approaches, Neuroscience in Rehabilitation Kinesiology, Public Policy & Health Promotion, Epidemiology, Multidisciplinary Approaches to Health Informatics, and Public Health in Canada. Moreover, faculty members' teaching accomplishments have been formally recognized by the university. For example, one faculty member received UOIT's Excellence in Teaching Award (Sanchez) and two have won the UOIT Research Excellence Award (Murphy and Cote). In sum, the faculty members have the teaching qualifications necessary to instruct M.Sc. and Ph.D. students in the proposed programs.

Other notable accomplishments. Faculty members also have a number of other notable accomplishments in the areas of research, teaching and service. For example, multiple members have served as:

- Editors of journals or been members of Editorial Boards
- Chairs of Research Ethics Boards
- Directors of Graduate Programs
- Members of Tricouncil Peer-evaluation committees
- NSERC section chairs
- Members of the World Health Organization

There are no new faculty requirements to run this program but budget has been allocated towards a teaching faculty member to replace faculty who will be teaching some of the graduate level courses.

Table 3.1 Faculty members by rank, home unit, and supervisory privileges.*

NAME	RANK[15]	HOME	SUPERVISORY

[15] FHSc: Faculty of Health Sciences; FBIT: Faculty of Business and Information Technology; FSSH: Faculty of Social Sciences and Humanities *Note: once two successful Masters supervisions have been completed, at least one

		UNIT	PRIVILEGES
Jennifer Abbass Dick	Assistant	FHSc	CO
JoAnne Arcand	Assistant	FHSc	FULL
Robert Balogh	Assistant	FHSc	FULL
Caroline Barakat-Haddad	Associate	FHSc	FULL
Emma Bartfay	Associate	FHSc	FULL
Wally Bartfay	Associate	FHSc	FULL
Toba Bryant	Assistant	FHSc	FULL
Pierre Côté	Associate	FHSc	FULL
Shilpa Dogra	Associate	FHSc	FULL
Brenda Gamble	Associate	FHSc	FULL
Holly Jones-Taggart	Associate	FHSc	FULL
Serene Kerpan	Assistant	FHSc	CO
Nick La Delfa	Assistant	FHSc	CO
Manon Lemonde	Associate	FHSc	FULL
Lori Livingston	Professor	FHSc	FULL
Meghann Lloyd	Associate	FHSc	FULL
Fletcher Lu	Associate	FBIT	FULL
Janet McCabe	Associate	FHSc	CO
Carolyn McGregor	Professor	FBIT	FULL
Bernadette Murphy	Professor	FHSc	FULL
Mika Nonoyama	Assistant	FHSc	FULL
Efrosini Papaconstantinou	Assistant	FHSc	FULL
Isabel Pedersen	Associate	FSSH	FULL
David Rudoler	Assistant	FHSc	CO
Otto Sanchez	Professor	FHSc	FULL
Heather Sprenger	Assistant	FHSc	CO
Wendy Stanyon	Associate	FHSc	FULL
Winnie Sun	Assistant	FHSc	CO
Ellen Vogel	Associate	FHSc	FULL
Nick Wattie	Assistant	FHSc	CO
Paul Yielder	Associate	FHSc	FULL
Hilde Zitzelsberger	Assistant	FHSc	FULL

Table 3.2 Supervisory records/experience by faculty member.

NAME	COMPLETED			CURRENT		
	MASTER'S	Ph.D.	PDF	MASTER'S	Ph.D.	PDF
Jennifer Abbass Dick				3		
JoAnne Arcand	5			6	3	
Robert Balogh	15			4		
Caroline Barakat-Haddad	3			6		
Emma Bartfay	7			1		
Wally Bartfay	14			3		
Toba Bryant	5			3		
Pierre Côté	2		2	8	2	1
Shilpa Dogra	4			4	1	
Brenda Gamble	9			4		
Holly Jones-Taggart	8				3	

as full supervisor, faculty will attain full supervisory privileges for the PhD program.

Serene Kerpan	-	-	-	-	-	-
Nick La Delfa				2		
Manon Lemonde	8			7		
Lori Livingston	6	1		2		
Meghann Lloyd	13			4		
Fletcher Lu	4			2		
Janet McCabe				1	2	
Carolyn McGregor	18	8	4	6	3	
Bernadette Murphy	29	7		2	2	
Mika Nonoyama	2			2		
Efrosini Papaconstantinou	2			3		
Isabel Pedersen	9	10		1	1	
David Rudoler	-	-	-	-	-	-
Otto Sanchez	9	2		2		
Heather Sprenger	-	-	-	-	-	-
Wendy Stanyon	14			2		
Winnie Sun				4		
Ellen Vogel	2			2		
Nick Wattie	1			4	1	
Paul Yielder	12	1		2	2	
Hilde Zitzelsberger	6			3	1	

Publication records at UOIT by year and outlet.

YEAR	FACULTY MEMBERS	ARTICLES	BOOKS	BOOK CHAPTERS	REPORTS	CONFERENCE PRESENTATIONS
2017	24	92	1	14	2	90
2016	25	87	3	24	6	120
2015	21	93	1	25	8	117
2014	23	67	-	7	26	91
2013	20	50	-	12	18	91

Publication records, regardless of affiliation, by year and outlet.

YEAR	FACULTY MEMBERS	ARTICLES	BOOKS	BOOK CHAPTERS	REPORTS	CONFERENCE PRESENTATIONS
2017	26	97	1	14	2	94
2016	29	100	3	25	7	134
2015	27	105	2	30	9	136
2014	28	77	-	9	26	108
2013	29	63	-	13	22	113

Research funding at UOIT by source and year.

YEAR	FACULTY MEMBERS	CANADIAN GRANTING COUNCILS[16]	CANADIAN GOVERNMENT[17]	INTERNATIONAL GOVERNMENT	OTHERS
2017	28	$196,788	$1,010,430	-	$714,024

[16] CIHR, NSERC, SSHRC
[17] Includes CRC & CFI

2016	29	$232,203	$200,000	-	$722,652
2015	29	$182,230	$255,000	-	$1,880,662
2014	26	$47, 327	$245,000	-	$509,336
2013	25[18]	$230,816	$115,000	$4,990	$1,668,385

Research funding, regardless of affiliation, by source and year.

YEAR	FACULTY MEMBERS	CANADIAN GRANTING COUNCILS	CANADIAN GOVERNMENT	INTERNATIONAL GOVERNMENT	OTHERS
2017	28	$196,788	$1,010,430	-	$714,024
2016	29	$232,203	$200,000	-	$722,652
2015	30	$182,230	$255,000	-	$1,930,662
2014	29	$505,090	$245,000	-	$517,009
2013	31	$1,265,216	$115,000	$4,990	$1,737,385

b. Additional Academic and Non-academic Human Resources

The Faculty of Health Sciences currently has available 0.5 of an administrative assistant to support the Health Sciences Master's program. An additional 0.5 position has been allocated in year one and year two to deal with program start-up. This expands to a 1.0 role in year three and will be a combination of administrative support and advising. The AD-RGS will be taking on additional administrative tasks as well. During the first two years of the proposed Ph.D. program, the AD-RGS's role will be expanded considerably to continue to administer the Master's program, as well as to develop new procedures and to routinize operations associated with a new Ph.D. program and to mentor the instructors of the core courses. At minimum, the job of implementing this program requires the provision of one additional full time equivalent course release associated with the standard teaching requirement. Within the bounds of relevant Collective Agreements, this will be allotted to either the AD-RGS, or an alternate. Additionally, we are hiring a Full Time Teaching Faculty member to teach undergraduate courses and allow current faculty members the space to teach in the graduate program.

In 2013, the FHSc created a Research Development Assistant (RDA) role to provide support for research initiatives within the Faculty. Under the direction of the AD-RGS, the RDA provides support for myriad Faculty research endeavours, as well as acting as a link to the Office of Research Services and the Teaching and Learning Centre. This role is responsible for the organization and facilitation of various research events including, but not limited to: New Year; New Ideas (an annual research symposium hosted on rotation at community partner locations to encourage collaborations and (re)connect for the start of the year); Welcome Back Retreat (the Faculty's annual September sharing of research and attention to the Strategic Plan for the year); the FHSc Research Seminar Series (a weekly seminar or workshop geared toward building graduate student skills – for a list of archived speakers please see Appendix F); Elevator Speech Event (our Faculty's personalized rendition of the 3 Minute Thesis Competition). The Faculty currently supports this position at 3 days a week, and we plan on devoting an extra 2 days of work for graduate program support with the implementation of the Ph.D. program. A portion of the RDA's salary comes directly from the UOIT Research Support Program.

The Office of Research Services (ORS), UOIT has recently added a Partnership Development role to support the Manager, Research Partnerships. The person selected for this role, Julia Armstrong, worked previously as the granting coordinator for the FHSc and we have a well established relationship with her. She is well versed in the research endeavours of the Faculty. The FHSc will leverage this Partnership Development Support team to strengthen our graduate programs.

[18] This number is an approximation based on cumulative data, as an exact number could not be pulled from our records.

c. Student Support Requirements

It is expected that the minimum support for Doctoral students will be $18,000 per year for four years. Funding will come from a variety of sources, including:

- External awards directly to students (e.g., SSHRC, NSERC, OGS);
- Graduate research awards and research assistantships from external grants to faculty members (e.g., SSHRC, NSERC, NIH, other external agencies);
- Teaching Assistantships (FSSH regularly has substantial needs for TAs to support the undergraduate programs);
- Sessional hiring to teach courses related to their area of expertise;
- Internal scholarships offered by the University for students with high entering averages;
- Provincial Loan Programs.
- Dean's scholarships: 5 four year Dean's scholarships of 10k per year have been included within the budget to ensure equity of access and support across the doctoral programme

Internal Scholarship Funding:

Candidates must apply on or before January 5th to be considered for internal scholarship funding. Candidates awarded an internal scholarship will be advised that if they are later successful in securing an external scholarship, their internal funding package will be revised.

The Faculty of Health Sciences, Graduate Program Committee will meet to rank applicants for internal scholarship funding and admission using the following criteria:

1. Excellence of the candidate
    - GPA, research outputs, statement of interest, reference letters, availability of external funding via scholarships or supervisor support
2. Fit between supervisor expertise and student
    - Ph.D. Supervisors must be research active (publishing and/or applying for external funding in accordance with discipline specific norms) to be eligible to supervise Ph.D. students
    - Supervisor and/or co-supervisor must have relevant expertise

Should spaces remain, the committee will meet again in late February to consider applicants for admission who met the UOIT January 31st deadline.

Normally, funding will not be provided to part-time students who work full-time and are unavailable for teaching and research assistance.

UOIT's Financial Aid and Awards Office offers students a range of financial services, including financial counselling.

Physical Resource Requirements

UOIT has recently endeavored to revisit the campus Master Plan. A consultative process was initiated to understand the future needs and desires of its faculties and service units. Amongst others, the FHSc identified graduate space for its Masters and Ph.D. students as critical to the success of these programs. Along with the already designated graduate spaces mentioned, HI students, in their connection to the Faculty of Business and Information Technology, will have space in UOIT's new, state of the art SIRC building on our North campus. The university will continue to grow and the Master Plan to expand space will ensure adequate space for our graduate students by 2021. Existing space will be able to accommodate the initial cohort of Ph.D. students in the interim.

Existing library resources: The goal of the UOIT Libraries is to enrich the research, teaching, study, and conversation of the University by providing exceptional library and information services and facilities to support all academic programs.

The UOIT Library system consists of four locations – North Oshawa, Social Science and Humanities, Education, and Whitby-Durham College. Each site provides individual and group study spaces, print and media collections targeted to the local audience, in-person reference and discipline specific classes, reserves, intercampus and interlibrary loans, and photocopiers and printers.

Detailed information about library resources is included in Appendix C.

Faculty Space:

Room Code	*Room Name*	*Room Area m²*
UAB346	Research (Dry) Lab	30.45
UAB355	Research (Dry) Lab	41.99
UAB350	Research (Dry) Lab	16.76
UAB356	Research (Dry) Lab	22.66
STG212	Research (Dry) Lab	73.82
STG213	Research (Dry) Lab	73.82
STG214	Graduate Research Space	20.30

4. BUSINESS PLAN

d. Statement of Funding Requirement

Projected graduate intake and enrolment for Ph.D. program by year.

YEAR	ENROLMENT					
	Ph.D. 1	Ph.D. 2	Ph.D. 3	Ph.D. 4	Ph.D. 5	TOTAL ENROLMENT
2019-20	5					5
2020-21	6	5				10
2021-22	6	6	5			17
2022-23	7	6	6	5		24
2023-24	7	7	6	6	2	28

Grant funding calculations by program.

Grant per FTE	$25,346
Tuition - First Year	$8338.08
Tuition - Second Year	$8338.08
Tuition – Third Year	$8338.08
Tuition – Fourth Year	$8338.08
Tuition – Fifth Year	$8338.08
Total Revenue - Year 1	$164,251

Total Revenue - Year 2	$361,353
Total Revenue - Year 3	$558,455
Total Revenue - Year 4	$755,556
Total Revenue - Year 5	$854,107

Required number of course sections by year and term.

	COURSE SECTIONS		
YEAR	**FALL**	**WINTER**	**TOTAL**
2019-20	2		2
2020-21	3	2	5
2021-22	3	2	5
2022-23	3	2	5
2023-24	3	2	5

Projected revenue and expenses by year.

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
EXPENSES ($)					
Sessionals	23,544	39,240	7,848	7,848	7,848
Administrative Course release	8,532	8,532	8,532	8,532	8,532
Dean's office + Support Staff + 18.5% benefits	34,437	34,437	48,212	68,875	69,908
Tenure Track Professor			118,500	125,610	133,146
OPERATING EXPENDITURES ($)					
Promotion & Advertising	5,000	5,000	5,000	2,500	2,500
PERS Awards		2,500	2,500	5,000	5,000
Dean's Scholarships ($10k each)	50,000	100,000	150,000	200,000	200,000
Doctoral thesis defences, external examiners				2,500	2,500
Research Assistantships		61,040	61,040	61,040	61,040
Other expenditures	5,000	5,000	5,000	5,000	5,000
TOTAL EXPENSES ($)	**$126,513**	**$255,749**	**$406,632**	**$486,905**	**$495,474**
Expenses as % of Revenue	77.0%	70.8%	72.8%	64.4%	58.0%
NET REVENUE	**$37,738**	**$105,604**	**$151,822**	**$268,652**	**$358,633**
Net Revenue as % of Revenue	23.0%	29.2%	27.2%	35.6%	42.0%

OVERHEAD TO CENTRAL	40,085	88,187	136,289	184,391	208,442
Overhead % to institution	24.4%	24.4%	24.4%	24.4%	24.4%
Profit After expenses and Overhead	**$(2,347)**	**$17,417**	**$15,553**	**$84,261**	**$150,191**
Minimum student funding required - $18k per year	90,000	180,000	270,000	360,000	360,000
Potential TA/RAships	TRUE	122,080	183,120	244,160	244,160

Teaching assistant hours and capacity within Faculty.

We have adequate room in our current TA allocations to provide TA support for the planned enrolment for the first year, and it is likely that at least 5 sessional instructor positions will be available for the 3rd and 4th year PhD students. Therefore, we have budgeted for 5 RAships per year beginning in year two. Currently the Faculty of Health Sciences provides TAships for students attached to FHSc faculty who are enrolled in APBS and we also have to utilize undergraduate students to ensure coverage of all courses. Having Ph.D. students available as both TAs and sessional instructors will enhance our undergraduate program while providing funding for our Ph.D. students. Wherever possible, we will endeavour to provide those students who wish to pursue traditional academic appointments post-graduation with the opportunity to teach at least one course during their four years.

5. APPENDICES

TEMPLATE 8-A

A. New Course Proposals and Required Course Changes

NEW COURSE TEMPLATE: Interdisciplinary Perspectives on Health Data and Technology

For changes to existing courses see Course Change Template

Faculty: Health Sciences			
Full Course Title: Interdisciplinary Perspectives on Health Data and Technology			
Short Form Course Title (max 30 characters):			
Subject Code and Course number: HLSC 7014G	**Cross-listings:**	☒ **Core** ☐ **Elective**	**Credit weight: 3 credits**
Contact hours (please indicate number of hours for each component): ☒ **3.0** Lecture ☐ Lab ☐ Tutorial ☐ Other			

PROGRAM(S) (if applicable, form should accompany a program adjustment/proposal)

Ph.D. in Health Sciences

CALENDAR DESCRIPTION

The course aims to provide a framework for evaluating data and related technology in health sciences research, training, and practice. It provides students with the opportunity to extend their knowledge, skill, and understanding within an interdisciplinary context. The course aims to develop post-graduate expertise to evaluate different types of technology and how they are utilized to collect and analyze the diverse types of data used in health. Technological advances have infiltrated the cultural behaviours with current advances impacting human functioning and behaviour in a variety of ways. Additionally, technology is utilized in both health care provision and documentation, and the impact and effectiveness are continually being evaluated. The ethical, social and policy implications of technology including how it is used in health care data collection, analysis and storage will be critically evaluated and discussed, in an interdisciplinary context. Data and technology are understood in broad terms, and discussions will centre around a diverse range of issues, policies, and populations that health scientists may work with.

Prerequisites	
Co-requisites	
Credit restrictions	
Equivalency courses	
Grading scheme	☒ **letter grade** ☐ **pass/fail**

LEARNING OUTCOMES (this section is required)

1) Discriminate the nature of the data being collected (e.g. personal or confidential), how it is analyzed (e.g. algorithms), and the limitations this places on how we interpret data (e.g. can you really use your smart phone to access number of steps or your hours of deep sleep?), including an

understanding of how health data can be manipulated by the user and the practitioner (e.g. "jiggling your smart phone to "fake" physical activity)

2) Evaluate the role of technology and data streams in generating new knowledge (e.g. heart rate variability and neonatal sepsis, EEG and chronic pain, sensors that measure pollution levels an individual is exposed to, etc.)
3) Debate ethical issues related to health data and technology development and marketing, use in health care delivery and health research. Examples of current ethical issues relate to health risks, targeted marketing campaigns, digital health care delivery methods, data collected by wearables which indicates pre-existing medical conditions, privacy and technology, informed consent for data-base research, ensuring confidentiality of data storage, analysis and dissemination.
4) Appraise and interpret different pedagogical and ethical principles involved in using technology to enhance the human experience, health related training, research and practice (e.g. pedagogy of safe exposure during simulation training, ethics of data collection from trainees during simulations).
5) Evaluate the social and policy implications of advances in health data technology in our everyday lives, and in health care and research (e.g. social issues related to wearables and health data collection; privacy issues related to tracking of health related data; the impact of ethnicity, socioeconomic status, disability, sexual orientation, migration status, age and geography on access to the benefits of these advances)
6) Understand the potential benefits and challenges to advances in health data and technology for Indigenous communities.
7) Communicate knowledgeably about issues related to health data and technology with across a broad continuum including members of the public, health professionals, health administrators, and policy makers.

COURSE INSTRUCTIONAL METHOD

(check all that <u>may</u> apply) ☒ **CLS (in-class)** ☐ **HYB (in-class and online)**
☒ **IND (individual studies)** ☐ **OFF (off-site)**
☐ **WB1 (synchronous online delivery)**
☐ **WEB (asynchronous online delivery)**

TEACHING AND ASSESSMENT METHODS

Students will be assessed by a written knowledge synthesis of a current topic in health technology (with approval of the course co-ordinator-30%), a class presentation on health technology (30%), an oral presentation critically examining an aspect of technology relevant to their own area of research (30%); evidence of critical questioning and knowledge application through participation in class (10%).

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

Will require a graduate level instructor.

EFFECTIVE SEMESTER (Specify Term e.g. Fall 2017)

Fall 2019

APPROVAL DATES

Graduate Committee approval	**October 2017**
Faculty Council approval	
Submission to CPRC/GSC	

TEMPLATE 8-A

NEW COURSE TEMPLATE: Critical Perspectives in Research and Knowledge Translation in Health Sciences

Faculty: Health Sciences			
Full Course Title: Critical Perspectives in Research and Knowledge Translation in Health Sciences			
Short Form Course Title (max 30 characters):			
Subject Code and Course number: : HLSC 7010G	**Cross-listings:**	☒ **Core** ☐ **Elective**	**Credit weight: 3 credits**
Contact hours (please indicate number of hours for each component): ☒ 3.0 Lecture ☐ Lab ☐ Tutorial ☐ Other			

PROGRAM(S) (if applicable, form should accompany a program adjustment/proposal)

Ph.D. in Health Sciences

CALENDAR DESCRIPTION

This course is for PhD level graduate students to develop skills and expertise in the synthesis, dissemination and exchange of knowledge across a range of health science disciplines. Students will examine, evaluate and apply their knowledge in three core areas: Knowledge to action process theory and models including integrated and end-of-grant knowledge translation; knowledge creation, and; the knowledge translation "Action" cycle which includes adapting knowledge to the local context and population, identifying knowledge gaps, assessing barriers/facilitators to implementation, and developing and evaluating knowledge translation interventions. Course topics will aim to integrate the students own research and include real world examples of knowledge translation initiatives from the local to national level.

Prerequisites	
Co-requisites	
Credit restrictions	
Equivalency courses	
Grading scheme	☒ **letter grade** ☐ **pass/fail**

LEARNING OUTCOMES (this section is required)

Upon successful completion of this course the student will be able to:

1. Describe and distinguish between terms used in knowledge translation.
2. Differentiate between various knowledge translation models and understand how and when these are applied in order to propose KT interventions that close the knowledge gap and promote evidence-based practice/policy.
3. Evaluate and apply methods of knowledge synthesis and knowledge translation tools such as systematic reviews, meta analyses, clinical practice guidelines and patient decision aids and explain how these are contextualized and integrated within the larger body of knowledge and used to update current practices.
4. Distinguish ways in which knowledge synthesis, dissemination and exchange should be tailored to encompass the needs of stakeholders and audiences in different communities and recommend strategies to optimize knowledge translation process considering these needs.
5. Compare and evaluate the role of different strategies for knowledge dissemination across a variety of settings and audiences (e.g. stakeholder meetings, education and engagement in

disseminating and implementing new knowledge, creation of tools to promote knowledge dissemination, use of media, etc.).

6. Create effective integrated and end-of-grant knowledge translation activities and approaches considering knowledge translation process theory and applied knowledge translation approaches, demonstrating skills in advancing knowledge exchange through communication between and among researchers and knowledge users from different health disciplines, community members and end users.

COURSE INSTRUCTIONAL METHOD

(check all that may apply) ☒ **CLS (in-class)** ☐ **HYB (in-class and online)**
☒ **IND (individual studies)** ☐ **OFF (off-site)**
☐ **WB1 (synchronous online delivery)**
☐ **WEB (asynchronous online delivery)**

TEACHING AND ASSESSMENT METHODS

This course includes a weekly 3 hour lecture. Each weekly session will typically include a lecture and student engagement activity. Most weeks will also include guest lecturers who will present their work and lead round table discussions with students, bringing real world knowledge-to-action initiatives into the classroom.

Students will be assessed by a midterm Exam (25%). Students will be required to develop a written integrated (10%) and end-of-grant (10%) KT plan for their thesis research. Students will also be required to develop a mock CIHR Knowledge and Dissemination grant or SSHRC Connection grant application (40%) and present this, and their end-of-grant KT plan, to the class (5%). Class participation will also be assessed (10%).

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

Will require a graduate level instructor.

EFFECTIVE SEMESTER (Specify Term e.g. Fall 2017)

Winter 2020

APPROVAL DATES

Graduate Committee approval	**October 2017**
Faculty Council approval	
Submission to CPRC/GSC	

TEMPLATE 8-A

NEW COURSE TEMPLATE: Candidacy Examination and Thesis Proposal

For changes to existing courses see Course Change Template

Faculty: Health Sciences			
Full Course Title: Candidacy Examination and Thesis Proposal			
Short Form Course Title (max 30 characters):			
Subject Code and Course number: HLSC 7095G	**Cross-listings:**	☒ **Core** ☐ **Elective**	**Credit weight: 0 credits**
Contact hours (please indicate number of hours for each component): ☐ Lecture ☐ Lab ☐ Tutorial ☒ Other			

PROGRAM(S) (if applicable, form should accompany a program adjustment/proposal)

CALENDAR DESCRIPTION

The course will include both written and oral components. Students will be asked to produce a Thesis Proposal wherein they should thoroughly and clearly describe their dissertation research plan. This should include a comprehensive review of the scholarly context wherein their research will sit, alternative research methodologies that may be used to explore the problem, along with a discussion of its broader scientific and social relevance. Where applicable preliminary data should be included to show the feasibility of the planned dissertation. The course also will include oral component wherein the student will describes the research context and plan and addresses related questions.

Prerequisites	Permission of Supervisor
Co-requisites	
Credit restrictions	
Equivalency courses	
Grading scheme	☐ **letter grade** ☒ **pass/fail**

LEARNING OUTCOMES (this section is required)

By the conclusion of this course students will have demonstrated an ability to:

- Understand the relevant background knowledge, including an appropriate breadth depth of knowledge in their field;
- Develop a coherent and achievable research plan that will result in an original research contribution;
- Assess where their own research fits within the broader scientific context and theoretical foundations from which it emerged;
- Assess what is known and what remains to be explored within the specific research domain over which they claim expertise;
- Design a feasible research protocol intended to extend our knowledge and understanding of a particular health research domain beyond what currently is known;
- Justify the significance (to science and society) of further scientific and/or theoretical exploration of the unknown associated with a particular research domain;

- Succinctly communicate – orally and in writing – the theoretical, methodological, and analytical framework that forms the foundation of their dissertation.

COURSE INSTRUCTIONAL METHOD

(check all that may apply) ☐ **CLS (in-class)** ☐ **HYB (in-class and online)**
☒ **IND (individual studies)** ☐ **OFF (off-site)**
☐ **WB1 (synchronous online delivery)**
☐ **WEB (asynchronous online delivery)**

TEACHING AND ASSESSMENT METHODS

Full-time students are expected to complete this within 24 months of their initial registration in the program. Typically, students will take course during their winter semester of their second year in the Doctoral program. Assessment will be carried out by the student's Supervisory Committee. A judgement of satisfactory allows the student to proceed with Ph.D. studies, as outlined in the Ph.D. Candidacy Examination Handbook.

Seminar Presentation: Students must present on their thesis proposal as a part of the faculty seminar series to an audience of faculty, graduate students, external guests and community partners

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

Standard classrooms, laboratories, and delivery technology at UOIT are required; thus, there are no additional financial implications.

EFFECTIVE SEMESTER (Specify Term e.g. Fall 2017)

Winter 2020

APPROVAL DATES

Curriculum Committee approval	**October 2017**
Faculty Council approval	
Submission to CPRC/GSC	

TEMPLATE 8-A

NEW COURSE TEMPLATE: Ph.D. Thesis

For changes to existing courses see Course Change Template

Faculty: Health Sciences			
Full Course Title: Ph.D. Thesis			
Short Form Course Title (max 30 characters):			
Subject Code and Course number: HLSC 7096G	**Cross-listings:**	☒ **Core** ☐ **Elective**	**Credit weight: 40 credits**
Contact hours (please indicate number of hours for each component): ☐ Lecture ☐ Lab ☐ Tutorial ☒ Other			

PROGRAM(S) (if applicable, form should accompany a program adjustment/proposal)

CALENDAR DESCRIPTION

The thesis is the primary component of the Ph.D. requirement. The thesis must make a new contribution to the field of study. Thesis research is carried out under the direction of the student's supervisor or co-supervisors, in co-operation with a supervisory committee. Each student must report his or her research in a written thesis. The thesis is accompanied by an oral defense.

Prerequisites	Permission of Supervisor
Co-requisites	
Credit restrictions	
Equivalency courses	
Grading scheme	☐ **letter grade** ☒ **pass/fail**

LEARNING OUTCOMES (this section is required)

By the conclusion of the thesis, students will have demonstrated an ability to:

- Assess where their own research fits within the broader scientific context and theoretical foundations from which it emerged;
- Assess what is known and what remains to be explored within the specific research domain over which they claim expertise;
- Design a feasible research protocol intended to extend our knowledge and understanding their research domain, beyond what currently is known;
- Justify the significance (to science and society) of further theoretical and/or scientific exploration of the unknown associated with their particular research domain;
- Critically assess the theory and literature in a particular research area to identify gaps, limitations, and fruitful areas of further investigation;
- Critically evaluate the theoretical foundations and research methodologies associated with their research problem;
- Execute an advanced research design to address a clearly articulated research question and related objectives;
- Succinctly communicate – orally and in writing – the theoretical, methodological, and analytical framework(s) that form the foundation of their dissertation;

- Analyze and report their research findings using the best methodology to answer the question;
- Analyze the limitations of their research design and the knowledge generated therefrom;
- Articulate the scientific and practical significance of their research;
- Identify and address the ethical issues associated with their research.

COURSE INSTRUCTIONAL METHOD

(check all that may apply) ☐ **CLS (in-class)** ☐ **HYB (in-class and online)**
☒ **IND (individual studies)** ☐ **OFF (off-site)**
☐ **WB1 (synchronous online delivery)**
☐ **WEB (asynchronous online delivery)**

TEACHING AND ASSESSMENT

Written Dissertation: Student work is guided by a research supervisor (or co-supervisors) and a supervisory committee including at least two other faculty members, as outlined in the Graduate Academic Calendar.

Seminar Presentation: Students must present their original research as a part of the faculty seminar series to an audience of faculty, graduate students, external guests and community partners

Oral Examination (Defence): students are required to demonstrate mastery of their subject matter and defend their position(s) in response to questions from members of an examining committee. The examining committee includes all members of the student's supervisory committee plus one other university examiner and one external examiner. The oral examination is conducted as per policy 3.8.4.5 in the Graduate Academic Calendar.

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

EFFECTIVE SEMESTER (Specify Term e.g. Fall 2017)

Fall 2019

APPROVAL DATES

Curriculum Committee approval	**October 2017**
Faculty Council approval	
Submission to CPRC/GSC	

NEW COURSE TEMPLATE
Graduate Seminar in Health Sciences

For changes to existing courses see Course Change Template

Faculty: Faculty of Health Sciences		
Course title: Graduate Seminar in Health Sciences		
Course number: HLSC 7012G	**Cross-listings: n/a**	**_X__ Core ____ Elective**
Credit weight: 0	**Contact hours:** ___x__ Lecture _____ Lab _____ Tutorial _____ Other	
Proposed Enrollment Cap:	**50**	

CALENDAR DESCRIPTION

This Seminar Series on Health Sciences takes place bi-weekly from September to April. Every PhD student enrolled in this course must give two presentation on their research, once in 2nd or 3rd year and once prior to their thesis defense. In addition to the student presentations, the seminar will feature speakers from UOIT and invited speakers from academia, industry and government. Successful completion of the course will also 70% attendance at the UOIT Faculty of Health Science Seminar Series throughout the first year and the fall semester of the second year of the program.
0 cr, 1 lec.

Prerequisites	
Co-requisites	
Credit restrictions	
Credit exemptions	
Grading scheme	**□ letter grade □X pass/fail**

LEARNING OUTCOMES

Students will:

1) Develop an appreciation of current research in a variety of disciplines related to the Health Sciences

2) Gain exposure to the wide variety of research methodologies used to answer research questions in the health Sciences.

DELIVERY MODE

(check all that may apply) X face-to-face □ hybrid x online

***Faculty will endeavor to create the opportunity for students to attend on-line as well as face to face.**

TEACHING AND ASSESSMENT METHODS

Pass/Fail course based on mandatory attendance at the biweekly FHSc Research Seminars:

- Students must attend at least 70% of research seminars during the first two years of the PhD program
- Students must not miss more than 2 seminars per semester in the first two years (exceptional circumstances to be approved by the Associate Dean, Research & Graduate Studies)

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

None

RATIONALE FOR ENROLLMENT CAP

None

APPROVAL DATES

Graduate Program Committee	
Curriculum Committee approval	
Faculty Council approval	
Date of Submission to CPRC/GSC	

TEMPLATE 8-A

NEW COURSE TEMPLATE: Advanced Disciplinary Studies in Kinesiology

For changes to existing courses see Course Change Template

Faculty: Health Sciences			
Full Course Title: Advanced Disciplinary Studies in Kinesiology			
Short Form Course Title (max 30 characters):			
Subject Code and Course number: HLSC 7390G	**Cross-listings:**	☐ **Core** ☒ **Elective**	**Credit weight: 3 credits**
Contact hours (please indicate number of hours for each component): ☒ 3.0 Lecture ☐ Lab ☐ Tutorial ☐ Other			

PROGRAM(S) (if applicable, form should accompany a program adjustment/proposal)

CALENDAR DESCRIPTION

This course provides students with the opportunity to advance their knowledge and expertise within their Kinesiology. Students will work under the guidance of their supervisor. An emphasis will be placed on integration and synthesis of research into practice. The project topic will be selected to include some aspects of the student's area of interest or specialization and may be practical (such as mastering a new technique or procedure), theoretical, or both.

Prerequisites	Interdisciplinary Perspectives on Health Data and Technology (or co-requisite)
Co-requisites	
Credit restrictions	
Equivalency courses	
Grading scheme	**x☐ letter grade ☐ pass/fail**

LEARNING OUTCOMES (this section is required)

By the end of this course, the student will have advanced their knowledge in the collection and analysis of the type of data that is relevant to their potential dissertation topic in kinesiology.

Because of the various experiences and goals that each student has, the specific learning objectives will be determined by each student and the student's supervisor. The generation of these learning objectives will be part of the course deliverables and must be submitted to the AD-RGS after the first week of the course.

COURSE INSTRUCTIONAL METHOD

(check all that <u>may</u> apply) ☒ **CLS (in-class)** ☐ **HYB (in-class and online)**
☒ **IND (individual studies)** ☐ **OFF (off-site)**
☐ **WB1 (synchronous online delivery)**
☐ **WEB (asynchronous online delivery)**

TEACHING AND ASSESSMENT METHODS

Students will be assessed using an oral and written presentation of the course outcomes as determined by the learning outcomes for each individual student. Students will also be evaluated based on professionalism and productivity.

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

This is an independent studies course so there are no direct financial implications.

EFFECTIVE SEMESTER (Specify Term e.g. Fall 2017)

Fall 2019

APPROVAL DATES

Graduate Committee approval	**October 2017**
Faculty Council approval	
Submission to CPRC/GSC	

TEMPLATE 8-A

NEW COURSE TEMPLATE: Advanced Disciplinary Studies in Community, Public and Population Health

Faculty: Health Sciences			
Full Course Title: Advanced Disciplinary Studies in Community, Public and Population Health			
Short Form Course Title (max 30 characters):			
Subject Code and Course number: HLSC 7190G	**Cross-listings:**	☐ **Core** ☒ **Elective**	**Credit weight: 3 credits**
Contact hours (please indicate number of hours for each component): ☒ 3.0 Lecture ☐ Lab ☐ Tutorial ☐ Other			

PROGRAM(S) (if applicable, form should accompany a program adjustment/proposal)

CALENDAR DESCRIPTION

This course provides students with the opportunity to advance their knowledge and expertise in Community, Public or Population Health. Students will work under the guidance of their supervisor. An emphasis will be placed on integration and synthesis of research into practice. The project topic will be selected to include some aspects of the student's area of interest or specialization and may be practical (such as mastering a new technique or procedure), theoretical, or both.

Prerequisites	Interdisciplinary Perspectives on Health Data and Technology (or co-requisite)
Co-requisites	
Credit restrictions	
Equivalency courses	
Grading scheme	**x☐ letter grade ☐ pass/fail**

LEARNING OUTCOMES (this section is required)

By the end of this course, the student will have advanced their knowledge in the collection and analysis of the type of data that is relevant to their potential dissertation topic in Community, Public or Population Health.

Because of the various experiences and goals that each student has, the specific learning objectives will be determined by each student, and the student's supervisor. The generation of these learning objectives will be part of the course deliverables and must be submitted to the AD-RGS after the first week of the course.

COURSE INSTRUCTIONAL METHOD

(check all that <u>may</u> apply) ☒ **CLS (in-class)** ☐ **HYB (in-class and online)**
☒ **IND (individual studies)** ☐ **OFF (off-site)**
☐ **WB1 (synchronous online delivery)**
☐ **WEB (asynchronous online delivery)**

TEACHING AND ASSESSMENT METHODS

Students will be assessed using an oral and written presentation of the course outcomes as determined by the learning outcomes for each individual student. Students will also be evaluated based on

professionalism and productivity.

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

This is an independent studies course so there are no direct financial implications.

EFFECTIVE SEMESTER (Specify Term e.g. Fall 2017)

Fall 2019

APPROVAL DATES

Graduate Committee approval	**October 2017**
Faculty Council approval	
Submission to CPRC/GSC	

NEW COURSE TEMPLATE: Advanced Disciplinary Studies in Health Informatics

Faculty: Health Sciences			
Full Course Title: Advanced Disciplinary Studies in Health Informatics			
Short Form Course Title (max 30 characters):			
Subject Code and Course number: HLSC 7290G	**Cross-listings:**	☐ **Core** ☒ **Elective**	**Credit weight: 3 credits**
Contact hours (please indicate number of hours for each component): ☒ 3.0 Lecture ☐ Lab ☐ Tutorial ☐ Other			

PROGRAM(S) (if applicable, form should accompany a program adjustment/proposal)

CALENDAR DESCRIPTION

This course provides students with the opportunity to advance their knowledge and expertise in Health Informatics. Students will work under the guidance of their supervisor. An emphasis will be placed on integration and synthesis of research into practice. The project topic will be selected to include some aspects of the student's area of interest or specialization and may be practical (such as mastering a new technique or procedure), theoretical, or both.

Prerequisites	Interdisciplinary Perspectives on Health Data and Technology (or co-requisite)
Co-requisites	
Credit restrictions	
Equivalency courses	
Grading scheme	☒ **letter grade** ☐ **pass/fail**

LEARNING OUTCOMES (this section is required)

By the end of this course, the student will have advanced their knowledge in the collection and analysis of the type of data that is relevant to their potential dissertation topic in Community, Public or Population Health.

Because of the various experiences and goals that each student has, the specific learning objectives will be determined by each student, and the student's supervisor. The generation of these learning objectives will be part of the course deliverables and must be submitted to the AD-RGS after the first week of the course.

COURSE INSTRUCTIONAL METHOD

(check all that <u>may</u> apply) ☒ **CLS (in-class)** ☐ **HYB (in-class and online)**
☒ **IND (individual studies)** ☐ **OFF (off-site)**
☐ **WB1 (synchronous online delivery)**
☐ **WEB (asynchronous online delivery)**

TEACHING AND ASSESSMENT METHODS

Students will be assessed using an oral and written presentation of the course outcomes as determined by the learning outcomes for each individual student. Students will also be evaluated based on

professionalism and productivity.

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

This is an independent studies course so there are no direct financial implications.

EFFECTIVE SEMESTER (Specify Term e.g. Fall 2017)

Fall 2019

APPROVAL DATES

Graduate Committee approval	**October 2017**
Faculty Council approval	
Submission to CPRC/GSC	

TEMPLATE 8-A

NEW COURSE TEMPLATE
Advanced Research Design

For changes to existing courses see Course Change Template

Faculty: Health Sciences		
Course title: Advanced Research Design		
Course number: HLSC 7112G	**Cross-listings:**	**____ Core __X__ Elective**
Credit weight: 3.0	**Contact hours:** 1.5 Lecture __ Lab ___Tutorial 0.75 Other: Student presentation 0.75	

CALENDAR DESCRIPTION

This course will provide students with advanced knowledge and skills in the design, implementation and analysis of quantitative (epidemiological) studies. Students will gain advanced knowledge of randomized controlled designs (including factorial designs and cross over randomized controlled trials), cohort designs (including case-cohort design) and case-control designs (including case-crossover studies). Moreover, students will develop advanced skills to prevent, evaluate and control for biases in epidemiological designs. Finally, student will learn how to use statistical methods (stratification and multivariable linear, logistic and proportional hazard models) used to analyze the various study design. Learning methods will include classroom lectures and tutorials. Real life epidemiological studies will be used to illustrate the strengths and limitations of the various study design.

Prerequisites	Al least one graduate course in biostatistics and one graduate course in introduction to epidemiology or quantitative research methods.
Co-requisites	
Credit restrictions	
Credit exemptions	
Proposed Enrollment Cap	15

LEARNING OUTCOMES

Upon successful completion of this course the student will be able to:

1. Recommend the appropriate study design to answer a research question.
2. Select and implement the most appropriate analytical method for randomized controlled trials, cohort studies and case-control studies.
3. Defend and evaluate ways to minimize selection bias, information bias and confounding in observational and experimental study designs.
4. Design and implement an approach to evaluate effect modification.
5. Integrate principles of causal modeling when designing a sudy.
6. Interpret and communicate the results of epidemiological studies.

DELIVERY MODE

This course will include lectures, tutorials and class presentations by students. The lectures will include sessions where the theory, principles and application of epidemiological methods and analysis will be discussed. The tutorial sessions will be used to familiarize students with the critical appraisal of published observational and experimental studies. Students' presentations will focus on the discussion of a practical problems encountered in the design and analysis of observational and experimental study designs.

TEACHING AND ASSESSMENT METHODS

The following methods will be used to assess students: 1) three written assignments (20% each) focused on the design and analysis of "real life" research questions and datasets; and 3) the preparation and presentation of a short protocol (5 pages) to answer a research question using the appropriate study design (40%). The short

protocol will require advanced consideration of key elements of study design and the development of a plan of analysis.

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

N/A

APPROVAL DATES

Grad Program Committee approval	
Faculty Council approval	
Date of Submission to CPRC/GSC	

TEMPLATE 8-A

NEW COURSE TEMPLATE
Research with Communities: Approaches and Best Practices

For changes to existing courses see Course Change Template

Faculty: Faculty of Health Sciences		
Course title: **Research with Communities: Approaches and Best Practices**		
Course number: HLSC 7110G	**Cross-listings:**	**____ Core __X__ Elective**
Credit weight: 3.0	**Contact hours:** _3_ Lecture _____ Lab _____ Tutorial _____ Other	
Proposed Enrollment Cap:	**10-12**	

CALENDAR DESCRIPTION

"At its core, community-based research [CBR] is collaborative, concerned with equity, involves community and university scholars as equal partners, and combines knowledge with action usually to achieve social change". (Community-Based Research Canada, 2018). This course will employ a temporal approach utilizing a pre, during, and post format to educate students about community-based research through the planning, carrying out, and dissemination stages. Students will learn the logistical, methodological, and ethical requirements of conducting research with community partners in each of these temporal stages of research. Principles such as respect, reciprocity, relationships, and relevance will be examined. Ethical considerations necessary when working with unique, vulnerable, or marginalized groups will be taught, utilizing case-based inquiry. Research decision making and methods choices will be examined, with particular attention to matching methods with epistemological underpinnings (novel or unique methods such as photo voice and talking circles will be presented). Strategies for collaborative analysis of data, with attention to participant confidentiality, will be discussed. Students will be provided with numerous strategies for knowledge mobilization that are in adherence with community-based research values. Using active learning strategies students will gain competency in these areas with a concentration on working with communities.

Prerequisites	
Co-requisites	
Credit restrictions	
Credit exemptions	
Grading scheme	☐ **letter grade** ☐ pass/fail

LEARNING OUTCOMES

- Analyze the meaning and purpose of community-based research.
- Explain key terms and phrases utilized in community-based research (e.g. research with, not on).
- Distinguish the reasons (historical and contemporary) why community-based research partnerships are important.
- Evaluate the challenges associated with community-based research (e.g. time, off-site etc).
- Appraise strategies for addressing or mitigating the challenges of community-based research (e.g. community-based research assistant, use of technology).
- Assess strategies that enable the community-based research principals of respect, reciprocity, relationships, and relevance.
- Evaluate ethical considerations when working with unique, vulnerable, or marginalized groups.
- Communicate the evolving and participatory nature of community-based research in academic writing.
- Differentiate between different methods frequently utilized in research with community-partners.
- Construct a knowledge mobilization plan that meets the needs of academic researchers and community partners.

DELIVERY MODE

(check all that may apply) ☐ **face-to-face** ☐ hybrid ☐ online

TEACHING AND ASSESSMENT METHODS

Teaching

- Lectures
  - Providing students with foundational information, including definitions, key terms, history of community-based research, methodology and methods.
- Guest speakers, both academic and community partners
  - Exposure to different projects, topics, methods, and groups engaging in community-based research.
  - Understand the value of a CBR approach to communities.
- Case based learning
  - Addressing complex challenges in community-based research through the critical assessment of detailed research cases.
- Cooperative learning
  - Communicating and engaging in dialogue with classmates (as mock community research partners) with the goal of research decision making consensus

Assessment

- Mock ethics application for research with vulnerable groups
  - When applying for ethics for research with a group whom is seen as vulnerable, marginalized, or at high risk for research exploitation Research Ethics Boards often have an extended application process. This process typically requires extensive detail on how the project meets the ethical standards set by funding organizations (e.g. tri-council agencies). Students will apply the strategies they learn in this class for partnering on research, and collecting, managing, and disseminating data and research findings by completing a mock extended ethics application. This will allow the students to apply the pre, during, and post temporal strategies and practice communicating the participatory processes which are often flexible and can develop over time. Historically, ethics boards and granting institutions have favored rigid research plans with limited flexibility, it is an important skill for researchers who engage in community-based research to communicate their participatory and emergent processes with sufficient definition.
- Class participation
- Individual presentation
- Generate a detailed CBR plan for a specific stakeholder and/or population

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

RATIONALE FOR ENROLLMENT CAP

APPROVAL DATES

Grad Program Committee approval	
Faculty Council approval	
Date of Submission to CPRC/GSC	

TEMPLATE 8-A

NEW COURSE TEMPLATE
Data Science for Survey and Health Administrative Data

Faculty: Health Sciences		
Course title: Data science for survey and health administrative data		
Course number: HLSC 7210G	**Cross-listings:**	**Elective X**
Credit weight: 3.0	**Contact hours:** Lecture	
Proposed Enrollment Cap:	20	

CALENDAR DESCRIPTION

This course draws on a variety of fields in data science to provide in-depth knowledge of the latest tools for analyzing health-related survey and administrative data. This course covers data cleaning, data transformation, exploratory data analysis, modelling, and visualization. Students will also learn how to address the unique issues that they will encounter when conducting their studies, including issues concerning data privacy, handling large data sets, nonresponse bias, omitted variable bias, simultaneity, and selection bias. The course focuses on the theory and applied methods of data science, which will allow students to engage with the literature and effectively use data to conduct and communicate their own research. All applied work in this course will be completed in *R*.

Prerequisites	Graduate-level statistics or equivalent course (e.g., HLSC 5118)
Co-requisites	N/A
Credit restrictions	N/A
Credit exemptions	N/A
Grading scheme	letter grade

LEARNING OUTCOMES

Students who complete this course will be able to:

1) Develop clear research questions that are answerable with survey and administrative data.
2) Create unique solutions to address data problems.
3) Interpret privacy protections as they relate to the analysis of survey and administrative health data.
4) Develop and carry out an analytical plan using the latest tools in data science from a variety of disciplines.
5) Critically engage with the literature in a wide array of fields in data science, and situate their own research within this literature.
6) Communicate the results of data analysis to a general audience.
7) Develop skills that allow them to contribute to the broader health and health services research literature.

DELIVERY MODE

face-to-face OR hybrid

TEACHING AND ASSESSMENT METHODS

Assessment will involve three problem sets (worth 15% each) and a final research project (worth 55%). For the final research project, students will work in groups to analyze a secondary data source. The instructor will pre-approve the project (not graded). The final project will be presented as a paper, written in the style of a research manuscript (worth 40%), and an oral presentation (worth 15%). A detailed appendix that describes the analytical plan will accompany the final paper.

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

Will require a graduate-level instructor

RATIONALE FOR ENROLLMENT CAP

A cap of 20 students will allow for a seminar environment, where students can work together in small groups to carry out in-class exercises. This will also allow the instructor to engage with each student group as they develop their research projects and analytical plans.

APPROVAL DATES

Grad Program Committee approval	
Faculty Council approval	
Date of Submission to CPRC/GSC	

TEMPLATE 8-A

NEW COURSE TEMPLATE
Competency in Laboratory Based Exercise Physiology

For changes to existing courses see Course Change Template

Faculty: Health Sciences		
Course title: Competency in Laboratory Based Exercise Physiology		
Course number: HLSC 7310G	**Cross-listings:** N/A	**____ Core __X__ Elective**
Credit weight: 3 credits	**Contact hours:** __ Lecture ___ Lab ___ Tutorial _____ Other *Lab-lecture	

CALENDAR DESCRIPTION

The purpose of this course is to provide students with the skills and expertise required to become competent and independent in an exercise physiology research or practice setting. Specifically, students will be taught about the processes involved with collecting, analyzing, and interpreting data in the context of the limitations of the equipment (technical error) and individual variability, as well as in the context of the literature available. Students will also develop skills in evaluation of equipment, analysis of variability and error, interpretation of complex data, and communication of complex physiological data. Students will work closely with the course instructor to develop laboratory skills.

Prerequisites	
Co-requisites	
Credit restrictions	
Credit exemptions	

LEARNING OUTCOMES

- Develop independence in an exercise physiology laboratory
- Critically evaluate different techniques and equipment used in the field of exercise physiology
- Synthesize information regarding specific techniques or equipment to evaluate their value in exercise physiology research and practice
- Analyze data pertaining to validity and reliability of techniques or equipment, and put them in the context of physiological error and technical error
- Interpret individual variability and responsiveness in physiological data outputs
- Communicate complex physiological data to peers and lay persons, orally and in writing

DELIVERY MODE

This course will be a combination of laboratory, lecture, and seminar style learning.

TEACHING AND ASSESSMENT METHODS

Students will complete three projects/assignments for this course:
- Literature Review: On a technique or piece of equipment
- Laboratory Study: Collect data, conduct error measures, and validity/reliability analysis
- Interpretation Report: Interpretation of individual and mean data from Laboratory Study

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

APPROVAL DATES

Date of submission	
Curriculum Committee approval	

Executive Committee approval	
Faculty Council approval	

WEEKLY TOPICS

- Week 1 : Invasive Exercise Physiology Techniques (Blood and Biopsies)
- Week 2: Non-Invasive Techniques Part I (Impedance Cardiography, Bioelectric Impedance, DEXA)
- Week 3: Measurement Error (Technical Error vs. Physiological Error)
- Week 4: Laboratory Session
- Week 5: Non-Invasive Techniques Part II (Near Infrared Spectroscopy, Breath by Breath Analysis)
- Week 6: Non-Invasive Techniques Part III (Saliva, Additional Techniques dictated by student group)
- Week 7: Interpretation of Physiological Data
- Week 8: Laboratory Session
- Week 9: Interventions Part I (Extreme Environmental Conditions)
- Week 10: Interventions Part II (Diet, Hypoxia and Hyperoxia)
- Week 11: Laboratory Session
- Week 12: Presentation and Communication of Physiological Data

TEMPLATE 8-A

NEW COURSE TEMPLATE
Advanced Concepts in Neuromechanics and Sensorimotor Integration

For changes to existing courses see Course Change Template

Faculty: Health Sciences		
Course title: Advanced Concepts in Neuromechanics and Sensorimotor Integration		
Course number: HLSC 7312G	**Cross-listings:**	**____ Core __X__ Elective**
Credit weight: 3.0	**Contact hours: 3.0** lecture *(*includes a variety of learning techniques including lectures, research laboratory experiences, workshops and/or student presentations depending on week)	

CALENDAR DESCRIPTION

This course will provide students with advanced knowledge and skills in the design, critique, implementation and analysis of research in the areas of neuromechanics and sensorimotor integration. The course has a strong component of experiential learning providing students with exposure to variety of experimental techniques to enhance their ability to knowledgably read and critique literature and to design novel research protocols to address important research questions in the areas of neuromechanics and sensorimotor integration. The goal is to ensure that students have a depth of discipline specific knowledge so that they can address research as questions in search of answers, rather than being constrained by a technique in search of a question. Students will combine experiential and practical approaches to differentiate the role of various neuroscience and biomechanics data acquisition and analysis techniques, as well as the strengths and limitations of these techniques. Students will synthesize this knowledge in a "Grand challenge" where they write a research grant proposal using an integrated approach to answer an outstanding question in neuromechanics and/or sensorimotor integration. The course combines theory, research laboratory exposure, workshops, critical analysis of original research, and student presentations.

Prerequisites	At least one course in each of Biostatistics, Research Methods and Signal Processing at Masters level; students lacking this background will be required to either enroll in, or audit, some or all of these courses as required by their supervisor.
Co-requisites	
Credit restrictions	
Credit exemptions	
Proposed Enrollment Cap	10

LEARNING OUTCOMES

Upon successful completion of this course the student will be able to:

1. Critically appraise original research in the areas of neuromechanics and sensorimotor integration (SMI) at a doctoral level.
2. Discriminate the strengths and limitations of experimental techniques commonly used in neuromechanics
3. Debate a topic in neuromechanics/SMI using both classic and recent studies in the area.
4. Design a novel approach to addressing an outstanding question in the area of neuromechanics/SMI.
5. Produce pilot data combining two different neuromechanics/SMI techniques, at least which must be new to the student.
6. Develop a research proposal which critically evaluates the literature to establish the novelty of a research approach, as well as the benefits and challenges of implementing it.

DELIVERY MODE

This course will include lectures, tutorials, experiences in research laboratories and presentations by students. The lectures will include sessions where the theory, principles and application of neuromechanics and sensorimotor

integration research methods and analysis will be discussed.

TEACHING AND ASSESSMENT METHODS

1. Neuromechanics/SMI Technique presentations 3 x 5%= (15%) Discriminating what each technique measures, how it is measured and the strengths and limitations of each technique.

2. Article reviews (20%) Two reviews will be presented. The first will critically appraise a seminal paper that transformed the way we think about an area of Neuromechanics or sensorimotor integration. The second will be on topic more relevant to the student's thesis area.

3. Implement of Matlab programming learned in a workshop to analyze a sample data set (15%)

4. Research Grand Challenge

- Part One: research design workshop (10%) Design a research study which uses an integrated approach to answer an outstanding question in Neuromechanics and/or SMI;
- Part Two: Data acquisition and analysis Presentation (10%)-students collect and analyze pilot data using the techniques identified as part of the grant challenge
- Part Three: Grant Application (20%)-Students write a grant proposal which includes a literature review of previous approaches to a research problem, their research question and hypotheses, the research approach and methods that they plan to use and pilot data. The grant will be broken into sections and 70% of the mark will be individual based on the sections a student is primarily responsible for and 30% of the grant will be for common sections and the overall cohesiveness of the proposal

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

N/A

APPROVAL DATES

Grad Program Committee approval	
Faculty Council approval	
Date of Submission to CPRC/GSC	

B. Core Course Outlines

UNIVERSITY OF ONTARIO INSTITUTE OF TECHNOLOGY

Faculty of Health Sciences

HLSC 7014G: Interdisciplinary Perspectives on Health Data and Technology

Course outline for Fall 2020

1. Course Details & Important Dates*

Term	Course Type	Day	Time
F	Lecture		3 hours weekly

Location	CRN #	Classes Start	Classes End	Final Exam Period
		2019		

* for other important dates go to: www.uoit.ca >Current Students >Important Dates and Deadlines

2. Instructor Contact Information

Instructor Name	Office	Email

Teaching Assistant Name	Email

3. Course Overview and Description

This course aims to provide a framework for evaluating data and related technology in health sciences research, training, and practice. It provides students with the opportunity to extend their knowledge, skill, and understanding within an interdisciplinary context. The course aims to develop post-graduate expertise to evaluate different types of technology and how they are utilized to collect and analyze the diverse types of data used in health. Technological advances have infiltrated the cultural behaviours with current advances impacting human of all ages functioning and behaviour in a variety of ways. Additionally, technology is utilized in both health care provision and documentation, and the impact and effectiveness are continually being evaluated. The ethical, social and policy implications of technology including how it is used in health care data collection, analysis and storage will be critically evaluated and discussed, in an interdisciplinary context. Data and technology are understood in broad terms, and discussions will centre around a diverse range of issues, policies, and populations that health scientists may work with.

4. Course Learning Outcomes

Upon successful completion of this course the students will reliably:

7. Discriminate the nature of the data being collected (e.g. personal or confidential), how it is analyzed (e.g. algorithms), and the limitations this places on how we interpret data (e.g. can you really use your smart phone to access number of steps or your hours of deep sleep?), including an understanding of how health data can be manipulated by the user and the practitioner (e.g. "jiggling your smart phone to "fake" physical activity)
8. Evaluate the role of technology and data streams in generating new knowledge (e.g. heart rate variability and neonatal sepsis, EEG and chronic pain, sensors that measure pollution levels an individual is exposed to, etc.)
9. Debate ethical issues related to health data and technology development and marketing, use in health care delivery and health research. Examples of current ethical issues relate to health risks, targeted marketing campaigns, digital health care delivery methods, data collected by wearables which indicates pre-existing medical conditions, privacy and technology, informed consent for data-base research, ensuring confidentiality of data storage, analysis and dissemination.
10. Appraise and interpret different pedagogical and ethical principles involved in using technology to enhance the human experience, health related training, research and practice (e.g. pedagogy of safe exposure during simulation training, ethics of data collection from trainees during simulations).
11. Evaluate the social and policy implications of advances in health data technology in our everyday lives, and in health care and research (e.g. social issues related to wearables and health data collection; privacy issues related to tracking of health related data; the impact of ethnicity, socioeconomic status, disability, sexual orientation, migration status, age and geography on access to the benefits of these advances)
12. Understand the potential benefits and challenges to advances in health data and technology for Indigenous communities.
13. Communicate knowledgeably about issues related to health data and technology with across a broad continuum including members of the public, health professionals, health administrators, and policy makers.

5. Course Design

This course utilizes a seminar/ workshop face to face format for the twelve weeks of the course.

6. Outline of Topics in the Course (tentative and in-progress)

Topic and Week	Learning Outcomes	Sample readings/Lecturers
1. Introduction, Overview of Types of health data collected using technology	Discriminate the nature of the data being collected how it is analyzed, and the limitations this places on how we interpret data, including an understanding of how health data can be manipulated by the user and the practitioner	Presentations of Original research from professors and/or graduate students in all three fields that used technology to collect data, and the sensors and algorithms required. (Topics Updated annually)
2. Ethical Issues in Technology and Health	Debate ethical issues related to health data and technology development and marketing, use in health care delivery and health research.	Dr. Milly Ryan-Harshmann Topics include current ethical issues relate to health risks, targeted marketing campaigns, digital health care delivery methods, data collected by wearables which indicates pre-existing medical conditions, privacy and technology, informed consent for data-base research, ensuring confidentiality of data storage, analysis and dissemination. Abelson, J, Wagner, F, Levin, Bombard Y, Gauvin FP (2012). Consulting Ontario Citizens to Inform the Evaluation of Health Technologies: The Citizens' Reference Panel on Health Technologies. In: CIHR Citizen Engagement in Health Casebook, edited by Venuta R. (Ottawa: CIHR) Culyer, Anthony J., and Yvonne Bombard. "An equity framework for health technology assessments." *Medical Decision Making* 32, no. 3 (2012): 428-441. Bombard, Yvonne, Julia Abelson, Dorina Simeonov, and Francois-Pierre Gauvin. "Eliciting ethical and social values in health technology assessment: A participatory approach." *Social science & medicine* 73, no. 1 (2011): 135-144. Abelson J, Bombard Y, Gauvin FP, Kirilova D (2010). Consulting with Ontario Citizens about Health Technologies. Ontario Ministry of Health and Long-Term Care - Ontario Health Technology Advisory Committee. September 2010. Bombard Y. (2009). Public Engagement Pilot Study on Point-of-care INR Monitoring Devices, Ontario Ministry of Health and Long-Term Care - Medical Advisory Secretariat. July 2009. DeJean D, Giacomini M, Schwartz L, Miller FA. 2009. Ethics in Canadian Health Technology Assessment: A Descriptive Review. *International Journal of Technology Assessment in Health Care*. 25(4): 463-469

Topic and Week	Learning Outcomes	Sample readings/Lecturers
3.Role of Technology in generating new Health Knowledge	Evaluate the role of technology and data streams in generating new knowledge	Possible guest lecturers and Panel Murphy (EEG and pain); McGregor-Heart rate variability, Barakat-Haddad-pollution monitoring Papaconstantinou-sleep monitoring and technology Joanne Arcand-mobile phone Salt calculator Wendy Stanyon- Mindsight Nick La Delfa-simulation and modelling in optimal ergonomic workplace designs
4. Heath care Simulation: Uses, Pedagogy, and Ethics	Appraise and interpret different pedagogical and ethical principles involved in using technology to enhance the human experience, health related training, research and practice	CRC in Healthcare Simulation (incoming) Topics include: embedding pedagogy into simulation training, pedagogy of safe exposure during simulation training, ethics of data collection from trainees during simulations
5. Social and Policy implications of personal health technology	Evaluate the social and policy implications of future advances in health data technology for our everyday lives	"Imagining the Future" Guest lecturer-Dr. Isabel Pedersen, Canada Research Chair in Digital Life, Media, and Culture, Faculty of Social Science and Humanities, UOIT http://fabricofdigitallife.com/index.php/Analytics/Index Focus on where health technology will be in 5 and 10 years and how that informs the way we think about policy an social implications
6. Social and Policy implications of technology for healthcare	Evaluate the social and policy implications of technology for health care and research	**Student presentations** (Individual Case presentations on the Impact of ethnicity, socioeconomic status, disability, sexual orientation, migration status, age and geography on access to the benefits of advances in health brought by technology) Miller FA, Mentzakis E, Axler R, Lehoux P, French M, Tarride JE, Wodchis WP, Wilson BJ, Longo C, Bytautas JP, Slater B. 2013. Do Canadian Researchers and the Lay Public Prioritize Biomedical Research Outcomes Equally? A Choice Experiment. *Academic Medicine.* Apr;88(4):519-

Topic and Week	Learning Outcomes	Sample readings/Lecturers
		526. French M, Miller FA. 2012. Leveraging the "living laboratory": On the Emergence of the Entrepreneurial Hospital. *Social Science and Medicine*. Aug;75(4):717-24. Lehoux P, Williams-Jones B, Miller FA, Urbach D, Tailliez S. 2008. What leads to better health innovation? Arguments for an integrated policy-oriented research agenda. *Journal of Health Services Research and Policy*. 13(4): 251- 254. Gibson JL, Mitton C, Martin DK, Donaldson C, Singer PA. Ethics and economics: does program budgeting and marginal analysis contribute to fair priority setting? *Journal of Health Services Research & Policy* 2006; 11(1):32-37.

Topic and Week	Learning Outcomes	Sample readings/Lecturers
7. Technology & Health for Indigenous communities	Understand the potential benefits and challenges to advances in health data and technology for Indigenous communities.	Dr. Serene Kerpan **Lecture: Data sovereignty and data governance principles: the intersect of Indigenous community ethics and health data and technology** Adelson, N., & Olding, M. (2013). Narrating Aboriginality on-line: Digital storytelling, identity and healing. The Journal of Community Informatics, 9(2). Retrieved from http://ci-journal.net/index.php/ciej/article/view/740/1004 Checkoway, B., & Richards-Schuster, K. (2004). Youth participation in evaluation and research as a way of lifting new voices. Children, Youth & Environments, 14(2), 84–98. Flicker, S., Maley, O., Ridgley, A., Biscope, S., Lombardo, C., & Skinner, H. A. (2008). E-PAR: Using technology and participatory action research to engage youth in health promotion. Action Research, 6(3), 285–303. doi:10.1177/1476750307083711 Gubrium, A. (2009). Digital storytelling: An emergent method for health promotion research and practice. Health Promotion Practice, 10(2), 186–191. doi:10.1177/1524839909332600 Gubrium, A. C., Hall, A. L., & Flicker, S. (2014). A situated practice of ethics for participatory visual and digital methods in public health research and practice: A focus on digital storytelling. American Journal of Public Health, 104(9). doi: 10.2105/AJPH.2013.301310
8.Technology and data base mining	Evaluate the role of technology and data	Dr. Rob Balogh, Dr. Nick Wattie, Carolyn McGregor Patents, Translating Clinical Discovery to patents"

Topic and Week	Learning Outcomes	Sample readings/Lecturers
	streams in generating new knowledge	
9. Technology and Health Economics	Discriminate the nature of the data being collected how it is analyzed, and the limitations this places on how we interpret data, including an understanding of how health data can be manipulated by the user and the practitioner	Dr. David Rudoler-**Technology and Health Economics** Gibson JL, Mitton C, Dubois-Wing G. Priority setting in the LHINs: ethics and economics in action. *Healthcare Quarterly* 2011; 14(4):35-46 2016 Allin S, **Rudoler D**, Laporte A. Does increased medication use among seniors increase risk of hospitalization and emergency department visits? *Health Services Research*, 52(4). 2016 Kurdyak P, Zaheer J, Cheng J, **Rudoler D**, Mulsant BH. Changes in characteristics and practice patterns of Ontario psychiatrists: Implications for access to psychiatrists. *Canadian Journal of Psychiatry*, 62(1). 2015 **Rudoler D**, Laporte A, Barnsley J, Glazier RH, Deber RB. Paying for primary care: A cross-sectional analysis of cost and morbidity distributions across primary care payment models in Ontario, Canada. *Social Science & Medicine*, 124.
10. Algorithms, access, ethics, and privacy		Algorithms, access, ethics, and privacy: Benefits and challenges of using online surveys and electronic medical records for data collection www.surveymonkey.com http://www.votomobile.org/ http://opendatakit.org/
11. Student presentations	Communicate knowledgeably about issues related to health data and technology with across a broad continuum including members of the public, health professionals, health administrators, and policy makers	Oral presentation**s** critically examining an aspect of technology relevant to student's area of research
12. Student Presentations	Communicate knowledgeably about issues related to health data and technology with across a broad continuum including members of the	Oral presentation**s** critically examining an aspect of technology relevant to student's area of research

Topic and Week	Learning Outcomes	Sample readings/Lecturers
	public, health professionals, health administrators, and policy makers	

7. Required Texts/Readings

Assigned readings; literature searches for various presentations throughout the course

8. Evaluation Method

Evaluation Description	Week Due	Weight /100
Evaluation process for health data and technology development (includes validity and reliability; quality assurance processes etc.)	Week 4	15%
Case study social, ethical and policy implications of technology for health care and research	Week 6	15%
Oral presentation critically examining an aspect of technology relevant to student's own area of research	Weeks 11 & 12	30%
Knowledge synthesis of current topic in health technology (*instructor approves topic) written assignment	End of course	30%
Evidence of critical questioning and knowledge application through participation in class	Throughout course	10%

9. Accessibility

Students with disabilities may request to be considered for formal academic accommodation in accordance with the Ontario Human Rights Code. Students seeking accommodation must make their requests through Student Accessibility Services. Requests must be made in a timely manner, and students must provide relevant and recent documentation to verify the effect of their disability and to allow the university to determine appropriate accommodations. Accommodation decisions will be made in accordance with the Ontario Human Rights Code. Accommodations will be consistent with and supportive of the essential requirements of courses and programs, and provided in a way that respects the dignity of students with disabilities and encourages integration and equality of opportunity. Reasonable academic accommodation may require instructors to exercise creativity and flexibility in responding to the needs of students with disabilities while maintaining academic integrity.

10. Professional Conduct (if applicable)

N/A.

11. Academic Integrity

Students and faculty at UOIT share an important responsibility to maintain the integrity of the teaching and learning relationship. This relationship is characterized by honesty, fairness and mutual respect for the aim and principles of the pursuit of education. Academic misconduct

impedes the activities of the university community and is punishable by appropriate disciplinary action.
Students are expected to be familiar with and abide by UOIT's regulations on Academic Conduct (Section XXXX of the Academic Calendar, UOIT which sets out the kinds of actions that constitute academic misconduct, including plagiarism, copying or allowing one's own work to copied, use of unauthorized aids in examinations and tests, submitting work prepared in collaboration with another student when such collaboration has not been authorized, among other academic offences. The regulations also describe the procedures for dealing with allegations, and the sanctions for any finding of academic misconduct, which can range from a resubmission of work to a failing grade to permanent expulsion from the university. A lack of familiarity with UOIT's regulations on academic conduct does not constitute a defense against its application.

12. Turnitin

UOIT and faculty members reserve the right to use electronic means to detect and help prevent plagiarism. Students agree that by taking this course all assignments are subject to submission for textual similarity review by Turnitin.com. Assignments submitted to Turnitin.com will be included as source documents in Turnitin.com's restricted access database solely for the purpose of detecting plagiarism in such documents for five academic years. The instructor may require students to submit their assignments electronically to Turnitin.com or the instructor may submit questionable text on behalf of a student. The terms that apply to UOIT's use of the Turnitin.com service are described on the Turnitin.com website.
Students who do not wish to have their work submitted to Turnitin.com must provide with their assignment at the time of submission to the instructor a signed Turnitin.com Assignment Cover sheet:
http://www.uoit.ca/assets/Academic~Integrity~Site/Forms/Assignment%20Cover%20sheet.pdf
Further information about Turnitin can be found on the Academic Integrity link on your laptop.

13. Final Examinations

Not applicable

14. Freedom of Information and Protection of Privacy Act

The following is an important notice regarding the process for submitting course assignments, quizzes and other evaluative material in your courses in the Faculty of Business and Information Technology
As you may know, UOIT is governed by the *Freedom of Information and Protection of Privacy Act* ("FIPPA"). In addition to providing a mechanism for requesting records held by the university, this legislation also requires that UOIT not disclose the personal information of its students without their consent.
FIPPA's definition of "personal information" includes, among other things, documents that contain both your name and your Banner ID/Student ID. For example, this could include graded test papers or assignments. To ensure that your rights to privacy are protected, the Faculty of Business and Information Technology encourages you to use only your Banner ID/Student ID on assignments or test papers being submitted for grading. This policy is intended to prevent the inadvertent disclosure of your information where graded papers are returned to groups of students at the same time. If you still wish to write both your name and your Banner ID/Student ID on your tests and assignments, please be advised that UOIT and will interpret this as an implied consent to the disclosure of your personal information in the normal course of returning graded materials to students.
If you have any questions or concerns relating to the new policy or the issue of implied consent addressed above, please contact the UOIT Chief Privacy Officer at accessandprivacy@uoit.ca

15. Course Evaluations

Student evaluation of teaching is a highly valued and helpful mechanism for monitoring the quality of UOIT's programs and instructional effectiveness. To that end, course evaluations are administered by an external company in an online, anonymous process during the last few weeks of classes. Students are encouraged to participate actively in this process and will be notified of the dates. Notifications about course evaluations will be sent via e-mail, and posted on Blackboard, Weekly News and signage around the campus.

16. Missed Course Work

Coursework missed for medical or serious personal reasons must be documented and reported to the instructor within five (5) working days of the missed work. Medical absences must be accompanied by a UOIT Medical Statement form completed by the student and physician within 24 hours of the missed course work. Coursework includes, but is not limited to, quizzes; written assignments; participation; case studies; etc. If missed coursework totals more than 20% of the final grade, this must be documented through the Nursing, Academic Advising office. The weight of the missed course component will be reweighted to the other deliverables. If you miss coursework and do not notify the instructor within the five (5) working day deadline, you will receive a score of zero on the missed component.

UNIVERSITY OF ONTARIO INSTITUTE OF TECHNOLOGY

Faculty of Health Sciences

HLSC 7010G: Critical Perspectives in Research and Knowledge Translation in Health Sciences

Course outline for Winter 2020

1. Course Details & Important Dates*

Term	Course Type	Day	Time
F	Lecture		3 hours weekly

Location	CRN #	Classes Start	Classes End	Final Exam Period
		2020		

* for other important dates go to: www.uoit.ca >Current Students >Important Dates and Deadlines

2. Instructor Contact Information

Instructor Name	Office	Email

Teaching Assistant Name	Email

3. Course Description

This course is for PhD level graduate students to develop skills and expertise in the synthesis, dissemination and exchange of knowledge across a range of health science disciplines. Students will examine, evaluate and apply their knowledge in three core areas: Knowledge to action process theory and models including integrated and end-of-grant knowledge translation; knowledge creation, and; the knowledge translation "Action" cycle which includes adapting knowledge to the local context and population, identifying knowledge gaps, assessing barriers/facilitators to implementation, and developing and evaluating knowledge translation interventions. Course topics will aim to integrate the students own research and include real world examples of knowledge translation initiatives from the local to national level.

4. Learning Outcomes

Upon successful completion of this course the student will be able to:

14. Describe and distinguish between terms used in knowledge translation.
15. Differentiate between various knowledge translation process models and understand how and when these are applied in order to propose KT interventions that close the knowledge gap and promote evidence-based practice/policy.
16. Evaluate and apply methods of knowledge synthesis and knowledge translation tools such as systematic reviews, meta analyses, clinical practice guidelines and patient decision aids and explain how these are contextualized and integrated within the larger body of knowledge and used to update current practices.
17. Distinguish ways in which knowledge synthesis, dissemination and exchange should be tailored to encompass the needs of stakeholders and audiences in different communities and recommend strategies to optimize knowledge translation process considering these needs.
18. Compare and evaluate the role of different strategies for knowledge dissemination across a variety of settings and audiences (e.g. stakeholder meetings, education and engagement in disseminating and implementing new knowledge, creation of tools to promote knowledge dissemination, use of media, etc.).
19. Create effective integrated and end-of-grant knowledge translation activities and approaches considering knowledge translation process theory and applied knowledge translation approaches, demonstrating skills in advancing knowledge exchange through communication between and among researchers and knowledge users from different health disciplines, community members and end users.

5. Course Design

This course includes a weekly 3 hour lecture. Each weekly session will typically include a lecture and student engagement activity. Many weeks will guest lecturer who will bring real world knowledge- to- action initiatives into the classroom.

A list of required readings will be posted for students in advance. Students are expected to have completed the readings prior to class.

6. Outline of Topics in the Course

Week	Topic
Week 1:	Introduction to Knowledge Translation and to Process Models of Knowledge to Action
Week 2:	Knowledge Creation: Meta-Analyses, Systematic Reviews, Clinical Practice Guidelines and Patient Decision Aids
Week 3:	Knowledge Creation: Grants; Integrated and End of Grant KT strategies
Week 4:	Action Cycle: Identifying gaps adapting knowledge to local context
Week 5:	Student Presentations (Integrated KT Plan)

Week 6:	Action Cycle: Identifying Barriers and Facilitators
Week 7:	Action Cycle: Selecting KT interventions
Week 8:	Action Cycle: Implementing and Evaluating KT Interventions
Week 9:	Knowledge to Action Theories
Week 10:	Final Exam
Week 11:	Student Presentations (End of Grant KT Plan, Grant Application)
Week 12:	Student Presentations (End of Grant KT Plan, Grant Application)

7. Required Texts/Readings

A required reading list will be posted on Blackboard.

1. **Course Textbook.** Straus S, Tetroe J, Graham ID. *Knowledge translation in health care: moving from evidence to practice*. Second Edition. Wiley-Blackwell, BMJ Books, 2015.

2. **Supplementary Readings.** Provided via Blackboard. Testable on exams.

8. Evaluation Method

Components	**Weight of Total Mark**	**Due Date**
Integrated KT Plan	10%	Week 5
End of Grant KT Plan	10%	Week 8
Final Exam	25%	Week 10
Grant Application	40%	Week 12
In-class presentation of End-of-Grant KT plan and Grant Application	5%	Week 11 or 12
Class Participation	10%	Ongoing
Final course grades may be adjusted to conform to program or Faculty grade distribution profiles. Information on grading can be found in Section 5 of the UOIT Academic Calendar.		

9. Assignments and Tests

Integrated (10%) and End of Grant (10%) Knowledge Translation Assignments – Students will develop an integrated and end-of grant knowledge translation plan for their thesis research. These

plans must demonstrate an ability to apply course concepts. Each plan can be up to 2 pages, single spaced. Integrated KT plans will be presented to the class as part of a 15 minute presentation (10 minute presentation, 5 minute class discussion). End of Grant KT plans will be presented as part of the Grant Application presentation at the end of the semester.

Grant Application and Presentation (45%)– Students will prepare a CIHR Knowledge and Dissemination grant or SSHRC Connection grant application. The topic of the knowledge translation activity must meet the objectives presented in the End of Grant Knowledge Translation Assignment. In a 20 minute presentation, students will present End of Grant knowledge translation plan and their funding application for dissemination activities, as proposed in the grant application.

Final Exam (25%) – The midterm exam will consist of short and long answer questions that test all course material prior to the exam date.

Class Participation (10%) – Students will be graded on both the quantity and quality of in-class participation. This includes class attendance, contributions to in-class engagement activities and interactions with guest lecturers

What if my assignment is late?
A lateness penalty will apply to all overdue course work. "Overdue" is defined as any amount of time beyond the indicated submission deadline time, as described above for each assignment. The penalty includes a 10% reduction in the final mark for each 24 hours after the submission deadline, including weekend days (e.g., initial grade 85% - 10% penalty = 75%). Assignments will not be accepted after 72 hours (3 days). Assignments submitted on the due date but after the in-class and/or designated electronic submission time deadline will receive a one-day late penalty. Extensions on due dates will be granted only in compelling circumstances such as illness or personal distress, in which case you are advised to contact the instructor **as early as possible** to discuss your circumstance. Poor time management, having several assignments due at the same time, having to study for midterm exams, etc. are not compelling reasons for an extension.

What if I miss the Midterm?
If you need to miss a Midterm, please contact the instructor **immediately**. Except for compelling reasons, such as illness or personal distress, all students will be given a grade of **zero** if they miss the midterm. There will be **no deferred exams** scheduled this term. If you are unable to attend the midterm due to medical reasons, you are required to complete and submit the Medical Statement form. If your Medical Statement form is approved your final exam will be reweighed accordingly. The Medical Statement form must be completed, signed and dated by the treating physician no later than 24 hours after the scheduled examination. Both completed pages of this form are to be received by the appropriate UOIT office (UA2000) within five working days of the missed deadline or exam date.

What if I would like my assignment re-marked?
If you find any addition or calculation errors in your assignment grade, please show this to the instructor as soon as possible. These errors can be corrected quickly.
If you have more substantive concerns about the grading of your assignment, you may request a re-read within two weeks of obtaining your mark. After two weeks, re-reads will not be considered. To request a re-read, submit the original hard copy and marking rubric to the Instructor at least 48 hours prior to meeting with the instructor during scheduled office hours or by appointment. Indicate your concerns in writing on a separate sheet of paper. If you feel you were not given credit for an idea, clearly identify the sentences in your assignment that express these ideas and explain why you think you merit additional credit. The instructor will not do the

re-read if this procedure has not been followed. Your mark can go up, down, or stay the same. Please note that the higher your original mark (especially marks >80%), the less likely an upward adjustment in your mark will occur. The instructors' decision is final.

10. Accessibility

Accommodating students with disabilities at UOIT is a responsibility shared among various partners: the students themselves, SAS staff and faculty members. To ensure that disability-related concerns are properly addressed during this course, students with documented disabilities and who may require assistance to participate in this class are encouraged to speak with the professor as soon as possible. **Students who suspect they have a disability that may affect their participation in this course are advised to go to Student Accessibility Services (SAS) as soon as possible.** Maintaining communication and working collaboratively with SAS and faculty members will ensure you have the greatest chance of academic success.

Students taking courses on the North Campus Location can visit Student Accessibility Services in the U5 Building located in the Student Life Suite. Students taking courses on the Downtown Oshawa Campus Location can visit Student Accessibility Services in the 61 Charles St. Building, 2nd Floor, Room DTA 225 in the Student Life Suite.

Disability-related support and accommodation support is available for students with mental health, physical, mobility, sensory, medical, cognitive, or learning challenges. Office hours are 8:30am-4:30pm, Mon-Fri. For more information on services provided, you can visit the SAS website at http://uoit.ca/studentaccessibility

Students may contact Student Accessibility Services by calling 905-721-3266, or email studentaccessibility@uoit.ca

Students who require the use of the Test Centre to write tests, midterms, or quizzes MUST register online using the SAS test/exam sign-up module, found here www.uoit.ca/SASexams. Students must sign up for tests, midterms or quizzes AT LEAST seven (7) days before the date of the test.

Students must register for final exams by the registration deadline, which is typically 2 weeks prior to the start of the final examination period. SAS will notify students of the registration deadline date.

11. Professional Conduct (if applicable)

N/A.

12. Academic Integrity

Students and faculty at UOIT share an important responsibility to maintain the integrity of the teaching and learning relationship. This relationship is characterized by honesty, fairness and mutual respect for the aim and principles of the pursuit of education. Academic misconduct impedes the activities of the university community and is punishable by appropriate disciplinary action.

Students are expected to be familiar with and abide by UOIT's regulations on Academic Conduct (Section 5.15 of the Academic Calendar) which sets out the kinds of actions that constitute academic misconduct, including plagiarism, copying or allowing one's own work to copied, use of unauthorized aids in examinations and tests, submitting work prepared in collaboration with another student when such collaboration has not been authorized, among other academic offences. The regulations also describe the procedures for dealing with allegations, and the

sanctions for any finding of academic misconduct, which can range from a resubmission of work to a failing grade to permanent expulsion from the university. A lack of familiarity with UOIT's regulations on academic conduct does not constitute a defense against its application.

Further information about academic misconduct can be found in the Academic Integrity link on your laptop. Extra support services are available to all UOIT students in academic development, study skills, counseling, and peer mentorship. More information on student support services can be found in the Academic Calendar (Section 8).

13. Turnitin

UOIT and faculty members reserve the right to use electronic means to detect and help prevent plagiarism. Students agree that by taking this course all assignments are subject to submission for textual similarity review by Turnitin.com. Assignments submitted to Turnitin.com will be included as source documents in Turnitin.com's restricted access database solely for the purpose of detecting plagiarism in such documents for five academic years. The instructor may require students to submit their assignments electronically to Turnitin.com or the instructor may submit questionable text on behalf of a student. The terms that apply to UOIT's use of the Turnitin.com service are described on the Turnitin.com website.

Students who do not wish to have their work submitted to Turnitin.com must provide with their assignment at the time of submission to the instructor a signed Turnitin.com Assignment Cover sheet:
http://www.uoit.ca/assets/Academic~Integrity~Site/Forms/Assignment%20Cover%20sheet.pdf

Further information about Turnitin can be found on the Academic Integrity link on your laptop.

14. Final Examinations

Final examinations are held during the final examination period at the end of the semester and may take place in a different room and on a different day from the regularly scheduled class. Check the published Examination Schedule for a complete list of days and times.

Students are advised to obtain their Student ID Card well in advance of the examination period as they will not be able to write their examinations without it. Student ID cards can be obtained at the Campus ID Services, in G1004 in the Campus Recreation and Wellness Centre.

Students who are unable to write a final examination when scheduled due to religious publications may make arrangements to write a deferred examination. These students are required to submit a Request for Accommodation for Religious Obligations to the Faculty concerned as soon as possible and no later than three week prior to the first day of the final examination period.

Further information on final examinations can be found in Section 5.24 of the Academic Calendar.

15. Freedom of Information and Protection of Privacy Act

The following is an important notice regarding the process for submitting course assignments, quizzes and other evaluative material in your courses in the Faculty of Health Sciences.

As you may know, UOIT is governed by the *Freedom of Information and Protection of Privacy Act* ("FIPPA"). In addition to providing a mechanism for requesting records held by the university, this legislation also requires that UOIT not disclose the personal information of its students without their consent.

FIPPA's definition of "personal information" includes, among other things, documents that contain both your name and your Banner ID. For example, this could include graded test papers or assignments. To ensure that your rights to privacy are protected, the Faculty of Health Sciences encourages you to use only your Banner ID on assignments or test papers being submitted for grading. This policy is intended to prevent the inadvertent disclosure of your information where graded papers are returned to groups of students at the same time. If you still wish to write both your name and your Banner ID on your tests and assignments, please be advised that UOIT will interpret this as an implied consent to the disclosure of your personal information in the normal course of returning graded materials to students.

If you have any questions or concerns relating to the new policy or the issue of implied consent addressed above, please contact the Faculty of Health Sciences Associate Dean Undergraduate Studies.

16. Course Evaluations

Student evaluation of teaching is a highly valued and helpful mechanism for monitoring the quality of UOIT's programs and instructional effectiveness. To that end, course evaluations are administered by an external company in an online, anonymous process during the last few weeks of classes. Students are encouraged to participate actively in this process and will be notified of the dates. Notifications about course evaluations will be sent via e-mail, and posted on Blackboard, Weekly News and signage around the campus.

17. Student Support

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact studentlife@uoit.ca for support. Furthermore, please notify your professor if you are comfortable in doing so. This will enable them to provide any resources and help that they can.

UOIT is committed to the prevention of sexual violence in all is forms. For *any*UOIT student who has experienced Sexual Violence, UOIT can help. UOIT will make accommodations to cater to the diverse backgrounds, cultures, and identities of students when dealing with individual cases.
If you think you have been subjected to or witnessed sexual violence:

- Reach out to a Support Worker, who are specially trained individuals authorized to receive confidential disclosures about incidents of sexual violence. Support Workers can offer help and resolutions options which can include safety plans, accommodations, mental health support, and more. To make an appointment with a Support Worker, call 905.721.3392 or email supportworker@uoit.ca
- Learn more about your options at: www.uoit.ca/sexualviolence.

C. Library Report

University of Ontario Institute of Technology (UOIT) Library Submission for the Doctor of Philosophy in Health Sciences

Introduction:

The following outlines the resources and services provided by the Library in support of the University of Ontario Institute of Technology's (UOIT) proposed Doctor of Philosophy (Ph.D.) in Health Sciences. This document begins by emphasizing program specifics at the doctoral level, and concludes with general Library information.

Program Specific Collections:

The Library's subject specialists select resources to meet the information needs of both faculty and students. Collection development considerations acknowledge the three streams of Kinesiology (Kin), Community, Public and Population Health (CPP), and Health Informatics (HI) as well as the overall interdisciplinary nature of the proposed PhD program. The focus on technology as applied to health situations is also noted.

Since the prior submission proposal in early February 2014, the Library's financial landscape has changed significantly. As outlined below, recent budgets have not provided adequate monies for either the maintenance of existing resources or the acquisition of new products. This is related to foreign exchange (over 80% of the Library's resources are US purchases), vendor increases and rising costs associated with enrollment increases and the addition of masters and PhD programs. Engineering, science and health science programs are affected the most, in that journal and database resources for these disciplines command the highest fees.

Approximately 10% of the collection is available in paper, while the remaining 90% is available online.

In addition to obtaining electronic titles through direct vendor licenses, the Library is a member of the provincial (OCUL – Ontario Council of University Libraries) and national (CRKN - Canadian Research Knowledge Network) academic library consortia that provide for the effective group purchase and distribution of online resources.

Print Books

During UOIT's initial years (2002-2008), over $100,000 per annum was invested in science books, and over $65,000 per annum was invested in health science books. While the print budget was robust until the 2014-15 fiscal, the following years have necessitated purchases by faculty request only. Even with weeding to ensure currency, past collection development has created a strong print foundation. Health science programs are now directly supported by 12,715 titles as follows:

Health Sciences	6,570
Chemistry	1,015
Biology	2,380
Physics	1,164
Mathematics	1,586

An ongoing influx of funds will soon be required to maintain the print collection as a valuable information base. The above is a "snap shot" of the Library's print collection and does not take into account the interdisciplinary nature of the proposed PhD program; the same trends have occurred for the Social Science, Business and Computing Science collections.

Students also benefit from using the Library's texts on presentations, thesis writing, surveys and statistics, feasibility studies, and grant writing. As well, there are books that deal with professional etiquette, workplace conduct, and corporate ethics.

E-books

The Library invests heavily in e-books (see "General Library Information" below). While some are annual subscriptions, others are individual titles or publisher groupings by subject or release date (e.g. titles published in 2015) purchased on a one- time basis. The UOIT Library website (www.uoit.ca/library) offers five distinct points for accessing its e-books – through its discovery layer; through its catalogue; through a select list of vendor sites; through a Research Guide(see description below) tailored to a subject area; and through the Scholars Portal e-book database which also includes numerous open access documents. The Scholars Portal e-book platform is an OCUL initiative that combines titles from numerous vendors (e.g. Canadian Electronic Library (government and policy documents), Kluwer, Elsevier, Springer, Taylor & Francis, Cambridge, Oxford) allowing for a single search.

Examples of e-book databases and e-book references that support the PhD in Health Sciences include:

- Bioscience netBase
- Canadian Electronic Library – Canadian Health Research Collection and Canadian Public Policy Collection
- CRC Handbook of Chemistry and Physics
- CRC netBase
- DSM-5 Library
- IEEE eBooks

- Merck Index
- Ovid eBooks
- PsycBooks
- Sage Research Methods (Social Sciences perspective)
- Springer eBooks
- Springer Protocols
- Taylor & Francis eBooks

Especially given the interdisciplinary nature of the proposed PhD, it is estimated that there are currently over 35,000 supporting e-books within the UOIT collection.

Journals, Transactions, Conference Proceedings and Standards

Patrons can search for journals through an abstracting or indexing tool such as *Science Citation Index Expanded* for a comprehensive overview or they can choose to search more directly for full text. Journals are available as traditional paper subscriptions, single electronic titles, or as one of several titles within an electronic database. Similar to what is offered for collective e-book searching, Scholars Portal also provides an e-journal platform. Both journal titles and articles from various publishers (Elsevier, Springer, Wiley, Cambridge, Oxford, etc) can be searched in a "one stop shopping" format. Although labeled as journal databases, the resources described within this section often provide more than periodical access; many also offer technical reports, conference proceedings and standards.

Below is an overview of journal holdings relevant to the proposed doctoral program. First, a listing of relevant electronic indexes and databases is provided. While indexes and databases do allow for searching by specific journal title, their intrinsic value lies in their ability to perform subject searches across all content held within the database; the user starts with a concept and pulls articles from numerous journals simultaneously. Secondly, sample listings of individual journal titles are provided.

Indexes and Databases:

Extremely Relevant:

- *BMJ* (select British Medical Journals)
- *CINAHL* (Cumulative Index to Nursing & Allied Health Literature) PLUS with Full Text
- *EBM Reviews (Cochrane)*
- *Health Source: Nursing/Academic Collection*
- *Journals @ Ovid Full Text*
- *JOVE* (Journal of Visual Experiments) *Immunology & Infection*
- *Medline/PubMed*
- *Proquest Nursing & Allied Health Source*
- *Scholars Portal Journals* (OCUL portal for simultaneous access to multiple publishers e.g. Elsevier/Science Direct, Springer, Kluwer, Wiley)
- *SportDiscus with Fulltext*

Very Relevant:

- *American Society of Microbiology Journals*
- *Annual Reviews – Biomedical/Life Sciences and Social Sciences –Public Health*
- *BioOne*
- *Biosis Citation Index*
- *CCOHS (Canadian Centre for Occupational Health & Safety)* - includes MSDS (Material Safety Data Sheets) and associated Ontario and federal legislation and standards
- *Proquest Science*

Relevant – Multidisciplinary:

- *Academic One File*
- *Academic Search Premier*
- *JSTOR* (Journal Storage – Archive)
- *Science Citation Index Expanded* (Part of Web of Science)
- *Scopus*

A SAMPLING of individual UOIT Health Science journal titles by four groupings – General Health Science; Kinesiology; Community, Public and Population Health; and Health Informatics—is given below. In compiling lists, rankings by impact factor within *JCR (Journal Citation Reports)* were taken into consideration. The UOIT Library

scores well in all JCR categories considered.

Below are examples of General Health Science journals of interest to all enrolled in the proposed PhD program. The JCR subject groupings reviewed were *Health Care Sciences & Services; Primary Health Care; Medical Ethics;* and *Medicine, Research – Experimental.*

- *American Journal of Bioethics*
- *American Journal of Preventive Medicine*
- *Ethnicity & Health*
- *Health Expectations*
- *Health Policy & Planning*
- *Journal of Medical Internet Research*
- *Medical Care Research & Review*
- *Medical Decision Making*
- *Milbank Quarterly*
- *Statistical Methods in Medical Research*
- *Statistics in Medicine*
- *Value in Health*

The following sampling of library-held titles from the *Rehabilitation* and *Sports Science* JCR subject categories would also be of interest to Kinesiology students and faculty:

- *European Journal of Applied Physiology*
- *Exercise Immunology Review*
- *Journal of Physiotherapy*
- *Journal of Rehabilitation Medicine*
- *Manual Therapy*
- *Physical Therapy*
- *Sports Medicine, Arthroscopy, Rehabilitation, Therapy, and Technology*
- *Sports Medicine Journal*

The following sampling of library-held titles from the *Infectious Diseases; Immunology;* and *Public, Environmental & Occupational Health* JCR subject categories would also be of interest to those focusing on Community, Public and Population Health.

- *American Journal of Public Health*
- *Emerging Infectious Diseases*
- *Epidemiologic Reviews*
- *Environmental Health Perspectives*
- *Immunity*
- *Journal of Clinical Epidemiology*
- *Journal of Immunology*
- *Lancet Infectious Diseases*
- *Nature Reviews Immunology*

The following sampling of library-held titles from the *Medical Informatics* JCR subject categories would also be of interest to those focusing on Health Informatics.

- *Artificial Intelligence in Medicine*
- *Computer Methods and Programs in Biomedicine*
- *Health Informatics Journal*
- *IEEE Journal of Biomedical and Health Informatics*
- *International Journal of Medical Informatics*
- *JMIR mHealth and uHealth*
- *Journal of Biomedical Infomatics*
- *Journal of Medical Internet Research*
- *Journal of Medical Systems*

- *Journal of the American Medical Informatics Association*
- *Statistical Methods in Medical Research*

While the UOIT library holds 22 of the 24 titles listed under the JCR category of Medical Informatics, it is noted that Health Informatics as defined in the proposed PhD program also has a base in Computer Science and Health Policy. UOIT Library journal holdings are strong in both areas.

Whenever available the Library negotiates with publishers for electronic access to archival journal issues ('deep archives') as well as current issues. Here are a few examples:

- *Annual Review of Public Health* 1980-present
- *Epidemiologic Reviews* 1979-present
- *Health Policy & Planning* 1986-present
- *Journal of Immunology* 1916-present
- *Medical Care Research & Review* 1944-present

The library operates an active donation program searching for specific back run titles in paper format as necessary.

Additional Resources

Statistics and Data:
To support research that requires statistics and datasets, the Library subscribes to three collections: Statistics Canada's Data Liberation Initiative (DLI), odesi, and the Interuniversity Consortium for Political and Social Research (ICPSR).
Streaming Video Collections:
The Library has invested in streaming video collections in order to make media more accessible to faculty and students. DVDs purchases continue by faculty request.
Research Metrics:
Library-held resources for determining author, article and journal metrics include Web of Science, Scopus, Journal Citation Reports, and SciVal. The Library's Research Metrics guide (http://guides.library.uoit.ca/researchmetrics) provides information on metrics and support for these tools.
Theses and Dissertations:
The Library ensures that the UOIT community has access to national and international theses and dissertation databases. Access to PQDT (Proquest Dissertations and Theses) and the Theses Canada Portal are provided through the Library website. The Library also plays a key role in the dissemination and preservation of UOIT theses, managing copies in the open access institutional digital repository, e-Scholar, as well as print copies in the Archives.

Instructional and Research Support:
To assist students with approaching their respective areas of study, UOIT Librarians prepare 'Research Guides.' Each discipline specific research guide introduces books and e-books, articles and databases, statistics and data, government and legal resources, librarian evaluated websites, and media. In addition, there are guides that address the use of specialized resource categories such as patents and standards. Research Guides are accessed through the UOIT Library website (www.uoit.ca/library) and have also recently become embedded in Blackboard, UOIT's online learning and course management system. Over the course of the previous academic year, the Health Sciences Guides were viewed over 20,000 times.
The Library provides support to faculty and students in complying with the Tri-Agency Open Access Policy. Faculty and students can make their work open access by publishing in an open access or hybrid journal, by depositing their work in a subject repository, or by depositing their work in UOIT's institutional repository, e-scholar@UOIT (https://ir.library.dc-uoit.ca). Support is provided both directly through UOIT subject librarians that provide guidance in selecting appropriate journals and repositories, and passively through the Library's Open Access Guide at http://guides.library.uoit.ca/openaccess. Furthermore, the Library has created a guide to Research Data Management (http://guides.library.uoit.ca/rdm) to support faculty and students in creating data management plans and sharing research data.

General Library Information:
While the information above highlights the UOIT Library's primary resources for the Doctor of Philosophy in Health Sciences program, there are also materials and services important to all students.

The UOIT Library system is comprised of three locations – North Oshawa, Education and Social Sciences, and Whitby (Durham College). For the purposes of this report only a detailed facility description of the Library's North location is provided; it is the Library most likely to be used by health science students and faculty. This location boasts the following attributes:

- American Library Association (ALA) award-winning building opened in 2004
- 75,000 square feet
- 520 seats; 10 group study rooms
- 2 library orientation classrooms
- Round reading room with fireplace (2nd floor)
- Silent study areas (3rd floor Special Collections Room and 4th floor)
- Library den (lower level collaborative study space)
- Student lockers
- Recording room
- Adaptive technology area
- 150 public computers with Microsoft Office Suite – wired and wireless access
- Photocopiers and printers (including 3D Printer)

Approximately 103,000 print books are provided collectively by the UOIT Library system. While faculty, staff and students are more than welcome to visit any UOIT library location and personally check out materials, they can also take advantage of intercampus loan services free of charge.

Likewise, interlibrary loan is free to the UOIT community. While the Library provides an immediately accessible high quality collection both in print and electronic format, it is understood that not everything can or should be held by a single institution. To obtain items that are not available within the UOIT Library system, patrons are directed to an online request form on the library's web site. Books and articles are borrowed primarily from other Ontario university libraries, but may also be acquired from any Canadian or international library including organizations such as NRC-CISTI (National Research Council -Canadian Institute for Scientific and Technical Information).

UOIT faculty and students may also visit most other Canadian university libraries and borrow books (Reciprocal Borrowing Agreement) directly upon presentation of their UOIT photo identification card. Materials may be returned directly to the lending library or to the UOIT Library.

In this electronic age, most individuals are apt to visit a library virtually before they set foot in the building. The UOIT Library website (www.uoit.ca/library) is therefore designed to be a resource location tool, a teaching venue, and a comprehensive overview of library services, as well as providing immediate full text access to 733,000 e-books and 85,000 e-journals. For example, there is a Research Help section that provides guidance on: search strategies, evaluating and analyzing information sources, citing materials, conducting literature reviews, copyright compliance, and other points to consider in writing a quality paper. Librarians also offer further assistance through e-mail and/or virtual reference (*Ask A Librarian).*

Forms and phone numbers are available for making individual or small group appointments. As mentioned previously, online librarian-prepared research guides are tailored to a discipline and are meant to both assist with the identification of key resources and to facilitate access to those materials.

Similarly, there are service sections that outline topics such as borrowing rights and responsibilities, reserve and interlibrary loan processes, and library computer and printer usage. The website also provides library building descriptions (e.g. addresses, hours, seating and study spaces) and an outline of general operating principles and procedures (e.g. gifts and donations).

The North Oshawa location has increased its regular operating hours since opening in 2004 (i.e. from 77 hours per week to 94 hours per week) and adds extra hours two weeks prior to and during exams. In past years, a number of complaints have been received about insufficient seating. In response, a study den was opened on the lower level in September 2010, and the 4th floor was opened as a silent study area in October 2013 (formerly reserved for graduate students who have now found space in their respective Faculty buildings).

While there has been an increase in Library staffing in all locations, there is also still a need to hire additional people with more extensive subject and technical expertise.

Comments, surveys and statistics consistently indicate that students, faculty and staff value and appreciate the Library's resources and services. Recent complaints about the minimal acquisition of new materials and subscription cancellations in the wake of budget constraints, further emphasize the Library's importance. The Library remains committed to the continued support of teaching, learning and research endeavors for all UOIT programs.

Compiled by:

Carol Mittlestead, Associate University Librarian
Ken McFarlan, Health Sciences Librarian

October 2017

D. Guidelines for a Manuscript-Based Masters Thesis

Faculty of Health Sciences

University of Ontario Institute of Technology[1]

Guidelines for a Manuscript--- Based Masters Thesis

What is a Manuscript--- Based Thesis?

As an alternative to the traditional thesis format (see Office of Graduate Studies website for format guidelines), the thesis can consist of one or more papers of which the student is the primary author. The number of papers may depend on the area of study. At the Master's level it typically would number one or two papers; at the Ph.D. level that number might be 3 or several more. These papers might be: (a) published and in print; b) accepted but not yet in print; or c) submitted and under review. These papers must constitute a cohesive, unitary character integrated within a single program of research.

Deciding to Complete a MHScManuscript--- Based Thesis

It is common in many disciplines and universities that students publish the results of their research as manuscripts in peer--- reviewed journals during the course of their thesis studies. This is an important consideration both to the student's career development. Developing one or more manuscripts (i.e., "papers", "peer--- reviewed journal articles") during the thesis process offers several advantages:

a) Exposes students to the critical peer--- review process to improve your work;
b) Provides students a chance to encounter the process involved in publication;
c) Can improve students' focus and efficiency in engaging their research;
d) Offers students an opportunity for knowledge dissemination, a central component of the scientific process (often good research remains unused when buried inside massive thesis archives);
e) Improves students' readiness for their oral exam;
f) Is a CV--- builder, positioning candidates for their next career phase (inside or outside academia).

Challenges of Completing a Manuscript-Based Thesis

Students may encounter certain challenges in using this approach including:

1) Writing concise, well--- formatted manuscripts can be difficult the first time around (journals often require manuscripts of 4000 words or less);
2) Uncertain turnaround times associated with peer--- review;
3) Integrating and formatting manuscripts into a coherent whole for a thesis.
4) **Authorship:** Authorship issues (e.g., who's listed and where) need to be explicitly discussed and agreed--- to with committee members so there are no misunderstandings.

Requirements of a Manuscript--- Based Master's Thesis in the Faculty of Health Sciences at UOIT

To complete a manuscript--- based thesis in the FHSc at UOIT, the following conditions apply:

1) the student must be ***first author*** of at least one manuscript (often two manuscripts are recommended depending on the nature of the research);

[1] This document was shared by and borrowed significantly from a similar guideline document developed by the Faculty of Sciences at UOIT.

2) at least one manuscript must be published, in--- press or accepted for publication in reputable peer--- reviewed journals in the student's research area;
3) the student's contribution to the manuscript must be clearly articulated, and substantial (e.g., at least 50% depending on the number authors and other publications the thesis contains)

Formatting Your Manuscript--- Based Thesis

Manuscripts can be stand--- alone chapters in a thesis, or parts of a chapter. However, the thesis must be more than a collection of manuscripts. All components must be integrated into a cohesive document with a logical progression from one chapter to the next. To ensure the thesis has continuity, the thesis must adhere to broader *UOIT thesis guidelines* (provided on the Graduate Studies website) regarding:

1) *Substantial* introductory and concluding chapters that outline the general research themes and objectives, and clearly describe the implications of the research;
2) Materials otherwise omitted from the more succinctly written original manuscripts that add to the research as a whole (e.g., additional literature, discussion, appendices);
3) Logical bridges that precede or follow each manuscript;
4) Where possible, avoid repetition of material included in the thesis and manuscript/s;
5) Standard font size, line spacing, margins, etc. as specified in the *Thesis Guidelines*.
6) Copies of original, published manuscripts (which might include a title and author page, abstract, introduction, methods, results, discussion, tables, figures, acknowledgments, etc.) may be included in appendices.

Process for Developing a Manuscript--- Based Thesis

Completing a manuscript--- based thesis in a timely fashion requires explicit planning with the Supervisory Committee. Ideally, students with their Committee should:

1) Plan a manuscript--- based thesis from the beginning of proposal development;
2) Discuss authorship issues as early as possible;
3) Organize the thesis and completion process to facilitate manuscript development;
4) Outline the planned manuscripts and identify targeted journal(s) in the thesis proposal;
5) Develop a timeline to complete each manuscript and submission.

Student as Primary Author

In general, when co--- authored papers are included in a thesis, the candidate must be the primary author (the author who has made the most substantial contribution) for all papers included in the thesis. In addition, the candidate is required to make an explicit statement in the thesis as to who contributed to such work and to what extent. *This statement should appear in a single section entitled "Contributions of Authors" as a preface to the thesis. The supervisor must attest to the accuracy of this statement at the oral examination.* Since the task of the examiners is made more difficult in these cases, it is in the candidate's interest to clearly specify the responsibilities of all the authors of the co--- authored papers.

Permission from Publisher to Include Previously Published Work

Where material previously published (or in press) by the candidate is included as part of the thesis, it is the candidate's responsibility to:

1) Ensure that permissions from copyright holders are obtained (even for "in press" papers);
2) Clarify his/her own contributions in multi--- authored publications; and
3) Provide full citation(s) of the publications in the thesis *Preface.*

Comments for discussion

Chapter 1: The students were all still required to provide a proposal with standard major headings that they had to successfully defend (e.g., Background, Aim & significance, research questions or hypotheses, detailed, Design and methods, timelines, plans for dissemination of findings).

Chapter 2: was still a detailed review of the literature (usually systematic in nature). I typically had students write this chapter also as a manuscript format and have them send it out for publication (many did indeed publish it as such).

Chapter 3: The manuscript per se written in accordance with the noted criteria for a major peer--- reviewed high impact journal. (Some of my students actually got their manuscript published prior to defense).

E. Archived Seminar Series Schedule

Date	Speaker	Seminar Title or *Workshop Topic
March 28, 2018	Jim Burkitt, PhD Postdoctoral Fellow, UOIT	Motor control and learning
March 14, 2018	Sarah West, PhD Assistant Professor, Trent University	The Next Step in Bone Imaging: the use of MRI for assessing bone health and applications to exercise research
March 7, 2018	Elevator Speech Event	Faculty Wide 3 Minute Thesis
February 14, 2018	David Rudoler, PhD Assistant Professor, UOIT	Applied Health Economics & Policy Analysis Using Secondary Data
February 7, 2018	Derek Manis, MHSc PhD Candidate McMaster University	*Thesis Defense
January 31, 2018	Nicholas La Delfa, PhD Assistant Professor, UOIT	Reducing Work-Related Musculoskeletal Disorders using Occupational Neuromechanics
January 24, 2018	Robert Balogh, PhD Assistant Professor, UOIT and Nick Wattie, PhD Assistant Professor, UOIT	*Effect Sizes and Sample Size Calculations
January 17, 2018	New Year; New Ideas	Inaugural Research and Partnerships Event
November 15, 2017	Bernadette Murphy, PhD Associate Dean, Research and Graduate Studies Professor, UOIT and Shilpa Dogra, PhD Director, Kinesiology Associate Professor	*Scholarship Applications: Tips and Tricks
November 8, 2017	Jim Potvin, PhD Professor Emeritus Kinesiology, McMaster University	International keynotes Government policy databases and downloads Industry grant collaboration
November 1, 2017	Joshua Good, MHSc, CSEP-CEP UOIT Graduate	*EndNote Basics
October 25, 2017	Serene Kerpan, PhD Assistant Professor, UOIT	Engaging Indigenous communities in research with the 4 R's: Relationships, Reciprocity, Respect, and Relevance
October 18, 2017	Shilpa Dogra, PhD Associate Professor, UOIT	*Creating a Canadian Commons CV for applying to grants/scholarships
October 11, 2017	Heather Sprenger, PhD Assistant Professor, UOIT	Applied Research in High Performance Sport
October 4, 2017	Nicholas La Delfa, PhD Assistant Professor, UOIT	*Excel Basics
September 27, 2017	Janet McCabe, PhD Director of Nursing Associate Professor, UOIT	Health Promotion: Supporting Individuals with Intellectual Disabilities
September 20, 2017	Joshua Good, MHSc, CSEP-CEP UOIT Graduate	*Introduction to Excel
September 13, 2017	Bernadette Murphy, PhD Associate Dean, Research and	Introduction to the Seminar/Workshop Series

	Graduate Studies Professor, UOIT	
March 29, 2017	Winnie Sun, PhD Assistant Professor, UOIT	AGE-WELL: Aging, Disability and Technology (ADT): Understanding and Advancing Canadian Policies to Enhance Access to Assistive Technologies
March 15, 2017	David Copithorne, MHSc, CSEP-CEP/CPT IE PhD Candidate University of Western	The effects of blood flow restricted exercise on biceps brachii function and motorl pool excitability modulation
March 8, 2017	Elevator Speech Event	Faculty wide 3MT
March 1, 2017	Leslie Graham, Professor Durham College	Professional Development for Nurse Educators Using Simulation-Based Learning: A Descriptive Multiple-Case Study
November 30, 2016	Robert Balogh, PhD Assistant Professor FHSc, UOIT	Sample Size Calculations Workshop
November 23, 2016	Rachid Salmi, MD, PhD Professor of Public Health Université de Bordeaux	To screen or not to screen. Can we reconcile clinical and public health perspectives on screening?
November 2, 2016	Corliss Bean, PhD Candidate University of Ottawa	Evaluating Positive Youth Development in Sport and Physical Activity Contexts
October 19, 2016	Megalai Thavakugathasalingam MHSc Graduate, UOIT	Reconstructing Experience of Childhood Cancer: A Narrative Inquiry
October 5, 2016	Carley O'Neill, MSHc PhD Candidate, UOIT	The Acute Response to High Intensity Interval Exercise in Adults with Exercise Induced Bronchoconstriction
March 30, 2016	Stacey Alpous Research Coordinator, Children's Hospital of Eastern Ontario	Physical Literacy Assessment 101: The Canadian Assessment of Physical Literacy (CAPL)
March 16, 2016	Nadége Lemeunier, PhD Post Doctoral Fellow, CMCC	Practice Guidelines for Frnech Chiropractors
March 2, 2016	Elevator Speech Event	Faculty wide 3MT
February 3, 2016	Scott Leatherdale, PhD Associate Professor University of Waterloo	The COMPASS Study: a research platform for evaluating natural experiments among youth populations
December 2, 2015	Obidimma Ezezika, PhD Assistant Professor University of Toronto	Global Development Projects
November 18, 2015	Ron Bell Teaching Faculty FHSc, UOIT	Statistics in the Real World
November 4, 2015	Cindy Malachowski, PhD Post-Doc University of Waterloo	An Organizational Study of Mental Health in the Workplace
October 21, 2015	Nazira Jaffer Director, Strategic Initiatives Ontario Shores Centre for Mental Health Sciences	The Story of TeleMental Health Strategy at Ontario Shores
October 7, 2015	Andra Drinkwalter Manager, Graduate and Postdoctoral Affairs, UOIT	Graduate Granting Workshop
September	Ellen Aartun	

23, 2015	PhD Candidate University of Oslo	Spinal Pain in Children
April 1, 2015	Jennifer Leo, PhD Director of Research Abilities Centre	Experiences of disability simulations as a pedagogical tool in an adapted physical activity course
March 18, 2015	Chetan Phadke, PhD, BPhT Scientist, West Park Healthcare Centre	Spasticity: Understanding the physiological and behavioral impact
March 11, 2015	Elevator Speech Event	Faculty Wide 3MT
February 4, 2015	JoAnne Arcand, PhD Assistant Professor FHSc, UOIT	Evaluation of Canada's progress in meeting population wide sodium reduction goals
January 21, 2015	Matthew Stein PhD Candidate University of Waterloo	Qualitative Methodologies in Health Research
January 7, 2015	Linna Tam-Seto PhD Candidate Queen's University	From Clinician to Researcher
December 3, 2014	Caroline Barakat-Haddad, PhD Assistant Professor FHSc, UOIT	Determinants of Health across the Life Course: Environmental Exposures in Childhood and Long-term Health of the Hamilton Children's Cohort
November 19, 2014	Mary-Anne Pietrusiak Epidemiologist Regional Municipality of Durham	Health Neighbourhoods in Durham Region
November 5, 2014	Joanne Gourgouvelis PhD Candidate UOIT	Mechanisms by which exercise promotes hippocampal function in both depressed and non-depressed individuals
October 22, 2014	Louis-Rachid Salmi, MD, PhD Professor of Public Health Université de Bordeaux	Is post-concussion syndrome a well-defined, specific and real clinical entity?
October 8, 2014	Leslie Graham Professor Durham College	Simulation in Undergraduate Education: The Canadian Perspective
October 2, 2014	Erik Werner, Director, ARENA Centre for European Studies and Professor, Political Science, University of Oslo	The physician's role in the sick listing process
September 24, 2014	Vicky Smye, PhD Director of Nursing Professor UOIT	Videography and Photovoice as Method and Catalysts for Change: Indigenous Men's Health Narratives
September 10, 2014	Judith Grant, PhD Associate Professor FSSH, UOIT	Charting Women's Journeys from Addiction to Recovery

YOU BELONG HERE

February 14, 2018

Professor Bernadette Murphy
Associate Dean, Research and Graduate Studies
Faculty of Health Sciences
University of Ontario Institute of Technology
2000 Simcoe St. North
Oshawa, ON, L1H 7K4

RE: UOIT PhD Program Letter of Support

Dear Dr. Murphy,

As the Executive Director at Abilities Centre, I am writing this letter, along with our Director, Research, Dr. Jennifer Leo, in support of the proposed PhD program in the Faculty of Health Sciences at the University of Ontario Institute of Technology. Abilities Centre is a fully accessible, state of the art facility that provides inclusive recreational opportunities for people of all ages and abilities in the areas of sports/fitness, arts, music, and life skills. As an inclusive facility, located in the Durham region, Abilities Centre strives to improve quality of life for people with and without disabilities.

We see tremendous value to our organization with the introduction of a PhD program in Health Sciences at UOIT. We would welcome the opportunity to build on the existing research collaborations between our organizations, which have been fostered over the past 6 years. For example, we have supported 2 undergraduate research practicum students each year and Abilities Centre has assisted with participant recruitment for numerous graduate student projects. The opportunity to collaborate with PhD level students would help us to build capacity within our research department and ensure continuity across longer term projects. Previous Health Sciences graduates, Chad Larabie and Heather McCracken, are currently using the knowledge and skills they acquired as graduate students at UOIT to contribute to the research efforts at Abilities Centre. Specifically, they are involved in projects related to examining the experiences of high performance student athletes and developing knowledge translation materials about a physical activity intervention for children with and without disabilities.

Considering the strategic vision of Abilities Centre to deliver evidence informed programming, research collaborations with UOIT are critical. If you have any questions or would like to discuss our support for a PhD program in the Faculty of Health Sciences, please feel free to contact me at lplue@abilitiescentre.org or 905-665-8500 ext 101.

Best regards,

Leo Plue
Executive Director

Jennifer Leo, PhD
Director, Research

CANADIAN SPORT INSTITUTE ONTARIO
INSTITUT CANADIEN DU SPORT

POWERING PODIUM PERFORMANCES
INSPIRER L'EXCELLENCE

January 15th, 2018

Professor Bernadette Murphy,
Associate Dean, Research & Graduate Studies
Faculty of Health Sciences
University of Ontario Institute of Technology (UOIT)
2000 Simcoe St North, Oshawa, ON L1H 7K4

Re: Letter of Support for Faculty of Health Sciences PhD Program

Dear Professor Murphy,

It is with great pleasure that the Canadian Sport Institute Ontario (CSIO) supports the UOIT Faculty of Health Sciences proposed PhD program in Health Sciences.

CSIO is committed to the pursuit of excellence by providing world-class programs, staff, services, and leadership to high performance athletes and coaches to enhance their ability to achieve international podium performance. CSIO is a recognized world leader in the delivery of applied sport science, sport medicine, athlete/coach and staff development, resulting in more Canadian athletes on international podiums.

The collaborative research relationship between UOIT and CSIO in tandem with the proposed PhD program will provide graduate students with an extraordinary graduate experience. Students will have the opportunity to conduct applied high performance sport research, while gaining valuable sport related industry experience working as part of a multi-disciplinary integrated support team. In collaboration with UOIT, CSIO is keen to build the future of applied sport practitioners in Canada and train graduate students as potential employees for the Canadian Sport Institute Network.

Although the formal research relationship between UOIT and CSIO is quite new, various professors within the Faculty of Health Sciences (FSHc) have been collaborating with CSIO across multiple sport research initiatives over the last several years, making practical and significant impact to high performance athletes and coaches residing in Ontario. CSIO is very excited to support a PhD program within FHSc that will provide graduate students with an embedded experience working within a highly productive integrated support team, answering key performance enhancing questions, and grooming future practitioners in high performance sport.

In full support of this necessary & impactful PhD program,

Pierre McCourt

Pierre McCourt, EMBA, M. Sports Physiotherapy
Director, Performance Services
Canadian Sport Institute Ontario

February 22, 2018

Professor Bernadette Murphy,
Associate Dean Research and Graduate Studies
Faculty of Health Sciences
University of Ontario Institute of Technology
2000 Simcoe St North
Oshawa, ON L1H 7K4

Dear Dr. Murphy:

RE: Letter of Support for Faculty of Health Sciences PhD program

We are pleased to provide this letter in support of the University of Ontario Institute of Technology (UOIT), Faculty of Health Sciences' (FHS) application for a new PhD program in Health Sciences.

The Canadian Memorial Chiropractic College (CMCC) has partnered with FHS on several important and innovative initiatives for more than five years. These initiatives have ranged from an undergraduate articulation agreement, a graduate program in Disability Prevention to an internationally recognized joint research program, UOIT-CMCC Centre for Disability Prevention and Rehabilitation. In addition, our faculty have worked with several undergraduate research practicum students, participated in thesis committees of FHS Masters students, and collaborated on numerous research studies. Our institutions, as well as our students, benefit from these collaborations and we continue to work to ensure sustainable growth both in academic programs and research.

A PhD in Health Sciences would greatly contribute to the sustainability of research in both our institutions. The program designed by FHS is timely and relevant to doctoral students with diverse health related backgrounds and interests. The program's flexible format, combining fieldwork and experiential learning, will provide graduate students with advanced practical knowledge and skills in various critically important health related fields. It will also provide opportunities for on-site research placements that will ensure our continued research collaborations. Furthermore, the proposed program is appealing to CMCC and could potentially be accessed by faculty and graduate students, assisting us in building research capacity.

We value our relationship with UOIT and the FHS. The proposed PhD in Health Sciences would further this relationship that has been built upon our many years of successful collaborations. We support this application and appreciate its importance in developing future researchers who will contribute to the changing health landscape and the health of Canadians.

If you have any further questions, please do not hesitate to contact us.

Yours sincerely,

David Wickes, DC, MA
President

Silvano A. Mior, DC, PhD
Director, Research Partnerships
and Health Policy

Canadian Memorial Chiropractic College
6100 Leslie Street, Toronto ON M2H 3J1
T: 416 482 2340 www.cmcc.ca

Ontario Shores
Centre for Mental Health Sciences

Professor Bernadette Murphy
Associate Dean, Research and Graduate Studies
Faculty of Health Sciences
University of Ontario Institute of Technology
2000 Simcoe St. North
Oshawa, ON, L1H 7K4

Re: Letter of Support for Faculty of Health Sciences PhD Program

January 26, 2018

Dear Professor Murphy,

It is with great pleasure that I may provide this letter of support for the proposed PhD program in Health Sciences. As you know, Ontario Shores Centre for Mental Health Sciences (Ontario Shores) is a public hospital providing a range of specialized assessment and treatment services to those living with complex and serious mental illness. Exemplary patient care is delivered through safe and evidence-based approaches where successful outcomes are achieved using best clinical practices and the latest advances in research. The organization shares its expertise, knowledge and experiences, through research, education and advocacy initiatives and provides leadership to healthcare providers, community and academic partners, policy makers and social sectors to strengthen and advance the mental health care system. Ontario Shores is recognized for its implementation of innovative clinical programs, leadership in virtual care, evolving new partnerships to advance technologies, its patient portal and for an expanding role in population health management. Ontario Shores is the first hospital in Canada to receive the Healthcare Information and Management Systems Society (HIMSS) Stage 7 designation for it's completely paperless electronic health record system that improves performance, quality of care and patient safety.

As part of its academic mandate, Ontario Shores is positioned to provide high quality fieldwork and experiential learning and we are pleased to have supported numerous undergraduate health sciences research practicum students over the years. The research practicum students have been instrumental in advancing many research projects at Ontario Shores and their contributions have been recognized in conference presentations and academic publications. Ontario Shores has also recruited these students for employment opportunities.

The program of research at Ontario Shores has advanced significantly due to the recruitment of key scientist positions including an endowed research chair and success in competitive research grants. Our researchers have funding to support trainees (masters, doctoral, post-doctoral) with studentships and employed positions. Over the past four years we have been challenged to recruit doctoral and post-doctoral trainees due to our geographic location and similarly, our location in Durham Region limits Ontario Shores' collaboration with other academic centres and their PhD candidates in health sciences.

There would be significant benefit to both Ontario Shores and UOIT if the proposed PhD program in health sciences is approved and I wholeheartedly support this proposal.

Sincerely,

Michael Wasdell
Director, Research and Academics

January, 8 2018

Professor Bernadette Murphy,
Associate Dean Research and Graduate Studies
Faculty of Health Sciences
University of Ontario Institute of Technology
2000 Simcoe St North,
Oshawa, Ontario.
L1H 7K4

Re: Support for Faculty of Health Sciences PhD program

Dear Bernadette,

I am very pleased to support the UOIT Faculty of Health Sciences in their proposal of a new PhD program in Health Sciences.

Grandview Children's Centre provides paediatric assessment, treatment, rehabilitation services and specialized programs and services to children and youth with communication, physical and development needs. Working with organizational partners and community paediatric professionals, Grandview builds capacity tin the community through information, knowledge exchange and consultation; we also participate in research activity and teaching in the field of children's rehabilitation. Grandview's demand has exceeded 10,000 families per year and last year we completed over 64,000 appointments.

The opportunity to have a PhD program to build on the current Master of Health Sciences degree program will produce future Health Sciences Leaders with across the fields of Kinesiology, Health Informatics, and Community, Public and Population Health. This specific expertise accompanied by a breadth of interprofessional knowledge surrounding advances in health data, technical, ethical , social and policy implications is needed by organizations like Grandview to ensure that our teams of the future are able to meet the complex socials and health need of our clients. Further, a PhD program would allow Grandview and UOIT to advance our existing partnerships in research to extend to on-site research placements, continuity of research projects requiring multiple years or with nique populations and the importance of training locally to retain local talent.

Grandview and UOIT have a solid track record of partnership and collaboration. Our combined efforts have resulted in tremendous new opportunities for the children and families accessing research programs. In addition, families and our professional staff are benefitting from the collaborative evaluation of programs, Our organisation is energized by the students (individual, group sand capstone projects) and faculty working with us to advance the science of paediatric rehabilitation. The addition of a PhD program would provide access to a full continuum, breadth and scope of graduate who are able to articulate the scientific and practical significance of their research to improve the lives of Grandview kids and their families.

I look forward to hearing about an approval for this program to address the changing landscape of health service delivery.

Lorraine Sunstrum-Mann, ECEDH, RN, BA, MBA
Chief Executive Officer, Grandview Children's Centre

Grandview Children's Centre
600 Townline Road South
Oshawa, Ontario L1H 7K6

Tel 905.728.1673
Toll Free 1.800.304.6180
Fax 905.728.2961
Website grandviewkids.ca

Registered Charitable Organization

Lakeridge Health

January 8, 2018

Professor Bernadette Murphy
Associate Dean, Research and Graduate Studies
Faculty of Health Sciences
University of Ontario Institute of Technology
2000 Simcoe St North,
Oshawa, Ontario.
L1H 7K4

Dear Dr. Murphy,

On behalf of the Medical and Academic Affairs and Research programs, I would like to confirm our enthusiastic support for UOIT's proposal for a new Ph.D. program in Health Sciences. We are thrilled that Master of Sciences degree students will be able to further their academic experience in the specific expertise of Kinesiology, Health Informatics or Community, Public and Population Health. Lakeridge Health is committed to research excellence, and we look forward to the potential to collaborate with a new group of thought leaders. We are dedicated to improving the quality of care delivered to our community, as well as advancing research opportunities in the Durham region. We see this proposal as central to our strategic directions and goals. This program would complement our existing research partnerships to improve healthcare and clinical practice.

Sincerely,

George Buldo, MD, MHCM, FRCPC

VP, Medical and Academic Affairs
T. 905-576-8711
gbuldo@lakeridgehealth.on.ca

OSHAWA
ONTARIO, CANADA

OFFICE OF THE MAYOR
CITY OF OSHAWA
50 CENTRE STREET SOUTH
OSHAWA, ONTARIO
L1H 3Z7
TELEPHONE (905) 436-5674
FAX (905) 436-3884
E-MAIL: mayor@oshawa.ca

MAYOR JOHN HENRY

February 8, 2018

Bernadette Murphy
Associate Dean, Health Sciences
University of Ontario Institute of Technology
2000 Simcoe Street North
Oshawa, Ontario L1H 7K4

Dear Dr. Murphy,

On behalf of the City of Oshawa and our Teaching City initiative, I am pleased to provide this letter of support for University of Ontario Institute of Technology (UOIT)'s proposal for a new Ph.D. program in Health Sciences.

The City of Oshawa, our partner UOIT, along with other partners, are formally collaborating to make Oshawa a Teaching City that builds momentum and establishes the City as one focused on experiential learning, applied research and innovative teaching partnerships to study and address complex urban issues and identify opportunities. Together the partners will explore and pursue the following objectives:

- Identify and develop initiatives focused on creating practical, scalable and sustainable solutions to urban issues;
- Develop and potentially commercialize technologies and techniques ;
- Develop and coordinate joint experiential learning opportunities, applied research, and innovative educational activities;
- Contribute to seminars, workshops and academic initiatives that drive the business goals of the City;
- Share access to facilities, equipment, systems, information and data; and
- Work toward the long-term positioning of Oshawa as a locally and globally recognized community of urban research and learning.

A Ph.D. program in Health Sciences at UOIT would be of benefit to the Teaching City initiative and broaden the scope of research opportunities, while continuing to advance the Teaching City objectives.

Sincerely,

John Henry
Mayor

G. Masters in Health Science Information

Master of Health Sciences – Thesis Option

Degree requirements:

5 courses (2 required, 3 electives) and a Master's Thesis

Community Health Field	Health Informatics Field	Kinesiology Field
• HLSC 51010G – Health Research Approaches *(required)* • HLSC 5020G – Studies in Community Health *(required)* • Elective #1 • Elective #2 • Elective #3	• HLSC 51010G – Health Research Approaches (*required)* • HLSC 5050G – Patient Journey Modelling *(required)* • Elective #1 • Elective #2 • Elective #3	• HLSC 51010G – Health Research Approaches *(required)* • HLSC 5030G – Studies in Kinesiology *(required)* • Elective #1 • Elective #2 • Elective #3

Master of Health Sciences – Project Option

Degree requirements:

7 courses (2 required, 5 electives) and a Master's project

Community Health Field	Health Informatics Field	Kinesiology Field
• HLSC 51010G – Health Research Approaches *(required)* • HLSC 5020G – Studies in Community Health *(required)* • Elective #1 • Elective #2 • Elective #3 • Elective #4 • Elective # 5	• HLSC 51010G – Health Research Approaches *(required)* • HLSC 5050G – Patient Journey Modelling *(required)* • Elective #1 • Elective #2 • Elective #3 • Elective #4 • Elective # 5	• HLSC 51010G – Health Research Approaches *(required)* • HLSC 5030G – Studies in Kinesiology *(required)* • Elective #1 • Elective #2 • Elective #3 • Elective #4 • Elective # 5

UNIVERSITY OF ONTARIO INSTITUTE OF TECHNOLOGY
SCHOOL OF GRADUATE AND POSTDOCTORAL STUDIES

School of Graduate and Postdoctoral Studies University of Ontario Institute of Technology
2000 Simcoe Street North Oshawa, ON
L1JH 7K4 T 905.721.8668
F 905.721.3242 www.gradstudies.uoit.ca

Graduate Student Research Progress Report

What? This form is used for monitoring progress and providing sufficient feedback to students regarding their dissertation/paper/portfolio/project/thesis.
Who? This form is completed by the student's supervisor(s) and/or supervisory committee.
When? This form is to be completed every term.

Last Name	First Name	Student Number

uoit.ca email address	Degree/Program	Current Term
		Fall 2017 (Sep. to Dec.)

Student Standing	
☐	First report
☐	Clear
☐	Probation

Overall Evaluation	
☐	Satisfactory Progress
☐	Difficulty with Progress
☐	Unsatisfactory Progress

Evaluation of Research Progress

	Research Progress	Research Plan	Requisite Knowledge	Research Skills	Motivation & Work Ethic	Other:
Satisfactory	☐	☐	☐	☐	☐	☐
Difficulties	☐	☐	☐	☐	☐	☐
Unsatisfactory	☐	☐	☐	☐	☐	☐
Not Applicable	☐	☐	☐	☐	☐	☐

Explanation of above ratings and action plan – to be completed by Supervisor and/or Supervisory Committee:

Please note that failure to meet objectives on progress reports may be cited as grounds for probation or dismissal from the program of study. By signing below, all parties acknowledge that the graduate student research progress report has been discussed.

Additional Supervisor/Committee Comments:

School of Graduate and Postdoctoral Studies University of Ontario Institute of Technology
2000 Simcoe Street North Oshawa, ON
L1JH 7K4 T 905.721.8668
F 905.721.3242 www.gradstudies.uoit.ca

UNIVERSITY OF ONTARIO INSTITUTE OF TECHNOLOGY
SCHOOL OF GRADUATE AND POSTDOCTORAL STUDIES

Graduate Student Research Progress Report

Student Comments:

_____ _____ Date: _____
Supervisor Name — Supervisor signature

_____ _____ Date: _____
Co- Supervisor Name (if applicable) — Co-Supervisor signature

Supervisory Committee: (If applicable)

_____ _____
Committee Member — Committee Member signature

_____ _____
Committee Member — Committee Member signature

_____ _____
Graduate Program Director Name — Graduate Program Director Signature

_____ _____ Date: _____
Student Name — Student signature:

The information requested on this form is collected under the authority of the University of Ontario Institute of Technology Act, 2002. This information is being collected for the purpose of tracking the student's progress in the program. Inquiries concerning the collection of this information should be directed to the Graduate Thesis and International Coordinator 905.721.8668 ext.6203.

If you require this information in an alternate format due to disability, please email *gradstudies@uoit.ca*

Appendix B: Literature Review Scoring Rubric (adapted from Boote and Beile, 2005: 81)

Category	Criterion	Level 1	Leve1 2	Level 3
1. Coverage (2 points)	a. Justified inclusion/exclusion criteria	Did not discuss criteria	Discussed criteria	Justified inclusion/ exclusion criteria
2. Methodology (4 points)	b. Identified the main methodological/res earch techniques	Research methods not discussed	Some discussion of methods used	Critiqued methods and related them to ideas and theories
3. Synthesis (8 points)	c. Distinguishes what has been done in the field from what needs to be	Did not distinguish what has and has not been done	Did not distinguish what has and has not been done	Critically examined state of the field
	d. Placed topic/problem in scholarly literature	Topic not placed in scholarly literature	Some discussion of place in scholarly	Topic clearly situated in scholarly literature
	e. Acquired and enhanced the subject vocabulary	Key vocabulary not discussed	Key vocabulary defined	Discussed and resolved ambiguities in definitions
	f. Articulated relevant variables, etc.	Key variables not discussed	Reviewed relationship among key variables	Noted ambiguities in literature/ proposed new relationships
	g. Synthesized & gained new perspective on	Accepted literature at face value	Some critique of literature	Offered new perspective
4. Significance (2 points)	h. Rationalized the practical and scholarly significance of research	Practical/ scholarly significance not	Practical/scholarly significance discussed	Critiqued practical/ scholarly significance
5. Rhetoric (4 points)	i. Written in coherent, clear structure and fashion	Poorly conceptualized, haphazard	Some coherence and structure	Well developed and coherent

[1] Boote, D. N. and P. Beile (2005). "Scholars before researchers: On the centrality of the dissertation literature review in research preparation." Educational Researcher 34(6): 3-15.

Appendix C: Rubric for Literature Review and Case Study Presentations

Criterion	Excellence	Maximum Points	Actual points
Opening/introduction	Clear, concise, captivating (draws in audience); direction, central question clearly defined.	2	
Organization (includes content) and clarity	Clearly arranged ideas. Chronology is recognized -- introduction, body, and conclusion. Smooth transitions.	3	
Synthesis/summary	Pulled together ideas in clear summary for audience; "take-home" message well understood, identifying contribution of research to literature.	5	
Language	Clearly defined new terminology for audience.	2	
Timeframe	Appropriate length; not too short or long; steady pace.	2	
Style and delivery	Maintains eye contact; clear speaking; maintains audience's attention.	2	
Stimulated and addressed questions	Presentation stimulates questions; at ease answering questions with appropriate elaboration; clear command of material.	4	
Total		**20**	
Total out of 10			

UNIVERSITY OF ONTARIO INSTITUTE OF TECHNOLOGY

Faculty of Health Sciences
5020G: Studies in Community Health
Course outline for Fall 2017

1. Course Details & Important Dates*

Term	Status	Course Type	Day	Time
F	001	Class	M	17:10 - 20:00

Location	CRN #	Classes Start	Classes End	Final Exam Period
UA 3240	41762	7 September	4 December	n/a

* for other key dates see: www.uoit.ca >Current Students >Important Dates and Deadlines

2. Instructor Contact Information

Instructor Name	Office	Phone	Email
Manon Lemonde	UA 3018	Ext: 2706	manon.lemonde@uoit.ca
Office Hours: Please email me for an appointment.			

3. Course Description

This course orients students toward community health research. It explores the range of factors that affect community health (e.g., the physical environment, public policy, the socio-cultural and economic context, community organization and individual behaviours) along with various interventions available to promote health and well-being. Three cr.

4. Learning Outcomes

On the successful completion of the course, students will be able to:

- Articulate the differences among community, populations, and personal health
- Assess various factors that impact community health, along with the mechanisms through which they do so
- Compare various ways by which community health might be studied
- Critically assess community health policies and programs
- Critically assess and review research literature on the topic within community health they wish to examine.

The class employs a seminar format wherein students, the instructor, and guest speakers will discuss their ideas regarding readings on various topics related to community health. Materials should be carefully read prior to each class meeting. The instructor or speaker will introduce most topics and facilitate discussion. Students are expected to attend classes and contribute to all discussions.

6. Outline of Topics in the Course

WEEK	TOPICS/READING
# 1 9/11	**Course Introduction** – Overview of the course, syllabus, and evaluations. Open discussion about our understanding of Community Health: definition, role of the individual/patient, public engagement, continuum of care (link between community health and clinical care). READ: 1. Health Promotion and community participation – World Health Organization (http://www.who.int/water_sanitation_health/hygiene/emergencies/em2002chap15.pdf) 2. Evidence Boost: A review of research highlighting how patient engagement contributes to improved care (http://www.cfhi-fcass.ca/sf-docs/default-source/reports/evidenceboost-rossbaker-peimprovedcare-e.pdf?sfvrsn=8) 3. Examining the links between community participation and health outcomes: a review of the literature (doi:10.1093/heapol/czu076) 4. Conceptualizing lay participation in professional health care organizations (doi:10.1177/0095399713489829)
# 2 9/18	**Presentation: On Systematic Reviews** (Dr. Otto Sanchez) **Read: Grimshaw, J. "A knowledge synthesis chapter" from CIHR** (http://www.cihr-irsc.gc.ca/e/documents/knowledge_synthesis_chapter_e.pdf)
# 3 9/25	**Understanding health and wellness sociologically** **Ken McFarlan, Health Sciences Librarian** **READ: Segall, A. & Fries, C.J. Chapters: 1-3** THINK ABOUT: What framework suits your research interest and why?
# 4 10/2	**Factors that shape health and wellness** **READ: Segall, A. & Fries, C.J. Chapters: 4-7**

	THINK ABOUT: How do health/social determinants affect the community/people you expect to study? What are the sources of inequality and health disparities that you can foresee with the community/people you expect/intend to study? **Discussion – the Thesis Process (ppt)**
# 5 10/16	**Intersection: lifestyles and health disparities** **READ: Segall, A. & Fries, C.J. Chapter: 8** THINK ABOUT: How does the intersection of the various determinants of health influence the community/people you expect to study, and how does individual "lifestyle" (lifestyle behaviors) play a role? **Discussion –NVivo; economic, social and cultural capital and health (ppt)**
# 6 10/23	**Pursuing health and wellness** **READ: Segall, A. & Fries, C.J. Chapters: 9-12** **ASSESSMENT ESSAY (selected from study questions)** THINK ABOUT AND BE PREPARED TO DISCUSS: What role does formal and informal health care play in affecting the health and wellbeing of the community /people you expect to study?
# 7 10/30	**Research approaches to Community Health** **1-** Cameron, J.I., Naglie, G., Sivler, F.L. & Gignac, A.M. (2013). Stroke family caregivers' support needs change across the care continuum: a qualitative study using the timing it right framework. Journal of Disability and Rehabilitation, 35(4), 315-324, DOI: 10.3109/09638288.2012.691937 2- Carman, K.L., Dardess, P., Maurer, M., Sofaer, S., Adams, K., Becht, C. & Sweeney, J. (2013). Patient and family engagement: A framework for understanding the elements and developing interventions and policies. Health Affairs, 32(2), 223-231, DOI: 10.1377/hlthaff.2012.1133 3- Garney, W.R.,Wendel,M., McLeroy, K., Alaniz, A.,Cunningham, G., Castle,B.,Ingram, M.& Burdine, J.(2017). Using a Community Health Development Framework to Increase Community Capacity *A Multiple Case Study.* Family and Community Health, 40(1), 18-23. DOI: 10.1097/FCH.0000000000000135.

	4- Napoles, A., Cook, E., Ginossar, T., Knight, K.D., & Ford, M.E. (2017). Applying a Conceptual Framework to Maximize the Participation of Diverse Populations in Cancer Clinical Trials. Advanced Cancer Research, 133, 77–94. DOI:10.1016/bs.acr.2016.08.004. 5- Campbell, R.M., Klei , A. G., Hodges, Hodges, B.D., Fisman, D., & Kitto, S. (2012). A Comparison of Health Access Between Permanent Residents, Undocumented Immigrants and Refugee Claimants in Toronto, Canada. Journal of Immigrant and Minority Health. DOI 10.1007/s10903-012-9740-1 THINK ABOUT AND BE PREPARED TO DISCUSS: What research frameworks for understanding health and illness discussed above do these studies most relate to?
# 8 11/06	Natascha Kozlowski, MPH Director, Research Lakeridge Health Adjunct Faculty at UOIT
# 9 11/13	**On community-based participatory research (CBPR)** 1- Belone, L., Lucero, J.E., Duran, B., Tafoya, G., Baker, E.A., Chan, D., Chang, C., Greene-Moton, E., Kelley, M., & Wallerstein, N. (2016). "Community-Based Participatory Research Conceptual Model: Community Partner Consultation and Face Validity". Qual Health Res. 26(1), 117–135. DOI:10.1177/1049732314557084 2- Bomar, P.J. (2010). Community-based participatory nursing research: A culturally focused case study. Japan Journal of Nursing Science, 7, 1-8. DOI:10.1111/j.1742-7924.2010.00145.x 3- Guta, A., Strike, C., Flicker, C., Murray, S.J., Upshur, R., & Myers, T. (2014). Governing through community-based research: Lessons from the Canadian HIV research sector. Social Science and Medicine, 123, 250-261. DOI: 10.1016/j.socscimed.2014.07.028 4- Mayan, M., Daum, C. (2016). "Worth of risk? Muddled relationships in community-based participatory research. Qualitative Health Research, 26(1), 69-76. DOI: 10.1177/1049732315618660 5- Mohammed, S. A., Walters, K.L., LaMarr, J., Evans-Campbell, T., & Fryberg, S. (2010). Finding middle ground: Negotiating university and tribal community interests in community-based participatory research. Nursing Inquiry, 19(2), 116-127. DOI: 10.1111/j.1440-1800.20111.00557.x
#10 11/20	**Social Capital and health** 1- Alvarez, E.C., Kawachi, I., & Romani, J. R. (2017). Family social capital and health – a systematic review and redirection. Sociology of Health & Illness, 39 (1), 5-29. Doi: 10.1111/1467-9566.12506

	2- Cramm, J.M., van Dijk, H.M., & Nieboer , A.P. (2013). The Importance of Neighborhood Social Cohesion and Social Capital for the Well Being of Older Adults in the Community. The Gerontologist 53 (1), 142–150. 3- Hiroshi, M., Fujiwara, Y., & Kawachi, I. (2012). Social capital and health: A review of prospective multilevel studies. Journal of Epidemiology 22 (3): 179-187. Doi:10.2188/jea.JE20110128. 4- Nakhaie, R., & Arnold, R. (2010). A four-year (1996-2000) analysis of social capital and health status of Canadians: the difference that loves makes. Social Science & Medicine, 71(2010), 1037-1044. Doi: 10.1016/j.socscmed.2010.05.033. 5- Poortinga, W. (2012). Community resilience and health: The role of bonding, bridging, and linking aspects of social capital. Health & Place 18 (2) 286–295	
# 11-#12 **11/27 12/4**	**Students presentations – please see schedule in class**	

7. Required Texts / Readings

Boote, D.N. & Beile, P. (2005). "Scholars before researchers: On the centrality of the dissertation literature review in research preparation." Educational Researcher 34(6): 3-15

Pope, C., Mays, N., & Popay, J. (2007). *Synthesizing qualitative and quantitative health evidence*. New York: Two Penn Plaza: Open University Press. Chapter 1 Pope, et al., (2007) "Different types of evidence review" (pp. 3-18)

Segall, A. & Fries, C.J. (2017) *Pursuing Health and Wellness: Healthy Societies, Healthy People, 2nd Edition.* Don Mills: Oxford University Press.

The list of readings is included with each class. Some additional readings can be specified later particularly for the guess lecture.

8. Evaluation Method

Your final course grade will be based on the weighted sum of scores received on the following: an assessment essay (20%), an oral presentation (20%), a one-pager (20%), a literature review (30%), and class participation (10%). Literature review and one-pager **drafts** are required, and will be graded on a pass-fail basis. The appendices provide the rubric associated with the oral presentation, the one-pager, the essay, the facilitation and the literature review. Class participation will be based on attendance, contributions to class discussions and article facilitation. A set of potential essays questions is also provided in the appendix.

9. Assignments and Tests

Components	Mark	Due Date
a) Assessment essay 1	20%	October 23rd
b) DRAFT literature review	P-F	October 16TH
c) DRAFT one-pager	P-F	October 30th
d) Oral presentation	20%	As assigned
e) Literature review	30%	December 6th
f) FINAL one-pager	20%	December 6th
g) Class participation	10%	December 4

10. Accessibility

Accommodating students with disabilities at UOIT is a responsibility shared among various partners: the students themselves, SAS staff and faculty members. To ensure that disability-related concerns are properly addressed during this course, students with documented disabilities and who may require assistance to participate in this class are encouraged to speak with the professor as soon as possible. **Students who suspect they have a disability that may affect their participation in this course are advised to go to Student Accessibility Services (SAS) as soon as possible.** Maintaining communication and working collaboratively with SAS and faculty members will ensure you have the greatest chance of academic success.

Students taking courses on the North Campus Location can visit Student Accessibility Services in the U5 Building located in the Student Life Suite. Students taking courses on the Downtown Oshawa Campus Location can visit Student Accessibility Services in the 61 Charles St. Building, 2nd Floor, Room DTA 225 in the Student Life Suite.

Disability-related support and accommodation support is available for students with mental health, physical, mobility, sensory, medical, cognitive, or learning challenges. Office hours are 8:30am-4:30pm, Mon-Fri. For more information on services provided, you can visit the SAS website at http://uoit.ca/studentaccessibility

Students may contact Student Accessibility Services by calling 905-721-3266, or email studentaccessibility@uoit.ca

Students who require the use of the Test Centre to write tests, midterms, or quizzes MUST register online using the SAS test/exam sign-up module, found here www.uoit.ca/SASexams. Students must sign up for tests, midterms or quizzes AT LEAST seven (7) days before the date of the test.

Students must register for final exams by the registration deadline, which is typically 2 weeks prior to the start of the final examination period. SAS will notify students of the registration deadline date.

11. Academic Integrity

Students and faculty at UOIT share an important responsibility to maintain the integrity of the teaching and learning relationship. This relationship is characterized by honesty, fairness and mutual respect for the aim and principles of the pursuit of education. Academic misconduct impedes the activities of the university community and is punishable by appropriate disciplinary action.

Students are expected to be familiar with and abide by UOIT's regulations on Academic Conduct (Section 5.15 of the Academic Calendar) which sets out the kinds of actions that constitute academic misconduct, including plagiarism, copying or allowing one's own work to copied, use of unauthorized aids in examinations and tests, submitting work prepared in collaboration with another student when such collaboration has not been authorized, among other academic offences. The regulations also describe the procedures for dealing with allegations, and the sanctions for any finding of academic misconduct, which can range from a resubmission of work to a failing grade to permanent expulsion from the university. A lack of familiarity with UOIT's regulations on academic conduct does not constitute a defense against its application.

Further information about academic misconduct can be found in the Academic Integrity link on your laptop. Extra support services are available to all UOIT students in academic development, study skills, counseling, and peer mentorship. More information on student support services can be found in the Academic Calendar (Section 8).

12. Turnitin (if applicable)

UOIT and faculty members reserve the right to use electronic means to detect and help prevent plagiarism. Students agree that by taking this course all assignments are subject to submission for textual similarity review by Turnitin.com. Assignments submitted to Turnitin.com will be included as source documents in Turnitin.com's restricted access database solely for the purpose of detecting plagiarism in such documents for five academic years. The instructor may require students to submit their assignments electronically to Turnitin.com or the instructor may submit questionable text on behalf of a student. The terms that apply to UOIT's use of the Turnitin.com service are described on the Turnitin.com website.

Students who do not wish to have their work submitted to Turnitin.com must provide with their assignment at the time of submission to the instructor a signed Turnitin.com Assignment Cover sheet:
http://www.uoit.ca/assets/Academic~Integrity~Site/Forms/Assignment%20Cover%20sheet.pdf

Further information about Turnitin can be found on the Academic Integrity link on your laptop.

13. Freedom of Information and Protection of Privacy Act

The following is an important notice regarding the process for submitting course assignments, quizzes and other evaluative material in your courses in the Faculty of Health Sciences.

As you may know, UOIT is governed by the *Freedom of Information and Protection of Privacy Act* ("FIPPA"). In addition to providing a mechanism for requesting records held by the university, this legislation also requires that UOIT not disclose the personal information of its students without their consent.

FIPPA's definition of "personal information" includes, among other things, documents that contain both your name and your Banner ID. For example, this could include graded test papers or assignments. To ensure that your rights to privacy are protected, the Faculty of Health Sciences encourages you to use only your Banner ID on assignments or test papers being submitted for grading. This policy is intended to prevent the inadvertent disclosure of your information where graded papers are returned to groups of students at the same time. If you still wish to write both your name and your Banner ID on your tests and assignments, please be advised that UOIT will interpret this as an implied consent to the disclosure of your personal information in the normal course of returning graded materials to students.

If you have any questions or concerns relating to the new policy or the issue of implied consent addressed above, please contact the Faculty of Health Sciences Associate Dean Undergraduate Studies.

14. **Other information**

UOIT is committed to the prevention of sexual violence in all is forms. For *any*UOIT student who has experienced Sexual Violence, UOIT can help. UOIT will make accommodations to cater to the diverse backgrounds, cultures, and identities of students when dealing with individual cases.

If you think you have been subjected to or witnessed sexual violence:

- **Reach out to a Support Worker, who are specially trained individuals authorized to receive confidential disclosures about incidents of sexual violence. Support Workers can offer help and resolutions options which can include safety plans, accommodations, mental health support, and more. To make an appointment with a Support Worker, call 905.721.3392 or email supportworker@uoit.ca**
- **Learn more about your options at: www.uoit.ca/sexualviolence**

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact studentlife@uoit.ca for support. Furthermore, please notify your professor if you are comfortable in doing so. This will enable them to provide any resources and help that they can.

Please see this short article for background. https://medium.com/p/basic-needs-security-and-the-syllabus-d24cc7afe8c9

APPENDIX A
Oral Presentation Rubric

Criterion	Excellence	Maximum Points	Actual points
Opening/introduction	Clear, concise, captivating (draws in audience); direction, central question clearly defined.	2	
Organization (includes content) and clarity	Clearly arranged ideas. Chronology is recognized -- introduction, body, and conclusion. Smooth transitions.	3	
Synthesis/summary	Pulled together ideas in clear summary for audience; "take-home" message well understood, identifying contribution of research to literature.	5	
Language	Clearly defined new terminology for audience.	2	
Timeframe	Appropriate length; not too short or long; steady pace.	2	
Style and delivery	Maintains eye contact; clear speaking; maintains audience's attention.	2	
Stimulated and addressed questions	Presentation stimulates questions; at ease answering questions with appropriate elaboration; clear command of material.	4	
Total		**20**	

* NOTES: (1) Send your Power Point to my Blackboard account. (2) Limit your presentation to a total of 20 minutes – roughly 12-15 minutes for your talk and 5-8 minutes for questions and answers.

Comments:

N.B. This oral presentation should be based on your Graduate thesis research question or hypothesis. Explain why this is an important area of study within the context of the literature.

APPENDIX B
Rubric for One-Pager

Criterion	Excellence	Maximum Points	Actual points
Background	Lead in to the central research questions; identify gap in the literature your study will fill;	3	
Research Objectives	Clearly, concisely stated objectives that follow from your question; three is a good number of objectives.	4	
Approach	How you plan to collect data; measures (if available); study population; how you plan to analyze it; potential limitations.	4	
Significance	Contribution your research will make to the scholarly literature; contribution your research will make to health improvement	4	
Overall form / style -- "good ideas are not enough"	Must be within one page; clear presentation; easy to follow; little/no jargon; excitement factor. No typos.	5	
Total		**20**	

Hints:

- Talk to your supervisor; hear feedback.
- Sell your research.
- Revise → feedback → revise → feedback → revise…
- Gain feedback from different sources – supervisor, peers, etc.
- More specific, more narrow, ***achievable*** e aims, the better. Too broad may not seem feasible. Don't propose too much.
- Avoid proposing to "collect more data"
- Do not use small font, small margins to cram material into a single page -- 11-12-point font, 1 inch margins all around should suffice
- Don't confuse with acronyms
- Final proofread before submitting

Keys to a great research question –

FINER:

- Feasible -- enough subjects, enough expertise, enough time/money, manageable
- Interesting to the investigator – passion, makes a difference
- Novel – confirms/refutes prior findings; extends prior findings; offers new findings
- Ethical
- Relevant – relevant to science; relevant to clinical, public health, health policy…

APPENDIX C

Rubric for the Essay questions

For this assignment, please submit 3-4 pages typed, double-spaced in 12 font report that addresses the following in answering the essay question you personally chosen: please keep in mind the context in which you should be referring i.e. **community health**.

a) Introduction: clearly stated; focuses and enhances the impact of the question (3 marks)

b) Quality and relevance of the information: from peer reviewed papers or books (always reference book); you need to answer the question and explain accordingly; organize your answer and present it in a clear and precise fashion (10 marks)

c) Conclusion: draws a clear, effective conclusion, linking to introduction and enhances the impact of the question on community health. (5 marks)

d) Organization: overall order, flow, and transitions (2 marks)

Note: Title page and references are not included in the page count.

Possible Essay Questions, Fall 2017

1. "People's social location" affects their behaviour and health. What is meant by "people's social location" and illustrate how it affects their behaviour and health.

2. Describe what is meant by the "new public health." What can explain the fact that lifestyle health behaviour remains a central feature of the new public health despite the fact that we have little clear evidence as to which behaviours actually constitute a healthy lifestyle?

3. Inequalities in health care have widened, despite universal access. Why? How do social conditions impact your answer?

4. Discuss how the "new public health" relates to the "medicalization" process (e.g., the expansion of surveillance medicine, medical screening, pharmaceutical industry, etc.).

5. In what way is the current formal health-care system actually a "sick care system" which promotes the medicalization of life?

6. Comment critically on the relationship between medical consumerism, the marketing of ethnicity, and the use of *Complementary Alternative Medicine* (CAM)?

7. Outline the major differences between the vision of healthy society and the reality of health care reform that has taken place.

8. Numerous studies report that social support is positively related to health. Numerous examples are also available about how social networks not only contribute to good health but also how they are a buffer to ill-health. What effects do social networks have on societal level? Make sure your answer is situated in an intersectional framework.

9. Summarize the main obstacles facing the implementation of healthy public policy.

APPENDIX D
DISCUSSION FACILITATION

Each student will be asked to lead/facilitate the discussion of one reading. The discussion should proceed in a free-flowing manner after the student offers a brief summary of the reading. Prepare a few questions to raise in the event the discussion stalls. The choice of readings is listed in an appendix.

TIPS FOR FACILITATION

1. **Read the article**- This may seem obvious, but it is the most important step, so it is worth stating.

2. **Write down important parts of the article** - If there are parts of the article that made an impact on you or that you think may come up in discussion, write them down so that you can access the passages easily while preparing and leading your article discussion. In general, summarize information and emphasize the most important details (what was done and why)

3. **Come up with four to five questions about the article** - Print them out and you are done with this step.

4. **Let others answer first** - When you are asking questions, you want to facilitate discussion, not come off as a teacher. By letting others in the group answer first, you will promote conversation and help everyone feel like their opinions matter.

   Note: Sometimes people may need to think before they answer. Part of being a good leader is being comfortable with silence. Don't feel like you have to jump in if no one answers immediately. If needed, clarify, expand or rephrase the question.

5. **Make connections between comments** - If someone gives an answer to question 2 that connects well with question 5, don't feel obligated to ask questions 3 and 4 before moving to 5. You are the leader and you can go in whatever order you want. Even if you go in order, try to find a link between an answer and the next question. By connecting people's comments to the questions, you'll help build momentum in the conversation.

6. **Occasionally direct questions toward quiet people** - You don't want to put anyone on the spot, but you want everyone to know their opinions are valued. If you have a few talkative people who always jump right in, directing a question to a specific person may help draw out the quieter people (and let the loud people know it is time to give someone else a turn).

7. **Rein in tangents** - As the facilitator, it is your job to recognize tangents and bring the discussion back to the article.

8. **Don't feel obligated to get through all the questions** - The best questions sometimes lead to intense conversations. That's a good thing! The questions are there as a guide. While you will want to get through at least two to three questions, it will probably be rare that you finish all ten. Respect people's time by wrapping up the discussion when the meeting time is over rather than pushing on until you finish everything you planned.

9. **Wrap up the discussion** - One good way to wrap up a conversation and help people summarize their opinions of the article is to ask each person to rate the article on a scale of one to five.

APPENDIX E

INCOMPLETE LITERATURE REVIEW DRAFT

The incomplete draft should be submitted on time and should show some progress on the review and write-up of the articles. I do not expect that all articles will have been reviewed, or that the draft will show fully coherent organization or error-free writing. Getting ideas from the head to the paper is the first step; re-organization, clean-up, and fine-tuning will occur in subsequent drafts. (Due October 19th)

Marking scheme (Pass/Fail)

Criterion	Excellence	PASS/FAIL
1. Justified criteria for inclusion and exclusion	Search clearly limits topic with clear justification for inclusion and exclusion	
2. Distinguished what has been done and what needs to be done	Critically examined the state of the field;	
3. Placed the research in the historical context of the field	Situates topic as it has emerged and has been discussed over time	
4. Placed the topic in a broader scholarly context	Situates topic within current scholarly literature	
5. Acquired and enhanced the subject vocabulary	Discussed and resolved ambiguities in definitions of key terms / concepts	
6. Synthesized and gained a new perspective on the literature	Evaluated, organized, categorized theories and findings into a coherent framework**	
7. Rationalized the practical significance of the research	Outlined why the research is important from a practical point of view; the impact of the research outside scholarly/academic circles	
8. Rationalized the scholarly significance of the research	Outlined why the research is important for advancing our knowledge and understanding of an issue	
9. Writing	Well developed, coherent, organized, clearly written	
Total		

* Adapted with permission from Boote, D.N. & Beile, P. (2005) "Scholars Before Researchers: On the Centrality of the Dissertation Literature Review in Research Preparation." *Educational Researcher* 34(6), 3-15.

** Adapted from Ridley, D. (2008) *The Literature Review: A Step-by-Step Guide for Students*. Thousand Oaks, CA: Sage Publications (p. 118).

Comments:

APPENDIX F
Literature Review Assignment

Background: Your thesis research is designed to answer a *primary research* question. That is, the question will guide your exploration of some real-world phenomenon. Most likely your thesis research will *not* involve answering a *secondary research* question – i.e., one that would involve a "systematic review" (with or without a "meta-analysis") designed to assist in a public health, policy, or clinical decision making, or one that otherwise defines the current state of the knowledge on a specific topic.

A literature review should place your primary research question into a larger scholarly context. It will show how the answer to your research question might be applied to a particular phenomenon, or how it would advance the state of knowledge, or both. Absent a thoroughgoing literature review, you run a real risk of exploring a research question that everyone already knows the answer to, or of answering to a question that no one really cares much about. Further, you expend the significant time and energy doing so, wasting your own resources as well as those of others. In view of this, a thorough literature actually *saves* you time and energy. That is why it is important to put "scholarship *before* research."

Purposes:

- To develop students' understanding of the role literature reviews play in the growth of health science scholarship
- To introduce students to the practical steps in the literature review process
- To provide students with an opportunity to refine their thesis question and locate it within the larger scholarly context

Assignment:

Part 1 – Search strategy

1) Consult with your research supervisor (RS) and identify your preliminary research question
2) Identify a search strategy designed to explore this question so that it might be further refined and contextualized. This may be messy and require several iterations before a suitable strategy emerges.
3) Execute the strategy and select 15 articles for analysis (I recommend that you consult with your RS about this)

Part 2 – Critically analyze articles

4) Read 3 articles and develop an "extraction tool" – i.e., a spread sheet with columns for information to be extracted from each article -- used to organize information about selected articles (I recommend that you consult with your RS about this)

Part 3 – The write-up (see the rubric on the following page)

5) Document the search strategy, making sure that you:
   a. Specify criteria for including /excluding (e.g., search engines, language, years, keywords)
   b. Offer a *rationale* for inclusion/exclusion of articles
6) Identify / summarize methodologies used
7) Synthesize the 15 articles
8) Articulate practical / scholarly significance

APPENDIX F (cont'd): Literature Review Scoring Rubric (adapted from Boote & Beile, 2005: 8[1])

Category	Criterion	1	2	3
1. Coverage (5 points)	a. Justified inclusion/exclusion criteria	Did not discuss criteria (0 point)	Discussed criteria (3 points)	Justified inclusion/ exclusion criteria (5 points)
2. Methodology (10 points)	b. Identified the main methodological/research techniques	Research methods not discussed (0 point)	Some discussion of methods used (6 points)	Critiqued methods and related them to ideas and theories (10 points)
3. Synthesis (20 points)	c. Distinguishes what has been done in the field from what needs to be done	Did not distinguish what has and has not been done (0 point)	Some distinction of what has and has not been done (2 points)	Critically examined state of the field (4 points)
	d. Placed topic/problem in scholarly literature	Topic not placed in scholarly literature (0 point)	Some discussion of place in scholarly literature (2 points)	Topic clearly situated in scholarly literature (4 points)
	e. Acquired and enhanced the subject vocabulary	Key vocabulary not discussed (0 point)	Key vocabulary defined (2 points)	Discussed and resolved ambiguities in definitions (4 points)
	f. Articulated relevant variables, etc.	Key variables not discussed (0 point)	Reviewed relationship among key variables (2 points)	Noted ambiguities in literature/ proposed new relationships (4 points)
	g. Synthesized & gained new perspective on literature	Accepted literature at face value (0 point)	Some critique of literature (2 points)	Offered new perspective (4 points)
4. Significance (5 points)	h. Rationalized the practical and scholarly significance of research	Practical/ scholarly significance not discussed (0 point)	Practical/scholarly significance discussed (3 points)	Critiqued practical/ scholarly Significance (5 points.)
5. Rhetoric (10 points)	i. Written in coherent, clear structure and fashion	Poorly conceptualized, haphazard (0 point)	Some coherence and structure (6 points)	Well developed and coherent (10 points)

Comments:

[1] Boote, D. N. & Beile, P. (2005). "Scholars before researchers: On the centrality of the dissertation literature review in research preparation." Educational Researcher 34(6): 3-15.

APPENDIX G
CLASS PARTICIPATION

Students are expected to have carefully read the assigned readings prior to class, and should be prepared to thoughtfully discuss these readings in class. This includes readings provided by the guest lecturers and by the students. Students should be prepared to answer questions concerning each reading.

The 10% mark includes the discussion facilitation that each student is required to do during the semester. The mark will be the average of the student's self-evaluation score and the course professor

WRITINGTIPS

Good ideas are not enough if they remain buried amid convoluted, ambiguous, and unintelligible sentences within a poorly-structured essay. You may understand what you mean (or not), but the point is to have the reader understand your meaning. Complex, convoluted language often makes a suspicious reader wonder if you're trying to hide something: "Being intelligible means being found out!" (source unknown). In contrast, essays can be a pleasure to read when they ideas are clearly, concisely, and coherently expressed.

- **Start sharp** – Pull the reader in at the beginning of your essay, stating clearly its main point. Ideally, even paragraphs should open with a statement that indicates where the paragraph is going.
- **Don't use complex words or jargon when simple ones will do** – Often people try to sound smart by using big words. A study with the excellent title "Consequences of Erudite Vernacular Utilized Irrespective of Necessity: Problems with Using Long Words Needlessly"[2] actually found the opposite to be the case. It concludes: "write clearly and simply if you can, and you'll be more likely to be thought of as intelligent."
- **Shorten sentences** – Shorter sentences make everything clearer, including your own thoughts. The reader can get lost by the end of long sentences. If you see a lot of commas, "and"s, or "or"s in your sentence, it probably means it is too long and should be broken down.
- **Use the active voice, not the passive voice** – e.g., "I wrote this" is better than "this was written by me" or "(You) Use the active voice" is better than "the active voice should be used by you", or "the active voice was used". The active voice tends to shorten sentences, makes them clearer, and livens them up as well.
- **Do not use contractions in formal writing** (unless you're quoting someone else who's uses them) –Were it not for the adage "never say never", I'd say "*never* use contractions in formal writing." This is as close to a writing universal rule as you will find. It does not take much to spell it out and it also helps you avoid grade-school mistakes such as confusing "its" with "it is" or "your" with "you are"). Their use should be restricted to less formal communications such as e-mails and this one.
- **Shorten paragraphs** – generally, paragraphs should not be long either. It's difficult to hold readers' attention when they to confront a paragraph that spans almost a page or more, and you can expect them to wander off while they read (many will skip over much of it). Usually you can divide long paragraphs into two (or three) smaller ones.
- **Structure your paper into sections and subsections** (using headings and subheadings) – In addition to shortening your paragraphs, sectioning makes it easier for the reader to follow your logic.
- **Don't use sexist language** – It's the 21st century after all. Almost always you can find a way to express your idea in a non-sexist (i.e., non-exclusive) way that isn't cumbersome. Often you can use the plural form (e.g., using "they" or "their" rather than "she or he") to dodge the issue entirely.
- **It almost goes without saying I --** Use correct spelling and grammar. The reader will pass over the occasional spelling mistake or grammatical error, but they become annoying, distracting and the focus of attention when they'rerepeatedthroughout.
- **It almost goes without saying II --** Carefully read, re-read, and have others carefully read your paper before turning it in. This is very, very important.
- **OMIT NEEDLESS WORDS**

Reasons for good writing: (1) the care you take in writing suggests (rightly or wrongly) the though you put behind what you say; (2) it shows courtesy and respect to the audience who has taken time to read your prose.

[1] Oppenheimer, D.M. (2006). "Consequences of erudite vernacular utilized irrespective of necessity: Problems with using long words needlessly" *Applied Cognitive Psychology* 20: 139-156. (quote from p. 153).

APPENDIX H

Article Assignments for Discussion Facilitation

Article	Student
1- Cameron, J.I., Naglie, G., Sivler, F.L. & Gignac, A.M. (2013). Stroke family caregivers' support needs change across the care continuum: a qualitative study using the timing it right framework. Journal of Disability and Rehabilitation, 35(4), 315-324, DOI: 10.3109/09638288.2012.691937	
2- Carman, K.L., Dardess, P., Maurer, M., Sofaer, S., Adams, K., Becht, C. & Sweeney, J. (2013). Patient and family engagement: A framework for understanding the elements and developing interventions and policies. Health Affairs, 32(2), 223-231, DOI: 10.1377/hlthaff.2012.1133	
3- Garney, W.R.,Wendel,M., McLeroy, K., Alaniz, A.,Cunningham, G., Castle,B.,Ingram, M.& Burdine, J.(2017). Using a Community Health Development Framework to Increase Community Capacity *A Multiple Case Study.* Family and Community Health, 40(1), 18-23. DOI: 10.1097/FCH.0000000000000135.	
4- Napoles, A., Cook, E., Ginossar, T., Knight, K.D., & Ford, M.E. (2017). Applying a Conceptual Framework to Maximize the Participation of Diverse Populations in Cancer Clinical Trials. Advanced Cancer Research, 133, 77–94. DOI:10.1016/bs.acr.2016.08.004.	
5- Campbell, R.M., Klei , A. G., Hodges, Hodges, B.D., Fisman, D., & Kitto, S. (2012). A Comparison of Health Access Between Permanent Residents, Undocumented Immigrants and Refugee Claimants in Toronto, Canada. Journal of Immigrant and Minority Health. DOI 10.1007/s10903-012-97401	
6- Belone, L., Lucero, J.E., Duran, B., Tafoya, G., Baker, E.A., Chan, D., Chang, C., Greene-Moton, E., Kelley, M., & Wallerstein, N. (2016). "Community-Based Participatory Research Conceptual Model: Community Partner Consultation and Face Validity". Qual Health Res. 26(1), 117–135. doi:10.1177/1049732314557084..	
7- Bomar, P.J. (2010). Community-based participatory nursing research: A culturally focused case study. Japan Journal of Nursing Science, 7, 1-8. DOI:10.1111/j.1742-7924.2010.00145.x	

8- Guta, A., Strike, C., Flicker, C., Murray, S.J., Upshur, R., & Myers, T. (2014). Governing through community-based research: Lessons from the Canadian HIV research sector. Social Science and Medicine, 123, 250-261. DOI: 10.1016/j.socscimed.2014.07.028	
9- Mayan, M., Daum, C. (2016). "Worth of risk? Muddled relationships in community-based participatory research. Qualitative Health Research, 26(1), 69-76. DOI: 10.1177/1049732315618660	
10- Mohammed, S. A., Walters, K.L., LaMarr, J., Evans-Campbell, T., & Fryberg, S. (2010). Finding middle ground: Negotiating university and tribal community interests in community-based participatory research. Nursing Inquiry, 19(2), 116-127. DOI: 10.1111/j.1440-1800.20111.00557.x	
11- Nakhaie, R., & Arnold, R. (2010). A four-year (1996-2000) analysis of social capital and health status of Canadians: the difference that loves makes. Social Science & Medicine, 71(2010), 1037-1044. Doi: 10.1016/j.socscmed.2010.05.033.	
12- Cramm, J.M., van Dijk, H.M., & Nieboer , A.P. (2013). The Importance of Neighborhood Social Cohesion and Social Capital for the Well Being of Older Adults in the Community. The Gerontologist 53 (1), 142–150.	
13- Poortinga, W. (2012). Community resilience and health: The role of bonding, bridging, and linking aspects of social capital. Health & Place 18 (2) 286–295	
14- Hiroshi, M., Fujiwara, Y., & Kawachi, I. (2012). Social capital and health: A review of prospective multilevel studies. Journal of Epidemiology 22 (3): 179-187. Doi:10.2188/jea.JE20110128.	
15- Alvarez, E.C., Kawachi, I., & Romani, J. R. (2017). Family social capital and health – a systematic review and redirection. Sociology of Health & Illness, 39 (1), 5-29. Doi: 10.1111/1467-9566.12506	

UNIVERSITY OF ONTARIO INSTITUTE OF TECHNOLOGY

HLSC 5030G: Studies in Kinesiology

Fall 2017

1. Course Details & Important Dates*

Term	Course Type	Day	Time
F	Lecture	Wednesday	11:10am -2:00 pm

Location	CRN #	Classes Start	Classes End	Final Exam Period
UL 4	42789	Sept 7th	Dec 4th	NA

* for other important dates go to: www.uoit.ca >Current Students >Important Dates and Deadlines

2. Instructor Contact Information

Instructor Name	Office	Phone	Email
Shilpa Dogra	UAB 345	Ext. 6240	Shilpa.Dogra@uoit.ca
Office Hours: by appointment			

3. Course Description

This course will require students to research and present orally a thorough overview of the current state of knowledge on a particular topic related to Kinesiology. The students should also be able to identify key gaps in knowledge. This seminar must address how advances in the related area of research will benefit science and society. The presentation will be expected to be appropriate for an interdisciplinary audience in Kinesiology.

This course wil
the current stat
should also be a
advances in the
expected to be a

4. Learning Outcomes

On the successful completion of the course, students will be able to:

1) Present the current state of knowledge on a particular topic into a clear and comprehensive seminar.
2) Identify the current gaps in knowledge.
3) Suggest further avenues for the advancement of knowledge.
4) Relate how scientific advances in this area will benefit society.

5. Course Design

Students will attend weekly classes that will include some lecture materials, reading materials, group discussions, and mini-presentations.

6. Outline of Topics in the Course

DATE	TOPICS
Sept 13th	Introduction, Library searches and Endnote, Research Communication (Part I), Thesis Timelines.
Sept 20th	Designs and Bias Review: Breadth of Kinesiology Research
Sept 27th	The Scientific Process and Critical Appraisal
Oct 4th	Research Communication (Part II)
Oct 11th	Scientific and Peer-Review
Oct 18th	Writing Skills
Oct 25th	NO CLASS
Nov 1st	Journal Club
Nov 8th	Journal Club
Nov 15th	Consultation/Open Time
Nov 22nd	Research Study Presentations
Nov 29th	Research Study Presentations

The topics listed for each date are a guideline only and are subject to change

7. Required Texts/Readings

There are no required texts for this course. Additional readings will be assigned or recommended during the course.

8. Evaluation

ASSIGNMENT	MARKS	DUE DATE
Citation Analysis Report	15	Sept 27th
Critical Appraisal Assignment	15	Oct 11th
Literature Review Detailed Outline	10	Nov 1st
Abstract and Peer Review	15	Nov 8th, Nov 15th
Research Study Presentations	20	Nov 22nd or 29th
Literature Review	25	Dec 4th

If you miss an assignment due to illness, provide appropriate documentation to the Faculty office and an alternate time will be arranged in consultation with the course professor.

9. Description of Assignments

Citation Analysis Report (15%): Collect and read 4 publications related to your research topic; these papers should cover at least 3 different study designs. List and rank them in order of importance of their contribution to the field – provide justification(s) for your choices.

Use the Science Citation Index to do a citation analysis on the same 4 articles.

a) Provide the number of citations for each of the 4 articles chosen and correlate your ranking with this "outside" measure of their "impact" on the field.
b) Identify the most cited manuscript of the 4 you have chosen, and discuss why you think it is frequently cited.
c) Discuss the merit or lack of merit of citation analysis and journal impact factors.

Critical Appraisal (15%): Students will select two research papers relevant to their thesis topic for critical appraisal. Using one of the checklists discussed in class, students will appraise these two papers and determine whether they are of high quality, and whether their results are trustworthy. Students will also include a 1-2 paragraph summary of their assessment. The papers appraised should use different study designs/methods.
Marks will be given for choosing appropriate papers and checklists (0%), using the checklists appropriately (5% per paper), providing an appropriate summary (graduate level) with reference to bias, limitations, applicability, etc (2.5% per paper).

Abstract and Peer-Review (10+5%): Based on your thesis topic, you will be asked to write an abstract for a full research study (250 words max), including some anticipated results (10%). This abstract will then be given to one student who will anonymously review your abstract (5%). The course instructor will mark the abstract for content and clarity, as well as the ability to provide peer-review feedback to your colleague.

Literature Review (10% + 25%): Students will complete an 8-10 page (not including references or figures) review of literature related to some portion of their thesis topic. References must be obtained from peer-reviewed scientific articles. The review will be worth 25% of the final mark. Prior to submission however, students will be expected to submit a detailed outline of the review to the course instructor. This would contain a purpose statement, major subheadings, bullet points within these subheadings, preliminary references etc (10%). The instructor will provide feedback based on this outline so that the student can make changes (if needed) for the full submission.

Research Study Presentations (20%): Students will be expected to expand on their abstract and give a research talk as if they had completed their study. They can use pilot data results or anticipated findings for their presentation. This presentation is meant to mimic a conference free-communications style talk.

10. Accessibility

Accommodating students with disabilities at UOIT is a responsibility shared among various partners: the students themselves, SAS staff and faculty members. To ensure that disability-related concerns are properly addressed during this course, students with documented disabilities and who may require assistance to participate in this class are encouraged to speak with the professor as soon as possible. **Students who suspect they have a disability that may affect their participation in this course are advised to go to Student Accessibility Services (SAS) as soon as possible.** Maintaining communication and working collaboratively with SAS and faculty members will ensure you have the greatest chance of academic success.

Students taking courses on the North Campus Location can visit Student Accessibility Services in the U5 Building located in the Student Life Suite. Students taking courses on the Downtown Oshawa Campus Location can visit Student Accessibility Services in the 61 Charles St. Building, 2nd Floor, Room DTA 225 in the Student Life Suite.

Disability-related support and accommodation support is available for students with mental health, physical, mobility, sensory, medical, cognitive, or learning challenges. Office hours are 8:30am-4:30pm, Mon-Fri. For more information on services provided, you can visit the SAS website at http://uoit.ca/studentaccessibility

Students may contact Student Accessibility Services by calling 905-721-3266, or email studentaccessibility@uoit.ca

Students who require the use of the Test Centre to write tests, midterms, or quizzes MUST register online using the SAS test/exam sign-up module, found here www.uoit.ca/SASexams. Students must sign up for tests, midterms or quizzes AT LEAST seven (7) days before the date of the test.

Students must register for final exams by the registration deadline, which is typically 2 weeks prior to the start of the final examination period. SAS will notify students of the registration deadline date.

11. Professional Conduct (if applicable)

[Include faculty statement on professional conduct, if applicable.]

12. Academic Integrity

Students and faculty at UOIT share an important responsibility to maintain the integrity of the teaching and learning relationship. This relationship is characterized by honesty, fairness and mutual respect for the aim and principles of the pursuit of education. Academic misconduct impedes the activities of the university community and is punishable by appropriate disciplinary action.

Students are expected to be familiar with and abide by UOIT's regulations on Academic Conduct (Section 5.15 of the Academic Calendar) which sets out the kinds of actions that constitute academic misconduct, including plagiarism, copying or allowing one's own work to copied, use of unauthorized aids in examinations and tests, submitting work prepared in collaboration with another student when such collaboration has not been authorized, among other academic offences. The regulations also describe the procedures for dealing with allegations, and the sanctions for any finding of academic misconduct, which can range from a resubmission of work to a failing grade to permanent expulsion from the university. A lack of familiarity with UOIT's regulations on academic conduct does not constitute a defense against its application.

Further information about academic misconduct can be found in the Academic Integrity link on your laptop. Extra support services are available to all UOIT students in academic development, study skills, counseling, and peer mentorship. More information on student support services can be found in the Academic Calendar (Section 8).

13. Turnitin (if applicable)

UOIT and faculty members reserve the right to use electronic means to detect and help prevent plagiarism. Students agree that by taking this course all assignments are subject to submission for textual similarity review by Turnitin.com. Assignments submitted to Turnitin.com will be included as source documents in Turnitin.com's restricted access database solely for the purpose of detecting plagiarism in such documents for five academic years. The instructor may require students to submit their assignments electronically to

Turnitin.com or the instructor may submit questionable text on behalf of a student. The terms that apply to UOIT's use of the Turnitin.com service are described on the Turnitin.com website.

Students who do not wish to have their work submitted to Turnitin.com must provide with their assignment at the time of submission to the instructor a signed Turnitin.com Assignment Cover sheet:
http://www.uoit.ca/assets/Academic~Integrity~Site/Forms/Assignment%20Cover%20sheet.pdf

Further information about Turnitin can be found on the Academic Integrity link on your laptop.

14. Final Examinations (if applicable)

There is no final examination in this course.

15. Freedom of Information and Protection of Privacy Act

The following is an important notice regarding the process for submitting course assignments, quizzes and other evaluative material in your courses in the Faculty of Health Sciences.

As you may know, UOIT is governed by the *Freedom of Information and Protection of Privacy Act* ("FIPPA"). In addition to providing a mechanism for requesting records held by the university, this legislation also requires that UOIT not disclose the personal information of its students without their consent.

FIPPA's definition of "personal information" includes, among other things, documents that contain both your name and your Banner ID. For example, this could include graded test papers or assignments. To ensure that your rights to privacy are protected, the Faculty of Health Sciences encourages you to use only your Banner ID on assignments or test papers being submitted for grading. This policy is intended to prevent the inadvertent disclosure of your information where graded papers are returned to groups of students at the same time. If you still wish to write both your name and your Banner ID on your tests and assignments, please be advised that UOIT will interpret this as an implied consent to the disclosure of your personal information in the normal course of returning graded materials to students.

If you have any questions or concerns relating to the new policy or the issue of implied consent addressed above, please contact the Faculty of Health Sciences Associate Dean Undergraduate Studies.

16. Course Evaluations

Student evaluation of teaching is a highly valued and helpful mechanism for monitoring the quality of UOIT's programs and instructional effectiveness. To that end, course evaluations are administered by an external company in an online, anonymous process during the last few weeks of classes. Students are encouraged to participate actively in this process and will be notified of the dates. Notifications about course evaluations will be sent via e-mail, and posted on Blackboard, Weekly News and signage around the campus.