University of Windsor

PDC211022A

NOTICE OF MEETING
There will be a meeting of the
PROGRAM DEVELOPMENT COMMITTEE (PDC)
October 22, 2021 at 2:00pm-4:00pm
Location: MS Teams Virtual Meeting
AGENDA

Formal Business

1 Approval of Agenda

2 Minutes of Meeting of September 20, 2021

3 Business Arising from the Minutes

4 Outstanding Business

Item for Approval

5 Reports/New Business

5.1 Master of Science in Translational Health Sciences – New Program Proposal (Form A) and Biomedical Science (Graduate) - New Course Proposals (Form Ds) — **Martin Crozier** PDC211022-5.1

5.1.1 Appendices C-G (Curriculum Map, Program Feasibility Study, Letters of Support, Draft Syllabi, Library Report) — PDC211022-5.1.1

***5.2 Faculty of Arts Humanities and Social Sciences – New Course Proposal (Form D)** — **Jill Singleton-Jackson** PDC211022-5.2

***5.3 Nursing (Graduate) - New Course Proposal (Form D)** — **Jody Ralph** PDC211022-5.3

***5.4 Faculty of Arts Humanities and Social Sciences/ Political Science - New Course Proposal (Form D)** — **John Sutcliffe/Cheryl Collier** PDC211022-5.4

Items for Information

***5.5 Chemistry and Biochemistry – Summary or Minor Course and Calendar Changes (Form E)** — **Charu Chamdrasekera** PDC211022-5.5

***5.6 Dramatic Art – Summary of Minor Course and Calendar Changes (Form E)** — **Tina Pugliese** PDC211022-5.6

***5.7 Visual Arts - Program Learning Outcomes** — **Nicholas Papador** PDC211022-5.7
General BA in Visual Arts
Bachelor of Fine Arts in Visual Arts
Combined BA Honours in Visual Arts

6 Question Period/Other Business

7 Adjournment

Please carefully review the 'starred' (*) agenda items. As per the June 3, 2004 Senate meeting, 'starred' item will not be discussed during a scheduled meeting unless a member specifically requests that a 'starred' agenda item be 'unstarred', and therefore open for discussion/debate. This can be done any time before (by forwarding the request to the secretary) or during the meeting. By the end of the meeting, agenda items which remain 'starred' (*) will be deemed approved or received.

University of Windsor
Program Development Committee

5.1: **Master of Science in Translational Health Sciences – New Program Proposal (Form A) and Biomedical Science (Graduate) New Course Proposals (Form D)**

Item for: **Approval**

MOTION: That the Master of Science in Translational Health Sciences, including the following new course proposals, be approved:^
BIOM-8700. Professional Development Seminar in Translational Health Sciences
BIOM-8705. Experiential Placement in Translational Health Sciences Research
BIOM-8710. Cancer Cell Biology
BIOM-8720. Fundamentals of Oncology

^Subject to approval of the expenditures required.

Rationale/Approvals:
- The proposal has been approved by Science Program Development Committee (SPDC) as delegated by the Faculty of Science Coordinating Council, the Faculty of Graduate Studies Council (September 21, 2021) and the Provost.
- Provosts' Comments: *I support this innovative approach to Graduate education.*
- *See attached.*

PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A

Faculty(ies)	Faculty of Science
Department(s)/School(s)	Department of Biomedical Science
Name of Program as it Will Appear on the Diploma (*e.g.*, Bachelor of Arts Honours Psychology with thesis)	**Master of Science in Translational Health Sciences**
Proposed Year of Offering* [Fall, Winter, Spring]: **(subject to timely and clear submission)*	May 2022
Mode of Delivery:	Full-time, predominantly on campus with in-person lectures, off-site experiential learning.
Planned steady-state Student Enrolment (per section B.4.2)	40
Normal Duration for Completion:	12 months
Will the program run on a cost-recovery basis?	No

B. Overall Program Plan

B.1 Objectives of the Program/Summary of Proposal (QAF section 2.1.1; Ministry section 4)

Please provide a brief statement about the direction, relevance and importance of the new program.

Describe the overall aim and intended impact of the proposed new program.

Describe the consistency of the proposed new program with the institution's mission, goals and objectives as defined in its strategic plan. (to view the strategic plan, go to: www.uwindsor.ca/president)

Translational Health Sciences is a new and rapidly growing research field that seeks to connect or "translate" advances in laboratory medical research with clinical practice for the benefits of patients. In a modern-day approach to healthcare, successful research programs utilize a multidisciplinary team of scientists, health professionals, economists, and statisticians working to solve complex health and social problems. There is a need to offer students a training path that incorporates clinical science, public health, and basic biomedical research to accelerate the application of biological breakthroughs to human health. To address this opportunity, and to a dearth of educated students with these skills, the Faculty of Science is developing a professional MSc. in Translational Health Sciences (hereafter "THS MSc").

The THS MSc professional program is designed to provide students with education and skills to enter a wide variety of career paths in translational health sciences. Students will gain the experience they need to find careers implementing clinical trials in industry, clinical, and academic settings, as well as work for government agencies and community organizations that engage in disease prevention and health promotion. The THS MSc program includes courses in Cancer Cell Biology, Clinical Research Methods, Advanced Statistics, and Fundamentals of Oncology. A specialized seminar course in Professional Development in Translational Health Sciences will provide students with professional skills, including communication skills and networking skills within the health sciences, allowing them to succeed post-graduation. Students will learn and gain experience through hands-on clinical studies in the Windsor Regional Hospital preparing them for a wide range of career opportunities worldwide. Program graduates will thus have the training and knowledge necessary to become active and successful contributors to the many health industries related to translational health sciences.

The proposed THS MSc program will foster partnerships between the Faculty of Science, the Faculty of Nursing, Windsor Regional Hospital (WRH), Windsor Cancer Research Group, WE Spark Health Institute, Hotel Dieu Grace Hospital and St. Clair College, while training a new generation of clinical researchers. The THS MSc program will leverage existing University of Windsor research strengths in cancer biology, environmental health, and neuroscience, as well as the expanding network of clinical research being done via the Windsor Cancer Research

Group (WCRG) and WE Spark Health Institute. Furthermore, this professional program will provide a new revenue stream for the University of Windsor and will become self- sustaining within a few years. The THS MSc program aligns with "Health and Wellness", which has been identified as a strategic area of existing program strength and future expansion in the 2017-2020 Strategic Mandate Agreement.

Student participation in clinical trials research at both University of Windsor and Windsor Regional Hospital will also be an important step to growing the capacity for health care research in Windsor-Essex County, and will produce new scholarship for improving disease diagnosis and treatment. The involvement of MD clinicians and other health professionals from Windsor Regional Hospital in the THS MSc program will be essential to expanding collaboration between the hospital and university, and the newly established WE Spark Health Institute, which involves academics and clinicians from the University of Windsor and Windsor Regional Hospital.

Objectives of the Program:

1. Successfully launch the careers of students as health professionals and/or research scientists by providing advanced skills in translating health care research.
2. Prepare culturally and ethically responsive students who can think critically and translate evidence into practice in a health care setting.
3. Produce student-led scholarship that impacts the health and wellness of individuals and communities.
4. Foster strong partnerships between the Faculty of Science, the Faculty of Nursing, and Windsor Regional Hospital.

B.2 Program Content (QAF Section 2.1.4)

Evidence that the proposed curriculum is consistent with the current state of the discipline or area of study.

The THS MSc program will offer a 12-month non-thesis program that combines 8 courses arranged as follows:
A. 6 traditional lecture-based classes (4 required + 2 electives).
B. 1 professional development seminar (course conducted over 12 months).
C. 1 experiential learning placement (course conducted over 12 months). See a further description of courses below.

A. Through traditional, lecture-based **coursework**, students will be provided with a foundation in clinical research (e.g., research methods and design, biostatistics, disease biology, clinical diagnosis and treatment). The specific courses—required and elective— are listed in section C.2 below. These classes will prepare students to think critically, and to be able to translate evidence into practice.
B. Through the **professional development seminar**, students will gain experience in scientific communication including both oral communication skills and written communication skills, strategies for improving communication, and practice with integrating themselves into a health sciences environment. The program seminar will also provide professional development skills (e.g., job interviews, professional writing, networking) to help launch successful careers. The honing of professional skills that are vital, but often overlooked in other clinical-based programs, should provide graduates with an important advantage over their job-seeking peers.
C. The **experiential learning placement** will provide students with practical experience in laboratory methods, data analysis, research ethics, and day-to-day aspects of clinical research trials. In addition, the experiential learning placement will produce student-led scholarship that impacts the health and wellness of individuals and the local community. Experiential learning placements will take place at Windsor Regional Hospital, involving collaboration with a team of physicians and research clinicians.

The skills offered through the THS MSc program will prepare students for success in a wide range of health science settings. THS MSc graduates will be equipped to transition into specialty areas that include:

(a) Change management in health care systems.
(b) Implementing clinical trials in industry, clinical and academic settings.
(c) Disease prevention and health promotion through government agencies and community organizations.
(d) Admission to medical school.
(e) Admission to a research-focused graduate program.

The Faculty of Science has a well-established record of providing high-quality graduate-level educational mentoring and training. Graduate courses delivered within the Faculty of Science consistently provide the most current knowledge and information to students. Faculty involved in delivering courses in the THS MSc program have extensive research in their respective fields, along with a track record of excellence in mentoring students at the graduate level. These faculty are experts in health care research as evidenced by their impressive publications in prestigious scientific journals and the numerous tri-council grants, national, and international research grants. The clinicians are extensively experienced in health care practice. Students will be exposed to hands-on experiential learning using state-of-the-art equipment currently available in these departments, including a brand-new state-of-the-art science research building (the Essex Centre Of Research) and in the Windsor Regional Hospital.

B.2.1 Unique or Innovative Curriculum, Program Delivery, or Assessment Practices (QAF Section 2.1.4)

State the unique or innovative curriculum, program delivery, or assessment practices distinguishing this proposal from existing programs elsewhere.

The Translational Health Science program provides innovative curriculum and program delivery with unique assessment practices to provide students with a unique and broad exposure to translational health practices and perspectives. This section has been broken down to explain its curriculum (course content), program delivery and its unique assessment practices:

Curriculum:
The THS MSc curriculum has been designed based on a detailed examination of the curricula in comparable translational health sciences programs, survey feedback from our undergraduate Science and Nursing students, a review of job postings in the discipline, and interviews with potential employers (see section B.4.1 for details). Collectively, these sources have identified three recurring areas of importance for students: 1) biostatistics (especially, when combined with a biology or health background); 2) professional skills (e.g., scientific communication, teamwork, interactions with patients, grant writing); and 3) clinical trial experience (e.g., regulatory environment, research ethics, clinical practicum, and health economics). To meet these needs, we have selected existing courses and created new courses that emphasize these skills and provide students with multiple opportunities to apply what they have learned in a practical setting.

Program Delivery:
The program will have three major delivery approaches:

1. "Theory" will be taught in the classroom settings, with several of the core courses offered during the first semester of the program to prepare students for their experiential learning placements. Teaching strategies will include lecture, discussion, case studies, in-class interactive activities, etc.
2. Experiential learning placements will allow students to apply the knowledge and skills learned in the classroom to translational health sciences research projects in a clinical setting.
3. The professional development seminar runs throughout the program and is designed to help prepare students to enter the workforce by preparing a career plan that includes strategies for professional networking and lifelong learning, as well as a professional portfolio.

The program will focus on in-class and face-to-face instruction and mentoring. The 12-month program provides an intensive and focussed training experience. The one-year nature of this program means that it may provide an additional credential for applying to medical school for interested students.

Unique Assessment Practices:
In addition to traditional assessments strategies (midterm and final exams, papers/essays, class presentations, etc.), students will have the opportunity to work on projects and tasks that reflect the skills and experiences needed for success in translational health sciences careers. Selected examples include:

- **Problem-based Learning Cases** (*Fundamentals of Oncology* course). In small groups, students will work through current and relevant cases that are jointly presented by the instructor and guest speakers engaged in clinical oncology research and/or patient care. Each case will consist of a lecture on the content relevant to the case, as well as a tutorial to facilitate a problem-based learning approach in working through the case. Students will need to identify what information is known, where existing knowledge gaps remain, and what future research is necessary to address the problem.

- **Team-based Grant Proposal** (*Cancer Cell Biology* course). Students will work in small groups to identify an idea for a translational research project and develop a grant proposal for a targeted granting agency or funding mechanism. With peer feedback along the way, students will write a hypothesis, objectives, aims, and proposed methodologies, ensuring a translational component is embedded into the proposal.

- **Final Report and Colloquium Presentation** (*Experiential Learning Placement* course). Students prepare a final written group report that includes their findings, analysis, and ideas for future research. The final report will also document the contributions of each student to the project. Students present their findings in groups through poster presentations at a Colloquium event in the final semester of the program.

- **Reflective Portfolio** (*Professional Development Seminar* course). Each student will prepare a portfolio comprised of two main sections. In section A, students will present evidence and reflect on their development throughout the program, their ability to meet or exceed the Program Learning Outcomes, and how they exemplify the University of Windsor graduate characteristics. Section B includes a career development and lifelong learning plan, current CV, sample cover letters for a variety of career pathways, and an analysis of their career support network, to be completed at the time of the final report and colloquium presentation.

B.2.2 Indigenous (First Nations, Métis, or Inuit) Content, Perspectives, or Material

The University of Windsor is committed to building and sustaining stronger, more meaningful inclusive partnerships with Indigenous students, scholars, and communities. Indigenization of curriculum takes place in a larger context, including a requirement to respond to the four Calls to Action in education of the Truth and Reconciliation Report (2015) (page 1), the unique legal requirements of the Constitution Act 1982 (Sections 25, 35), the provincial legal requirements of the Ontario Human Rights Code, 1990, and provincial legislation Bill Pr36 (1967).

*In developing this new program, **how** has consideration been given to incorporating Indigenous (First Nations, Métis, or Inuit) content, perspectives, or material into the curriculum?*

Please consider these prompt questions and additional Resources including disciplinary examples:

- *What **process** has your department/Faculty used to consider Indigenization?*
- ***How** have you considered the importance or relevance to the course/program?*
- *How has your department or faculty approached raising awareness for Indigenous knowledges in your area?*
- *What do the TRC and University Principles documents suggest relevant to your course?*
- *What have other similar courses/programs done that might be relevant to your course/program?*
- *In what ways could your course/program have flexibility to include new ways of learning, or content for Indigenous approaches or knowledges?*
- *What is your awareness of the history or background to approaches you are considering, such as the land acknowledgement? How have you developed your awareness?*
- *Which literatures, sources, or Indigenous Knowledge Holders have you consulted? (Please confirm you have permission to share any names, it may be helpful to have the person confirm the text if you will be submitting their name)*
- *Are you engaging in critical analysis of Settler Colonialism and/or Decolonization?*

- *Have you included the information in the other relevant areas in the PDC form (such as learning outcomes) or in the course syllabus where appropriate?*

The University of Windsor's Faculty of Science, and in particular the Biomedical Science Department, recognizes the importance of indigenous perspectives in health sciences and in the training of our students.

The Faculty of Science is in the process of hiring an indigenous knowledge broker who will help in the indigenization of this and other academic programs in the faculty of science. While the new hire will be in our integrative biology department, we are actively seeking approval to hire another indigenous knowledge broker for our health sciences aligned with the local WE Spark Health Institute.

In regard to the required courses proposed for the Translational Health Science program, indigenous content, perspectives and material will be included as follows:

For our *Fundamental of Oncology, Cancer Cell Biology* and *Clinical Research Method* courses, case studies, vulnerable population perspectives, ethical consideration, and population sampling for geographical representation will be addressed. For our *Experiential Learning Placements* these aforementioned issues may also be central depending on the focus and particulars of the study population of the research advisor. There will also be opportunities in the *Professional Development Seminar in Translational Health Science* to discuss challenges that reflect Indigenous perspectives in cancer research and patient care with students.

B.3 Program Name and Degree Designation/Nomenclature (QAF Section 2.1.1; MINISTRY section 1)

Explanation of the appropriateness of the name and degree designation for the program content and current usage in the discipline.

Name of program: Master of Science in Translational Health Sciences.

This is a new and rapidly growing research field that seeks to connect or "translate" the advances in laboratory medical research with clinical practice for the benefit of patients

Degree Designation: Master of Science (M.Sc.),

This is a course-based, non-thesis professional program.

B.4 DEMAND FOR THE NEW PROGRAM

B.4.1 Student and Market Demand (MINISTRY section 5)

Describe the tools and methodology used to conduct the market assessment.

Provide quantitative evidence of student and market demand both within and outside the local region (e.g., responses/statistics from surveys, etc.).

After receiving funding from the UWindsor Curriculum Development Fund, we embarked on a three-pronged approach gathering data to assess the prospects for the proposed THS professional MSc. program. *First*, in February 2018 we contracted Higher Education Strategy Associates (HESA) to identify and analyze competitor programs in Ontario, to determine the potential career paths for THS MSc graduates, and to consult with potential employers to establish the skills and training experiences that are needed for future employees. An interim report was received in April and the final report was completed in July. *Second*, during the Winter 2018 semester a student demand survey was developed and approved by the Research Ethics Board. The survey was designed to identify the desired career paths of current undergraduate students majoring in nursing or science, and to determine what features of the

proposed program would be perceived as most beneficial to their career development. The survey was implemented in June and a summary of the survey results was circulated to the AAU directors in July. *Third*, throughout 2018 consultations were held with AAU directors, faculty and staff, an external curriculum consultant, and outside partners, to review existing UWindsor courses, to determine the areas of research and teaching expertise, and to define the scope of the program.

HESA Program Feasibility Assessment: HESA conducted a review of the current academic landscape and labour market. The reviews were related but conducted with different approaches. HESA's review of equivalent programs for curriculum and enrolment, and assessment of employer demand for the skills and competencies developed by the program, suggests that there are strong reasons for moving forward with the proposed program. HESA also reviewed any available information concerning the proposed program after receiving information concerning the rationale for the proposed program, a list of intended program outcomes, and a list of courses and course descriptions (see B.4.5 for details). They then used that material as a basis for comparison with other programs, and to provide a sense of the skills that graduates of the program would bring to the job market. While there are challenges with naming and marketing, particularly since "translational health science" remains a relatively new and somewhat technical term, there are also opportunities in developing a master's degree that remains relatively novel in Canada and that provides graduates with critical and in-demand professional and clinical skills.

The full HESA feasibility study report is attached in Appendix D.

HESA Analysis of the Labour Market:
In order to determine the potential career paths for THS MSc graduates, and to identify the skills and training experience desired by potential employers, HESA used the complementary approaches of analyzing job postings and interviewing representative employers. Two separate searches of job postings were performed using the proprietary Labour Insight Tool from the company Burning Glass. The Labour Insight tool provides data from thousands of job post sites from across Canada, and while it cannot provide information on job numbers with absolute precision, it does provide a potent empirical basis for assessing what positions are in demand and what sort of training is required to get those jobs. It also generates concrete examples of employers who would offer positions matching the proposed THS MSc curriculum.

In the first search of job postings, keywords were developed from the proposed THS MSc course and program learning objectives and used to search a national list of jobs posted in the past 12 months where a master's degree was preferred or required. This yielded 328 positions in Canada, which were then examined more closely to verify that each job required the skills developed in the THS MSc program (i.e., clinical experience, oncological knowledge, and well-rounded professional capabilities). Furthermore, jobs that preferred a PhD or MD, were instructor positions, or required extensive work experience were excluded. This refined search yielded 146 positions nationally. Positions that a graduate of the THS MSc program might consider applying for include: Research Associate, Research Coordinator, Data Analyst, Research and Operations Manager, Clinical Trial Project Coordinator, and Clinical Research Associate. While the scan is primarily focused on job opportunities outside universities, it is worth noting that a number of positions that require a master's degree (and do not require a Ph.D.) are available at university research labs or for individual research projects and initiatives. Outside universities, employers included hospitals, provincial health services, and pharmaceutical companies. In total, these organizations offered a total 95 positions (see Table I) that we identified as having especially strong potential. These positions clearly applied the skills that would be developed by the program, including knowledge and experience with clinical trials, ability to communicate, project management skills, understanding of oncology, and strong teamwork skills.

Table 1: List of non-university employers identified using the Labour Insight Tool.

(1) AbbVie	(18) Chatham Kent Health Alliance	(36) St. Elizabeth Healthcare
(2) Alberta Health Services	(19) Children's Hospital of Eastern Ontario	(37) St. Michael's Hospital
(3) Alberta Innovates Technology Futures		(38) Sunnybrook Health Sciences Centre

(4) Amaris Consulting	(20) Grand River Hospital	(39) Trillium Gift Of Life Network
(5) Aquinox Pharmaceuticals, Inc	(21) Hoffmann La Roche	(40) Trillium Health Partners
(6) Association of Ontario Health Centres	(22) Humber River Hospital	(41) Trillium Therapeutics Inc
(7) Astrazeneca	(23) Interior Health Authority	(42) University Health Network
(8) Bayer Corporation	(24) Interior Health Authority	(43) Veristat
(9) BC Cancer Agency	(25) IWK Health Centre	(44) Vitalité Zone 1 Beauséjour
(10) BC Centre For Disease Control	(26) Johnson & Johnson	(45) Windsor Regional Hospital
(11) BC Centre For Excellence in HIV/Aids	(27) Kingston General Hospital	(46) Xenon
(12) BC Children's Hospital	(28) Nova Scotia Health Authority	
(13) BC Women's Hospital & Health Centre	(29) Novartis	
(14) Biogen	(30) Ontario Institute for Cancer Research	
(15) Canadian Institute for Health Information	(31) Peterborough Regional Health Centre	
(16) Cancer Care Ontario	(32) Photon Control, Inc	
(17) Centre for Addiction and Mental Health	(33) Quintilesim	
	(34) Services Bioanalytiques Biotrial Inc	
	(35) Southlake Regional Health Centre	

In a second search, all job postings in the health care industry from the past 12 months in Ontario were examined to identify keywords that matched to the proposed THS MSc curriculum. Examples of skills demanded by these health care positions included clinical experience (266 jobs), cancer knowledge (174 jobs), data analysis (142 jobs), clinical research (122 jobs), biostatistics (63 jobs), clinical trials (58), and grant writing (32 jobs).

To identify what skills and training experience is required by employers, HESA conducted phone interviews with representatives from the following organizations: Canadian Institute of Health Information, Erie St. Clair Local Health Integration Network, Windsor Regional Cancer Centre, and Windsor Regional Hospital. These interviews identified three recurring areas of importance for students: 1) biostatistics (especially, when combined with a biology or health background); 2) professional skills (e.g., scientific communication, teamwork, interactions with patients, grant writing); and 3) clinical trial experience (e.g., regulatory environment, research ethics, clinical practicum, and health economics).

In summary, the curriculum offered by the THS MSc program aligns very well with the skills and training experiences desired by employers in the Canadian health care sector. This master's program will serve as a terminal degree necessary to launch careers in clinical trials management, as well as basic or applied medical research programs. There are currently a wide range of job opportunities with dozens of different employers (e.g., universities, hospitals, and industry) across the country.

University of Windsor Student Survey:
A Research Ethics Board (REB) approved survey was conducted between May 28, 2018 and June 13, 2018 using Qualtrics. The survey link was distributed to student members of Science Society, Let's Talk Science, Students Offering Support, the Windsor Cancer Research Group, and all Nursing majors. A total of 103 completed survey responses were received, with 67 identifying as Nursing majors and 36 identifying as Science majors. The vast majority (99%) of respondents were domestic students, which more or less reflects the make-up of our undergraduate Science and Nursing programs. We anticipate that the vast majority of applicants to the THS MSc program will be domestic students, so the survey data should reflect these future applicants. In addition to examining survey responses by major, students were also grouped into *novice learners* (i.e., completed less than three years of their program) and *experienced learners* (i.e., completed three years or more of their program).

When asked about their desired education path, most Science students (89%) wished to attend a health sciences professional school (e.g., medicine, dentistry, pharmacy, chiropractic), with < 10% expressing an interest in graduate school. In contrast, Nursing students are interested to either become an RN (63%) or attend graduate school (28%). It is noteworthy that among experienced Nursing students, the proportion interested in graduate school rises to 40%.

When asked which of seven program features were of greatest interest, more than 3⁄4 of both Science and Nursing students selected working with MD clinicians and participating in the clinical research practicum as highly desirable program components. It is noteworthy that 85% of experienced Science students identified the compact 12-month program as a preference, likely reflecting their wish to enter a health sciences professional program as soon as possible.

Students were also asked how important a set of 11 skills and competencies from the THS MSc program would be for their future job prospects.

Overall, the top skills ranked by importance (extremely or very important) for Science students were:

(1) apply ethical research practices (81%)
(2) develop a professional network (78%)
(3) appraise methods for the diagnosis and treatment of cancer (72%)

The top skills for Nursing students were:

(1) apply ethical research practices (81%)
(2) develop a professional network (79%)
(3) master effective oral communication (76%)

It is noteworthy that Nursing students ranked several skills as generally less important than Science students including: discuss the molecular mechanisms of carcinogenesis, critique the design and implementation of clinical research trials, demonstrate effective grant writing, and describe clinical research funding agencies and regulations. Both Science and Nursing students had very positive views of the employment prospects of graduates. Employability was viewed as very high or above average by 78% of Science students (92% among experienced students) and 73% of Nursing students. A small proportion (5%) of Nursing students viewed employment prospects as below average, but none of the survey students ranked employment as very low. The majority of Science (83%) and Nursing (76%) students agreed or strongly agreed that students would be able to successfully complete the proposed program requirements. The vast majority of Science students (86%) indicate they are likely or very likely to consider this program as a path towards achieving their career goals (i.e., medical school in most cases). Support was particularly strong among experienced Science students at 92%. Since most Nursing students are training to become an RN or Nurse Practitioner, this question is less relevant due to the phrasing. Not surprisingly, only 65% of Nursing students were likely or very likely to consider this program as an alternate path to achieving their career goals.

Overall, a large proportion (69%) of Science students had a very high or above average interest in the THS MSc program, and the level of interest increased to 77% when only experienced Science students were considered. Interest in the program was lower among Nursing students, with only 52% expressing very high or above average interest; however, among experienced Nursing students this value increased to 60%.

In summary, most of the components of the THS MSc program were of interest to prospective students, especially the opportunity to engage with health professionals in clinical research. All of the skills and competencies of the program were valued by students as important to obtaining future employment. Overall interest in the program was high, especially among science students, who also strongly agreed that the THS MSc would provide the training needed to gain future admittance to medical school.

The full student survey questionnaire and results are available as Appendix D.

B.4.1.1 Percentage of Domestic and International Students (Ministry section 5)

Expected proportion (percentage) of domestic and international students. For graduate programs, identification of undergraduate or master's programs from which students would likely be drawn.

We anticipate 100% domestic, with most coming from Ontario university undergraduate programs.

B.4.2 Estimated Enrolments (QAF section 2.1.9; Ministry section 5; Senate Co-op Policy)

Provide details on projected enrolments in the following tables. For Co-op programs: normally an annual intake of a minimum of 20 students is required for new co-op programs or programs with other experiential learning component.

Projected enrolment levels for the first five years of operation. (If the program is in operation, use actual and projected data.)	First Year of Operation	Second Year of Operation	Third Year of Operation	Fourth Year of Operation	Fifth Year of Operation (Steady-state enrolment overall)
In the regular program (non-co-op)					
In the co-op/experiential learning stream (if applicable)	20	30	40	40	40 (Steady state begins in Year 3)
For co-op option: projected number of international students enrolled in the co-op stream	N/A	N/A	N/A	N/A	N/A

Annual projected student intake into the first year of the program: (this may differ from the "first year of operation" projected enrolments which could include anticipated enrolments from students transferring into the second, third, or fourth year of the program)	N/A. This is a 12-month Graduate-level program.
Annual projected student intake into the first year of the co-op/experiential learning version of the program: (this may differ from the "first year of operation" projected enrolments which could include anticipated enrolments from students transferring into the second, third, or fourth year of the program)	N/A. This is a 12-month Graduate-level program.

B.4.3 Collaborative Program (QAF section 1.6)

If this is a collaborative program with another college/university, identify partners and describe institutional arrangements for reporting eligible enrolments for funding purposes.

N/A. Not a collaborative program.

B.4.4 Societal Need (Ministry section 6)

Describe the tools and methodology used to assess societal need.

Elaborate on the
1) dimensions of (e.g., socio-cultural, economic, scientific, or technological),
2) geographic scope of (e.g., local, regional, provincial, or national), and
3) anticipated duration of, and trends in,
societal need for graduates of the new program

Evidence of societal need for the program will typically include a review of relevant industry and provincial survey and statistical data, as well as a review of the proposed program by relevant experts in the field.

The societal need for researchers trained in translational health sciences exceeds the current supply. The THS MSc professional program is designed to fill this need while providing students with the education and skills to succeed in a wide variety of career paths in the health sciences. Students will gain the experience they need to find careers implementing clinical trials in industry, clinical, and academic settings, as well as work for government agencies and community organizations that engage in disease prevention and health promotion. Furthermore, upon graduation students can further their education in medical school or a research-focused graduate program. As spelled out in the Labour Market analysis section above, we have identified nearly 150 positions nationally in the past year that graduates of the THS MSc program are ideally suited for including: Research Associate, Research Coordinator, Data Analyst, Research and Operations Manager, Clinical Trial Project Coordinator, and Clinical Research Associate. These positions are available from more than 50 universities, hospitals, provincial health services, and pharmaceutical companies across the country. This program also fills a void for students from Windsor and Essex County who must currently travel to larger centres to continue their training in translational health sciences or clinical trials research.

In addition to preparing students for future careers, the THS MSc program also offers many other benefits to the university and the region. The University of Windsor has identified a significant need to increase the quantity and quality of experiential learning within the next decade. The Faculty of Science is already well-recognized for its capability and capacity to respond to this demand. The newly proposed THS MSc program will help the Faculty to meet these targets by directly applying classroom learning and theory to solving challenges in health care through the experiential learning placement. Student participation in clinical trials research will also be an important step to growing the capacity for health care research in Windsor-Essex County, and will produce new scholarship for improving disease diagnosis and treatment. The involvement of MD clinicians and other health professionals from Windsor Regional Hospital in the THS MSc program will be essential to expanding collaboration between the hospital and university, and the newly established WE Spark Health Institute, which involves academics and clinicians from the University of Windsor and Windsor Regional Hospital.

B.4.4.1 Societal Need – Letters, Surveys, Statistics

• *The development of this proposal included consideration of comments or letters solicited from potential employers regarding the need for graduates of the proposed program within their organization and field of endeavour.*	*X Yes*	
• *The development of this proposal included consideration of comments or letters solicited from relevant professional societies or associations about the need for graduates of the proposed program.*		*X No, explain below*
• *The development of this proposal included a review of industry employment surveys for evidence of societal need (indicating numbers of positions in the field, numbers of anticipated new positions in the field, number of positions in the field current being advertised, etc.)?*	*X Yes*	
• *The development of this proposal included a review of statistical evidence of the number of Ontario students leaving the province to study the field elsewhere in Canada or abroad?*		*X No, explain below*
If yes, append letters, survey or statistics to proposal. See above for the Labour Market analysis		
If no, explain: Translational health sciences is a relatively new and expanding discipline. As noted in the analysis of comparable programs (see section B.4.5 “Duplication” below), there are only two graduate translational health sciences programs in Canada. Although statistical data was not available to track Ontario students leaving the province to study elsewhere, consistently strong enrolment patterns in comparable programs at other universities speaks to the potential for the THS MSc program to successfully recruit students.		

B.4.5 _Duplication (Ministry section 7)

List similar programs offered by other institutions in the Ontario university system. Resources to identify similar programs offered in Ontario include www.electronicinfo.ca, www.electronicinfo.ca/einfo.php, and www.oraweb.aucc.ca/showdcu.html. Also, list similar programs in the geographically contiguous area, e.g., Michigan/Detroit.

As part of a program feasibility assessment, HESA conducted a review of equivalent programs for curriculum and enrolment. Programs examined included those relating to translational health science and, more broadly, the development of professional clinical research practices. This included reviewing material available on program websites, university institutional research websites and registrar calendars, and contacting program representatives for further information. This review was designed to provide a sense of how other programs were framing translational sciences studies, and to determine what sort of courses and concentrations are standard. HESA also gathered some data on tuition rates and enrolment figures for comparable programs.

Translational health science is a relatively new academic field, and this novelty is reflected in the comparatively low number of similar programs in North America. Only two graduate translational health science programs were identified in Canada: University of Alberta's Translational Health Program (launched in 2013) and University of Toronto's Master of Health Science in Translational Research (launched in 2015). The U of A program is thesis-based (2-3 years) and the vast majority of students are MDs completing their residencies. In contrast, the U of T program is two years and course-based with an even mix of students coming from a Bachelor or MD background. The U of A curriculum consists of four courses, each covering a different group of human diseases/organ systems, that use clinical cases for students to learn about the design, ethics, and regulation of clinical trials. The curriculum at U of T consists of five full course equivalents (four required and one elective) covering topics such as translational thinking, translational research design, scientific communication, research ethics, research commercialization, project management, and health economics, as well as a capstone project in translational research. The University of Toronto's program is also more industry orientated. Both programs have modest enrolment numbers with 41 students among the first three cohorts at U of A, and 17 and 22 students, respectively, in the 2015-2016 and 2016-2017 cohorts at U of T. Tuition and fees for domestic students (the target group for the THS MSc) at U of T (a professional degree) is $25,400 for the entire program.

Another group of competitor-programs are the Master of Public Health degrees offered by nearby schools (i.e., Queen's University, McMaster University, and Western University HESA examined these programs with regard to curriculum, enrolment, and cost. All three programs run for 12-16 months with a practicum or placement component, and coursework covering topics including health promotion, epidemiology, the Canadian public health system, health economics, research methodology and design, and biostatistics. Enrolment numbers at all three programs have been strong for the most recent cohort data: 59 students at Western, 46 students at Queen's, and 19 students at McMaster. Tuition and fees for domestic students (entire program) are $37,235 at Western, $21,582 at McMaster, and $16,896 at Queen's.

In addition to full degree programs, HESA also identified two relevant certificate programs: the Clinical Research Associate certificate (soon to be renamed Applied Clinical Research) at McMaster's Centre for Continuing Education and the Clinical Trials Management certificate from Western. These programs are offered online and are targeted to working health care professionals. The curriculum is similar for both programs and covers topics including research ethics and regulation, clinical trial research methods, clinical trials management and financing, and scientific communication. Western also includes courses on drugs and pharmacology, suggesting a more industry-focussed outcome for students, as well as an optional practicum. Enrolment was reported as strong according to representatives from both programs, but exact numbers were not provided.

In summary, translational health sciences is a new and expanding research discipline. The small number of Canadian graduate programs in this field, combined with consistently strong enrolment patterns in comparable programs at other universities, speaks to the potential for the THS MSc program to successfully attract students. Our program shares many similarities with the curricula of existing programs, but it also offers stronger links with health care

professionals. Many of the existing translational health science programs focus on continuing education for working health care professionals with the curriculum frequently offered entirely online. In contrast, our program is uniquely targeting post-baccalaureate domestic students in a face-to-face environment on campus and in the clinic. Lastly, our proposed tuition and fees of $20,000 is highly competitive with existing programs.

B.4.5.1 Demonstrate that Societal Need and Student Demand Justify Duplication (Ministry section 7)

If the proposed program is similar to others in the system, demonstrate that societal need and student demand justify the duplication. Identify innovative and distinguishing features of proposed program in comparison to similar programs.

As reported in B.4.1 and B.4.4, the student demand for our program is likely to be high, and the societal need for researchers trained in translational health sciences exceeds the current supply.

Innovative and distinguishing features of our program are that:

- We offer a short 12-month intensive program that can serve as a terminal degree for employment or as a launch pad for advanced thesis-based studies.
- The experiential learning placement will enable comprehensive integration/application of content/concepts addressed in our theory-based courses.
- We offer experiential learning placements in both clinical settings at the Windsor Regional Hospital and academic settings at University of Windsor, which supports the area student population to continue their **training locally.**
- The program includes a comprehensive professional development component to prepare students to successfully enter the workforce.
- Our partnership with Windsor Regional Hospital provides students with access to MD clinicians and other health care professionals who will serve as research advisors and provide guest lectures in our courses.
- Team-based work on projects and activities is emphasized throughout the curriculum, which reflects the interdisciplinary working environment found in translational health sciences research.
- Courses will be taught by instructors from the Faculty of Science, with some support from instructors in the Faculty of Nursing, and thus will introduce a diversity of perspectives and experiences from health care and basic research.

B.5 RESOURCES

[The resource impact of a proposal is almost never neutral. Note: Proposers must also complete and submit the ***Budget Summary*** *(Appendix B) with the new program proposal.]*

B.5.1 Resources Available

B.5.1.1 Available Faculty and Staff Resources (QAF sections 2.1.7, 2.1.8, 2.1.9 and 2.1.10)

Describe, in general terms, all faculty and staff resources (e.g., administrative, teaching, supervision) from all affected areas/departments currently available and actively committed to support the proposed program. Please do not name specific individuals in this section.

Within the Faculty of Science, the Department of Biomedical Sciences currently has 9 full time research faculty, 1 Ancillary Academic Staff (AAS), 1 Limited Term Appointment (LTA), 1 lab technician, and 1 secretary with support from other departments for Core Technology, financial matters, and graduate student support. Many of these faculty and staff will be involved in administering this program, as laid out below (section B.5.1.1a). One additional faculty member has been hired to serve as the coordinator of the program (the LTA listed above – Dr. Martin Crozier was hired Aug. 1st, 2020), and sessional instructors may be involved on an as-needed basis.

B.5.1.1a Faculty Members Involved in the Delivery of the Program

Complete the following table listing faculty members in the AAU offering the proposed program as well as faculty members from other AAUs who are core to the delivery of the proposed program. Indicate in the table the involvement of each faculty member in the new and existing program(s) offered by the AAU.

PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A

Faculty Name and Rank (alphabetical)	Graduate Faculty member (for graduate programs only)	Program Affiliation: indicate faculty affiliation to the EXISTING program(s)	Program Affiliation: indicate faculty affiliation to the NEW program
Category 1: Tenured Professors teaching exclusively in the AAU offering the program			
BIOMEDICAL SCIENCES			
Dr. Michael Crawford	X	X	X
Dr. Andrew Hubberstey	X	X	X
Dr. John Hudson	X	X	X
Dr. Lisa Porter	X	X	X
Dr. Andrew Swan	X	X	X
Dr. Huiming Zhang	X	X	X
Category 2: Tenure-track Professors teaching exclusively in this AAU			
Dr. Jeff Dason	X	X	X
Dr. Phillip Karpowicz	X	X	X
Dr. Munir Rahim	X	X	X
Category 3: Ancillary Academic Staff such as Learning Specialists Positions			
Dr. Dora Cavallo-Medved		X	X
Category 4: Limited-term Appointments teaching exclusively in this AAU			
Dr. Martin Crozier			
Category 5: Tenure or tenure-track or LTA professors involved in teaching and/or supervision in other AAUs, in addition to being a member of this AAU			
NURSING FACULTY			
Dr. Debbie Kane	X		X
Category 6: Sessional and other non-tenure track faculty			
None			
Category 7: Others			
Drs. Caroline Hamm, Windsor Regional Hospital: Experiential Learning Placement clinician	X	X	
Dr. Khalid Hirmiz, Windsor Regional Hospital: Experiential Learning Placement clinician		X	
Dr. Amin Kay, Windsor Regional Hospital: Experiential Learning Placement clinician		X	
Dr. Sindu Kanjeekal, Windsor Regional Hospital: Experiential Learning Placement clinician		X	
Dr. Swati Kulkarni, Windsor Regional Hospital: Experiential Learning Placement clinician		X	
Dr. John Mathews, Windsor Regional Hospital: Experiential Learning Placement clinician		X	
Dr. Ken Schneider, Windsor Regional Hospital: Experiential Learning Placement clinician		X	
Dr. Indryas Woldie, Windsor Regional Hospital: Experiential Learning Placement clinician		X	

B.5.1.1b Faculty Expertise Available and Committed to Supporting the New Program

Assess faculty expertise available and actively committed to the new program. Provide evidence of a sufficient number and quality of faculty who are qualified to teach and/or supervise in the proposed program, and of the appropriateness of this collective faculty expertise to contribute substantially to the proposed program.

Include evidence (e.g., qualifications, research/innovation/scholarly record) that faculty have the recent research or professional/clinical expertise needed to:

- *sustain the program*
- *promote innovation, and*
- *foster an appropriate intellectual climate.*

Append curricula vitae – see Appendix A. CVs are not required for undergraduate diploma or certificate proposals.

The Department of Biomedical Sciences, together with the Faculty of Nursing, already have sufficient faculty members to deliver this program. Our faculty serve at the NSERC level on Discovery Grant panels, and at the CIHR level on Project Grant and Foundation Grant panels and are also frequently called upon by both NSERC and CIHR to serve on additional panels for equipment, research partnerships, scholarships and fellowships, and other strategic initiatives. Our faculty have a demonstrated record of recruiting large grants to the University of Windsor from diverse sources that include local, regional, provincial, and national funding agencies. The faculty teaching these courses are known for their innovative and interactive teaching style and the courses include multiple hands-on and team-based assessments (e.g., team-based grant proposal, research proposal presentation, critique of research articles), in addition to traditional quizzes and exams. The clinicians who have agreed to participate in the program are leaders in their field, running clinical programs at the Windsor Regional Hospital. Many of the clinicians have already established research connections with the faculty and staff of the University of Windsor, particularly through the Windsor Cancer Research Group and the WE Spark Health Institute. Complete details of each professors' and clinicians' research fields, publications, awards and achievements can be found in their attached CVs.

B.5.1.1c Extent of Reliance on Adjunct, Limited-term, and Sessional Faculty in Delivering the New Program

Describe the area's expected reliance on, and the role of adjunct, limited term, and sessional faculty in delivering the proposed program.

The program will be delivered by the faculty listed in B.5.1.1a. Clinicians in this group will hold adjunct faculty positions with the Department of Biomedical Science. One limited-term faculty has been hired to serve as the program coordinator, and sessional faculty will only be required occasionally, such as filling in for sabbatical leaves.

B.5.1.1d Graduate Faculty Qualifications and Supervisory Loads (FOR GRADUATE PROGRAMS ONLY)

Explain how supervisory loads will be distributed and describe the qualifications and appointment status of faculty who will provide instruction and supervision.

Instructors (tenured or tenure-track faculty) will have responsibility for the THS MSc students within their specific graduate course for office hours, feedback, etc. They will be assisted by the THS coordinator in their duties such as course assessment and experiential learning placements. The THS MSc program includes an experiential learning placement, and instructors will play a role in directing the placements in coordination with the THS coordinator, overseeing the learning that takes place during the placements by evaluating student's reflections, and logging the hours involved in placement activities.

B.5.1.1e Financial Assistance for Graduate Students (where appropriate) (FOR GRADUATE PROGRAMS ONLY)

Where appropriate to the program, provide evidence that financial assistance for graduate students will be sufficient to ensure adequate quality and numbers of students.

N/A

B.5.1.1f Other Available Resources (Ministry sections 3 and 4)

Provide evidence that there are adequate resources available and committed to the proposed program to sustain the quality of scholarship produced by undergraduate students as well as graduate students' scholarship and research activities, including for example: staff support, library, teaching and learning support, student support services, space, equipment, facilities, GA/TA

Staff: The coordinator of the THS MSc program will play a key role in overseeing the program and organizing the Professional Development Seminar and teaching some of the courses. The coordinator will oversee the Experiential Learning Placement, coordinating the activities of the THS MSc students and the clinicians at Windsor Regional Hospital.

Services: No additional resources required.

Classrooms: Existing classrooms in the Biology Building, Essex Hall, the new Essex Centre of Research on campus will provide classrooms for the THS MSc program.

Laboratory facilities: All laboratory facilities will be associated with the Experiential Learning Placement, which will primarily occur within clinics at the Windsor Regional Hospital.

GA/TA resources: Graduate Teaching Assistants or Undergraduate Teaching Assistants will not be required.

B.5.1.2 Resource Implications for Other Campus Units (Ministry sections 3 and 4)

Describe the proposed program's reliance on existing resources from <u>other</u> campus units, including for example: existing courses, equipment or facilities outside the proposer's control, external resources requiring maintenance or upgrading using external resources. Provide relevant details.

- Required courses taken from other departments will include the following two courses from the Faculty of Nursing:
  - NURS-8830. Research Methods in Nursing (three credits)
  - NURS-8820. Advanced Statistics (three credits)
- Possible elective courses that the THS MSc students can take from other departments include:
  - BIOC-8684. Cell Death and Diseases (three credits)
  - BIOC-8760. Clinical Biochemistry (three credits)
  - BIOC-8730. Drugs: From Discovery to Market (three credits)
  - COMP-8580. Topics in Bioinformatics (three credits)
  - NURS-8300. Advanced Health Assessment, Diagnostics & Therapeutics of the Oncology/Palliative Patient (three credits)

- We do not anticipate any changes regarding equipment or facilities outside of our control, or external resources.
- Please see the Letter of Support (Appendix E) from the Faculty of Nursing that details their commitment and contributions to the THS MSc program.

B.5.1.3 __Anticipated New Resources (QAF sections 2.1.7, 2.1.8 and 2.1.9; Ministry section 4)

*List all **anticipated new resources** originating from within the area, department or faculty (external grants, donations, government grants, etc.) and committed to supporting the proposed program.*

We do not anticipate any new resources as we plan to utilize the current resources in the Department of Biomedical Science to support students in the new program.

B.5.1.4 _Planned Reallocation of Resources and Cost-Savings (QAF section 2.1.7 and 2.1.9; Ministry section 4)

Describe all opportunities for internal reallocation of resources and cost savings identified and pursued by the area/department in preparing this proposal. (e.g., streamlining existing programs and courses, deleting courses, etc.)

There are no planned reallocation of resources or cost-savings. There will be streamlining efforts since students will be taking existing courses where possible.

B.5.1.5a _Additional Resources Required – Resources Requested (QAF section 2.1.7 and 2.1.9)

*Describe all **additional faculty, staff and GA/TA resources** (in all affected areas and departments) required to run the proposed program.*

Faculty:	One faculty member, a Coordinator of the THS MSc program
Staff:	No additional staff are required.
GA/TA:	No GAs/TAs are required

B.5.1.5b Additional Institutional Resources and Services Required by all Affected Areas or Departments

*Describe all **additional institutional resources and services** required by all affected areas or departments to run the proposed program, including library, teaching and learning support services, student support services, space and facilities, and equipment and its maintenance.*

Library Resources and Services:	N/A: no additional library resources or services required.
Teaching and Learning Support:	N/A: no additional Teaching and Learning Support required.
Student Support Services:	N/A: no additional Student Support Services.
Space and Facilities:	N/A: no additional Space and Facilities.
Equipment (and Maintenance):	N/A: no additional Equipment (or Maintenance).

C.1 Admission Requirements (QAF section 2.1.2)

Describe program-specific admission requirements, selection criteria, credit transfer, arrangements for exemptions or special entry, and alternative admission requirements, if any, for admission into the program, such as minimum average, additional language requirements or portfolios, recognition of prior work or learning experience (and how this will be assessed), etc.

Students entering the THS program require:

- A Bachelor of Science degree, or Nursing, or a related field.
- A minimum cumulative GPA of 70% or better in the final two years of study (full time equivalent).
- At least one undergraduate statistics course for science, health, or math disciplines.
- Two letters of reference.
- For applicants whose native language is not English, a satisfactory score on an English proficiency test is required.
    - Applicants are exempt from submitting an English language proficiency examination score if any one of the following conditions is true:
    1. Within the past two years you have completed a university degree at a Canadian institution.
    2. Within the past two years you have completed a university degree at an institution where English was the primary language of instruction, as indicated on our exemption list.
- Applicants that do not fall under the conditions about must meet a minimum IELTS of 7.0 (or equivalent, e.g., TOEFL iBT Score minimum 94, etc.)
    - With no IELTS band score less than 6.5

Selection criteria will include a weighted score for: (1) undergraduate academic average; (2) strength of references; and (3) prior research training, experience, and accomplishments. Candidates will be reviewed and accessed for eligibility by the admissions committee for the THS MSc program, which will be composed of faculty teaching in the program and the program coordinator.

Enrolment will be limited to 40 students annually, due to clinical spaces available for experiential learning.

C.1.1 Admission Requirements and Attainment of Learning Outcomes (QAF section 2.1.2)

Demonstrate that admission requirements are sufficient to prepare students for successful attainment of the intended learning outcomes (degree level expectations) established for completion of the program.

The admission requirements have been carefully considered to ensure that students come in with the prerequisite Bachelor's level depth and breadth of knowledge in statistics and scientific research methodologies; ability to apply knowledge and review, present, and critically evaluate statistical information; ability to communicate information and present an effective arguments/analysis; and an understanding of the limits to their own knowledge, ability, and development of transferable skills. This base level of competency will provide students with the opportunity for successful attainment of the Program Learning Outcomes for the THS MSc program.

C.2 Program Curriculum Structure/Program of Study (QAF sections 2.1.4 and 2.1.10)

Provide evidence of a program structure and faculty research that will ensure the intellectual quality of the student experience.NB: For graduate programs, provide evidence that each graduate student in the program is required to take a minimum of two-thirds of the course requirements from among graduate-level courses. Include course requirements with course numbers and course titles.

The THS program is a 12-month program that includes eight (8) graduate level courses. Six (6) of the courses are **required courses** and **include** the three-semester **Professional Development Seminar**, and another three-semester course, the **Experiential Learning Placement** which includes a 216-hour experiential learning placement working in a clinical research environment at the Windsor Regional Hospital, as well as additional lectures, meetings, and presentations associated with progress through the Experiential Learning Placement. The remaining two (2) courses are **electives** chosen from the following courses listed below.

Total courses: Eight graduate level courses:

1) Six (6) required **courses** including:
    - BIOM 8710. Cancer Cell Biology (new course, three credits)
    - NURS-8830. Research Methods in Nursing (three credits)
    - NURS-8820. Advanced Statistics (three credits)
    - BIOM-8720. Fundamentals of Oncology (new course, three credits)
    - BIOM-8700. Professional Development Seminar in Translational Health Sciences (new course, one credit), students must enroll in this course in Summer, Fall, and Winter for one hour per week over three terms at 12 weeks/term, or 36 hours in total)
    - BIOM-8705. Experiential Learning Placement in Translational Health Sciences (new course, nine credits). Students must enroll in this course in Summer, Fall, and Winter; 9 credits/semester are as follows. 6 hours/wk. in clinic (weekly breakdown arranged in agreement with clinician and student(s)); 1 hour/wk. with clinician in reviewing project data and plan; 2 hours/wk. developing progress reports, addressing pitfalls, working on monthly report presentation and final report presentations; supervised by course instructor (see "Notes on New Courses" below and the course syllabus Appendix F). 6 hours in experiential learning placement/wk. X 12 wks./semester = 72 hours/semester. 72 hours/semester X 3 semester =216 hours of experiential learning placement, in a clinical research environment at Windsor Regional Hospital. The remaining 3 hours/wk. are spent in meetings with the supervising clinician and course instructor, to review progress and develop presentations associated with progression through the placement as described above.

2) Two elective courses selected from the following:
    - BIOL-8008. Special Topics in Biological Sciences (Medical Genomics (three credits))
    - BIOL-8008. Special Topics in Biological Sciences (Tumour Immunology and Immunotherapy (three credits))
    - BIOC-8684. Cell Death and Diseases (three credits)
    - COMP-8580. Topics in Bioinformatics (three credits)
    - NURS-8300. Advanced Health Assessment, Diagnostics & Therapeutics of the Oncology/Palliative Patient (three credits)

Notes on New Courses:
In the *Professional Development Seminar in Translational Health Sciences* course, students will work in groups to complete assignments developing creative solutions to challenges in translational health sciences. Students will also create an individual reflective portfolio that will document and track their progress in meeting the Program Learning Outcomes, as well as document their examination of and preparation for a variety of career pathways. See Appendix C for the complete Curriculum Map and Appendix F: Draft syllabus for additional information.

In the Experiential Learning Placement in Translational Health Sciences course, students will work in groups on a translational health science research project, together with a research advisor (e.g., academic faculty or health care professional) and the Program Coordinator. At the start of the course, students will review research projects proposed by research advisors and rank these projects based upon their personal preferences and interests. Subsequently, the course instructor will consult students and research advisors to match their interests and needs. The course instructor will then connect groups of students with their research advisors and they will begin their placement. Using the project proposed by the research advisor as a starting point, each student group will then develop a research project proposal that will require them to apply their knowledge to select a study design, research methods, and obtain any regulatory approvals. The 216-hour placement will give students practical experience in many diverse aspects of clinical research that may include interacting with patients, complying with regulatory requirements, collecting data, analyzing data, and collaborating with diverse groups of scientists and health care professionals. Student will gain experience with both written and oral communication through the culminating final research report and scientific poster presentation at the program colloquium that will conclude the Experiential Learning Placement course. Students will spend approximately 72 hours per semester at their placement (72 hours/semester x 3 semesters = 216 hours) which equates to approximately 6 hours per week at their placement over the course of a 12-week semester. The requirement of the research project and needs of the research advisor will dictate whether students complete six hours/day/week at their placement or whether these six hours will be divided across multiple days. For more information on this experiential learning course, please see section below, 'E. Experiential Learning/Co-op Component Only', and Appendix F for draft syllabus.

Degree requirements:
A student must achieve a grade of at least 70% in to retain credit in each of the required and elective courses. Note: all program courses are graded (i.e., no pass/fail courses).

Courses used to calculate the major average are:
All required and elective courses.

Description of thesis option (if applicable):
N/A no thesis option.

Provide requirements for the Co-op/Experiential Learning Component AND a description of how the program requirements differ for students who complete the experiential learning option and those who opt not to (if applicable). *[If the co-op/experiential learning component is new (not part of the existing stand-alone program), a PDC Form B is required]***:**

All students are required to be enrolled in the *Experiential Learning Placement* course in each semester of the program.

Explain how credit will be awarded for the experiential learning component (length of component, credit weighting, etc.):

Experiential Learning Placement in Translational Health Sciences is nine credit/semester course. Students must enrol in this course in Summer, Fall, and Winter (i.e., 12 months total).

Guidelines for experiential learning placement reports:

While they are conducting 216 hours of experiential learning placement in a clinical setting at the Windsor Regional Hospital, students must also complete the following graded assessments, which amount to an additional 36 hours:

- **Project Proposal** (part of the Experiential Learning Placement in Semester 1)**.** Students will work in small groups to develop project proposals, following a typical Canadian Institutes of Health Research proposal format. Proposals will outline the background literature, research questions, methodology, ethics, and the roles and expectations of each contributing member of the group. Proposals are presented in class and peer and instructor feedback is provided through a revision process, followed by grading of the proposals by the instructor.

- **Progress Reports** (part of the Experiential Learning Placement in Semesters 1, 2, and 3)**.** Individual students prepare brief written reports once per month that summarize project accomplishments, pitfalls, and next steps. Progress reports will also document hours worked on the project and the contributions of each student.

- **Final Report** (part of the Experiential Learning Placement, completed in the final month of Semester 3)**.** Students prepare a final written group report that includes their findings, analysis, and ideas for future research. The final report will also document the contributions of each student to the project.

- **Colloquium Presentations** (part of the Experiential Learning Placement, completed in the final month of Semester 3)**.** Students present their findings in groups through poster presentations at a Colloquium event in the final semester of the program.

General length of experiential learning/co-op work term:

This is a 12-month experiential learning course. Students will enrol in this 9-credit course all 3 semesters. Over the course of 3 semesters, students will participate in a total 216-hour experiential placement (approximately 72 hours per semester. The remainder of the course will be supplemented with weekly meetings, discussions, and presentations for an additional 36 hours each semester (total 324 hours over 12 months). The experiential learning placement will take place in a clinical research environment at Windsor Regional Hospital, under the oversight of both the THS MSc coordinator and a clinician from the hospital. During the placement, students will be involved in all components of clinical research from research proposals, to regulatory approval, to observing clinical research, to analyzing results of clinical research, and writing final reports of clinical research.

Is the completion of the experiential learning/co-op component a requirement of the program?

Yes. Completion of the Experiential Learning Placement is a critical program requirement.

C.3.1_For Graduate Program ONLY (QAF sections 2.1.3 and 3; Senate Co-op Policy)

C.3.1.1 Normal Duration for Completion

Provide a clear rationale for program length that ensures that the program requirements can be reasonably completed within the proposed time period.

The normal duration for program completion is 12 months. Most other comparable programs in Ontario that include an experiential learning placement (section B.4.5) run for 12-16 months and have a similar course workload. In addition, responses from our student survey indicate the majority of Science (83%) and Nursing (76%) students agreed or strongly agreed that students would be able to successfully complete the proposed program requirements. The compact 12-month program was identified as a desirable feature by 85% and 63% of experienced Science and Nursing students, respectively, in our survey. The 12-month cycle from May to April allows for the completion of all degree requirements in time for in-program students to apply and be admitted to medical school or other professional schools in the Fall semester after graduation. This is highly advantageous for recruiting students who wish to minimize the time between graduating with a Bachelor's degree and starting medical school.

C.3.1.2 Program Research Requirements

For research-focused graduate programs, provide a clear indication of the nature and suitability of the major research requirements for completion of the degree.

N/A, this is not a thesis-based graduate program.

C.3.1.3 Fields in a Graduate Program (optional)

Where fields are contemplated, provide the following information:
The master's program comprises the following fields: ... [list, as applicable]
The PhD program comprises the following fields: ... [list, as applicable]

N/A

C.3.2_For All Program Proposals

C.3.2.1 Standing Required for Continuation in Program

Minimum average requirements for continuation in the program
Must conform to the regulations for standing required for continuation in the program described in the undergraduate and graduate web calendars [www.uwindsor.ca/calendars].

Specify standing required for continuation in the experiential learning option or co-op option of the program, where applicable.

***Minimum average requirements for continuation in the program*:**

Students are assigned an integer grade on the 100% scale. A student must maintain at least a 70% in each course.

The granting of an Incomplete grade must follow discussion between the student and the course instructor concerning the nature of the work to be completed and the time period for completion. Courses recorded as Incomplete must be completed and a grade reported within twelve months of the original due date unless an earlier deadline has been established. If such courses are not completed within twelve months, they will be permanently designated as Incomplete on the student's transcript. Normally, a student may carry only one Incomplete grade at a time. Graduate students carrying more than one Incomplete grade at the end of a term will have their progress reviewed by their program chair, and a recommendation will be forwarded in each case to the Office of Graduate Studies. Incomplete grades are normally not granted for major papers, theses or dissertations.

The Faculty of Graduate Studies requires that students maintain, at minimum, a cumulative average of 70%.

Courses in which a grade of 70% or higher is received will be accepted for graduate credit.

If a student fails to obtain credit in a course, the course may be repeated once only, at the discretion of the program concerned.

Note: all program courses are graded (i.e., no pass/fail courses).

Specify standing required for continuation in the experiential learning option or co-op option of the program, where applicable:

Successful completion of Experiential Learning Placement 1 (BIOL/M-8XX1) in semester 1 is required for enrolment into Experiential learning Placement 2 (BIOL/M-8XX2); Successful completion of Experiential Learning Placement 2 (BIOL/M-8XX2,) in semester 2, is required for enrolment into Experiential Learning Placement 3 (BIOL/M-8XX3). Successful completion of Experiential Learning Placement 3 (BIOL/M-8XX3) is required for graduation from the program

A student that fails to successfully complete any of the Experiential learning Placement courses 1, 2, or 3 will be asked to go on-leave and return the following year to repeat the failed course when it is offered next.

C.3.2.2 Standing Required for Graduation

Minimum average requirement to graduate in the program
Must conform to the regulations for standing required for continuation in the program described in the undergraduate and graduate web calendars [www.uwindsor.ca/calendars].
Specify standing required for graduation in the experiential learning option or co-op option of the program, where applicable.

A student must maintain at least a 70% minimum cumulative GPA.
Note: all program courses are graded (i.e., no pass/fail courses).

C.3.2.3 Suggested Program Sequencing

Provide suggested program sequencing for each year of the program, ensuring that all pre-requisites are met in the sequencing.

Where applicable, provide work/study/placement sequencing for each year of the experiential learning/co-op version of the program. Please ensure that all pre-requisites are met in the sequencing.

For Co-op programs: The proposed work/study sequence or alternative arrangement should allow for year-round availability of students for employers (if appropriate) and, wherever possible, should meet the guidelines for co-operative education as set out by the Canadian Association for Co-operative Education (see Policy on Co-op Programs).

Table 2 Translational Health Science program sequencing:

Semester 1 (Summer)	**Semester 2 (Fall)**	**Semester 3 (Winter)**
Course: Cancer Cell Biology	**Course:** Fundamentals of Oncology	**Course:** Advanced Statistics
Course: Clinical Research Methods (can be Summer or Fall)		
	Course: Elective (can be Fall or Winter)	
	Course: Elective (can be Fall or Winter)	
Course: Professional Development Seminar in Translational Health Sciences		
Course: Experimental Learning Placement: Part 1: CIHR-style proposal, regulatory approval (semester 1) Part 2: Clinical learning placement (semesters 1, 2 and 3)		

Part 3: Final report, presentation (semester 3)

C.4 LEARNING OUTCOMES (Degree Level Expectations) (QAF section 2.1.1, 2.1.3, and 2.1.6)

In the following table, provide the specific learning outcomes (degree level expectations) that constitute the overall goals of the Combined program or Concurrent offering (i.e., the intended skills and qualities of graduates of this program). Link each learning outcome to the Characteristics of a University of Windsor Graduate" by listing them in the appropriate rows.

A learning outcome may link to more than one of the specified Characteristics of a University of Windsor Graduate. All University of Windsor programs should produce graduates able to demonstrate each of the nine characteristics. Program design must demonstrate how students acquire all these characteristics. All individual courses should contribute to the development of one or more of these traits: a program in its entirety must demonstrate how students meet all of these outcomes through the complete program of coursework.

Proposers are strongly encouraged to contact the Centre for Teaching and Learning for assistance with the articulation of learning outcomes (degree level expectations).

***For Combined Programs and Concurrent Offerings:** The program learning outcomes would include the outcomes for the two standalone programs with a few additional outcomes to reflect the benefits of pursuing the two disciplines in an integrated manner. [For learning outcome A, the integration of knowledge can be within a program and between the two programs.]*

***For programs with an Experiential Learning or Co-op Option**: Include learning outcomes for the program with a few additional outcomes highlighted to reflect the benefits of pursuing the experiential learning/co-op option.*

Program Learning Outcomes (Degree Level Expectations) *This is a sentence completion exercise. Please provide a minimum of 1 learning outcome for each of the boxes associated with a graduate attribute.* At the end of this program, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** A UWindsor graduate will have the ability to demonstrate:	**OCGS-approved Graduate Degree Level Expectations**
A. 1) Explain the molecular and genetic mechanisms, pathophysiology, epidemiology, diagnosis, prevention, and treatment of a major health issue (such as cancer) and apply and integrate with clinical practices and settings in Canada. (*Also partially contributes to characteristics B, C, D, and F.)*	A. the acquisition, application and integration of knowledge	1. Depth and Breadth of Knowledge 2. Research and Scholarship 3. Level of Application of Knowledge 6. Awareness of Limits of Knowledge
B. 2) Critically review and evaluate literature and research methodologies that apply to improving clinical outcomes. (Also partially contributes to characteristics A and C.)	B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy) D. literacy and numeracy skills	2. Research and Scholarship 3. Level of Application of Knowledge 6. Awareness of Limits of Knowledge

PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A

Program Learning Outcomes (Degree Level Expectations) *This is a sentence completion exercise. Please provide a minimum of 1 learning outcome for each of the boxes associated with a graduate attribute.* At the end of this program, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** A UWindsor graduate will have the ability to demonstrate:	**OCGS-approved Graduate Degree Level Expectations**
C. 3) Define the major translational science challenges facing Canada, identify sources of information about these challenges, and generate potential solutions. (Also partially contributes to characteristics A, B, D and E.)	C. critical thinking and problem-solving skills H. creativity and aesthetic appreciation	1. Depth and Breadth of Knowledge 2. Research and Scholarship 3. Level of Application of Knowledge 4. Professional Capacity/autonomy 6. Awareness of Limits of Knowledge
D. 4) Apply the appropriate quantitative tools and biostatistical methods to conduct evidence-based translational research and health outcome evaluation in a clinical setting. (Also partially contributes to characteristics A, C, and E.)	D. literacy and numeracy skills B. research skills, including the ability to define problems and access, retrieve and evaluate information	2. Research and Scholarship 3. Level of Application of Knowledge 5. Level of Communication Skills 6. Awareness of Limits of Knowledge
E. 5) Apply ethical principles in translational health research and practice. (*Also partially contributes to characteristics A and B.)*	E. responsible behaviour to self, others and society	4. Professional Capacity/Autonomy 6. Awareness of Limits
F. 6) Demonstrate effective oral and written communication skills to plan, conduct, and disseminate health sciences research. (*Also partially contributes to characteristics A, B, D, and H.)*	F. interpersonal and communications skills	5. Level of Communication Skills
G. 7) Collaboratively write proposals (e.g., grant applications, research projects) that demonstrates an understanding of financing and organization of translational research in Canada, including regulatory bodies, research agencies, and health systems. (*Also partially contributes to B, D, and E*.)	G. teamwork, and personal and group leadership skills A. the acquisition, application and integration of knowledge F. interpersonal and communications skills	1. Depth and Breadth of Knowledge 2. Research and Scholarship 3. Level of Application of Knowledge 4. Professional Capacity/autonomy 5. Level of Communication Skills 6. Awareness of Limits of Knowledge
H. See Program Learning Outcomes # 3, 6, and 8, which address creativity in a number of realms, including	H. creativity and aesthetic appreciation	2. Research and Scholarship 4. Professional Capacity/autonomy

Program Learning Outcomes (Degree Level Expectations) *This is a sentence completion exercise. Please provide a minimum of 1 learning outcome for each of the boxes associated with a graduate attribute.* At the end of this program, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** A UWindsor graduate will have the ability to demonstrate:	**OCGS-approved Graduate Degree Level Expectations**
research, scholarship, communication, professional capacity, and awareness of limits of knowledge.		6. Awareness of Limits of Knowledge
I. 8) Demonstrate career planning and development of skills for the translational research arena to compete for post-graduate employment or additional academic advancement. *Also partially contributes to characteristics E, F, G, and H.*	I. the ability and desire for continuous learning	4. Professional Capacity/autonomy

C.4.1 Program Structure and Regulations Ensure Learning Outcomes Can be Met

Describe how the program's structure and regulations ensure that its specified learning outcomes can be met by successful students.

Please see the Curriculum Map (Appendix C), that demonstrates the connections between course assessments, course learning outcomes, and the program learning outcomes. The colour-coding within each cell indicates if the Program Learning Outcome is being introduced to students likely for the first time (i.e., pink), is being re-introduced and reinforced through continued development (i.e., yellow), or is being mastered through repeated experience with sufficient depth and breadth of both the theory and applied practice (i.e., green).

C.4.2 Impact of Experiential Learning Component on Attainment of Learning Outcomes

For programs with an experiential learning or co-op component: *describe how the experiential learning/co-op component changes the emphasis or the means of achieving the intended learning outcomes for the program.*

The experiential learning component of this program is critical to the attainment of the Program Learning Outcomes (PLO). It is through this experience that students will demonstrate mastery and attainment of 7 out of the 8 program learning outcomes in real-world practical clinical research settings. This includes demonstrations of the ability to:

PLO #2) Critically review and evaluate literature and research methodologies that apply to improving clinical outcomes.
PLO #3) Define the major translational science challenges facing Canada, identify sources of information about these challenges, and generate potential solutions.
PLO #4) Apply the appropriate quantitative tools and biostatistical methods to conduct evidence-based translational research and health outcome evaluation in a clinical setting.
PLO #5) Apply ethical principles in translational health research.
PLO #6) Demonstrate effective oral and written communication skills to plan, conduct, and disseminate health sciences research.
PLO #7) Collaboratively write proposals (e.g., grant applications, research projects) that demonstrate an understanding of financing and organization of translational research in Canada, including regulatory bodies, research agencies and health systems.
PLO #8) Demonstrate career planning and development of skills for the translational research arena to compete for post-graduate employment or additional academic achievement.

Please see the program Curriculum Map (Appendix C) that demonstrates the connections between the *Experiential Learning Placement* course learning outcomes and course assessments with the overall program learning outcomes.

For specific examples of *Experiential Learning Placement* projects please see section E.3 Evidence of Availability of Placements.

C.4.3 Mode of Delivery (QAF section 2.1.5)

Demonstrate that the proposed modes of delivery are appropriate to meet the program learning outcomes. Discuss online vs. face-to-face (e.g., lecture, seminar, tutorial, lab) modes of delivery, as well as specialized approaches intended to facilitate the acquisition of specific skills, knowledge, and attitudes.

This program has been designed to provide students with a blend of content around major diseases (e.g., cancer), knowledge in translational research methodologies, and the ability to apply research to clinical settings. The classes will be face-to-face courses as we find this is a better approach for student engagement than online learning.

The three core courses offered in the Summer semester (see Table 1, above) will provide a strong foundation in the theory and principles of biostatistics (*Advanced Statistics* course), disease biology (e.g., cancer; *Cancer Cell Biology* course), and research methods (*Clinical Research Methods* course). The faculty teaching these courses are known for a very innovative and interactive teaching style and the courses include multiple hands-on and team-based assessments (e.g., team-based grant proposal, research proposal presentation, critique of research articles), in addition to traditional quizzes and exams.

In the Fall semester students will be introduced to problem-based learning through the study of several types of cancer in the *Fundamentals of Oncology* course. These cases will challenge students to identify what is known about each disease, what knowledge gaps exist, and what future research is needed to address the problem. A culminating assignment in the oncology course will draw upon the students' knowledge acquired during the Summer and Fall semesters to consider the interdisciplinary intersections of cancer patient care and explore career paths in the oncology health care system. Students will also have the ability to augment and individualize their training through two elective courses in related fields such as medical genomics, clinical biochemistry, pharmaceuticals, and oncology health care.

The theoretical knowledge acquired from the core courses in the Summer and Fall semesters will be put into practice in the *Professional Development Seminar* and *Experiential Learning Placement* courses, both of which run for the duration of the 12-month program. In the seminar course students will work in groups to complete assignments developing creative solutions to challenges in translational health sciences. In addition, students will also create an individual reflective portfolio that will document and track their progress in meeting the Program Learning Outcomes, as well as document their examination of and preparation for a variety of career pathways. In the experiential learning course students will work in groups on a translational health science research project, together with a research advisor (e.g., academic faculty or health care professional) and the course instructor. Each student group will develop a research project proposal that will require them to apply their knowledge to select a study design, research methods, and obtain any regulatory approvals. Their placements will give students practical experience in many diverse aspects of clinical research that may include interacting with patients, complying with regulatory requirements, collecting data, analyzing data, and collaborating with diverse groups of scientists and health care professionals. Student will gain experience with both written and oral communication through the culminating final research report and scientific poster presentation at the program colloquium.

C.5 Student Workload

Provide information on the expected workload per course credit (3.0) of a student enrolled in this new program. (For assistance with this exercise, proposers are encouraged to contact the Centre for Teaching and Learning.)

Expected Workload per 3.0 Course Credit/Week	Average Time *per week* the Student is Expected to Devote to Each Component Over the Course of the Program
Lectures	12
Tutorials	N/A
Practical experience	N/A
Service or experiential learning	10
Independent study	N/A
Reading and work for assessment, including meeting classmates for group work/project assignments (essays, papers, projects, laboratory work, etc.)	3
Studying for tests/examinations	6
Other: *[specify]*	
Compare the student workload for this program with other similar programs in the AAU: This workload is similar to other professional programs in the Faculty of Science, including the Master of Molecular Biology and Master of Medical Biotechnology.	

C.6 MONITORING AND EVALUATION (QAF section 2.1.6)

Describe and explain the appropriateness of the proposed methods of assessing student achievement given the intended learning outcomes and degree level expectations.

Student achievement in the program will be evaluated using course-embedded assessments that are linked to both course learning outcomes and program learning outcomes, as shown in the Curriculum Map (Appendix C). The Curriculum Map indicates the connections between each course assessment and the Program Learning Outcomes (and in turn the Graduate Characteristics) that the students will be demonstrating upon successful completion of each course assessment.

Each assessment in the program has been created to evaluate the development of learning throughout the program, with special attention to the demonstration of learning by the end of the seminar and the experiential learning courses. To achieve credit in these courses, students will be expected to demonstrate mastery, that is, a proficient level of achievement of each program learning outcome that is linked to each assessment. Key culminating assessments that demonstrate mastery of many of the program learning objectives include the research project proposal, final research report, and colloquium presentation from the *Experiential Learning Placement* course, as well as the reflective portfolio from the *Professional Development Seminar* course.

D. Monitoring and Evaluation (QAF section 2.1.6)

D.1 Plan for Documenting And Demonstrating Student Performance Consistent with Learning Outcomes

Describe the plan for documenting and demonstrating student performance level and demonstrate its consistency with the stated learning outcomes and degree level expectations.

In order to monitor and evaluate the quality of the program, the unit will keep copies of all of the culminating reflective portfolios that students work on throughout the program. The portfolio is designed to provide students with the opportunity to draw on their own evidence that demonstrates their achievement of the program learning outcomes. This portfolio will include student reflections of their progress, examples of student work products (e.g., grant proposals, papers, presentations, posters, case studies, etc.) that demonstrate their achievements, as well as a career development/continuous learning plan for the future. Each portfolio will be evaluated as part of the requirements of the seminar course and will also be important in assessing the quality of the program across years. The portfolio will be evaluated by the THS MSc Program Coordinator (refer to Appendix F: “Professional Development Seminar” assignment 5)

The instructors and administrators of the program will meet following each semester to revisit performance criteria and students' successes/struggles with each form of evaluation. Any areas where students are having particular struggles can then be identified to provide students tips and techniques for overcoming these difficulties. The minimum expectations to achieve credit and be awarded the degree will also be discussed at these meetings, including any clarification and/or revision of expectations.

E. EXPERIENTIAL LEARNING/CO-OP COMPONENT ONLY (Senate Co-op Policy)

[Complete this section ONLY if the proposed program includes an experiential learning or co-op component involving paid or unpaid placements.]

E.1 Experiential Learning Component and Nature of Experience

Describe the experiential learning component and the nature of the experience (field placement, required professional practice, service-learning, internship, etc.)

Through the experiential learning placement, students will gain practical experience working in small groups on a translational health sciences project together with a research advisor (e.g., academic faculty or health care professional) and the instructor (who will also serve as the program coordinator). See section E.3: "Evidence of Availability of Placements" below. Students will participate experiential placement that will be supplemented with weekly lectures, meetings, and/or presentations. At the start of the 12-month experiential placement, student groups will collaboratively develop a project proposal that outlines the study design, methods, and regulatory approvals. Proposals will undergo a process of peer review and revision, in consultation with the research advisor and instructor. Throughout the course, students will prepare individual monthly progress reports, which will culminate in a final group report that documents the research data, analysis, and outcomes for the project. In addition, student groups will present their findings as a poster at the Translational Health Sciences Master's Colloquium in the final semester.

E.2 Knowledge and Skills Brought to the Workplace

Provide a description of the knowledge and skills that students will be bringing to the workplace/placement based on the curriculum.

The three core courses offered in the Summer semester (first semester) will provide a strong foundation in the theory and principles of biostatistics (*Advanced Statistics* course), disease biology (e.g., cancer; *Cancer Cell Biology* course), and research methods (*Clinical Research Methods* course). Each of these courses include multiple hands-on and team-based assessments (e.g., team-based grant proposal, research proposal presentation, critique of research articles), in addition to quizzes and exams covering theory and basic principles. Furthermore, in the Fall semester students will be introduced to problem-based learning through the study of several types of cancer in the *Fundamentals of Oncology* course. These cases will challenge students to identify what is known about each disease, what knowledge gaps exist, and what future research is needed to address the problem. Collectively, the assessments in these courses will provide students with multiple opportunities to apply their research skills to authentic research problems, and help prepare students for their experiential learning placement.

E.3 Evidence of Availability of Placements

Provide evidence of the availability of an adequate number of positions of good quality both inside and outside the Windsor area (including names and contact information of potential employers, written statements or surveys from potential employers; and employer feedback concerning the hiring of graduates). Provide a summary of the types of positions that would be suitable at each level of work-term. How will these placements/opportunities be developed? [NB: For co-op programs, the majority of Ontario placements should qualify for the Co-op Education tax credit. See Policy on Co-op Programs for more details.]

Multiple consultation sessions were initiated in 2018 with health care professionals at Windsor Regional Hospital and faculty in the Faculty of Science and the Faculty of Nursing to discuss the concept and design of the THS MSc program. These sessions were also used to solicit interest to host research projects for the *Experiential Learning Placement* course. Benefits to the research advisor that were discussed include: 1) students will receive extensive training prior to starting hands-on research; 2) the experiential learning is of sufficient duration and intensity to make substantial contributions to the principal investigator's research; 3) students will receive support and guidance

from the course instructor; and 4) there are no salary costs for the research. Ongoing communication with these local clinical and academic departments confirm continued interest as expressed in the updated letters of support (see Appendix E).

One important feature of this program is involving graduate students in hands-on research, both at the project development stage and at a hands-on practical stage. The recruitment of research advisors and projects will begin each year in the Winter semester prior to the start date for each cohort of students. The course instructor will solicit research project proposals using a template (see sample templates found below in section E. 3 “Example Experiential Learning Placement Projects” page p.30). Researchers will be required to provide a brief overview of the proposed project, including a description of the research objectives and methods, and the tasks and responsibilities for the student researchers. The course instructor will evaluate each proposal to confirm it is complete, aligned with the themes of translational health sciences, and appropriate for a team of 2-3 students with the training and experience provided by the THS MSc program courses. At the start of the program in the Summer semester, students will then be able to review the available research projects and rank their preferences. The course instructor will then consult with both the students and research advisors to match their interests and needs. The course instructor will then connect the interested students and the research advisors, so that the students can gain experience in a hands-on research environment throughout the program (i.e., subsequent Summer, Fall, and Winter semesters) through the Experimental Learning Placement course.

We anticipate an enrollment of 20 students in the first year of the program, which will necessitate having about eight research projects, each with 2-3 students. Below we have included five example projects from health care professionals at Windsor Regional Hospital. Thus far we have received a commitment from eight medical doctor clinicians at the hospital who have agreed to serve as research advisors including Drs. Caroline Hamm, Khalid Hirmiz, Sindu Kanjeekal, Amin Kay, Swati Kulkarni, John Mathews, Ken Schneider, and Indryas Woldie (see Appendix E: Letters of Support, including those from Windsor Regional Hospital). We anticipate that the majority of research projects will be hosted at the hospital; however, some projects will also be directed by faculty on campus at University of Windsor, other departments in the Faculty of Science, and/or the Faculty of Nursing.

PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A

Example Experiential Learning Placement Projects
Translational Health Sciences Master's Program

PI Name: Indryas Woldie

Co-PI Name: Caroline Hamm **Co-PI Name:** Hussein, Abdulkadir

Faculty: Science **Department/School/Program:** Biomedical Sciences and Mathematics & Statistics

Organization (if outside UWindsor): _____

Project Title: **Trends in Vital Signs in Relation to Patient Outcomes during Induction Phase in Treatment of Acute Leukemia**

Project Description (250 words or less)**:**
Windsor Regional Hospital (WRH) treats approximately 17 patients a year with acute myeloid leukemia. After induction chemotherapy, patients are required to stay in hospital for 3-4 weeks due to their increased risk of neutropenic fevers and being admitted to the intensive care unit (ICU). Methods: Our goal was to conduct a retrospective chart review to determine if there was a correlation between patient vitals and ICU admission. Vitals were analyzed over 24 hours, either prior to ICU admission (ICU group) or 5 days after the initiation of induction chemotherapy (control group). Results: Temperature (T), heart rate (HR) and blood pressure (BP) did not significantly change in patients during this time. However, an increase in respiratory rate (RR) and FiO2 often occurred in the 24 hours prior to admission. This suggests an increase in RR or FiO2 may be predictive of ICU admission during induction chemotherapy. There was no significant difference between groups in the average number of vital signs taken. When compared to HR, BP and O2Sat, RR was recorded the least in the 24 hours leading up to ICU admission. Recording RR more often may help health teams admit patients to the ICU earlier, which will lead to improved survival. Reason for ICU admission was predominantly related to respiratory failure, highlighting the need for increased measurement of related vital signs such as RR and O2Sat. Conclusion: More attention should be paid to monitoring respiratory rate and oxygen needs in acute leukemia patients during induction chemotherapy.

Student Research Tasks and Activities (250 words or less)**:**

- Follow steps needed to obtain REB clearance for research project
- Coordinate and report research updates at meetings with research team
- Collect and analyze data
- Prepare a summary of results
- Present results to research team, discuss and incorporate feedback into final results report
- Create a presentation of the project and findings

PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A

Translational Health Sciences Master's Program

PI Name: Swati Kulkarni

Co-PI Name: Luis Rueda

Faculty: Science **Department/School/Program:** Biomedical Sciences and Computer Science

Organization (if outside UWindsor): _____

Project Title: **Assessment of Cardiotoxicity and HER2-targeted therapy Interruption in Breast Cancer Patients.**

Project Description (250 words or less)**:**
In breast carcinomas that overexpress the oncogene human epidermal growth factor receptor (HER2), the targeted biologic treatment trastuzumab is used. Trastuzumab increases overall and disease-free survival but also causes side effects, one of which is decreased left ventricular ejection fraction (LVEF). This cardiotoxicity is frequently reversible when interrupted; therefore, clinical guidelines suggest discontinuation of trastuzumab treatment if the LVEF drops moderately from baseline or with symptomatic heart failure. In this study, information from 204 patients treated at the Windsor Regional Cancer Program was used to create a data set regarding the effect of 60 features on trastuzumab therapy continuity. Using the chi-square statistical method, factors such as weight, body surface area, number of chemotherapy cycles, number of trastuzumab treatments, LVEF at first heart scan, size of tumor at diagnosis, height, and age at diagnosis were found to be highly correlated with treatment interruption. Using the Pearson correlation coefficient, LVEF at first heart scan was found to have the highest strength of correlation. These results will help clinicians prognosticate which patients will likely encounter cardiac dysfunction; additionally, this database will be used for survival analysis in the future.

Student Research Tasks and Activities (250 words or less)**:**
- Follow steps needed to obtain REB clearance for research project
- Complete a literature review and summarize the results
- Coordinate and report research updates at meetings with research team
- Collect and analyze data
- Prepare a summary of results
- Present results to research team, discuss and incorporate feedback into final results report
- Create a presentation of the project and findings

Example Experiential Learning Placement Projects
Translational Health Sciences Master's Program

PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A

PI Name: Caroline Hamm

Co-PI Name:

Faculty: Science **Department/School/Program:** Biomedical Sciences

Organization (if outside UWindsor): _____

Project Title: **A preemptive approach to reduce emergency room utilization by patients being treated with chemotherapy**

Project Description (250 words or less)**:**

In the 2014-2019 Systemic Treatment Provincial Plan, Cancer Care Ontario reported a high number of cancer patients visit the emergency room (ER) due to adverse effects of chemotherapy. One main priority highlighted was the need to reduce ER utilization by these patients in order to improve patient care and decrease financial strain on the health care system. Here, we assessed the frequency, cause, and outcome of ER visits at Windsor Regional Hospital from patients on chemotherapy. Over a 5-week period, 60 patients produced 69 visits of which 29% were due to adverse effects of chemotherapy, including fever, neutropenia, and infection. Breast and hematologic malignancies were the most common in these patients. Fifteen patients agreed to a phone interview to discuss their ER visit. When asked, none of these patients called the Cancer Centre prior to visiting the ER; 33% attributed this to it being after-hours and 27% stated that they did not know calling was an option. Our findings suggest there is a lack of patient initiative in contacting the Cancer Centre regarding health concerns prior to seeking emergency care. Subsequently, we are implementing a preventative strategy in which an oncology nurse will make weekly phone calls to breast cancer, lymphoma, and myeloma patients who are currently receiving chemotherapy. This pre-emptive strategy will allow patients to discuss concerns about their treatment and in turn reduce ER utilization.

Student Research Tasks and Activities (250 words or less)**:**

- Follow steps needed to obtain REB clearance for research project
- Complete a literature review and summarize the results
- Coordinate and report research updates at meetings with research team
- Collect and analyze data
- Prepare a summary of results
- Present results to research team, discuss and incorporate feedback into final results report
- Create a presentation of the project and findings

PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A

Example Experiential Learning Placement Projects
Translational Health Sciences Master's Program

PI Name: Caroline Hamm

Co-PI Name: Hussein, Abdulkadir

Faculty: Science **Department/School/Program:** Biomedical Sciences and Mathematics & Statistics

Organization (if outside UWindsor): _____

Project Title: **Prostate Cancer Outcomes and Ethnicity in Windsor-Essex County**

Project Description (250 words or less)**:**
Objectives: To determine whether the ethnicity of a patient diagnosed with prostate cancer in the Windsor-Essex County region influences baseline cancer characteristics or clinical outcome. If a relationship was found, this would provide an opportunity to explore improvements in management. Methods: A retrospective chart review was conducted with patients diagnosed with prostate cancer at the Windsor Regional Cancer Centre (WRCC) between 2000-2010. To identify patient ethnicity, we used patient surnames as a proxy. Statistical analysis was performed (COX regression model and Kaplan Meier survival curves) to determine if there were any ethnic disparities in cancer outcomes or baseline cancer characteristics. Results: Characteristics investigated included age at diagnosis, prostate cancer stage, PSA (pre- and post-treatment), Gleason score, and treatment received. Clinical outcome was defined by survival in months. There were no statistically significant findings that tied ethnicity to differences in either cancer characteristics or clinical outcomes in patients diagnosed with prostate cancer. Conclusion: There was no statistically significant relationship found between ethnicity and cancer outcomes or baseline characteristics. However, further studies are recommended to examine the reason for lack of ethnic disparities, which have been described in previous papers.
Student Research Tasks and Activities (250 words or less)**:**

- Follow steps needed to obtain REB clearance for research project
- Complete a literature review and summarize the results
- Coordinate and report research updates at meetings with research team
- Collect and analyze data
- Prepare a summary of results
- Present results to research team, discuss and incorporate feedback into final results report
- Create a presentation of the project and findings

Example Experiential Learning Placement Projects
Translational Health Sciences Master's Program

PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A

PI Name: Khalid Hirmiz

Co-PI Name:

Faculty: Science **Department/School/Program:** Physics

Organization (if outside UWindsor): _____

Project Title: **A retrospective chart review of patients diagnosed with rectal cancer treated at the Windsor Regional Cancer Centre, examining treatments and outcomes**

Project Description (250 words or less)**:**
Colorectal cancer is a common cancer in the developed world, the third most common diagnosed cancer in Canada (excluding non-melanoma skin cancers), the second leading cause of death from cancer in men and the third leading cause of death from cancer in women in Canada. The goal of this project is to conduct a retrospective review of our colorectal cancer patients treated at Windsor Regional Cancer Centre. Our scope is to review our patients with the diagnosis of rectal cancer who were treated with multimodality treatments (chemotherapy, pelvic radiation therapy and surgery), and to determine the outcome in respect to response rate, rates of complete pathological response following neoadjuvant chemo-radiation, and survival at 5 years following the diagnosis. The results are also compared to what is reported in the literature.

Student Research Tasks and Activities (250 words or less)**:**
- Follow steps needed to obtain REB clearance for research project
- Complete a literature review and summarize the results
- Coordinate and report research updates at meetings with research team
- Collect and analyze data
- Prepare a summary of results
- Present results to research team, discuss and incorporate feedback into final results report
- Create a presentation of the project and findings

E.4 Mechanism for Supervision of Placements (QAF section 2.1.9)

Describe the mechanism that will be established for the supervision of experiential learning placements.

Students will be supervised by a combination of the program coordinator and a research advisor (e.g., academic faculty or health care professional). The course instructor oversees the course scheduling and design, provides support to students, and implements and evaluates the course assessments. The research advisor hosts the research project and provides guidance to the student to help them as they assist with the research project during the Experiential Learning Placement. In addition to the experiential placement, the course will also include weekly lectures, meetings, and/or presentations organized by the instructor that will provide opportunities to discuss expectations for research projects, identify areas where students are succeeding or struggling, and provide support and guidance on the various steps in the stages of the research pipeline. Students will begin the semester by preparing team-based research project proposals, which will be presented in class and receive feedback from peers and the instructor through a revision process, in consultation with the research advisor. Once the hands-on research project begins, students will be required to prepare written monthly reports that summarize project accomplishments, pitfalls, and next steps. These reports will be reviewed by the instructor, who will then consult with the research advisor if needed regarding any concerns or questions. Research advisors will be required to meet once per week for an hour with their student research team to review progress, discuss challenges, and identify

research tasks for the upcoming week. The instructor will also meet monthly with all of the research advisors in the program to discuss expectations for the research advisors, successes and challenges across the experiential placement program, and to track progress.

E.5 Fees Associated with Experiential Learning Component

Provide information on the fees associated with the experiential learning component, if applicable. NB: all proposed fees must be approved as part of the University's operating budget, via the Ancillary Fee Committee.

At this time there are no additional fees for the experiential learning component beyond the tuition for the THS MSc program.

E.6 AAU Council Approval of New Co-op Component

Please obtain signatures for the following statement.

N/A.

E.7 Guidelines for the Establishment of New Co-op Programs: CHECKLIST

Final Overview: Please complete this checklist to ensure that the Senate-approved guidelines for the establishment of a new co-op program have been addressed.

N/A. The *Experiential Learning Placement* course is not a co-op program.

APPENDIX A

FACULTY CURRICULA VITAE

(not required for undergraduate diploma or certificate proposals)

[Append curricula vitae of all faculty members in the AAU offering the program as well as from faculty members from other AAUs who are core to the delivery of the program. Faculty CVs should be in a standardized format - contact the Quality Assurance office for instructions about how to obtain properly formatted CVs from the UWindsor eCV system. Other standardized formats are acceptable as well, such as that used by one of the Tri-Councils]

PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A

APPENDIX B – BUDGET SUMMARY SHEET

Projections of Enrolment, Expenditures and Revenues (enrolments over 5 years)						
Year	**2022/23**	**2023/24**	**2024/25**	**2025/26 steady state**	**2026/27**	**Total**
Revenue						
Tuition income*	400,000	630,000	880,000	920,000	960,000	**3,790,000**
Potential Provincial funding**	0	0	0	0	0	**0**
Total Revenue	400,000	630,000	880,000	920,000	960,000	**3,790,000**
Expenses						
Total Academic expenses	196,340	202395	209,280	216,417	223,814	**1,048,246**
Additional Staff/Technician	0	0	0	0	0	0
GA/TA***	0	0	0	0	0	0
Hospital fees for placement****	30,000	45,000	60,000	60,000	60,000	**255,000**
General Supplies & Misc.	1,000	1,000	1,000	1,000	1,000	**5,000**
University Allocations*****	200,000	315,000	710,280	737,417	764,814	**1,895,000**
Total Expenses	**427,340**	**563,395**	**710,280**	**737,417**	**764,814**	**3,203,246**
Net Income	**-27,340**	**66,605**	**169,720**	**182,583**	**195,186**	**586,754**

* $20,000 per full-time equivalent domestic Masters student, increases by $1000 each year
** Provincial Funding is not expected for this program.
*** GA/TA's not required for this program
**** fee of $500 per student per term to hospital
***** University Allocations under new budget model not fully known so used an estimate of 50% of Revenue per the current model

NEW COURSE PROPOSALS

TITLE OF PROGRAM(S)/CERTIFICATE(S):	Professional Master's in Translational Health Sciences (THS)
DEPARTMENT(S)/SCHOOL(S):	Department of Biomedical Sciences
FACULTY(IES):	Faculty of Science

Proposed change(s) effective as of* [Fall, Winter, Spring]: **(subject to timely and clear submission)*	Spring 2022

A. NEW COURSE PROFILE

Course # and Title: BIOM-8710. Cancer Cell Biology

A.1 Calendar Description

Calendar descriptions should be written in the third person and should provide a general outline of the course material. Where appropriate, examples of topics or themes, which might be covered in the course, should also be provided.

Contemporary diagnostics and treatments of cancer have dramatically decreased mortality. Nevertheless, cancer continues to claim more than 83,000 lives annually in Canada. In *Cancer Cell Biology* our primary focus will be on the mechanisms that are corrupted in cancer cells and the differences in vulnerability among tissues. Secondarily, will review technologies used to define pathways and reflect on the lessons learned from the application of such techniques. Finally, we will examine the strategies being used today to exploit the vulnerabilities of tumors for personalized and targeted therapeutics. (Prerequisite: Admission into the professional Translational Health Sciences Master's program or permission of instructor. Corequisite: Registration in all courses required for the fall semester.)

A.2 Other Course Information

Please complete the following tables.

Credit weight	**Total contact hours**	**Delivery format**				**Breakdown of contact hours/week**			
		In-class	**e-learning**	**Distance**	**Other flexible learning delivery** *[please specify]*	**Lecture**	**Lab/ Tutorial**	**Online**	**Co-op/ practicum/ experiential learning**
3 credits	36 hours	X	N/A	N/A	N/A	3 hours	N/A	N/A	N/A

Pre-requisites	**Co-requisites**	**Anti-requisites**	**Cross-listed with:**	**Required course?**	**Replacing old course*** ** *[provide old course number]*
Admission into the professional Translational Health Sciences Master's program or permission of instructor.	Registration in all courses required for the fall semester.	N/A	N/A	Yes	N/A

******Replacing Old Course: this does not mean that the former course will be deleted from the calendar. If it is to be deleted, a Form E must be completed.***

Will students be able to obtain credit for the new course and the course(s) that it is replacing?	N/A

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

B. RATIONALE. This is not applicable because this is a new course, and it is not replacing any old courses.

B.1 Course Goal(s)

Please provide a statement about the purpose of the course within the program of study or as an option.

Students will gain knowledge about the underlying mechanisms and cellular signalling involved in cancer etiology and development through traditional lectures. They will be able to compare and contrast the prevalent underlying causes in hematological cancers with those in solid tumors. They will be examined on their knowledge of how traditional and emerging therapies target the underlying causes of these various cancers.

B.2 Indigenous (First Nations, Métis, or Inuit) Content, Perspectives, or Material

The University of Windsor is committed to building and sustaining stronger, more meaningful inclusive partnerships with Indigenous students, scholars, and communities. Indigenization of curriculum takes place in a larger context, including a requirement to respond to the four Calls to Action in education of the Truth and Reconciliation Report (2015) (page 1), the unique legal requirements of the Constitution Act 1982 (Sections 25, 35), the provincial legal requirements of the Ontario Human Rights Code, 1990, and provincial legislation Bill Pr36 (1967).

*In developing this new course, **how** has consideration been given to incorporating Indigenous (First Nations, Métis, or Inuit) content, perspectives, or material into the curriculum?*

Please consider these prompt questions and additional Resources including disciplinary examples:

- *What **process** has your department/Faculty used to consider Indigenization?*
- ***How** have you considered the importance or relevance to the course/program?*
- *How has your department or faculty approached raising awareness for Indigenous knowledges in your area?*
- *What do the TRC and University Principles documents suggest relevant to your course?*
- *What have other similar courses/programs done that might be relevant to your course/program?*
- *In what ways could your course/program have flexibility to include new ways of learning, or content for Indigenous approaches or knowledges?*
- *What is your awareness of the history or background to approaches you are considering, such as the land acknowledgement? How have you developed your awareness?*
- *Which literatures, sources, or Indigenous Knowledge Holders have you consulted? (Please confirm you have permission to share any names, it may be helpful to have the person confirm the text if you will be submitting their name)*
- *Are you engaging in critical analysis of Settler Colonialism and/or Decolonization?*
- *Have you included the information in the other relevant areas in the PDC form (such as learning outcomes) or in the course syllabus where appropriate?*

The University of Windsor's Faculty of Science, and in particular the Biomedical Science Department, recognizes the importance of indigenous perspectives in health sciences and in the training of our students.

The Faculty of Science is in the process of hiring an indigenous knowledge broker who will help in the indigenization of this and other academic programs in the faculty of science. While the new hire will be in our integrative biology department, we are actively seeking approval to hire another indigenous knowledge broker for our health sciences aligned with the local WE Spark Health Institute.

In regard to the required courses proposed for the Translational Health Science program, indigenous content, perspectives and material will be included as follows:

In particular to this novel course in *Cancer Cell Biology,* case studies, vulnerable population perspectives, ethical consideration, and population sampling for geographical representation will be addressed.

B.3 LEARNING OUTCOMES (QAF section 2.1.1, 2.1.3, and 2.1.6)

Please complete the following table. State the specific learning outcomes that make up the goal of the course (what will students know and be able to do at the end of this course?) and link the learning outcomes to the Characteristics of a University of Windsor Graduate outlined in "To Greater Heights" by listing them in the appropriate rows.

Please note that a learning outcome may link to more than one of the specified Characteristics of a University of Windsor Graduate, and that a single course might not touch on each of the Characteristics. ***If a specific learning outcome is not applicable for the course, please enter N/A or not applicable.***

Information on learning outcomes is appended to this form (Appendix A). Proposers are also strongly encouraged to contact the Centre for Teaching and Learning for assistance with the articulation of learning outcomes.

Course Learning Outcomes *This is a sentence completion exercise.* At the end of this course, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** A U of Windsor graduate will have the ability to demonstrate:
A. • Describe the processes underlying the transformation of a normal cell to its malignant counterpart, and the consequences of malignant transformation and metastasis on the cellular and organism level. (LO1) (Also applies to C) • Describe the molecular mechanisms underlying DNA damage and repair. (LO2) • Explain the epigenetic interactions between the environment, regulation of gene expression, and cancer development. (LO3) • Describe the functions of oncogenes and tumour suppressor genes in cancer. (LO4) • Explain the molecular mechanisms regulating cell division, cell cycle, apoptosis, and how external and internal stimuli can promote or inhibit these processes. (LO5) • Describe the laboratory techniques and methods used in cancer research. (LO6)	A. the acquisition, application and integration of knowledge
B. • Describe the laboratory techniques and methods used in cancer research. (LO6) • Explain how the biological knowledge of cancer development is used in modern cancer treatment. (LO7)	B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy)
C. • Write a grant application to a selected granting agency or funding mechanism for a translational research project and identify where it lies on the translational pipeline. (LO8) (Also applies to E, F, and G.)	C. critical thinking and problem-solving skills

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

Course Learning Outcomes *This is a sentence completion exercise.* At the end of this course, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** A U of Windsor graduate will have the ability to demonstrate:
• Review and evaluate a translational research paper, propose next steps for integration into practice, and identify gaps in the translational pipeline. (LO9) (Also applies to F and G.)	
D. N/A	D. literacy and numeracy skills
E.	E. responsible behaviour to self, others and society
F.	F. interpersonal and communications skills
G.	G. teamwork, and personal and group leadership skills
H. N/A	H. creativity and aesthetic appreciation
I. N/A	I. the ability and desire for continuous learning

Course assignments:
Students are assigned an integer grade on the 100% scale. The grade will be based on in-class presentations and a team-based grant proposal as well as midterm and final exams testing their understanding of the lecture content. **Student presentations** (2X) on their selected translational research papers, reviewing and evaluating the paper, proposing next steps for integration into practical settings, and identifying gaps in the translational pipeline. **Team-based grant proposal.** Students identify an idea for a translational research project and develop a grant proposal for a targeted granting agency or funding mechanism. With peer feedback along the way, students will write a hypothesis, objectives, aims, and proposed methodologies, ensuring a translational component is embedded into the proposal

- 15% Presentation 1
- 15% Midterm Exam 1
- 15% Presentation 2
- 15% Final Exam
- 40% Grant Proposal

B.4 Demand for Course

Please provide as much information on projected enrolment as possible.

Projected enrolment levels for the first 5 years of the new course.	Year 1	Year 2	Year 3	Year 4	Year 5
	20	30	40	40	40

B.4.1 Impact of New Course on Enrolment in Existing Courses

What will be the impact of offering the new course on enrolments in existing courses in the program or Department?

This is a required course for a new program that seeks to recruit students to the University of Windsor, who would otherwise be enrolled in another university. As such, there are no expected impacts on enrolments in existing courses.

B.5 Student Workload

Provide information on the expected workload per week of a student enrolled in this course.
NOTE: Student workload should be consistent with the credit weight assigned to the course.

Average number of hours per week that the student will be expected to devote to:	
3	Lectures
0	Tutorials
N/A	Labs
N/A	Practical experience
N/A	Independent Study
1-3	Reading for the course
1-3	Work for assessment (essays, papers, projects, laboratory work)
1-3	Meeting with others for group work/project assignments
	Studying for tests/examinations
	Other: *[specify]*
How does the student workload for this course compare with other similar courses in the department/program area?	The workload in the proposed course will be similar to other traditional lecture-based course workloads in the program, as well as for other comparable professional Master's programs.

C. RESOURCES

C.1 Available Faculty and Staff Resources (QAF sections 2.1.7, 2.1.8, 2.1.9 and 2.1.10)

Describe, in general terms, all faculty and staff resources (e.g., administrative, teaching, supervision) from all affected areas/departments currently available and actively committed to support the new course). Please do not name specific individuals.

Within the Faculty of Science, the Department of Biomedical Sciences currently has 9 full time research faculty, two Ancillary Academic Staff (AAS), 1 Limited Term Appointment (LTA), 1 lab technician, and 1 secretary with support from other departments for Core Technology, financial matters, and graduate student support. Many of these faculty and staff will be involved in administering this program, as laid out below (section B.5.1.1a). One additional faculty member has been hired to serve as the coordinator of the program (the LTA listed above – Dr. Martin Crozier was hired Aug. 1st, 2020), and sessional instructors may be involved on an as-needed basis.

C.1.1 Faculty Expertise in Support of the Revised Program

Provide an assessment of faculty expertise available and committed to actively support the new course. Please do not name specific individuals.

The course will be taught by a faculty member with scientific expertise and professional experience in oncology.

C.1.2 Extent of Reliance on Adjunct, Limited-term, and Sessional Faculty in Delivering the Revised Program

Describe the area's expected reliance on, and the role of adjunct, limited term, and sessional faculty in delivering the new course.

Full time faculty in the Faculty of Biomedical Sciences will be relied upon for the development and delivery of this proposed theory course.

C.2 Resource Implications for Other Campus Units (Ministry sections 3 and 4)

Describe the reliance of the proposed new course on existing resources from <u>other</u> campus units, including for example: faculty teaching, equipment or facilities outside the proposer's control, external resources requiring maintenance or upgrading using external resources. Provide relevant details.

This course will not rely on any other campus units outside the Department of Biomedical Sciences.

C.3 Anticipated New Resources (QAF sections 2.1.7, 2.1.8 and 2.1.9; Ministry section 4)

*List all **anticipated new resources** originating from within the area, department or faculty (external grants, donations, government grants, etc.) and committed to supporting the new course.*

The Department of Biomedical Sciences does not anticipate new resources.

C.4 Planned Reallocation of Resources and Cost-Savings (QAF section 2.1.7 and 2.1.9; Ministry section 4)

Describe all opportunities for <u>internal reallocation of resources and cost savings</u> identified and pursued by the area/department in support of the new course. (e.g., streamlining existing programs and courses, deleting courses, etc.).

There is no planned reallocation or cost-savings for this new proposed course.

C.5 Additional Resources Required – Resources Requested (QAF section 2.1.7 and 2.1.9)

*Describe all **additional faculty, staff and GA/TA resources** (in all affected areas and departments) required to offer the new course.*

Faculty:	No additional faculty anticipated.
Staff:	No additional staff anticipated.
GA/TAs:	Potentially one additional GA/TA for this course.

C.6.1 Additional Institutional Resources and Services Required by all Affected Areas or Departments

*Describe all **additional institutional resources and services** required by <u>all affected</u> areas or departments to offer the new course, including library, teaching and learning support services, student support services, space and facilities, and equipment and its maintenance.*

Library Resources and Services:	No additional library resources and services anticipated.
Teaching and Learning Support:	No additional teaching and learning support anticipated.
Student Support Services:	No additional student support services anticipated.
Space and Facilities:	No additional space or facilities anticipated.
Equipment (and Maintenance):	No additional equipment or maintenance anticipated.
TITLE OF PROGRAM(S)/CERTIFICATE(S):	Professional Master's in Translational Health Sciences (THS)
DEPARTMENT(S)/SCHOOL(S):	Department of Biomedical Sciences
FACULTY(IES):	Faculty of Science

Proposed change(s) effective as of* [Fall, Winter, Spring]: **(subject to timely and clear submission)*	Spring 2022

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

A. NEW COURSE PROFILE

Course # and Title: BIOM-8705. Experiential Placement in Translational Health Sciences Research

A.1 Calendar Description

Calendar descriptions should be written in the third person and should provide a general outline of the course material. Where appropriate, examples of topics or themes, which might be covered in the course, should also be provided.

Students will gain practical experience working in small groups on a translational health sciences research project together with a research advisor (e.g., academic faculty or health care professional) and the instructor. Students will participate in a 216-hour experiential placement that will be supplemented with weekly lectures, meetings, and/or presentations. At the start of the 12-month experiential placement, student groups will collaboratively develop a project proposal that outlines the study design, methods, and regulatory approvals. Proposals will undergo a process of peer review and revision, in consultation with the research advisor and instructor. Throughout the course, students will prepare individual monthly progress reports, which will culminate in a final group report that documents the research data, analysis, and outcomes for the project. In addition, student groups will present their findings as a poster at the Translational Health Sciences Master's Colloquium in the final semester. Students must be enrolled in this course in each of the three semesters of the 12-month professional Master's program. (Prerequisite: Admission into the professional Translational Health Sciences Master's program or permission of instructor. Corequisite: Registration in all courses required for each semester.)

A.2 Other Course Information

Please complete the following tables.

Credit weight	**Total contact hours**	**Delivery format**				**Breakdown of contact hours/week**			
		In-class	**e-learning**	**Distance**	**Other flexible learning delivery** *[please specify]*	**Lecture**	**Lab/ Tutorial**	**Online**	**Co-op/ practicum/ experientia l learning**
9 credits (12-month course)	216 hours of practical experience, plus 36 hours of lectures, meetings and presentations.	X	N/A	N/A	X Experiential	1 hour	N/A	N/A	6-12 hours

Pre-requisites	**Co-requisites**	**Anti-requisites**	**Cross-listed with:**	**Required course?**	**Replacing old course*** ** *[provide old course number]*
Admission into the professional Translational Health Sciences Master's program.	Registration in all courses required for each semester.	N/A	N/A	Yes	N/A

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

******Replacing Old Course: this does not mean that the former course will be deleted from the calendar. If it is to be deleted, a Form E must be completed.***

Will students be able to obtain credit for the new course and the course(s) that it is replacing?	N/A

B. RATIONALE. This is not applicable because this is a new course, and it is not replacing any old courses.

B.1 Course Goal(s)

Please provide a statement about the purpose of the course within the program of study or as an option.

Students will gain a clinical and/or laboratory experience in translational health sciences research while providing beneficial service to the health care community, encouraging and supporting scientists and health care professionals to conduct and advance translational research. The course will also help to develop and grow partnerships between multiple academic units at UWindsor and regional hospitals.

B.2 Indigenous (First Nations, Métis, or Inuit) Content, Perspectives, or Material

The University of Windsor is committed to building and sustaining stronger, more meaningful inclusive partnerships with Indigenous students, scholars, and communities. Indigenization of curriculum takes place in a larger context, including a requirement to respond to the four Calls to Action in education of the Truth and Reconciliation Report (2015) (page 1), the unique legal requirements of the Constitution Act 1982 (Sections 25, 35), the provincial legal requirements of the Ontario Human Rights Code, 1990, and provincial legislation Bill Pr36 (1967).

*In developing this new course, **how** has consideration been given to incorporating Indigenous (First Nations, Métis, or Inuit) content, perspectives, or material into the curriculum?*

Please consider these prompt questions and additional Resources including disciplinary examples:

- *What **process** has your department/Faculty used to consider Indigenization?*
- ***How** have you considered the importance or relevance to the course/program?*
- *How has your department or faculty approached raising awareness for Indigenous knowledges in your area?*
- *What do the TRC and University Principles documents suggest relevant to your course?*
- *What have other similar courses/programs done that might be relevant to your course/program?*
- *In what ways could your course/program have flexibility to include new ways of learning, or content for Indigenous approaches or knowledges?*
- *What is your awareness of the history or background to approaches you are considering, such as the land acknowledgement? How have you developed your awareness?*
- *Which literatures, sources, or Indigenous Knowledge Holders have you consulted? (Please confirm you have permission to share any names, it may be helpful to have the person confirm the text if you will be submitting their name)*
- *Are you engaging in critical analysis of Settler Colonialism and/or Decolonization?*
- *Have you included the information in the other relevant areas in the PDC form (such as learning outcomes) or in the course syllabus where appropriate?*

The University of Windsor's Faculty of Science, and in particular the Biomedical Science Department, recognizes the importance of indigenous perspectives in health sciences and in the training of our students.

The Faculty of Science is in the process of hiring an indigenous knowledge broker who will help in the indigenization of this and other academic programs in the faculty of science. While the new hire will be in our integrative biology department, we are actively seeking approval to hire another indigenous knowledge broker for our health sciences aligned with the local WE Spark Health Institute.

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

In regard to the required courses proposed for the Translational Health Science program, indigenous content, perspectives and material will be included as follows:

In particular to this novel *Experiential Learning Placement* course these aforementioned issues may also be central depending on the focus and particulars of the study population of the research advisor..

B.3 LEARNING OUTCOMES (QAF section 2.1.1, 2.1.3, and 2.1.6)

Please complete the following table. State the specific learning outcomes that make up the goal of the course (what will students know and be able to do at the end of this course?) and link the learning outcomes to the Characteristics of a University of Windsor Graduate outlined in "To Greater Heights" by listing them in the appropriate rows.

Please note that a learning outcome may link to more than one of the specified Characteristics of a University of Windsor Graduate, and that a single course might not touch on each of the Characteristics. ***If a specific learning outcome is not applicable for the course, please enter N/A or not applicable.***

Information on learning outcomes is appended to this form (Appendix C). Proposers are also strongly encouraged to contact the Centre for Teaching and Learning for assistance with the articulation of learning outcomes.

Course Learning Outcomes *This is a sentence completion exercise.* At the end of this course, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** A U of Windsor graduate will have the ability to demonstrate:
A.	A. the acquisition, application and integration of knowledge
B. Refine research questions and develop problem statements that address specific research project goals. (Also applies to C, H) Apply appropriate conceptual frameworks, research designs, and methodology to answer specific project goals and questions. (Also applies to A, C, H) Assess the strengths and limitations of selected research designs and methodology with respect to quality, bias, ethics, and potential applications. (Also applies to A, C, D) Assess the implications of conclusions drawn in research projects. (Also applies to C)	B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy)
C.	C. critical thinking and problem-solving skills
D.	D. literacy and numeracy skills
E. Acquire necessary approvals (e.g., regulatory, safety, ethics, etc.) for their project placements. (Also applies to B)	E. responsible behaviour to self, others and society
F. Effectively communicate their clinical research findings both orally and in writing. (Also applies to G, H)	F. interpersonal and communications skills

Course Learning Outcomes *This is a sentence completion exercise.* At the end of this course, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** A U of Windsor graduate will have the ability to demonstrate:
G. Collaborate with multidisciplinary professional groups within the health sciences. (Also applies to I)	G. teamwork, and personal and group leadership skills
H.	A. creativity and aesthetic appreciation
I.	I. the ability and desire for continuous learning

Course assignments:

- **Project Proposal.** Students will work in small groups to develop project proposals, following a typical Canadian Institutes of Health Research proposal format. Proposals will outline the background literature, research questions, methodology, ethics, and the roles and expectations of each contributing member of the group. Proposals are presented in class and peer and instructor feedback is provided through a revision process.
- **Progress Reports.** Individual students prepare brief written reports once per month that summarize project accomplishments, pitfalls, and next steps. Progress reports will also document hours worked on the project and the contributions of each student.
- **Final Report.** Students prepare a final written group report that includes their findings, analysis, and ideas for future research. The final report will also document the contributions of each student to the project.
- **Colloquium Presentations.** Students present their findings in groups through poster presentations at a Colloquium event in the final semester of the program.

B.4 Demand for Course

Please provide as much information on projected enrolment as possible.

Projected enrolment levels for the first 5 years of the new course.	Year 1	Year 2	Year 3	Year 4	Year 5
	20	30	40	40	40

B.4.1 Impact of New Course on Enrolment in Existing Courses

What will be the impact of offering the new course on enrolments in existing courses in the program or Department?

This is a required course for a new program that seeks to recruit students to the University of Windsor, who would otherwise be enrolled in another university. As such, there are no expected impacts on enrolments in existing courses.

B.5 Student Workload

Provide information on the expected workload per week of a student enrolled in this course.
NOTE: Student workload should be consistent with the credit weight assigned to the course.

Average number of hours per week that the student will be expected to devote to:	
1	Lectures

N/A	Tutorials	
N/A	Labs	
6-12	Practical experience of 216 hours total, over a period of 12 months.	
N/A	Independent Study	
1	Reading for the course	
1-2	Work for assessment (essays, papers, projects, laboratory work)	
1-2	Meeting with others for group work/project assignments	
N/A	Studying for tests/examinations	
	Other: *[specify]*	
How does the student workload for this course compare with other similar courses in the department/program area?		The workload in the proposed course will be greater than other course workloads in the program. However, it is comparable to other programs that provide a clinical or experiential placement for a professional Master's program.

C. RESOURCES

C.1 Available Faculty and Staff Resources (QAF sections 2.1.7, 2.1.8, 2.1.9 and 2.1.10)

Describe, in general terms, all faculty and staff resources (e.g., administrative, teaching, supervision) from all affected areas/departments currently available and actively committed to support the new course). Please do not name specific individuals.

The Department of Biomedical Sciences currently has 9 full time research faculty, two Ancillary Academic Staff (AAS), 1 Limited Term Appointment (LTA), 1 lab technician, and 1 secretary with support from other departments for Core Technology, financial matters, and graduate student support. Many of these faculty and staff will be involved in administering this program, as laid out below (section B.5.1.1a of the PDC-A). One additional faculty member has been hired to serve as the coordinator of the program (the LTA listed above – Dr. Martin Crozier was hired Aug. 1st, 2020), and sessional instructors may be involved on an as-needed basis.

C.1.1 Faculty Expertise in Support of the Revised Program

Provide an assessment of faculty expertise available and committed to actively support the new course. Please do not name specific individuals.

The course will be taught by a faculty member with scientific expertise and professional experience in translational health sciences.

C.1.2 Extent of Reliance on Adjunct, Limited-term, and Sessional Faculty in Delivering the Revised Program

Describe the area's expected reliance on, and the role of adjunct, limited term, and sessional faculty in delivering the new course.

Full-time faculty in the Department of Biomedical Sciences will be relied upon for the development and delivery of this proposed experiential learning course.

C.2 Resource Implications for Other Campus Units (Ministry sections 3 and 4)

Describe the reliance of the proposed new course on existing resources from other campus units, including for example: faculty teaching, equipment or facilities outside the proposer's control, external resources requiring maintenance or upgrading using external resources. Provide relevant details.

Individual research project advisors will be recruited from among the faculty in both the Faculty of Nursing and the Faculty of Science, as well as from among health care professionals at Windsor Regional Hospital (see supporting letters in Appendix E).

C.3 Anticipated New Resources (QAF sections 2.1.7, 2.1.8 and 2.1.9; Ministry section 4)

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

*List all **anticipated new resources** originating from within the area, department or faculty (external grants, donations, government grants, etc.) and committed to supporting the new course.*

The Department of Biomedical Sciences does not anticipate new resources.

C.4 Planned Reallocation of Resources and Cost-Savings (QAF section 2.1.7 and 2.1.9; Ministry section 4)

Describe all opportunities for internal reallocation of resources and cost savings identified and pursued by the area/department in support of the new course. (e.g., streamlining existing programs and courses, deleting courses, etc.).

There is no planned reallocation or cost-savings for this new proposed course.

C.5 Additional Resources Required – Resources Requested (QAF section 2.1.7 and 2.1.9)

*Describe all **additional faculty, staff and GA/TA resources** (in all affected areas and departments) required to offer the new course.*

Faculty:	No additional faculty anticipated.
Staff:	No additional staff anticipated.
GA/TAs:	No additional GA/TA anticipated.

B. 6.1 Additional Institutional Resources and Services Required by all Affected Areas or Departments

*Describe all **additional institutional resources and services** required by all affected areas or departments to offer the new course, including library, teaching and learning support services, student support services, space and facilities, and equipment and its maintenance.*

Library Resources and Services:	No additional library resources and services anticipated.
Teaching and Learning Support:	No additional teaching and learning support anticipated.
Student Support Services:	No additional student support services anticipated.
Space and Facilities:	No additional space or facilities anticipated.
Equipment (and Maintenance):	No additional equipment or maintenance anticipated.

A. NEW COURSE PROFILE

Course # and Title: BIOM-8720. Fundamentals of Oncology

A.1 Calendar Description

Calendar descriptions should be written in the third person and should provide a general outline of the course material. Where appropriate, examples of topics or themes, which might be covered in the course, should also be provided.

Using a problem-based learning approach, students will explore the diagnosis, pathophysiology, treatment, and prevention measures for various cancers. Multiple cases will be introduced each semester, consisting of a mix of lectures and tutorials. Cases will be developed and presented by the instructor and will include guest speakers engaged in clinical oncology research and/or patient care. The course will provide students with experience in using a problem-based learning approach to consider and propose solutions to current and relevant cases. In addition, the course will challenge students to identify the intersections and interdisciplinary aspects of cancer patient care, including an examination of the career paths of professionals working in the oncology health care system. (Prerequisite: Admission into the professional Translational Health Sciences Master's program or permission of instructor. Corequisite: Registration in all courses required for the fall semester.)

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

A.2 Other Course Information

Please complete the following tables.

Credit weight	Total contact hours	Delivery format				Breakdown of contact hours/week			
		In-class	e-learning	Distance	Other flexible learning delivery *[please specify]*	Lecture	Lab/ Tutorial	Online	Co-op/ practicum/ experiential learning
3 credits	36 hours	X	N/A	N/A	N/A	3 hours	N/A	N/A	N/A

Pre-requisites	Co-requisites	Anti-requisites	Cross-listed with:	Required course?	Replacing old course*** *[provide old course number]*
Admission into the professional Translational Health Sciences Master's program or permission of instructor.	Registration in all courses required for the fall semester.	N/A	N/A	Yes	N/A

******Replacing Old Course: this does not mean that the former course will be deleted from the calendar. If it is to be deleted, a Form E must be completed.***

Will students be able to obtain credit for the new course and the course(s) that it is replacing?	N/A

B. RATIONALE.

B.1 Course Goal(s)

Please provide a statement about the purpose of the course within the program of study or as an option.

Students will gain experience using problem-based learning to explore a wide range of topics in oncology. They will also complete a culminating assignment to explore the interdisciplinary approach to cancer patient care, including the various career paths for professionals working in the oncology health care system.

B.2 Indigenous (First Nations, Métis, or Inuit) Content, Perspectives, or Material

The University of Windsor is committed to building and sustaining stronger, more meaningful inclusive partnerships with Indigenous students, scholars, and communities. Indigenization of curriculum takes place in a larger context, including a requirement to respond to the four Calls to Action in education of the Truth and Reconciliation Report (2015) (page 1), the unique legal requirements of the Constitution Act 1982 (Sections 25, 35), the provincial legal requirements of the Ontario Human Rights Code, 1990, and provincial legislation Bill Pr36 (1967).

*In developing this new course, **how** has consideration been given to incorporating Indigenous (First Nations, Métis, or Inuit) content, perspectives, or material into the curriculum?*

Please consider these prompt questions and additional Resources including disciplinary examples:

- *What **process** has your department/Faculty used to consider Indigenization?*
- ***How** have you considered the importance or relevance to the course/program?*
- *How has your department or faculty approached raising awareness for Indigenous knowledges in your area?*

- *What do the TRC and University Principles documents suggest relevant to your course?*
- *What have other similar courses/programs done that might be relevant to your course/program?*
- *In what ways could your course/program have flexibility to include new ways of learning, or content for Indigenous approaches or knowledges?*
- *What is your awareness of the history or background to approaches you are considering, such as the land acknowledgement? How have you developed your awareness?*
- *Which literatures, sources, or Indigenous Knowledge Holders have you consulted? (Please confirm you have permission to share any names, it may be helpful to have the person confirm the text if you will be submitting their name)*
- *Are you engaging in critical analysis of Settler Colonialism and/or Decolonization?*
- *Have you included the information in the other relevant areas in the PDC form (such as learning outcomes) or in the course syllabus where appropriate?*

The University of Windsor's Faculty of Science, and in particular the Biomedical Science Department, recognizes the importance of indigenous perspectives in health sciences and in the training of our students.

The Faculty of Science is in the process of hiring an indigenous knowledge broker who will help in the indigenization of this and other academic programs in the faculty of science. While the new hire will be in our integrative biology department, we are actively seeking approval to hire another indigenous knowledge broker for our health sciences aligned with the local WE Spark Health Institute.

In regard to the required courses proposed for the Translational Health Science program, indigenous content, perspectives and material will be included as follows:

Particularly for this novel *Fundamentals of Oncology* course, case studies, vulnerable population perspectives, ethical consideration, and population sampling for geographical representation will be addressed.

B.3 LEARNING OUTCOMES (QAF section 2.1.1, 2.1.3, and 2.1.6)

Please complete the following table. State the specific learning outcomes that make up the goal of the course (what will students know and be able to do at the end of this course?) and link the learning outcomes to the Characteristics of a University of Windsor Graduate outlined in "To Greater Heights" by listing them in the appropriate rows.

Please note that a learning outcome may link to more than one of the specified Characteristics of a University of Windsor Graduate, and that a single course might not touch on each of the Characteristics. ***If a specific learning outcome is not applicable for the course, please enter N/A or not applicable.***

Information on learning outcomes is appended to this form (Appendix C). Proposers are also strongly encouraged to contact the Centre for Teaching and Learning for assistance with the articulation of learning outcomes.

Course Learning Outcomes *This is a sentence completion exercise.* At the end of this course, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** A U of Windsor graduate will have the ability to demonstrate:
A. Describe and evaluate the etiology, pathophysiology, and progression of cancer, and how these factors relate to the patient experience. (Also applies to C) Describe and evaluate the interdisciplinary methods of cancer control and	A. the acquisition, application, and integration of knowledge

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

Course Learning Outcomes *This is a sentence completion exercise.* At the end of this course, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** A U of Windsor graduate will have the ability to demonstrate:
prevention. Describe and evaluate the methods used for cancer risk assessment, screening, and diagnosis. Describe and evaluate the traditional and emerging cancer therapies.	
B. Identify relevant cancer statistics and epidemiology. (Also applies to A) Identify knowledge gaps in clinical oncology cases, formulate appropriate questions, and find answers in the relevant literature.	B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy)
C. Review cancer care cases, working in groups, and present creative/relevant/ethical solutions to interdisciplinary challenges to cancer care, control, and prevention. (Also applies to B, E, F, G, H)	C. critical thinking and problem-solving skills
D. N/A	D. literacy and numeracy skills
E. Identify relevant ethical issues arising in the care of patients with cancer.	E. responsible behaviour to self, others, and society
F. Explain the interdisciplinary aspect of cancer patient care including the contributions of basic sciences, clinical medicine, health services research, and the social sciences. (Also applies to C)	F. interpersonal and communications skills
G.	G. teamwork, and personal and group leadership skills
H.	H. creativity and aesthetic appreciation
I. N/A	I. the ability and desire for continuous learning

Course assignments:

- **Problem-based Learning Cases.** In small groups, students will work through current and relevant cases that are jointly presented by the instructor and guest speakers engaged in clinical oncology research and/or patient care. Each case will consist of a lecture on the content relevant to the case, as well as a tutorial to facilitate a problem-based learning approach in working through the case. Students will need to identify what information is known, where existing knowledge gaps remain, and what future research is necessary to address the problem.

- **Culminating Assignment.** Students individually consider the interdisciplinary intersections of cancer patient care, as well as examine the training and qualifications of a diversity of career paths involved in the oncology

health care system (e.g., research scientists, medical doctors, clinicians, nurses, epidemiologists, social workers etc.).

B.4 Demand for Course

Please provide as much information on projected enrolment as possible.

Projected enrolment levels for the first 5 years of the new course.	Year 1	Year 2	Year 3	Year 4	Year 5
	20	30	40	40	40

B.4.1 Impact of New Course on Enrolment in Existing Courses

What will be the impact of offering the new course on enrolments in existing courses in the program or Department?

This is a required course for a new program that seeks to recruit students to the University of Windsor, who would otherwise be enrolled in another university. As such, there are no expected impacts on enrolments in existing courses.

B.5 Student Workload

Provide information on the expected workload per week of a student enrolled in this course.
NOTE: Student workload should be consistent with the credit weight assigned to the course.

Average number of hours per week that the student will be expected to devote to:		
3	Lectures	
0	Tutorials	
N/A	Labs	
N/A	Practical experience	
N/A	Independent Study	
1-3	Reading for the course	
1-3	Work for assessment (essays, papers, projects, laboratory work)	
1-3	Meeting with others for group work/project assignments	
	Studying for tests/examinations	
	Other: *[specify]*	
How does the student workload for this course compare with other similar courses in the department/program area?	The workload in the proposed course will be similar to other traditional lecture-based course workloads in the program, as well as for other comparable professional Master's programs.	

C. RESOURCES

C.1 Available Faculty and Staff Resources (QAF sections 2.1.7, 2.1.8, 2.1.9 and 2.1.10)

Describe, in general terms, all faculty and staff resources (e.g., administrative, teaching, supervision) from all affected areas/departments currently available and actively committed to support the new course). Please do not name specific individuals.

The Department of Biomedical Sciences currently has 9 full time research faculty, two Ancillary Academic Staff (AAS), 1 Limited Term Appointment (LTA), 1 lab technician, and 1 secretary with support from other departments for Core Technology, financial matters, and graduate student support. Many of these faculty and staff will be involved in administering this program, as laid out below (section B.5.1.1a). One additional faculty member has been hired to serve as the coordinator of the program (the LTA listed above – Dr. Martin Crozier was hired Aug. 1st, 2020), and sessional instructors may be involved on an as-needed basis.

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

C.1.1 Faculty Expertise in Support of the Revised Program

Provide an assessment of faculty expertise available and committed to actively support the new course. Please do not name specific individuals.

The course will be taught by a faculty member with scientific expertise and professional experience in oncology.

C.1.2 Extent of Reliance on Adjunct, Limited-term, and Sessional Faculty in Delivering the Revised Program

Describe the area's expected reliance on, and the role of adjunct, limited term, and sessional faculty in delivering the new course.

Full time faculty in the Faculty of Biomedical Sciences will be relied upon for the development and delivery of this proposed theory course.

C.2 Resource Implications for Other Campus Units (Ministry sections 3 and 4)

Describe the reliance of the proposed new course on existing resources from other campus units, including for example: faculty teaching, equipment or facilities outside the proposer's control, external resources requiring maintenance or upgrading using external resources. Provide relevant details.

This course will not rely on any other campus units outside the Department of Biomedical Sciences.

C.3 Anticipated New Resources (QAF sections 2.1.7, 2.1.8 and 2.1.9; Ministry section 4)

*List all **anticipated new resources** originating from within the area, department, or faculty (external grants, donations, government grants, etc.) and committed to supporting the new course.*

The Department of Biomedical Sciences does not anticipate new resources.

C.4 Planned Reallocation of Resources and Cost-Savings (QAF section 2.1.7 and 2.1.9; Ministry section 4)

Describe all opportunities for internal reallocation of resources and cost savings identified and pursued by the area/department in support of the new course. (e.g., streamlining existing programs and courses, deleting courses, etc.).

There is no planned reallocation or cost-savings for this new proposed course.

C.5 Additional Resources Required – Resources Requested (QAF section 2.1.7 and 2.1.9)

*Describe all **additional faculty, staff, and GA/TA resources** (in all affected areas and departments) required to offer the new course.*

Faculty:	No additional faculty anticipated.
Staff:	No additional staff anticipated.
GA/TAs:	Potentially one additional GA/TA for this course.

C.6.1 Additional Institutional Resources and Services Required by all Affected Areas or Departments

*Describe all **additional institutional resources and services** required by all affected areas or departments to offer the new course, including library, teaching, and learning support services, student support services, space and facilities, and equipment and its maintenance.*

Library Resources and Services:	No additional library resources and services anticipated.
Teaching and Learning Support:	No additional teaching and learning support anticipated.
Student Support Services:	No additional student support services anticipated.
Space and Facilities:	No additional space or facilities anticipated.
Equipment (and Maintenance):	No additional equipment or maintenance anticipated.

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

A. NEW COURSE PROFILE

Course # and Title: BIOM-8700. Professional Development Seminar in Translational Health Sciences

A.1 Calendar Description

Calendar descriptions should be written in the third person and should provide a general outline of the course material. Where appropriate, examples of topics or themes, which might be covered in the course, should also be provided.

Students will gain transferrable skills necessary for their professional development in translational health sciences careers. Students will work in groups to study current challenges in translational health sciences that are presented by guest speakers from academia, health care professions, and industry. In developing solutions to these challenges, students will have opportunities to practice and receive peer and instructor feedback on their professional writing, problem solving skills, networking, and oral presentation skills. To help prepare students to enter the workforce, each student will prepare a career plan that includes strategies for professional networking and lifelong learning, as well as a professional portfolio for use in job interviews. As part of the portfolio students will reflect on their own development and growth during the program, as well as create writing samples for employment applications (i.e., curriculum vitae and cover letters). Students must be enrolled in this course in each of the three semesters of the 12-month professional Master's program. (Prerequisite: Admission into the professional Translational Health Sciences Master's program or permission of instructor. Corequisite: Registration in all courses required for each semester.)

A.2 Other Course Information

Please complete the following tables.

Credit weight	**Total contact hours**	**Delivery format**				**Breakdown of contact hours/week**			
		In-class	**e-learning**	**Distance**	**Other flexible learning delivery** *[please specify]*	**Lecture**	**Lab/ Tutorial**	**Online**	**Co-op/ practicum/ experientia l learning**
1 credit	12 hours	X	N/A	N/A	N/A	1 hour	N/A	N/A	N/A

Pre-requisites	**Co-requisites**	**Anti-requisites**	**Cross-listed with:**	**Required course?**	**Replacing old course***** *[provide old course number]*
Admission into the professional Translational Health Sciences Master's program.	Registration in all courses required for each semester.	N/A	N/A	Yes	N/A

******Replacing Old Course: this does not mean that the former course will be deleted from the calendar. If it is to be deleted, a Form E must be completed.***

Will students be able to obtain credit for the new course and the course(s) that it is replacing?	N/A

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

B. RATIONALE.

B.1 Course Goal(s)

Please provide a statement about the purpose of the course within the program of study or as an option.

Students will develop necessary transferable skills, including professional writing skills, problem-solving skills, networking, and oral presentation skills. They will develop a career plan and portfolio for use in job interviews.

B.2 Indigenous (First Nations, Métis, or Inuit) Content, Perspectives, or Material

The University of Windsor is committed to building and sustaining stronger, more meaningful inclusive partnerships with Indigenous students, scholars, and communities. Indigenization of curriculum takes place in a larger context, including a requirement to respond to the four Calls to Action in education of the Truth and Reconciliation Report (2015) (page 1), the unique legal requirements of the Constitution Act 1982 (Sections 25, 35), the provincial legal requirements of the Ontario Human Rights Code, 1990, and provincial legislation Bill Pr36 (1967).

*In developing this new course, **how** has consideration been given to incorporating Indigenous (First Nations, Métis, or Inuit) content, perspectives, or material into the curriculum?*

Please consider these prompt questions and additional Resources including disciplinary examples:

- *What **process** has your department/Faculty used to consider Indigenization?*
- ***How** have you considered the importance or relevance to the course/program?*
- *How has your department or faculty approached raising awareness for Indigenous knowledges in your area?*
- *What do the TRC and University Principles documents suggest relevant to your course?*
- *What have other similar courses/programs done that might be relevant to your course/program?*
- *In what ways could your course/program have flexibility to include new ways of learning, or content for Indigenous approaches or knowledges?*
- *What is your awareness of the history or background to approaches you are considering, such as the land acknowledgement? How have you developed your awareness?*
- *Which literatures, sources, or Indigenous Knowledge Holders have you consulted? (Please confirm you have permission to share any names, it may be helpful to have the person confirm the text if you will be submitting their name)*
- *Are you engaging in critical analysis of Settler Colonialism and/or Decolonization?*
- *Have you included the information in the other relevant areas in the PDC form (such as learning outcomes) or in the course syllabus where appropriate?*

The University of Windsor's Faculty of Science, and in particular the Biomedical Science Department, recognizes the importance of indigenous perspectives in health sciences and in the training of our students.

The Faculty of Science is in the process of hiring an indigenous knowledge broker who will help in the indigenization of this and other academic programs in the faculty of science. While the new hire will be in our integrative biology department, we are actively seeking approval to hire another indigenous knowledge broker for our health sciences aligned with the local WE Spark Health Institute.

In regard to the required courses proposed for the Translational Health Science program, indigenous content, perspectives and material will be included as follows:

In particular, there will be opportunities in the *Professional Development Seminar in Translational Health Science* to discuss challenges that reflect Indigenous perspectives in cancer research and patient care with students.
Please refer to the course goals in B.1.

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

B.3 LEARNING OUTCOMES (QAF section 2.1.1, 2.1.3, and 2.1.6)

Please complete the following table. State the specific learning outcomes that make up the goal of the course (what will students know and be able to do at the end of this course?) and link the learning outcomes to the Characteristics of a University of Windsor Graduate outlined in "To Greater Heights" by listing them in the appropriate rows. Please note that a learning outcome may link to more than one of the specified Characteristics of a University of Windsor Graduate, and that a single course might not touch on each of the Characteristics. ***If a specific learning outcome is not applicable for the course, please enter N/A or not applicable.***
Information on learning outcomes is appended to this form (Appendix C). Proposers are also strongly encouraged to contact the Centre for Teaching and Learning for assistance with the articulation of learning outcomes.

Course Learning Outcomes *This is a sentence completion exercise.* At the end of this course, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** A U of Windsor graduate will have the ability to demonstrate:
A. N/A	A. the acquisition, application and integration of knowledge
B. N/A	B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy)
C. Objectively assess personal strengths and limitations, related to career goals, through individual reflection and peer feedback. (Also applies to E, F, I)	C. critical thinking and problem-solving skills
D.	D. literacy and numeracy skills
E.	E. responsible behaviour to self, others and society
F. Develop a well-organized and effective professional portfolio. (Also applies to D, H, I). Develop a career support network consisting of peers, mentors, psychosocial support, and professional connections. (Also applies to G, I).	F. interpersonal and communications skills
G. Identified ways to positively lead and motivate people through cultural or organisational change management Develop skills for effectively communicating change management	G. teamwork, and personal and group leadership skills
H. Generate creative solutions to challenges in translational health sciences. Utilize available information, support, guidance, and resources to enhance academic and professional success. (Also applies to I)	H. Creativity and aesthetic appreciation
I.	I. the ability and desire for continuous learning

Course assignments:

- **Challenges in Translational Health Sciences.** Students will work in groups to generate creative solutions to problems in translational health sciences, focusing on connections to their own professional development needs and opportunities. These challenges will be introduced and discussed through a combination of lectures by the instructor, assigned literature readings, and guest speakers from translational health sciences experts from academia, the health care system, and the pharmaceutical industry.
- **Reflective Portfolio.** Each student will prepare a portfolio comprised of two main sections. Section A will provide evidence and reflections on how students have developed throughout the program and can now demonstrate their abilities in meeting the Program Learning Outcomes and how they exemplify the University of Windsor graduate characteristics. Section B includes a career development and lifelong learning plan, current CV, sample cover letters for a variety of career pathways, and an analysis of their career support network.

B.4 Demand for Course

Please provide as much information on projected enrolment as possible.

Projected enrolment levels for the first 5 years of the new course.	Year 1	Year 2	Year 3	Year 4	Year 5
	20	30	40	40	40

B.4.1 Impact of New Course on Enrolment in Existing Courses

What will be the impact of offering the new course on enrolments in existing courses in the program or Department?

This is a required course for a new program that seeks to recruit students to the University of Windsor, who would otherwise be enrolled in another university. As such, there are no expected impacts on enrolments in existing courses.

B.5 Student Workload

Provide information on the expected workload per week of a student enrolled in this course.
NOTE: Student workload should be consistent with the credit weight assigned to the course.

Average number of hours per week that the student will be expected to devote to:		
1	Lectures	
N/A	Tutorials	
N/A	Labs	
N/A	Practical experience	
N/A	Independent Study	
0.5	Reading for the course	
2	Work for assessment (essays, papers, projects, laboratory work)	
0.5	Meeting with others for group work/project assignments	
N/A	Studying for tests/examinations	
	Other: *[specify]*	
How does the student workload for this course compare with other similar courses in the department/program area?		The workload is comparable to other programs that provide a 12-month long seminar course (3 units spread over 3 terms).

C. RESOURCES

C.1 Available Faculty and Staff Resources (QAF sections 2.1.7, 2.1.8, 2.1.9 and 2.1.10)

Describe, in general terms, all faculty and staff resources (e.g., administrative, teaching, supervision) from all affected areas/departments currently available and actively committed to support the new course). Please do not name specific individuals.

The Department of Biomedical Sciences currently has 9 full time research faculty, two Ancillary Academic Staff (AAS), 1 Limited Term Appointment (LTA), 1 lab technician, and 1 secretary with support from other departments for Core Technology, financial matters, and graduate student support. Many of these faculty and staff will be involved in administering this program, as laid out below (section B.5.1.1a). One additional faculty member has been hired to serve as the coordinator of the program (the LTA listed above – Dr. Martin Crozier was hired Aug. 1st, 2020), and sessional instructors may be involved on an as-needed basis.

C.1.1 Faculty Expertise in Support of the Revised Program

Provide an assessment of faculty expertise available and committed to actively support the new course. Please do not name specific individuals.

The course will be taught by a faculty member with scientific expertise and professional experience in translational health sciences.

C.1.2 Extent of Reliance on Adjunct, Limited-term, and Sessional Faculty in Delivering the Revised Program

Describe the area's expected reliance on, and the role of adjunct, limited-term, and sessional faculty in delivering the new course.

Full-time faculty in the Department of Biomedical Sciences will be relied upon for the development and delivery of this proposed seminar course.

C.2 Resource Implications for Other Campus Units (Ministry sections 3 and 4)

Describe the reliance of the proposed new course on existing resources from other campus units, including for example: faculty teaching, equipment or facilities outside the proposer's control, external resources requiring maintenance or upgrading using external resources. Provide relevant details.

This course will not rely on any other campus units outside the Department of Biomedical Sciences.

C.3 Anticipated New Resources (QAF sections 2.1.7, 2.1.8 and 2.1.9; Ministry section 4)

*List all **anticipated new resources** originating from within the area, department or faculty (external grants, donations, government grants, etc.) and committed to supporting the new course.*

The Department of Biomedical Sciences does not anticipate new resources.

C.4 Planned Reallocation of Resources and Cost-Savings (QAF section 2.1.7 and 2.1.9; Ministry section 4)

Describe all opportunities for internal reallocation of resources and cost savings identified and pursued by the area/department in support of the new course. (e.g., streamlining existing programs and courses, deleting courses, etc.).

There is no planned reallocation or cost-savings for this new proposed course.

C.5 Additional Resources Required – Resources Requested (QAF section 2.1.7 and 2.1.9)

*Describe all **additional faculty, staff and GA/TA resources** (in all affected areas and departments) required to offer the new course.*

Faculty:	No additional faculty anticipated.
Staff:	No additional staff anticipated.
GA/TAs:	No additional GA/TAs anticipated.

C.6.1 Additional Institutional Resources and Services Required by all Affected Areas or Departments

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

*Describe all **additional institutional resources and services** required by <u>all affected</u> areas or departments to offer the new course, including library, teaching and learning support services, student support services, space and facilities, and equipment and its maintenance.*

Library Resources and Services:	No additional library resources and services anticipated.
Teaching and Learning Support:	No additional teaching and learning support anticipated.
Student Support Services:	No additional student support services anticipated.
Space and Facilities:	No additional space or facilities anticipated.
Equipment (and Maintenance):	No additional equipment or maintenance anticipated.

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

The Department of Biomedical Sciences currently has 9 full time research faculty, two Ancillary Academic Staff (AAS), 1 Limited Term Appointment (LTA), 1 lab technician, and 1 secretary with support from other departments for Core Technology, financial matters, and graduate student support. Many of these faculty and staff will be involved in administering this program, as laid out below (section B.5.1.1a). One additional faculty member has been hired to serve as the coordinator of the program (the LTA listed above – Dr. Martin Crozier was hired Aug. 1st, 2020), and sessional instructors may be involved on an as-needed basis.

C.1.1 Faculty Expertise in Support of the Revised Program

Provide an assessment of faculty expertise available and committed to actively support the new course. Please do not name specific individuals.

The course will be taught by a faculty member with scientific expertise and professional experience in translational health sciences.

C.1.2 Extent of Reliance on Adjunct, Limited-term, and Sessional Faculty in Delivering the Revised Program

Describe the area's expected reliance on, and the role of adjunct, limited-term, and sessional faculty in delivering the new course.

Full-time faculty in the Department of Biomedical Sciences will be relied upon for the development and delivery of this proposed seminar course.

C.2 Resource Implications for Other Campus Units (Ministry sections 3 and 4)

Describe the reliance of the proposed new course on existing resources from other campus units, including for example: faculty teaching, equipment or facilities outside the proposer's control, external resources requiring maintenance or upgrading using external resources. Provide relevant details.

This course will not rely on any other campus units outside the Department of Biomedical Sciences.

C.3 Anticipated New Resources (QAF sections 2.1.7, 2.1.8 and 2.1.9; Ministry section 4)

*List all **anticipated new resources** originating from within the area, department or faculty (external grants, donations, government grants, etc.) and committed to supporting the new course.*

The Department of Biomedical Sciences does not anticipate new resources.

C.4 Planned Reallocation of Resources and Cost-Savings (QAF section 2.1.7 and 2.1.9; Ministry section 4)

Describe all opportunities for internal reallocation of resources and cost savings identified and pursued by the area/department in support of the new course. (e.g., streamlining existing programs and courses, deleting courses, etc.).

There is no planned reallocation or cost-savings for this new proposed course.

C.5 Additional Resources Required – Resources Requested (QAF section 2.1.7 and 2.1.9)

*Describe all **additional faculty, staff and GA/TA resources** (in all affected areas and departments) required to offer the new course.*

Faculty:	No additional faculty anticipated.
Staff:	No additional staff anticipated.
GA/TAs:	No additional GA/TAs anticipated.

C.6.1 Additional Institutional Resources and Services Required by all Affected Areas or Departments

*Describe all **additional institutional resources and services** required by all affected areas or departments to offer the new course, including library, teaching and learning support services, student support services, space and facilities, and equipment and its maintenance.*

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

Library Resources and Services:	No additional library resources and services anticipated.
Teaching and Learning Support:	No additional teaching and learning support anticipated.
Student Support Services:	No additional student support services anticipated.
Space and Facilities:	No additional space or facilities anticipated.
Equipment (and Maintenance):	No additional equipment or maintenance anticipated.

University of Windsor
Program Development Committee

5.1.1 **Master of Science in Translational Health Sciences – Appendices C-G**

This document contains the following Appendices*
Appendix C - Curriculum Map
Appendix D - Program Feasibility Study
Appendix E - Letters of Support
Appendix F - Draft Syllabi
Appendix G - Library Report

*Notes:
Appendix A - Faculty CVs (*Available for viewing by contacting the University Secretariat*).
Appendix B - Budget Summary *(This is included in the New Program Proposal - Form A)*

Appendix C

Program Learning Outcomes	Windsor's Graduate Charateristics	DLEs	Cancer Cell Biology		Clinical Methods	
			Course Learning Outcomes	Assessments	Course Learning Outcomes	Assessments
			1) Describe the processes underlying the transformation of a normal cell to its malignant counterpart, and the consequences of malignant transformation and metastasis on the cellular and organism level. 2) Describe the molecular mechanisms underlying DNA damage and repair. 3) Explain the epigenetic interactions between the environment, regulation of gene expression, and cancer development. 4) Describe the functions of oncogenes and tumour suppressor genes in cancer. 5) Explain the molecular mechanisms regulating cell division, cell cycle, apoptosis, and how external and internal stimuli can promote or inhibit these processes. 6) Describe the laboratory techniques and methods used in cancer research. 7) Explain how the biological knowledge of cancer development is used in modern cancer treatment. 8) Write a grant application to a selected granting agency or funding mechanism for a translational research project and identify what where it lies in translational pipeline. 9) Review and evaluate a translational research paper,	1) Student presentations on their selected translational research papers, reviewing and evaluating the paper, proposing next steps for integration into practical settings, and identifying gaps in the translational pipeline. 2) Team-based grant proposal. Students identify an idea for a translational research project, and develop a grant proposal for a targeted granting agency or funding mechanism. With peer feedback along the way, students will write a hypothesis, objectives, aims, and proposed methodologies, ensuring a translational component is embedded into the proposal 3) Midterm and Final Exams. Closed-book exams using a mix of MCQs that assess students ability to perform actual analyses, produce and interpret results.	1) Understand the role of disciplined research in generating and testing nursing theory, and guiding nursing practice. 2) Identify the steps that a researcher undertakes to complete a research study. 3) Apply efficient and critical approaches to literature reviews. 4) Understand the responsibilities of a researcher in protecting the rights of human subjects involved in nursing research. 5) Describe various research designs appropriate for answering specific nursing research questions/hypotheses. 6) Understand the equal importance of both qualitative and quantitative research approaches in enhancing nursing science. 7) Critically analyze and critique selected research reports incorporating design principles. 8) Write a research proposal while differentiating between qualitative and quantitative proposal writing techniques.	1) Research Abstract/Proposal. Students compose a research proposal that addresses a research question highlighting the theoretical and clinical significance and utilizing a suitable methodology 2) Presentation of Research Proposal. Students present their research proposals and identify any unique ethical considerations that may have to be addressed prior to completing the study. 3) Research Critique.
1. Explain the molecular and genetic mechanisms, pathophysiology, epidemiology, diagnosis, prevention, and treatment of a major health issue (such as cancer) and apply and integrate with clinical practices and settings in Canada. (partially contributes to characteristics B, C, D, and F)	A. the acquisition, application and integration of knowledge	1, 2, 3, 6	CLOs 1, 2, 3, 4, 5, 6	Assessments 1, 2, 3. *Students are espected to demonstrate developing skills towards PLO #1 (WGC-A) by the end of this course.*		
2. Critically review and evaluate literature and research methodologies that apply to improving clinical outcomes. *(partially contributes to characteristics A and C)*	B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy) D. literacy and numeracy skills	2, 3, 6	CLOs 6, 7	Assessment 1. *Students are espected to demonstrate developing skills towards PLO #2 (WGC-B & D) by the end of this course.*	CLOs 2, 3, 5, 7	Assessments 1, 2, 3. *Students are espected to demonstrate developing skills towards PLO #2 (WGC-B & D) by the end of this course.*
3. Define the major translational science challenges facing Canada, identify sources of information about these challenges, and generate potential solutions. *(partially contributes to characteristics A, B, D, E)*	C. critical thinking and problem-solving skills H. creativity and aesthetic appreciation	1, 2, 3, 4, 6	CLOs 8, 9	Assessment 1. *Students are espected to demonstrate introductory understanding of PLO #3 (WGCs-C&H) by the end of this course.*		
4. Apply the appropriate quantitative tools and biostatistical methods to conduct evidence-based translational research and health outcome evaluation in a clinical setting. *(partially contributes to characteristics A, C, and E)*	D. literacy and numeracy skills B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy)	2, 3, 5, 6			CLOs 3, 5, 6, 7, 8	Assessments 1, 2, 3. *Students are espected to demonstrate developing skills towards PLO #4 (WGC-B & D) by the end of this course.*
5. Apply ethical principles in translational health research. *(partially contributes to characteristics A and B)*	E. responsible behaviour to self, others and society	4, 6	CLO 8	Assessment 2. *Students are espected to demonstrate introductory understanding of PLO #5 (WGC-E) by the end of this course.*	CLOs 2, 4	Assessments 1, 2, 3. *Students are espected to demonstrate developing skills towards PLO #5 (WGC-E) by the end of this course.*

6. Demonstrate effective oral and written communication skills to plan, conduct, and disseminate health sciences research. *(partially contributes to characteristics A, B, D, and H)*	F. interpersonal and communications skills	5	CLOs 8, 9	Assessments 1, 2, 3. *Students are espected to demonstrate developing skills towards PLO #6 (WGC-F) by the end of this course.*	CLOs 7, 8	Assessments 1, 2, 3. *Students are espected to demonstrate developing skills towards PLO #6 (WGC-F) by the end of this course.*
7. Collaboratively write proposals (e.g. grant applications, research projects) that demonstrate an understanding of financing and organization of translational research in Canada, including regulatory bodies, research agencies, and health systems. *(partially contributes to B, D, and E)*	G. teamwork, and personal and group leadership skills A. the acquisition, application and integration of knowledge F. interpersonal and communications skills	1, 2, 3, 4, 5, 6	CLOs 8, 9	Assessment 2. *Students are espected to demonstrate introductory understanding of PLO #7 (WGC-A, F, & G) by the end of this course.*		
8. Demonstrate career planning and development of skills for the translational research arena to compete for post-graduate employment or additional academic advancement. *(partially contributes to characteristics E, F, G, and H)*	I. the ability and desire for continuous learning	4				
Duration			May-August (Summer semester)		May-August (Summer semester)	

Introductory
Developing
Proficiency (mastery)

Program Learning Outcomes	Windsor's Graduate Charateristics	DLEs	Biostatistics		Fundamentals of Oncology	
			Course Learning Outcomes	Assessments	Course Learning Outcomes	Assessments
			1) Interpret statistical concepts and their applications to health care research. 2) Critically analyze and communicate selected quantitative research reports and make judgement on the accuracy of the statistical techniques employed on those reports. 3) Decide what statistical technique will provide the best answer to a given research question. 4) Differentiate between parametric and nonparametric tests and articulate their underlying assumptions. 5) Use the SPSS to conduct statistical analyses. 6) Utilize knowledge of statistical inferences to make proper conclusions about research generalizability to target populations. 7) Analyze and extrapolate statistical results to evaluate research findings and their impact on the health of target populations.	1) Quizzes. Quizzes consist of in-class computer based data analysis to demonstrate understanding of course material. Includes short answer and MCQs. 2) Midterm and Final Exams. Closed-book exams using a mix of MCQs that assess students ability to perform actual analyses, produce and interpret results.	1) Describe the etiology, pathophysiology, and progression of cancer, and how these factors relate to the patient experience. 2) Describe the interdisciplinary methods of cancer control and prevention. 3) Describe the methods used for cancer risk assessment, screening, and diagnosis. 4) Describe the traditional and emerging cancer therapies. 5) Identify relevant cancer statistics and epidemiology. 6) Review cancer care cases, working in groups, and present creative/relevant/ethical solutions to interdisciplinary challenges to cancer care, control, and prevention. 7) Identify relevant ethical issues arising in the care of patients with cancer. 8) Explain the interdisciplinary aspect of cancer patient care including the contributions of basic sciences, clinical medicine, health services research, and the social sciences.	1) Problem-based Learning Cases. In small groups, students will work through current and relevant cases that are jointly presented by the instructor and guest speakers engaged in clinical oncology research and/or patient care. Each case will consist of a lecture on the content relevant to the case, as well as a tutorial to facilitate a problem-based learning approach in working through the case. Students will need to identify what information is known, where existing knowledge gaps remain, and what future research is necessary to address the problem. 2) Culminating Assignment. Students individually consider the interdisciplinary intersections of cancer patient care, as well as examine the training and qualifications of a diversity of career paths involved in the oncology health care system (e.g., research scientists, medical doctors, clinicians, nurses, epidemiologists, social workers etc.).
1. Explain the molecular and genetic mechanisms, pathophysiology, epidemiology, diagnosis, prevention, and treatment of a major health issue (such as cancer) and apply and integrate with clinical practices and settings in Canada. (partially contributes to characteristics B, C, D, and F)	A. the acquisition, application and integration of knowledge	1, 2, 3, 6	CLOs 1, 2, 3, 4, 5, 6		CLOs 1, 2, 3, 4, 5, 6	Assessments 1, 2. *Students are espected to demonstrate proficiency of PLO #1 (WGC-A) by the end of this course.*
2. Critically review and evaluate literature and research methodologies that apply to improving clinical outcomes. *(partially contributes to characteristics A and C)*	B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy) D. literacy and numeracy skills	2, 3, 6	CLOs 2, 7	Assessment 2. *Students are espected to demonstrate developing skills towards PLO #2 (WGC-B & D) by the end of this course.*	CLOs 5, 6	Assessment 1. *Students are espected to demonstrate proficiency of PLO #2 (WGC-B & D) by the end of this course.*
3. Define the major translational science challenges facing Canada, identify sources of information about these challenges, and generate potential solutions. *(partially contributes to characteristics A, B, D, E)*	C. critical thinking and problem-solving skills H. creativity and aesthetic appreciation	1, 2, 3, 4, 6			CLO 6, 8	Assessments 1, 2. *Students are espected to demonstrate development towards PLO #3 (WGCs-C&H) by the end of this course.*
4. Apply the appropriate quantitative tools and biostatistical methods to conduct evidence-based translational research and health outcome evaluation in a clinical setting. *(partially contributes to characteristics A, C, and E)*	D. literacy and numeracy skills B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy)	2, 3, 5, 6	CLOs 1, 2, 3, 4, 5, 6, 7	Assessments 1, 2. *Students are espected to demonstrate developing skills towards PLO #4 (WGC-B & D) by the end of this course.*		
5. Apply ethical principles in translational health research. *(partially contributes to characteristics A and B)*	E. responsible behaviour to self, others and society	4, 6			CLOs 6, 7	Assessment 1. *Students are espected to demonstrate development towards PLO #5 (WGC-E) by the end of this course.*

6. Demonstrate effective oral and written communication skills to plan, conduct, and disseminate health sciences research. *(partially contributes to characteristics A, B, D, and H)*	F. interpersonal and communications skills	5			CLOs 6, 8	Assessments 1, 2. *Students are espected to demonstrate development towards PLO #6 (WGC-F) by the end of this course.*
7. Collaboratively write proposals (e.g. grant applications, research projects) that demonstrate an understanding of financing and organization of translational research in Canada, including regulatory bodies, research agencies, and health systems. *(partially contributes to B, D, and E)*	G. teamwork, and personal and group leadership skills A. the acquisition, application and integration of knowledge F. interpersonal and communications skills	1, 2, 3, 4, 5, 6			CLO 6	Assessment 1. *Students are espected to demonstrate development towards PLO #7 (WGC-A, F, & G) by the end of this course.*
8. Demonstrate career planning and development of skills for the translational research arena to compete for post-graduate employment or additional academic advancement. *(partially contributes to characteristics E, F, G, and H)*	I. the ability and desire for continuous learning	4			CLO 8	Assessment 2. *Students are espected to demonstrate development towards PLO #8 (WGC-I) by the end of this course.*
Duration			May-August (Summer semester)		September-December (Fall semester)	

Proficiency (mastery)

Program Learning Outcomes	Windsor's Graduate Charateristics	DLEs	Professional Development Seminar in THS		Experiential Learning Placement in THS	
			Course Learning Outcomes	Assessments	Course Learning Outcomes	Assessments
			1) Objectively assess personal strengths and limitations, related to career goals, through individual reflection and peer feedback. 2) Develop a well-organized and effective professional portfolio. 3) Develop a career support network consisting of peers, mentors, psychosocial support, and professional connections. 4) Generate creative solutions to challenges in translational health sciences. 5) Utilize available information, support, guidance, and resources to enhance academic and professional success.	1) Challenges in Translational Health Sciences. Students will work in groups to generate creative solutions to problems in translational health sciences, focusing on connections to their own professional development needs and opportunities. These challenges will be introduced and discussed through a combination of lectures by the instructor, assigned literature readings, and guest speakers from translational health sciences experts from academia, the health care system, and the pharmaceutical industry. 2) Reflective Portfolio. Each student will prepare a portfolio comprised of two main sections. Section A will provide evidence and reflections on how students have developed throughout the program and can now demonstrate their abilities in meeting the Program Learning Outcomes and how they exemplify the University of Windsor graduate characteristics. Section B includes a career development and lifelong learning plan, current CV, sample cover letters for a variety of career pathways, and an analysis of their career support network	1) Refine research questions and develop problem statements that address specific research project goals. 2) Apply appropriate conceptual frameworks, research designs, and methodology to answer specific project goals and questions. 3) Assess the strengths and limitations of selected research designs and methodology with respect to quality, bias, ethics, and potential applications. 4) Assess the implications of conclusions drawn in research projects. 5) Acquire necessary approvals (e.g., regulatory, safety, ethics, etc.) for their project placements. 6) Effectively communicate their clinical research findings both orally and in writing. 7) Collaborate with multidisciplinary professional groups within the health sciences.	1) Project Proposal. Students will work in small groups to develop project proposals, following a typical Canadian Institutes of Health Research proposal format. Proposals will outline the background literature, research questions, methodology, ethics, and the roles and expectations of each contributing member of the group. Proposals are presented in class and peer and instructor feedback is provided through a revision process. 2) Progress Reports. Individual students prepare brief written reports once per month that summarize project accomplishments, pitfalls, and next steps. Progress reports will also document hours worked on the project and the contributions of each student. 3) Final Report. Students prepare a final written group report that includes their findings, analysis, and ideas for future research. The final report will also document the contributions of each student to the project. 4) Colloquium Presentations. Students present their findings in groups through poster presentations at a Colloquium event in the final semester of the program.
1. Explain the molecular and genetic mechanisms, pathophysiology, epidemiology, diagnosis, prevention, and treatment of a major health issue (such as cancer) and apply and integrate with clinical practices and settings in Canada. (partially contributes to characteristics B, C, D, and F)	A. the acquisition, application and integration of knowledge	1, 2, 3, 6				
2. Critically review and evaluate literature and research methodologies that apply to improving clinical outcomes. *(partially contributes to characteristics A and C)*	B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy) D. literacy and numeracy skills	2, 3, 6			CLOs 1, 2, 3, 4, 5	Assessments 1, 2, 3. *Students are espected to demonstrate proficiency of PLO #2 (WGC-B & D) by the end of this course.*
3. Define the major translational science challenges facing Canada, identify sources of information about these challenges, and generate potential solutions. *(partially contributes to characteristics A, B, D, E)*	C. critical thinking and problem-solving skills H. creativity and aesthetic appreciation	1, 2, 3, 4, 6	CLO 4	Assessment 1. *Students are espected to demonstrate proficiency of PLO #3 (WGCs-C&H) by the end of this course.*	CLOs 1, 2, 3, 4	Assessments 1, 2, 3. *Students are espected to demonstrate proficiency of PLO #2 (WGC-C & H) by the end of this course.*
4. Apply the appropriate quantitative tools and biostatistical methods to conduct evidence-based translational research and health outcome evaluation in a clinical setting. *(partially contributes to characteristics A, C, and E)*	D. literacy and numeracy skills B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy)	2, 3, 5, 6			CLO 3	Assessments 1, 2, 3. *Students are espected to demonstrate proficiency of PLO #4 (WGC-B & D) by the end of this course.*
5. Apply ethical principles in translational health research. *(partially contributes to characteristics A and B)*	E. responsible behaviour to self, others and society	4, 6	CLOs #1, #4	Assessment #1. *Students are espected to demonstrate proficiency of PLO #5 (WGC-E) by the end of this course.*	CLOs 3, 5	Assessments 1, 2, and 3. *Students are espected to demonstrate proficiency of PLO #5 (WGC-E) by the end of this course.*

6. Demonstrate effective oral and written communication skills to plan, conduct, and disseminate health sciences research. *(partially contributes to characteristics A, B, D, and H)*	F. interpersonal and communications skills	5	CLOs 1, 2, 3, 4	Assessments 1, 2. Students are espected to demonstrate proficiency of PLO #6 (WGC-F) by the end of this course.	CLO 6	Assessments 1, 3, 4. *Students are espected to demonstrate proficiency of PLO #6 (WGC-F) by the end of this course.*
7. Collaboratively write proposals (e.g. grant applications, research projects) that demonstrate an understanding of financing and organization of translational research in Canada, including regulatory bodies, research agencies, and health systems. *(partially contributes to B, D, and E)*	G. teamwork, and personal and group leadership skills A. the acquisition, application and integration of knowledge F. interpersonal and communications skills	1, 2, 3, 4, 5, 6	CLOs 3, 4	Assessment 1. *Students are espected to demonstrate proficiency of PLO #7 (WGC-A, F, & G) by the end of this course.*	CLOs 1, 6, 7	Assessment 1. *Students are espected to demonstrate proficiency of PLO #7 (WGC-A, F, & G) by the end of this course.*
8. Demonstrate career planning and development of skills for the translational research arena to compete for post-graduate employment or additional academic advancement. *(partially contributes to characteristics E, F, G, and H)*	I. the ability and desire for continuous learning	4	CLOs 1, 2, 3, 5	Assessment 2. *Students are espected to demonstrate proficiency of PLO #8 (WGC-I) by the end of this course.*	CLO 7	Assessment 4. *Students are espected to demonstrate proficiency of PLO #8 (WGC-I) by the end of this course.*
Duration			May - April (Summer, Fall & Winter semesters)		May - April (Summer, Fall & Winter semesters)	

TRANSLATIONAL HEALTH SCIENCES

Program Feasibility Study

Prepared for Dr. Steven Ralph and the University of Windsor by
Higher Education Strategy Associates

Jonathan McQuarrie
Info@higheredstrategy.com

Contents

Introduction

Higher Education Strategy Associates was commissioned by Dr. Steve Ralph to provide assistance in determining the feasibility of a new professional masters degree in Translational Health Science. The program, as proposed, has a particular focus on oncology, drawing on the University of Windsor's strength in that area.

Our review of equivalent programs for curriculum and enrollment and employer demand for the skills and competencies developed by the proposed program suggests that there is are strong reasons for moving forward with the proposed program. While there are challenges in naming and marketing the program, particularly since "translational health science" remains a relatively new term, there are also opportunities in developing a program that remains relatively novel in Canada and that provides graduates with critical and in-demand professional and clinical skills.

Overview of Our Methodology

To determine the feasibility of the proposed program, HESA conducted a review of the current academic landscape and labour market. The reviews were related, but conducted with different approaches.

Our first step was to review any available information that was provided to us concerning the proposed program. We were provided with information concerning the rationale for the proposed program, a list of intended program outcomes, and a list of courses and course descriptions. This material was used as a basis for comparison with other programs, and to provide a sense of the skills that graduates of the program would bring to the job market.

Following the consideration of the material from the University of Windsor, we conducted an analysis of the available information about programs relating to translational health science (and, more broadly, the development of professional clinical research practices). This included reviewing material available on program websites, institutional research websites (such as registrar calendars), and contacting program representatives for further information. This review was designed to provide a sense of how other programs were framing translational sciences studies, and to determine what sort of courses and concentrations are standard. We also gathered some data on tuition rates and enrollment figures for comparable programs.

Our review of the labour market took two parts. Firstly, we used Burning Glass' Labour Insight™ tool to identify job market trends. The Labour Insight tool provides data from thousands of job posting sites from across Canada, and while it cannot provide information on job numbers with absolute precision, it does provide a strong empirical basis for assessing what positions are in demand and what sort of training is required to get those jobs. It also generates concrete examples of employers who would offer positions matching the proposed Translational Health Science program. Further details about the methodology using the Labour Insight tool are in the Labour Market Analysis.

The second part of the labour market review sought to identify and interview a few employers and professionals who were in fields relating to the proposed program. Unfortunately, response rates from HR and hiring managers in companies that emerged frequently in our data were relatively low, but we ultimately spoke with representatives from the following organizations:

- Canadian Institute of Health Information
- Erie St. Clair LIHN
- Windsor Regional Cancer Centre
- Windsor Regional Hospital

While our response rate was lower than our target, the responses of each of the representatives we spoke with suggests considerable interest in the sorts of graduates that the program would train.

Academic Program Analysis

Translational Research is a relatively new academic field. This novelty is reflected in the relatively low number of comparable programs throughout North America. This section provides an overview of the existing programs and their focuses. It is designed to provide some points of comparison for the proposed program in Windsor, and to provide a rough estimate of the number of students that a new translational program might expect.

Programs in Canada

There are two graduate translational health science programs in Canada that relate to the proposed program: the University of Toronto's Masters of Health Science in Translational Research and the University of Alberta's Translational Health Program. We also investigated some relevant certificate programs. There is also a program at the University of California system hosted jointly by UC Berkeley and UC San Francisco and one at the University of Washington that provides some useful points of comparison. These programs have been used to provide some benchmarks in terms of curriculum, program objectives, class sizes, and student outcomes.

The *University of Alberta's* program, established in 2013, was the first translational degree in Canada. It is primarily geared towards students planning on pursuing medical degrees (or who already hold one) or towards students planning to do PhD research. The program has a declared mission: "To train the next generation of effective translators of discovery to patients, populations, and health services, improving the health and quality of life for patients." The program's founding document pointed to the widely observed (but difficult to solve) challenge of research "silos" between different disciplines and groups. These planning documents indicated that they also hoped their graduates would acquire for positions in industry or government, and that they would have internship placements with Health Canada and other government and industry representatives. However, our discussions with a program representative indicated that this has not been the case. There remains a strong focus on having graduates become "Translators of

Discovery and Knowledge" in academia or in their role as MDs, but links to government or industry have been limited.

During the program, students are trained in how to manage regulatory challenges, design trail experiments that can be translated to human trials as rapidly as possible, and understand how to develop research that can be applied at a population level. To facilitate this learning, students take a range of courses, but also are assigned to a clinical scientist mentor *in addition to* their academic mentor. This mentorship experience is on top of taking four courses (Chronic Diseases, Vascular Medicine, Inflammation/Immunity/Infection, and Metabolism/DM/Obesity). If the student is taking the degree as a MSc, they also need to complete a thesis. The courses can also be used towards fulfilling PhD credits.

In contrast to the proposed Windsor THS, which has a particular focus on oncology, Alberta's curriculum focuses on a wide range of medical and biological case studies. Courses include case studies on dementia, neurodegenerative diseases, vascular medicine, metabolism, and other health science topics.

In terms of course outcomes and objectives, graduates of the program are expected to acquire skills comparable to the ones proposed by the University of Windsor's program. These outcomes include:

- Navigating the regulatory and quality control steps;
- Understanding ethical issues around clinical and animal research;
- Determining financial and social costs and applying those determinations to grant writings and proposals;
- Develop early-phase or outcomes clinical trials in a way that effectively uses the knowledge obtained from studies in order to facilitate transition into clinical practices and policies.

The program has had **41** students since 2013 (up to the 2016/17 cohort), and the program representative indicated that the vast majority of their students were MDs completing their residencies. The specific draw they found was that the students were interested in pursuing research but found that their MD programs did not provide them with research training. While this provides limited evidence for the career implications for students with only the master's degree, the program has seen reasonable success in terms of enrollments and outcomes.

The University of Toronto's program is more industry-orientated than Alberta's. This orientation is reflected in the program title, *Translational Research Program*. The program is framed around teaching students about the Translational Thinking Framework, which encourages students to focus on people's needs and developing research strategies that identify a problem, ideate solutions, prototype those solutions, and improve the outcomes based on iterative development. The program mission is "To provide transformative experimental educational opportunities through training, support and mentorships for innovators who catalyze the transformation of (scientific) discoveries into problem solving designs with tangible benefits for human health." The program had its first graduates in 2017.

Currently, the core courses are: Foundations in Translational Research, Methods and Practices in Translational Research, and the Rhetoric of Science (focusing on scientific communication and developing collaborative projects involving the public). There is a capstone project that takes up much of a student's second year, including projects around developing methods for providing timely mental health support to university students and developing methods for improvement lab management and workflow at the Latner Thoracic Research Program.

The program courses also have objectives that are related to the proposed Windsor programming. However, they are also more orientated towards "soft skills" than the University of Alberta program, emphasising particularly the development of communication and teamwork skills. Some listed outcomes include:

- Open-mindedness and ability to acknowledge new ideas;
- Share information and knowledge;
- Ability to establish mechanisms and practices promoting trust, teamwork, and collaborations.

The University of Toronto program's stated outcomes and objectives have some limitations (including the presence of grammatical errors and repetition of rather superficial objectives, such as "the capacity to Work [*sic*] with and include others.") and will likely be refined as the program develops. However, until this happens, the University of Windsor has an opportunity to provide a stronger and more professional list of outcomes and objectives to prospective students.

The program launched in 2015, and has a bit more of a mixed student group, as Table 1 demonstrates:

Table 1: Entrants of Toronto's Translational Program

Academic Background	2015-2016 Cohort	2016-2017 Cohort
Bachelor's	8	11
Other Master's	0	2
Ph.D.	1	1
MD	8	8
TOTAL	17	22

Considering the students who completed the degree and entered the workforce (i.e. were not also an MD or a Ph.D.), we found some interesting job titles. This includes a Research Analyst with CAMH, a Clinical Research Project Assistant at the Hospital for Sick Children, and a User Experience Architect at Klick Health. Several attempts were made to reach these people, but without success. Nevertheless, in general, the U of T program demonstrates stronger industry job market links than its U of A counterpart and is therefore a useful comparator program.

We note, in passing, two other Canadian programs. The University of Calgary has a Section of Translational Neuroscience in their Department of Clinical Neuroscience, the University of Ottawa

has a Bachelor of Science (Honours) in Translational and Molecular Medicine. These are worth noting primarily to demonstrate that there are some seeds for this growing academic field.

Clinical Research Certificates

While the proposed program would offer training at a graduate level, we included consideration of some certificate programs as part of our program sweep. Two of particular interest are the (soon to be converted to a new, online only option) Clinical Research Associate certificate at McMaster University's Centre for Continuing Education, and the Certificate in Clinical Trials Management from Western.

The Clinical Research Associate certificate, which is concluding by Winter 2019, targeted already working health care professionals by offering evening classes in the following courses:

- Clinical Trial Research Coordinator
- Research Ethics and Regulatory Affairs
- Clinical Trail Methodologies in Practice
- Statistics, Databases, and the Internet in Clinical Research
- Critical Analysis and Advancement of Writing and Communication Skills.

The courses provided are relatively straightforward, although there are some interesting outcomes that align with employer interests. This includes focus on interpreting health care legislation and regulation, and exploring how to explain those regulations to interested parties, developing grant proposals for mock opportunities (based on real-world grants), familiarizing students with common data bases used for clinical trials, and having two preceptorships with clinical trial researchers.

According to the McMaster representatives, the certificate is not being wound down due to issues with enrollment, but it is being shifted to an online format to accommodate the large number of international students who have indicated interest in the program. The new program, Applied Clinical Research, has similar courses but does not include the Statistics or Critical Analysis courses. The representatives were unwilling to provide exact numbers for enrollment, but they indicated that the Applied Clinical Research program had strong student uptake.

Western has a Certificate in Clinical Trials Management, aimed particularly at professionals already working in the field. Students can also opt to add a practicum component and acquire a Diploma in Clinical Trials Management. Participants take nine online courses, focusing on communication skills, financial aspects of clinical trials, pharmacology, organizing and managing clinical trials, and understanding regulatory and ethical issues.

Many of the specialized courses in the program focus on drugs and pharmacology, suggesting that the program has a particular industry outcome in mind. Some of the other courses provide more widely applicable skills, such as strategies for clear communication during clinical trials,

developing an understanding of roles and functions during a clinical trial, interpreting budgets and audits, and learning some basic project management skills to help manage trials.

Western claims that 91% of people who took this program secured full time employment in the field within a year of completing this program.

Programs in the United States

To compliment the limited number of programs in Canada, we also briefly assessed two related programs in the United States, the Master's in Translational Medicine offered jointly by two universities in the California system, Berkeley and San Francisco, and the University of Washington's Translational Research Training Program.

The University of California's program has a different focus than the proposed Windsor program, as it is particularly focused on bioengineering. However, there are some instructive elements from the program. Firstly, the program has students take the course Translational Challenges in Medicine, which has medical practitioners and clinicians tell students about real-world challenges and limitations that they face in their work. Students both develop solutions and confront limitations to their own knowledge and the broader limitations of scientific knowledge. They also take courses in health care finances and economics, giving them a stronger understanding of the business landscape. Students can also take a range of business and entrepreneurship electives. According to the program head, the program graduated 33 students in 2017, and enrolled 32 students for 2018.

Like Toronto's program, students complete a capstone project as part of their degree. This includes working with an industry professional, academic researcher, or clinician on a major bioengineering problem. While the bioengineering focus is not directly applicable, the importance of having students directly exposed to real clinical trials is impressed by this program.

The University of Washington hosts a second relevant program. The university hosts the Institute of Translational Health Services (ITHS), an organization devoted to organizing research and directing funding to ensuring connections between science and clinical practice in Washington and surrounding states. ITHS also offers graduate and post-doctoral programs. Their graduate program, the Translational Research Training Program, is targeted exclusively to pre-medical students, admitting a maximum of 20 students a year. The 2017-18 cohort had 18 students taking the program.

The Translational Research Training Program requires students to take courses in biostatistics, epidemiological methods, and clinical trial methods. The program is linked to the development of key competencies in fourteen different thematic areas. Many of the areas align with the demanded skills and competencies identified in our scan of the job market (below), and the entire framework

is worth consideration.[1] The table below provides a brief summary of some of the areas and sample associated competencies.

Table 2: Examples of Core Competencies of Clinical and Translational Research, University of Washington

Thematic Area	Example Competency
Clinical and Translational Research Questions	Derive translational questions from clinical research data.
Study Design	Determine resources needed to implement a clinical or translational research plan.
Statistical Approaches	Collaborate with biostatisticians in the design, conduct, and analyses of clinical and translational research.
Clinical Research Interactions	Critique a proposal for risks to human subjects and protections of vulnerable populations.
Scientific Communication	Translate the implications of clinical and translational research findings for clinical practice, advocacy, and governmental groups.
Translational Teamwork	Manage a clinical and/or translational research study.

The attentiveness to communication and experiential learning, along with the emphasis on biostatistics, provides another important precedent for the proposed Windsor program.

Tuition

The tuition and fees for the programs at UofT and UofA are as follows:

University	Tuition	Fees
Alberta	3,745 (est., domestic) 8,100 (est., international)	1,813 (est.)
Toronto	11,180 (est. domestic) 29,740 (est. international)	1,520 (est.)

Since there are relatively few translational health science programs, we also found tuition rates for other professional master's programs in health sciences in Ontario.

Institution	Program	Tuition (D)	Tuition (I)	Fees (D)	Fees (I)
Western	Public Health	10939	17,507	170	537
McMaster	Health Science Education	7008	16,761	1851	1851

[1] The entire table is available at the institute website: https://www.iths.org/education/core-competencies-in-clinical-and-translational-research/

Queens	Medical Sciences	25,000	50,000	1084	1084

Commentary on the Program Title

During our conversations, we asked prospective employers about their understanding of "translational health science." We did this in recognition that while the need for clinicians to be able to translate their work into practical, usable results is well established, the idea of a specific program that addresses this need is relatively new.

Stakeholders we spoke with appreciated the program title *after* our discussion, but tended to be a bit confused by it beforehand. One employer thought the program would ensure graduates would be able translate medical terms into different languages. Another hospital employer indicated that while she understood the term, she was not sure that other people she worked with would. Her appreciation of the term came directly from working with researchers at the University of Windsor.

The relatively small number of established academic programs that use the term contributes to the potential for the program title to be misinterpreted. Translational health science (and its variants, translational medicine and translational research) remains a term that is attentive to an academic problem, in part because it is, in part, designed to tackle the problem of drawing academic clinical or medical research across research silos that exist between research and academic institutions and client application. For instance, the University of Alberta's overview of the program, written in 2013 as it was being established, noted that "TM [Translational Medicine] is a new discipline that facilitates translation of a molecular discovery to actual patients and populations." An academic paper arguing for the need for increased translational research described it thusly: "Translational research aims to improve individual and population health outcomes by bringing evidence-based knowledge into clinical and public health practice."[2] In effect, as the discipline takes shape, academic programs will continue to have to carefully define what they mean by translational health science (or research, or medicine) so that it may be quickly communicated to prospective employers. This is not an insurmountable issue; in our own interviews, a short discussion about the aims of the proposed program largely satisfied interview participants about the intent of the program and the meaning of the term "translational health sciences."

Labour Market Analysis

In general, the market for the skills developed by the proposed program is encouraging. There are a wide range of positions that require abilities in clinical practice, biostatistics, grant writing, communication, and other practical competencies offered by the proposed programming. The

[2] Julie A. Baldwin et al., "Broadening measures of success: results of a behavioral health translational research training program," *Implementation Science* (2017).

demand for people with a professional graduate degree and oncological knowledge also relatively strong. For instance, between January 2017 and January 2018, the Labour Insight tool identified **173** positions open to master's degree holders and that required oncological or cancer knowledge in Ontario.

To develop a more in-depth understanding of the job market, HESA used the information from the proposed classes and developed the following keywords:

1) Cancer Knowledge
2) Oncology (Including Oncology Clinical Trials)
3) Clinical Trials
4) Biostatistics
5) Proposal Writing

The keywords were developed from an analysis of the program and course outcomes as indicated by the proposed Translational Health Science curriculum. They were also selected because the job searching algorithm can recognize specific keyword skills more effectively than a general keyword search, and because they can be viewed as representative of some key intended skill outcomes that students will have.

We conducted a search examining job boards using the Labour Insight tool. The following conditions were applied to the search:

- Geography: nationwide;
- Timespan: over last twelve months;
- Education: Master's degree specified (either as a requirement or as a preference).

This search yielded a total of **328** positions across Canada. We then went and analyzed each position more closely, with the following objectives in mind:

- Confirm relevance to the proposed translational health program;
- Identify related skills;
- Identify job positions;
- Identify potential employers.

One of the largest employers of people with these skills is universities. While the scan is primarily focused on job opportunities outside universities, it is worth noting that a number of positions that require a master's degree (and do not require a Ph.D.) are available at university research labs, for individual research projects and initiatives, or as research associates. Table 3 demonstrates the number of relevant positions at universities. Positions that strongly preferred a Ph.D. or that were instructor positions are omitted.

Table 3: Relevant Positions at Universities

University	Number of Positions

University of British Columbia	16
University of Alberta	7
University of Calgary	23
University of New Brunswick	2
University of Waterloo	3

Positions that graduates of the THS programme might consider applying for include: Research Associate, Research Coordinator, Data Analyst, Research and Operations Manager, and Clinical Trial Project Coordinator. Beyond the clinical and scientific skills required for the positions, which varies based on the lab, many of the positions require that applicants have skills in statistical analysis, project management, and communication.

Of course, there are a wide range of opportunities beyond university research labs and projects. Our scan identified the following industries has having at least one position that a graduate of a translational health science program might be competitive for:

Table 4: Potential Employers

AbbVie	Interior Health Authority
Alberta Health Services	Iwk Health Centre
Alberta Innovates Technology Futures	Johnson & Johnson
Amaris Consulting	Kingston General Hospital
Aquinox Pharmaceuticals, Inc	Nova Scotia Health Authority
Association Of Ontario Health Centres	Novartis
Astrazeneca	Ontario Institute For Cancer Research
Bayer Corporation	Peterborough Regional Health Centre
BC Cancer Agency	Photon Control, Inc
BC Centre For Disease Control	Quintilesims
BC Centre For Excellence In Hiv/Aids	Services Bioanalytiques Biotrial Inc
BC Children's Hospital	Southlake Regional Health Centre
BC Women's Hospital & Health Centre	St. Elizabeth Healthcare
Biogen	St. Michael's Hospital
Canadian Institute For Health Information	Sunnybrook Health Sciences Centre
Cancer Care Ontario	Trillium Gift Of Life Network
Centre For Addiction And Mental Health	Trillium Health Partners
Chatham Kent Health Alliance	Trillium Therapeutics Inc
Children's Hospital Of Eastern Ontario	University Health Network
Commission De La Sante Et Des Services Sociaux Des Premieres Nations Du Quebec Et Du Labrador	Vancouver Coastal Health
Grand River Hospital	Veristat
Hoffmann La Roche	Vitalite Zone 1 Beausejour

Humber River Hospital	Windsor Regional Hospital
Interior Health Authority	Xenon

In total, these organizations offered a total **95** positions that we identified as having especially strong potential for graduates of the THS program.[3] We selected these positions because they clearly applied used the skills that would be developed by the program, including knowledge and experience with clinical trials, ability to communicate, project management skills, understanding of oncology, and strong teamwork skills. Effectively, we focused on positions that required a mix of clinical experience, specific oncological knowledge, and well-rounded professional capacities. We also included positions that required some experience, including positions up to manager, but excluded positions that required extensive experience (i.e. over 10 years or overseeing entire departments or units). We also removed positions that strongly preferred highly specialized graduates—for instance, biostatistician roles often required advanced training such as a Ph.D. in biostatistics.

When we assess these roles, a number of complementary skills emerge. Some of these skills are covered in the proposed courses, but others may require training from other programs or some adjustment in the proposed curriculum. These skills include:

- Interpreting and using statistical programs, including SAS and SPSS
- Knowledge of or certification in Good Clinical Practice
- Knowledge of ethics and ethical guidelines
- Budgeting and Finance
- Understanding of regulations (particularly important for positions with pharmaceutical companies)
- Marketing

Knowledge of statistical programming was the most frequent complementary skill identified, underlining the importance of the proposed Biostatistics course. This is confirmed by some cross-reference testing. 30 positions (based on a pool of jobs using the criteria of nationwide, last 12 months [March 2017 to March 2018], and master's degree specified) required both biostatistics AND oncology/cancer knowledge.

A broader way to assess the job market is to examine all positions in the health care industry that specifically required or preferred a master's degree, and then see how many positions list a skill that is prioritized by the THS program. In this case, we searched positions in **Ontario only**, between April 1st 2017 and March 31st 2018, to help make the pool a bit more manageable. Rather than selecting key words in advance, we used the keyword skills developed from our Burning Glass tool and then selected ones that related to the proposed THS curriculum. Using this technique, we see the following results:

[3] This number excludes the university positions listed above.

Table 5: Skills Demanded in Ontario Health Care

Skill	Jobs
Change Management	273
Clinical Experience	266
Cancer Knowledge	174
Negotiation Skills	147
Data Analysis	142
Clinical Research	122
Oncology	116
SPSS	91
Statistics	81
Report Writing	70
Biology	65
Biostatistics	63
Clinical Trials	58
Technical Writing/Editing	48
Good Clinical Practices	38
Grant Writing	32

Commentary on Specific Skills

Our analysis of the in demand skills and discussions with employers led us to hone in on a couple particular skills that are of particular importance.

Biostatistics

Demand for biostatistical knowledge emerged from both our examination of current job opportunities and from our interviews. A number of biostatistics positions captured by our job analysis tool included positions that required a Ph.D. in biostatistics. However, even once positions that required that highly specialized training were excluded, we found that considerable demand for biostatistical training remained.

When we discussed the prospective program with employer representatives, we found that interest in students with some grounding in biostatistics was high. Our representative with the Windsor Cancer Centre indicated that they hired people with a math and statistics background to fill roles for their data and diagnosis assessment programs, but that they then had to spend a great deal of time training them to have a sufficient understanding of the medical and clinical challenges that they faced during their job. She noted that this was a challenge for new hires, as their report standards were very high. A representative with the Canadian Institute for Health Information also impressed the importance of having students with a strong background in biostatistics. She felt

that some advanced training (such as that provided by a graduate-level course) would suffice in most cases.

Professional Skills

The professional development offered by the prospective program was also attractive to the people we spoke with. All of our interviewees indicated that a lot of recent graduates that they hired had a relatively limited knowledge of the regulatory environment, and particularly had a limited knowledge of the communication skills needed for effective grant writing. One interviewee with the Windsor Regional Hospital Cancer Program indicated that when she was reviewing initial proposals, she found that they would have strong awareness of the required work process for the laboratory, but would demonstrate a limited awareness of the financial realities, such as the expense of recruiting patients for clinical trials, or the sharp financial restraints that publicly funded research facilities contend with. She felt that a program that exposed students to these challenges earlier in their career would be of benefit. Another interviewee noted that people would not be aware of how regulatory requirements and barriers might impact their applications until they actually confronted them, and was thus enthusiastic about the practicum component of the proposed program. A third interviewee noted that while they had grant writing templates to help guide new hires who were writing grants for the first time, she had to spend a lot of time helping them with the process.

The universality of interest in having students with a good understanding of grant and proposal writing actually indicates that there may be more need for grant writing than our job review seen in table 4 indicates. At a minimum, providing students with a strong understanding of the grant writing process (and giving them concrete examples that they may include in their CVs) will provide them with a significant advantage on the job market.

Another skill set that is easy to overlook but vital to cultivate are the communication and teamwork skills that are essential for the effective operation of clinical experiments. The importance of these skills are evident both from the learning outcomes of other programs and from our discussions. In effectively all cases, graduates of this proposed program will be working with both highly specialized teams and with external stakeholders who may not have deep knowledge of their research or of oncology more generally. One of our interviewees noted that one of the sharpest learning curves that new recruits confronted at their institution was simply the ability to be able to share information *internally* with other interested teams. As she noted, her colleagues generally had very limited time, and junior researchers tended to flood them with detailed reports that failed to quickly communicate the major points of their work. Formal training on grant writing and communications that emphasize brevity and clarity will be of high value to graduates from this program.

Communication is also an important skill to cultivate for students who will enter positions where they interface with patients during their trials. Our questions about required skills prompted one of our interviewees to recall horror stories about how clinicians spoke to patients, which considerably increased the anxiety and confusion of the patients. Since many of the trails that these graduates

will be involved with will involve having to recruit and retain the willing consent of patients, it is vital to ensure that they know how to communicate clearly and professionally with people.

Clinical Trial Experience

The inclusion of practical clinical experience seems advantageous. As seen in table 5, there is demand for clinical trial experience in a significant number of positions (58). When the search parameters are expanded to consider positions Canada wide, we find that 164 job postings required a master's degree and experience with clinical trials.

Clinical experience seems particularly important when combined with the biostatistical and grant writing abilities. Our conversations and consideration of the job data suggests that employers are accustomed to new hires having clinical knowledge, biostatistical knowledge, OR grant writing abilities. There was little to suggest that there were many graduates with all three of these competencies.

Conclusion

In general, we believe that the review of the academic context and labour market suggests that the proposed program will be a successful one. The reasonably consistent enrollment patterns at other universities offering comparable programs speaks to the potential success of the program. There are some important challenges, such as the potential confusion over the term "translational health sciences" and from the fact that some graduates will have to work as ambassadors for their still not widely known discipline. There is also a risk, as seen in the case of the University of Alberta, that not enough links to government or industry are established. However, there are strong signs that the skills offered by the proposed programming will prepare students for success in a wide range of health science settings. In particular, the honing of professional skills that are vital, but often overlooked, should provide graduates with an important advantage over their job seeking peers.

Appendix: Interview Guide

Screener and Background Questions

1. What is your role at [ORGANIZATION]?

2. What is your educational background?

3. What sort of clinical trials is [ORGANIZATION] involved in?

4. (If a clinical researcher) Were there any sort of professional development skills that you developed through your work that you wish had been covered during your university education?

Skills Questions

1. How do you interpret the term translational health sciences?

2. What sort of skills and competencies would you expect someone with a Masters in Translational Health Sciences to have?

3. Do you believe someone with a Masters degree in Translational Health Sciences would be qualified to work in clinical trials at your lab/facility?

    a. PROMPT: would you only hire PhDs for roles that focus on clinical trials?
    b. PROMPT: What roles do you think such a candidate would be qualified for, if any?

4. How important is it to you that new hires have strong professional skills (i.e. networking, ability to write CIHR proposals, understanding the regulatory process)?

5. In your view, are there any skills/competencies that a person holding a masters in health science ***must*** have in order to be viable on the job market?

Job Market Questions

6. In your view, how is the job market for people with an understanding of cancer biology and experience with clinical trials?
    a. PROMPT: how is the market for your region (e.g. Windsor, Essex County, etc).

University/Pedagogy Questions

7. In your opinion, is it more important that students spend more time in classes teaching relevant science, or that they spend more time learning about professional development?
8. When you examine a pool of candidates, how important is the candidate's university of graduation?

    a. IF APPLICABLE: How important is the supervising professor?

Other Questions:

9. Is there anything else you would like to add?

10. Is there anyone else you know who may be interested and willing to speak with us on this topic?

Appendix E

WINDSOR REGIONAL HOSPITAL

OUTSTANDING CARE – NO EXCEPTIONS!

OFFICE OF THE PRESIDENT AND CHIEF EXECUTIVE OFFICER

May 8, 2018

Chris Houser, Ph.D.
Dean, Faculty of Science
University of Windsor

Dear Dr. Houser:

On behalf of Windsor Regional Hospital, I look forward to working with you and your colleagues as partners for the new professional Master's in Translational Health Sciences (THS) program that you are developing. The need is great for a program such as this that will strengthen the connections between bench research and clinical practice for the benefit of patients. I am excited that the THS program will bring together multidisciplinary teams of health professionals, scientists and biostatisticians to solve complex health and social problems. This program will provide resources to continue growing our collaboration between Windsor Regional Hospital and the University of Windsor. This partnership will also strengthen the important support systems that are needed to help mobilize research ideas at the hospital.

My colleagues and I are thrilled to support the training of talented and motivated students who can contribute to the monitoring and administration of clinical trials, which are so critical for cutting-edge care for patients. The THS program curriculum is very unique and will provide students who are keen to pursue medicine with the knowledge and skills to pursue careers in clinical research. Furthermore, by engaging with your students, our clinicians will have expanded opportunities to conduct important clinical research, which helps them to stay current and excited about their work and bring the very best to their patients and the community. I agree to assist your team to identify clinicians at our hospital who can contribute to the teaching and mentoring missions of the THS program and I will strongly encourage their participation.

Best wishes for a successful review of your proposal.

Yours truly,
WINDSOR REGIONAL HOSPITAL

David M. Musyj
President and CEO

1995 LENS AVENUE WINDSOR, ONTARIO N8W 1L9 • PHONE (519) 254-5577 EXT 56018 • FAX (519) 985-2651

University of Windsor

Faculty of Nursing
401 Sunset Avenue, Windsor,
Ontario, Canada N9B 3P4
T 519 253 3000 F 519 973 7084
www.uwindsor.ca/nursing

December 16, 2020

Dr. Chris Houser, Ph.D.
Dean, Faculty of Science
University of Windsor

Dear Dr. Houser,

On behalf of the Faculty of Nursing, I look forward to collaborating with you and your colleagues on the new professional Master's in Translational Health Sciences (THS) program that you are developing. I am excited by this opportunity to provide graduates of our nursing and science programs with a training path to work as clinical trial research associates. This program is a valuable addition at UWindsor that will address the need to prepare students who can translate discoveries in the basic sciences into medical advances in clinical practice for the benefit of patients. Collaborating with the THS MSc. students will also further strengthen the clinical research programs of many of our Nursing faculty.

My colleagues and I can contribute to the THS MSc. program in several ways. First, we are happy to offer our existing *Advanced Statistics* course (NURS-8820) as one of the required courses for the program. As you know, this course focuses on statistical techniques used in the design and analysis of clinical research studies. Second, I will support the participation of our faculty with backgrounds in clinical research and/or cancer to contribute to the new team-taught courses in *Methods in Clinical Cancer Research* and *Fundamentals of Oncology* that you are developing. Third, I am happy to assist your team to identify Nursing faculty who can serve as mentors for the program's research practicum. This combination of course work and hands-on research experience involving instructors from both clinical and academic backgrounds will be very appealing to our students.

Best wishes for a successful review of your proposal.

Respectfully Submitted,

Dr. Debbie Sheppard-LeMoine PhD, RN
Dean, Faculty of Nursing

ST. CLAIR
COLLEGE

October 23, 2020

Dear Dr. Houser:

I am pleased to provide a letter of support for the Master's in Translational Health Sciences (THS) program. St. Clair College offers a wide variety of educational programs in the School of Health Science as well as the School of Nursing. These programs provide the knowledge and skills to train students for specific careers in the health care field. Throughout their studies, students are exposed to a variety of hands-on learning experiences, as these future professionals will be performing applied tasks, interacting with patients.

Through these schools we are also pursuing applied research opportunities for faculty and students related to their disciplines. The THS program provides an opportunity for collaboration between those students and our health-related research efforts. Our research projects could provide the THS student with experiential learning, and this would benefit our research efforts by providing additional capacity for conducting the projects. It is through cross-discipline collaboration that learning outcomes are achieved and bringing these groups together would create a unique platform for exploring the various disciplines.

I look forward to future collaborations.

Sincerely,

Peter Wawrow, Ph.D.
Director, Applied Research and Development

University of Windsor
401 Sunset Avenue
Essex Hall, Room 312
Windsor, ON N9B 3P4

www.wesparkhealth.com

October 19, 2020

Dear Dr. Houser

On behalf of the WE-SPARK Health Institute, it is our pleasure to support the Master's in Translational Health Sciences in the Faculty of Science at the University of Windsor.

WE-SPARK is a partnership between institutions in the Windsor-Essex region who are positioned to enable and support cutting edge health research. WE-SPARK is establishing a unified system designed to move health research ideas forward, train the next generation of researchers, acquire and support research infrastructure and disseminate health research project outcomes to the community.

Of particular significance to this program is our growing membership. Since our launch on March 9, 2020, our Core membership has grown to almost 100 members. These are people actively engaged in health research who are available to advise and work with program students to move critical research projects forward. As part of our staff, we have a Translational Research Associate who is available to support the program coordinator to make connections with our partners and share his knowledge of REDCap with students. Our Knowledge Translation Coordinator can provide opportunities for the students' to share successes and project outcomes through our website, newsletters and WE-SPARK events.

WE-SPARK hosts many events that could be open to the students enrolled, giving them the opportunity to see research in action. One example is our '*Conversations*' series that brings multidisciplinary researchers together around pressing health research questions. These events provide opportunities for researchers from diverse backgrounds (engineering, nursing, social work, biomedical sciences, computer science, physics, psychology, human kinetics) as well as Tri-council funded researchers, to come together and leverage their efforts to improve the health of Canadians. These Conversations along with our bi-monthly Think Tanks are the perfect opportunity for projects developed through the course to be considered for future directions and funding opportunities.

Our healthcare partners are very excited about this program being launched. It will provide valuable research expertise and coordination to their organizations. Best wishes with launching this program. We are here to support your efforts throughout.

Sincerely,

Karen Metcalfe, M.A.
Asst. Director, WE-SPARK Health Institute

Bridging Research and Hope

Windsor Cancer Research Group

Chris Houser, PhD.
Dean, Faculty of Science
University of Windsor

October 19, 2020

Dear Dr. Houser,

On behalf of the Windsor Cancer Research Group (WCRG), we look forward to collaborating with you and your colleagues on the new professional Master's in Translational Health Sciences (THS) program that you are developing. This important initiative will provide valuable training experiences that will engage students in the translational of knowledge from the laboratory into the clinic for the benefit of patients and public health. The addition of this program is also very timely as the clinical research enterprise has grown substantially in Windsor-Essex in the past decade, providing many new opportunities for skilled students to become involved with the monitoring and administration of clinical research trials. The WCRG is pleased to collaborate on the THS MSc. program by helping to bridge partnerships between cancer researchers at the University of Windsor and Windsor Regional Hospital. As you know, since its inception in 2011, WCRG has established a track record of growing a regional network of clinical researchers to build and strengthen clinical trials and translational research programs to serve this community. We are proud to be Windsor-Essex's flagship program for health research in the WE-SPARK Health Institute.

We envision several ways in which the WCRG can assist the THS MSc. program. With more than 300 WCRG members, we can assist your team to identify researchers who can contribute to the new team-taught courses in *Methods in Clinical Cancer Research* and *Fundamentals of Oncology* that you are developing. Furthermore, many WCRG researchers have expressed a strong interest to engage more students in their clinical research studies and we can assist to match your students with mentors for their research practicum. In this regard, our peer review panel and multi-disciplinary cancer working groups can also assist with identifying funding sources for these projects, as well as the review of applications for grant funding and research ethics board approval. Lastly, we can provide your students with opportunities to improve their science communication skills and grow their professional network by contributing to our many community education and outreach initiatives, as well as by participating in the WCRG International Cancer Research Conferences and WE-SPARK Think Tanks.

Best wishes for a successful review of your proposal.

Dr. Caroline Hamm, *Clinical Research Director*

Dr. Dora Cavallo-Medved, *Translational Research Director*

A partnership between:

WINDSOR REGIONAL HOSPITAL
OUTSTANDING CARE – NO EXCEPTIONS!

University of Windsor

APPENDIX F

DRAFT SYLLABI FOR NEW COURSES IN THS MSC

Cancer Cell Biology

Instructor(s):
Office:
Email:

Class time/Location:

Office hours:

Calendar Description
Contemporary diagnostics and treatments of cancer have dramatically decreased mortality. Nevertheless, cancer continues to claim more than 83,000 lives annually in Canada. In Cancer Cell Biology our primary focus will be on the mechanisms that are corrupted in cancer cells and the differences in vulnerability among tissues. Secondarily, will review technologies used to define pathways and reflect on the lessons learned from the application of such techniques. Finally, we will examine the strategies being used today to exploit the vulnerabilities of tumors for personalized and targeted therapeutics.

Learning Outcomes:
Students who successfully complete this course will know and be able to:

1) *Describe the processes underlying the transformation of a normal cell to its malignant counterpart, and the consequences of malignant transformation and metastasis on the cellular and organism level.*
2) *Describe the molecular mechanisms underlying DNA damage and repair.*
3) *Explain the epigenetic interactions between the environment, regulation of gene expression, and cancer development.*
4) *Describe the functions of oncogenes and tumour suppressor genes in cancer.*
5) *Explain the molecular mechanisms regulating cell division, cell cycle, apoptosis, and how external and internal stimuli can promote or inhibit these processes.*
6) *Describe the laboratory techniques and methods used in cancer research.*
7) *Explain how the biological knowledge of cancer development is used in modern cancer treatment.*
8) *Write a grant application to a selected granting agency or funding mechanism for a translational research project and identify what where it lies in translational pipeline.*
9) *Review and evaluate a translational research paper, propose next steps for integration into practice, and identify gaps in the translational pipeline.*

Course Readings/Resources/Course Website:
Class notes, assignments, supplementary materials, announcements, and grades will be posted on the Blackboard Learn Course Website. The Biology of Cancer, 2nd Edition; Author(s): Robert A. Weinberg; ISBN: 9780815342205

Learning Hours:
As a 3.00 credit course, you will have 3 hours of traditional lecture/week. You should expect to spend at least 6-8 hours per week on this course, including class time, reading, and completing assignments. However, the actual time necessary will vary by individual.

Grading:

Students are assigned an integer grade on the 100% scale. The grade will be based on in-class presentations and a team-based grant proposal as well as midterm and final exams testing their understanding of the lecture content. **Student presentations** (2X) on their selected translational research papers, reviewing and evaluating the paper, proposing next steps for integration into practical settings, and identifying gaps in the translational pipeline. **Team-based grant proposal.** Students identify an idea for a translational research project and develop a grant proposal for a targeted granting agency or funding mechanism. With peer feedback along the way, students will write a hypothesis, objectives, aims, and proposed methodologies, ensuring a translational component is embedded into the proposal

- 15% Presentation 1
- 15% Midterm Exam 1
- 15% Presentation 2
- 15% Final Exam
- 40% Grant Proposal

Student Evaluation of Teaching:

In accordance with Senate Policy, the Student Evaluation of Teaching (SET) forms will be administered during the last two weeks of classes.

Academic Honesty:

Academic misconduct is considered a serious offence and will be handled as such. Violations of academic integrity will be handled under the disciplinary proceedings as outlined in Senate Bylaw 31. For a definition of academic integrity, please see the University of Windsor Senate Policy on Student Code of Conduct: http://www.uwindsor.ca/secretariat/sites/uwindsor.ca.secretariat/files/student_code_of_conduct_october_18_2016.pdf

Calculating Grades:

The University of Windsor uses a percentage marking and grading scale. The grading key can be found here: http://www.uwindsor.ca/registrar/529/grading-key

PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A

Appendix: Campus Resources

Student Accessibility Services:
Students with disabilities who require academic accommodations in this course must contact an Advisor in Student Accessibility Services to complete SAS Registration and receive the necessary Letters of Accommodation. After registering with Student Accessibility Services, you must present your Letter of Accommodation and discuss your needs with me as early in the term as possible. Please note that deadlines for the submission of documentation and completed forms to Student Accessibility Services are available on their website: http://www.uwindsor.ca/studentaccessibility/

Services Available on Campus:
"Feeling Overwhelmed? University students face obstacles from time to time that can affect academic performance. If you face difficulties and need help, it is important to reach out to someone. Discuss your situation with your instructor or an academic advisor.
For help addressing mental or physical health concerns, contact: (519) 253-3000:
Health Services at ext. 7002
Student Counselling Centre at ext. 4616
Peer Support Centre at ext. 4551
Or visit: http://www1.uwindsor.ca/scc/mental-health-resources

Another source for help is Good2Talk, a 24/7 helpline for Ontario college and university students (not affiliated with University of Windsor): 1-866-925-5454"
For information about other student support services available on campus, check out this site: http://www.uwindsor.ca/156/lots-student-support-services.

International Student Centre: http://www1.uwindsor.ca/isc/

Aboriginal Education Centre: http://www1.uwindsor.ca/aec/

Student Success Centre: http://www.uwindsor.ca/success/

Student Health Services: http://www1.uwindsor.ca/health/

Co-op, Career, and Employment Services: http://www.uwindsor.ca/cces/

APPENDIX F – Draft Syllabi

Experiential Learning Placement

Instructor(s):
Office:
Email:

Class time/Location:

Office hours:

Calendar Description
This course will provide students with practical experience in diverse aspects of clinical research including, laboratory methods, data collection and analysis, research ethics, and day-to-day aspects of clinical research trials. Students will assist research advisors with translational health science research projects where they will apply their scientific knowledge to study designs, research methods, and regulatory requirements and approvals, while also gaining skills in written and oral communication. Students will gain experience interacting with patients and collaborating with scientists and health care professionals.

Learning Outcomes:
Students who successfully complete this course will know and be able to:

- Critically review and evaluate research on translational health sciences.
- Explain challenges in translational health sciences and develop solutions to these challenges.
- Use appropriate methodology to conduct translational health research in clinical settings.
- Adhere to ethical principles while conducting clinical research.
- Effectively communicate translational health research using oral, written, and/or visual formats.
- Author a research proposal on a translational health topic.
- Successfully collaborate with peers and health professionals to conduct clinical research projects.

Experiential Learning Placement Details:
As part of this course students are required to complete a work placement in Translational Health Sciences. Students will work as part of a student research team (2-3 students), in collaboration with a research advisor (e.g., academic faculty or health care professional), and the course instructor, on a translational health science project. Each student will be responsible for devoting 216 hours at their placement over the 12 months when they are enrolled in the MSc. in Translational Health Sciences. Students will spend approximately 72 hours per semester at their placement (72 hours/semester x 3 semesters = 216 hours) which equates to approximately 6 hours per week at their placement over the course of a 12-week semester. The requirement of the research project and needs of the research advisor will dictate whether students complete 6 hours/day/week at their placement or whether this time will be divided over multiple days. At their placement students will be supervised by a research advisor. Student research teams will be required to meet with their research advisors once per week for

an hour to review progress, discuss challenges, and identify research tasks for the upcoming week. The course instructor will also meet monthly with all the research advisors in the program to discuss expectations for the research advisors, successes, and challenges across the experiential placement program, and to track progress.

At the start of the course students will review research projects proposed by research advisors and rank these projects based upon their personal preferences and interests. Subsequently, the course instructor will consult students and research advisors to match their interests and needs. The course instructor will then connect students with their research advisors, and they will begin their placement.

Class Time and Learning Hours:

As part of the 216-hour experiential placement, students will meet with their research advisors once per week for an hour to review progress, and attend meetings organized by the course instructor where they will give presentations on their research progress.

Grading:

1. Research Proposal (25%)

In small groups (2-3 students), students will develop a research proposal on a topic in translational health sciences using the Canadian Institutes of Health Research (CIHR) proposal format. Proposals will include background literature, research questions, methodology, a research ethics application, and the roles and expectations of each contributing member of the group. Proposals will be presented during a scheduled meeting and undergo a process of peer review and revision in consultation with the research advisor and instructor. The proposed research project will serve as the foundation for the research each group will conduct in their placement under the supervision of their research advisor. Following the revision process and receiving clearance from the Research Ethics Board, students will carry out their project at their placement with their research advisor. This research project will inform subsequent assignments that are detailed below.

2. Progress Reports (25%)

Individually students will prepare monthly written reports that summarize their project accomplishments, pitfalls, and next steps. Progress reports will also document hours worked on their research project. These reports will be used to inform their final report (detailed below).

3. Final Report (30%)

In their student research groups, students will prepare a final written report that includes their research findings, data analysis, and ideas for future research. The final report will also document the contributions of each student to the research project.

4. Colloquium Presentation (20%)

In their groups, students will create and present a research poster at the colloquium event in the final semester of the program. Research posters must include the following information: literature review, methodology, results, discussion, future directions, and references.

N.B. Completion of Experiential Learning Placement 1 (BIOL/M-8XX1) in semester 1 is required for enrolment into Experiential Learning Placement 2 (BIOL/M-8XX2); Completion of Experiential Learning Placement 2 (BIOL/M-8XX2,) in semester 2, is required for enrolment into Experiential Learning Placement 3 (BIOL/M-8XX3). Completion of Experiential Learning Placement 3 (BIOL/M-8XX3) is required for graduation from the program.

A student that fails to successfully complete any of the Experiential learning Placement courses 1, 2, or 3 will be asked to go on-leave and return the following year to repeat the failed course when it is offered next.

Student Evaluation of Teaching:
In accordance with Senate Policy, the Student Evaluation of Teaching (SET) forms will be administered during the last two weeks of classes.

Academic Honesty:
Academic misconduct is considered a serious offence and will be handled as such. Violations of academic integrity will be handled under the disciplinary proceedings as outlined in Senate Bylaw 31. For a definition of academic integrity, please see the University of Windsor Senate Policy on Student Code of Conduct:
https://www.uwindsor.ca/aauheads/resources/academic-integrity-student-conduct.html

http://www.uwindsor.ca/secretariat/sites/uwindsor.ca.secretariat/files/student_code_of_conduct_october_18_2016.pdf

Calculating Grades:
The University of Windsor uses a percentage marking and grading scale. The grading key can be found here: http://www.uwindsor.ca/registrar/529/grading-key

Appendix: Campus Resources

Student Accessibility Services:
Students with disabilities who require academic accommodations in this course must contact an Advisor in Student Accessibility Services to complete SAS Registration and receive the necessary Letters of Accommodation. After registering with Student Accessibility Services, you must present your Letter of Accommodation and discuss your needs with me as early in the term as possible. Please note that deadlines for the submission of documentation and completed forms to Student Accessibility Services are available on their website: http://www.uwindsor.ca/studentaccessibility/

Services Available on Campus:
"Feeling Overwhelmed? University students face obstacles from time to time that can affect academic performance. If you face difficulties and need help, it is important to reach out to someone. Discuss your situation with your instructor or an academic advisor.
For help addressing mental or physical health concerns, contact: (519) 253-3000:
Health Services at ext. 7002
Student Counselling Centre at ext. 4616
Peer Support Centre at ext. 4551
Or visit: http://www1.uwindsor.ca/scc/mental-health-resources

Another source for help is Good2Talk, a 24/7 helpline for Ontario college and university students (not affiliated with University of Windsor): 1-866-925-5454"
For information about other student support services available on campus, check out this site: http://www.uwindsor.ca/156/lots-student-support-services.

International Student Centre: http://www1.uwindsor.ca/isc/

Aboriginal Education Centre: http://www1.uwindsor.ca/aec/

Student Success Centre: http://www.uwindsor.ca/success/

Student Health Services: http://www1.uwindsor.ca/health/

Co-op, Career, and Employment Services: http://www.uwindsor.ca/cces/

Fundamentals of Oncology

Instructor(s):
Office:
Email:

Class time/Location:

Office hours:

Calendar Description
Using a problem-based learning approach, students will work in small groups to explore the diagnosis, pathophysiology, treatment, and prevention measures for various cancers. Multiple cases will be introduced each semester, consisting of a mix of lectures and tutorials. Cases will be developed and presented by the instructor and will include guest speakers engaged in clinical oncology research and/or patient care. The course will provide students with experience in using a problem-based learning approach to consider and propose solutions to current and relevant cases. In addition, the course will challenge students to identify the intersections and interdisciplinary aspects of cancer patient care, including an examination of the career paths of professionals working in the oncology health care system.

Learning Outcomes:
Students who successfully complete this course will know and be able to:

1) *Describe the etiology, pathophysiology, and progression of cancer, and how these factors relate to the patient experience.*
2) *Describe the interdisciplinary methods of cancer control and prevention.*
3) *Describe the methods used for cancer risk assessment, screening, and diagnosis.*
4) *Describe the traditional and emerging cancer therapies.*
5) *Identify relevant cancer statistics and epidemiology.*
6) *Review cancer care cases, working in groups, and present creative/relevant/ethical solutions to interdisciplinary challenges to cancer care, control, and prevention.*
7) *Identify relevant ethical issues arising in the care of patients with cancer.*
8) *Explain the interdisciplinary aspect of cancer patient care including the contributions of basic sciences, clinical medicine, health services research, and the social sciences.*

Course Readings/Resources/Course Website:
Class notes, assignments, supplementary materials, announcements, and grades will be posted on the Blackboard Learn Course Website. The Biology of Cancer, 2nd Edition; Author(s): Robert A. Weinberg; ISBN: 9780815342205

Learning Hours:
As a 3.00 credit course, you will have 3 hours of traditional lecture/week. You should expect to spend at least 6-8 hours per week on this course, including class time, reading, and completing assignments. However, the actual time necessary will vary by individual.

Grading:

Students are assigned an integer grade on the 100% scale. The grade will be based on in-class exams as well as assignment including ***problem-based learning cases*** and a ***culminating assignment*** (see details below):

- **Problem-based Learning Cases.** In small groups, students will work through current and relevant cases that are jointly presented by the instructor and guest speakers engaged in clinical oncology research and/or patient care. Each case will consist of a lecture on the content relevant to the case, as well as a tutorial to facilitate a problem-based learning approach in working through the case. Students will need to identify what information is known, where existing knowledge gaps remain, and what future research is necessary to address the problem.

- **Culminating Assignment.** Students individually consider the interdisciplinary intersections of cancer patient care, as well as examine the training and qualifications of a diversity of career paths involved in the oncology health care system (e.g., research scientists, medical doctors, clinicians, nurses, epidemiologists, social workers etc.).

Student Evaluation of Teaching:
In accordance with Senate Policy, the Student Evaluation of Teaching (SET) forms will be administered during the last two weeks of classes.

Academic Honesty:
Academic misconduct is considered a serious offence and will be handled as such. Violations of academic integrity will be handled under the disciplinary proceedings as outlined in Senate Bylaw 31. For a definition of academic integrity, please see the University of Windsor Senate Policy on Student Code of Conduct: http://www.uwindsor.ca/secretariat/sites/uwindsor.ca.secretariat/files/student_code_of_conduct_october_18_2016.pdf

Calculating Grades:
The University of Windsor uses a percentage marking and grading scale. The grading key can be found here: http://www.uwindsor.ca/registrar/529/grading-key

PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A
Appendix: Campus Resources

Student Accessibility Services:
Students with disabilities who require academic accommodations in this course must contact an Advisor in Student Accessibility Services to complete SAS Registration and receive the necessary Letters of Accommodation. After registering with Student Accessibility Services, you must present your Letter of Accommodation and discuss your needs with me as early in the term as possible. Please note that deadlines for the submission of documentation and completed forms to Student Accessibility Services are available on their website: http://www.uwindsor.ca/studentaccessibility/

Services Available on Campus:
"Feeling Overwhelmed? University students face obstacles from time to time that can affect academic performance. If you face difficulties and need help, it is important to reach out to someone. Discuss your situation with your instructor or an academic advisor.
For help addressing mental or physical health concerns, contact: (519) 253-3000:
Health Services at ext. 7002
Student Counselling Centre at ext. 4616
Peer Support Centre at ext. 4551
Or visit: http://www1.uwindsor.ca/scc/mental-health-resources

Another source for help is Good2Talk, a 24/7 helpline for Ontario college and university students (not affiliated with University of Windsor): 1-866-925-5454"
For information about other student support services available on campus, check out this site: http://www.uwindsor.ca/156/lots-student-support-services.

International Student Centre: http://www1.uwindsor.ca/isc/

Aboriginal Education Centre: http://www1.uwindsor.ca/aec/

Student Success Centre: http://www.uwindsor.ca/success/

Student Health Services: http://www1.uwindsor.ca/health/

Co-op, Career, and Employment Services: http://www.uwindsor.ca/cces/

Professional Development Seminar in Translational Health Sciences

Instructor(s):
Office:
Email:

Class time/Location:

Office hours:

Calendar Description
This specialized seminar course will provide students with professional skills in translational health sciences. In this course, students will develop skills in scientific communication, professional networking, and career development. Students will create a reflective portfolio that will demonstrate their progression through the MSc. in Translational Health Sciences (THS MSc) as well as their career development.

Learning Outcomes:
Students who successfully complete this course will know and be able to:

- Identify and describe career opportunities in translational health.
- Demonstrate career planning and create documents required for future employment.
- Research and explain challenges in translational health sciences and identify viable solutions to these challenges.
- Communicate translational health topics using oral, written, and/or visual formats.
- Professionally interact with classmates and professionals in class and/or clinical settings.
- Critically reflect on professional and personal skill development.

Course Readings/Resources/Course Website:
Class notes, assignments, supplementary materials, announcements, and grades will be posted on the Blackboard Learn Course Website.

Learning Hours:
You should expect to spend at least 6-8 hours per week on this course, including class time, reading, and completing assignments. However, the actual time necessary will vary by individual.

Grading:
Assignments within this course will contribute to students' final reflective portfolio (detailed below). Assignments will provide students with an opportunity to enhance their skills in scientific communication, professional networking, and career development.

Assignment 1: Addressing Challenges in Translation Health Science (10%)

- Throughout this course, students will be presented with a series of case studies that focus on challenges in translational health sciences. Students will complete these assignments in groups and

develop creative solutions to these challenges. Students will present their solutions and responses to these challenges in various formats, including, though not limited to scientific paper, technical/consultant report, oral presentation (e.g., conference presentation), visual presentation (e.g., poster presentation), and/or social media presentation.

Assignment 2: Career Development & Building Your Professional Network (30%)

- *1. CV Development*
    - Students are responsible for creating a curriculum vitae (CV). This document should include students' education, publications, conference presentations, scholarships, bursaries, grants, work and/or volunteer experience, and any other relevant experiences. Example CVs will be provided during class time along with further details regarding this assignment.
- *2. Informational interview*
    - To build students' career support network and gain exposure to careers in translational health sciences, students must complete four (4) informational interviews with professionals working in a translational health science field or focused on 4 different areas of health science spectrum (i.e., basic sciences, bioinformatics, clinical research, professional health science field).
    - As part of this assignment students will need to identify four professional who work in an area of translational health that they are looking to learn more about. Professionals can be identified in many ways, including though not limited to speaking with faculty, friends, family, and co-workers for in-network connections; using LinkedIn and associated networks; and through professional associations and/or organization directories.
    - Once students have selected four professionals who they would like to interview, they must contact these individuals and request an informational interview
        - Best practice in professional communication will be discussed during class time.
    - Prior to conducting the interview, students must submit the name/title/position of the interviewee and a list of interview questions to the course instructor.
    - Following each interview, students must create a thank-you letter for the interviewee and complete a three page (3) double-spaced interview reflection. Guiding questions to prompt their reflection are: 1) what does the position involve (e.g., duties/responsibilities); 2) what did you learn about this career; 3) what are the challenges associated with this career; 4) what is the pathway to gain employment in this career; 5) is this a career path one that you would consider pursuing; 6) what steps (e.g., educational requirements, professional networking, personal development) will you need to take in order to work in this field or to explore other areas; 7) what gaps may exist in your CV that may hinder your opportunity to gain employment in this career; 8) what steps will you take to address these gaps.
- *3. Career exploration paper*
    - Students will review publicly available resources (e.g., Career Services, LinkedIn, Indeed, etc.) to identify the job titles of 15 careers in Translational Health Sciences.
    - A collaborative list of all job titles identified by all students in the class will be consolidated into one list.
    - Subsequently, each student will select three (3) job titles and research these career paths from available secondary sources (e.g., job postings) and provide a detailed description of each position. Information may include, though is not limited to job descriptions, responsibilities/position tasks, minimum/preferred educational requirements, core

competencies, required experience, demands of the position (e.g., physical, social, psychological), scope of supervisory responsibility, and employers. Students should also include an explanation of why they chose these careers and how their skills/experiences and interests may align.

- *4. Cover Letter*
    - Following the completion of the career exploration papers, students will create a cover letter for each of the three job titles they selected. Students will highlight specific skill sets and experience from their CV that is relevant in each cover letter. Note: CVs may be similar across each career; however, students should tailor their cover letters based upon the requirements for each position.
- *5. Mock interview*
    - Students will participate in a mock interview for a career in translational health sciences. The course instructor will serve as the interviewer and students will be the interviewee. Students will be provided with a series of careers (e.g., public health specialist, clinical trials coordinator, etc.) and will be able to select which career they would like to be interviewed for.
    - The first part of the interview will consist of students delivering a 20-minute presentation on a translational health topic (related to the career chosen) followed by a 30-minute formal interview.
    - Interviews will be video-recorded, and a copy of the recording will be shared with students so that they are able to review and reflect on their interview.
    - Following the completion of their mock interview, students will complete a five (5) page double-spaced interview reflection assignment where they will reflect on their presentation, expectations about the interview, questions they found easy/challenging to answer, interview strengths/weakness, and identify steps that they can/will do to improve in these areas.
    - Students will be assessed on their presentation, interview performance, and written reflection.

Assignment 3: Continuous Learning Plan (15%)

- The purpose of this assignment is to facilitate student reflection on their professional development in this course (and the THS MSc) and identify areas for continuous learning. Specifically, students will author a three-page paper and discuss how their research skills, professional skills (e.g., communication, networking), have evolved over time, identify areas for future growth, and ways in which they will continue their professional and personal development.

Assignment 4: Colloquium Presentation (20%)

- Students will complete a 30-minute presentation on their reflective portfolio at the colloquium event in the final semester of the program.

Assignment 5: Reflective Portfolio (25%)

Each student will prepare a reflective portfolio comprised of two main sections (e.g., “A” and “B”) to display their personal and professional development over the course of completing the THS MSc.

In section A, students will present evidence and reflect on their development throughout the program, their ability to meet or exceed the Program Learning Outcomes, and how they exemplify the University of Windsor graduate characteristics. Section B will include a career development and lifelong learning plan, current CV, sample cover letters for a variety of career pathways, and an analysis of students' career support network, to be completed at the time of the final report and colloquium presentation. The portfolio will be developed over 12 months and will include: student reflections of their progress and examples of completed work projects/assignments that demonstrate achievements of program learning outcomes, graduate characteristics, and career development/continuous learning plan. Evidence included in the portfolio can be derived from assignments completed in this seminar course or other THS MSc courses. For example, students may demonstrate their development throughout the program and attainment of learning outcomes by including sample assignments (accompanied with appropriate rationale and justification) that align with the program learning outcomes and/or university graduate characteristics.

It is recommended that as students' progress through the THS MSc program, that they complete weekly reflections as these will be helpful when developing their portfolio.

Student Evaluation of Teaching:
In accordance with Senate Policy, the Student Evaluation of Teaching (SET) forms will be administered during the last two weeks of classes.

Academic Honesty:
Academic misconduct is considered a serious offence and will be handled as such. Violations of academic integrity will be handled under the disciplinary proceedings as outlined in Senate Bylaw 31. For a definition of academic integrity, please see the University of Windsor Senate Policy on Student Code of Conduct: http://www.uwindsor.ca/secretariat/sites/uwindsor.ca.secretariat/files/student_code_of_conduct_october_18_2016.pdf

Calculating Grades:
The University of Windsor uses a percentage marking and grading scale. The grading key can be found here: http://www.uwindsor.ca/registrar/529/grading-key

Appendix: Campus Resources

Student Accessibility Services:
Students with disabilities who require academic accommodations in this course must contact an Advisor in Student Accessibility Services to complete SAS Registration and receive the necessary Letters of Accommodation. After registering with Student Accessibility Services, you must present your Letter of Accommodation and discuss your needs with me as early in the term as possible. Please note that deadlines for the submission of documentation and completed forms to Student Accessibility Services are available on their website: http://www.uwindsor.ca/studentaccessibility/

Services Available on Campus:

"Feeling Overwhelmed? University students face obstacles from time to time that can affect academic performance. If you face difficulties and need help, it is important to reach out to someone. Discuss your situation with your instructor or an academic advisor.
For help addressing mental or physical health concerns, contact: (519) 253-3000:
Health Services at ext. 7002
Student Counselling Centre at ext. 4616
Peer Support Centre at ext. 4551
Or visit: http://www1.uwindsor.ca/scc/mental-health-resources

Another source for help is Good2Talk, a 24/7 helpline for Ontario college and university students (not affiliated with University of Windsor): 1-866-925-5454"
For information about other student support services available on campus, check out this site: http://www.uwindsor.ca/156/lots-student-support-services.

International Student Centre: http://www1.uwindsor.ca/isc/

Aboriginal Education Centre: http://www1.uwindsor.ca/aec/

Student Success Centre: http://www.uwindsor.ca/success/

Student Health Services: http://www1.uwindsor.ca/health/

Co-op, Career, and Employment Services: http://www.uwindsor.ca/cces/

Appendix G

Library report

IQAP review: Master of Science in Translation Health Sciences

Prepared by:
Roger Reka, Science Data Librarian and Librarian for Biomedical Sciences
Leddy Library

Monday, November 23, 2020

The Leddy Library serves as the main library for all disciplines at the University of Windsor, except for the Faculty of Law which is served by the Paul Martin Law Library. The Library's collection, information services and spaces support academic and research programs at the University.

Supporting research with comprehensive collections

The Leddy Library houses a collection of 1,669,221 titles in all formats (physical and electronic). This includes approximately 651,000 unique e-book and e-journal titles and 14,351 digital objects available through our institutional repository.

Funding

Leveraging of library funding for digital resources has taken place through provincial and national consortia, resulting in a complement of resources that compares well to other Ontario and Canadian institutions. The Library has faced several years of cuts to its overall budget but has so far managed to maintain the breadth and depth of its digital collections. In 2019-2020, the Library spent $5.5 million dollars on electronic resources – databases, digital journals, digital books, and data products. As digital resources have grown, the Library has transitioned away from print-based journals and books, and funding for this material has been re-directed. The money spent in 2019-2020 for print monographs was $109,000.

Serials

Translational health sciences encompass a number of research fields, including the basic biomedical sciences, cancer research, public health and clinical settings. Research in these areas are predominately reported in the primary literature, through journal articles, conference proceedings and pre-print manuscripts. This reflects the composition of the biomedical science collection at the Library, which is largely comprised of serials.

Leddy Library subscribes to many journals from the primary publishers in these fields: Elsevier, Wiley, Taylor & Francis, SpringerNature and SAGE. While the University of Windsor does not have a medical school, we still have a significant number of medical journals, on top of journals in the basic sciences. For this report, I took a closer look at the collection's coverage of topics related to the THS MSc curriculum. Using the Scimago journal rank index, I looked at the top-50 most cited journals in five subject areas and checked if these journals were collected. Out of the 250 journals across the eight areas, the library has full-text availability for 224 journals.

The collection has near-complete coverage of the top-50 most cited journals in basic science fields, such as molecular biology and cancer research (tables 1 & 2), save for Nature titles for which we have access with an embargo. The same is true for journals in medicine and oncology (tables 3 & 4), and we have almost all of the top tiles in public health (table 5).

We assess the use of our journals on a regular (annual/bi-annual) basis and consider additions to the collection. Should a need for new titles be warranted, the Library can add these titles to the collection.

Monographs

The biomedical science monograph collection is split about equally with print and e-books (roughly 35,000 titles each). Most e-books for these areas are sourced from packages with Springer Nature and various university presses. The annual budget for new biomedical science monographs is $700 and is used to purchase books in the areas researched by faculty members and to support courses.

Discovery tools

The Leddy Library licenses several discovery tools for students and researchers in biomedical science, including: Web of Science, Scopus and various ProQuest indexes. We have also connected our online catalogue with PubMed, one of the most popular discovery tool for the health sciences, enabling Windsor researchers to access full-text content from the website.

The Library's online catalogue, *Omni*, allows faculty and students to search the library's holdings of print and electronic books and journals, as well as those of 13 other Ontario university libraries.

Meeting unmet needs: Interlibrary loan

The Leddy Library is part of RACER which is an Ontario-wide cooperative interlibrary system. This service permits Library users to create interlibrary loan requests for materials that they wish to receive from other libraries. These requests are paid forby the library and so costs are not generally born on the student or faculty. Additionally, if items cannot be acquired in Canada, Leddy will acquire items from over 10,000 libraries globally, through OCLC, at no cost to our users.

Faculty, graduate and undergraduate students have on-site borrowing privileges at many Canadian university libraries and through the OCLC Reciprocal Faculty Borrowing Program. Faculty members at the University of Windsor have borrowing privileges at over one hundred U.S. libraries. As well, the Leddy Library participates in the reciprocal borrowing arrangement known as INFOPASS. This arrangement gives graduate students and faculty direct borrowing privileges from Detroit-area university libraries.

Aiding teaching with information services

The subject librarians at Leddy Library provide support to departmental teaching programs with information literacy instruction, which is available to instructors of both undergraduate and graduate levels. Librarians can help instructors find ways to develop student information literacy skills—the skills needed to find, understand and use information— through curriculum planning, course-specific workshops, and research consultations. These services are available virtually, when necessary.

The Library also supports teaching with the course readings service. This service helps to provide students with easy and barrier-free access to information resources for their courses. In addition to holding print copies of library resources in course reserve, instructors can request reading lists with links to electronic journals and books, and digital copies of copyrighted materials (e.g., book chapters). The Library also provides a copyright clearance service, where the Library will pay to clear copyright on select protected materials to be used for classroom instruction.

Encouraging learning with student spaces

The Leddy Library is the university's learning commons. The library buildings are open 8:30 am-2:00 am most nights, with extended hours during the exam period. The Library houses hundreds of quiet and group study areas throughout the two buildings. Students have access to printing and scanning services, and over 250 computers with public IT support. In addition to office suite software, students have access to specialized math and statistics software such as MATLAB, Maple, SAS and Stata.

The Library's Academic Data Centre provides statistical consulting support, and access to high-security Statistics Canada data, including health data. The Writing Support Desk provides students with help regarding various aspects of their academic writing. A café on the main floor provides library users with

refreshments. The Library also hosts several workshops and groups that support the student experience, such as the English Conversation Group for international students.

Statement of the University Librarian

All available information concerning library resources and services supporting the Master of Science in Translational Health Sciences program have been examined.

The Leddy Library has made significant strides to enhance its services and collections in support of teaching, learning and research. This includes a large and growing collection of digital resources, enhanced local access and services, and expanded cooperative agreements with other academic institutions provincially, nationally and internationally.

With the noted present and planned services, I believe that the Leddy Library is well able to support the Master of Science in Translational Health Sciences program.

Pascal Calarco
University Librarian

Appendices

Table 1. Library coverage of the top-50 journals in the **biochemistry, genetics and molecular biology** category, Scimago Journal & Country Rank database.

	Title	Availability
1	Nature Reviews Molecular Cell Biology	Full-text available with embargo
2	Nature Reviews Genetics	Full-text available with embargo
3	Cell	Full-text available to present
4	Nature Reviews Cancer	Full-text available with embargo
5	Nature Methods	Full-text available with embargo
6	Nature Genetics	Full-text available to present
7	Annual Review of Biochemistry	Full-text available to present
8	Nature Medicine	Full-text available to present
9	Nature Biotechnology	Full-text available to present
10	Cancer Cell	Full-text available with embargo
11	Annual Review of Cell and Developmental Biology	Full-text available to present
12	Nature Catalysis	No full-text available
13	Molecular Cell	Full-text available to present
14	Annual Review of Plant Biology	Full-text available to present
15	Cell Metabolism	Full-text available with embargo
16	Annual Review of Physiology	Full-text available to present
17	Physiological Reviews	Full-text available to present
18	Journal of Clinical Oncology	No full-text available
19	Nature Cell Biology	Full-text available to present
20	Trends in Cell Biology	Full-text available to present
21	Genome Biology	Full-text available to present
22	Cell Stem Cell	Full-text available to present
23	The Lancet Diabetes and Endocrinology	No full-text available
24	Genome Research	Full-text available to present
25	Annual Review of Genetics	Full-text available to present
26	Nucleic Acids Research	Full-text available to present
27	Nature Structural and Molecular Biology	Full-text available with embargo
28	Molecular Biology and Evolution	Full-text available to present
29	Trends in Biochemical Sciences	Full-text available to present
30	Nature Microbiology	Full-text available with embargo
31	Genes and Development	Full-text available to present
32	Nature Protocols	Full-text available with embargo
33	JAMA Oncology	No full-text available
34	Cell Systems	Full-text available to present
35	Annual Review of Biophysics	Full-text available to present
36	American Journal of Human Genetics	Full-text available to present
37	Microbiology and Molecular Biology Reviews	Full-text available to present
38	Molecular Systems Biology	Full-text available to present
39	Pharmacological Reviews	Full-text available with embargo
40	Cell Host and Microbe	Full-text available to present
41	EMBO Journal	Full-text available to present
42	Nature Chemical Biology	Full-text available with embargo
43	Journal of the American Chemical Society	Full-text available to present
44	Trends in Genetics	Full-text available to present
45	Genome Medicine	Full-text available to present
46	Systematic Biology	Full-text available to present
47	Molecular Psychiatry	Full-text available with embargo
48	Nano Today	Full-text available to present
49	Chem	Full-text available to present
50	Annals of the Rheumatic Diseases	Full-text available with embargo

Table 2. Library coverage of the top-50 journals in the **cancer research** category, Scimago Journal & Country Rank database.

	Title	Availability
1	Nature Reviews Cancer	Full-text available with embargo
2	Cancer Cell	Full-text available with embargo
3	Journal of Clinical Oncology	No full-text available
4	JAMA Oncology	No full-text available
5	Cell Host and Microbe	Full-text available to present
6	Journal of the National Cancer Institute	Full-text available to present
7	Clinical Cancer Research	Full-text available with embargo
8	Cancer immunology research	Full-text available with embargo
9	Molecular Cancer	Full-text available to present
10	Neuro-Oncology	Full-text available to present
11	Journal for ImmunoTherapy of Cancer	Full-text available to present
12	Cancer Research	Full-text available with embargo
13	Leukemia	Full-text available with embargo
14	Trends in Cancer	No full-text available
15	Drug Resistance Updates	Full-text available to present
16	Signal Transduction and Targeted Therapy	Full-text available to present
17	PLoS Genetics	Full-text available to present
18	Seminars in Cancer Biology	Full-text available to present
19	European Journal of Cancer	Full-text available to present
20	Oncogene	Full-text available with embargo
21	Journal of Hematology and Oncology	Full-text available to present
22	Cancer	Full-text available to present
23	Biochimica et Biophysica Acta - Reviews on Cancer	Full-text available to present
24	Cancer and Metastasis Reviews	Full-text available to present
25	Journal of Carcinogenesis	Full-text available to present
26	Oncologist	Full-text available to present
27	JCO Precision Oncology	No full-text available
28	Gastric Cancer	Full-text available to present
29	Molecular Cancer Therapeutics	Full-text available with embargo
30	British Journal of Cancer	Full-text available with embargo
31	Neoplasia	Full-text available to present
32	Breast Cancer Research	Full-text available to present
33	Molecular Cancer Research	Full-text available with embargo
34	Cancer Letters	Full-text available to present
35	Molecular Oncology	Full-text available to present
36	Cell Death and Disease	Full-text available to present
37	International Journal of Cancer	Full-text available to present
38	Journal of Experimental and Clinical Cancer Research	Full-text available to present
39	Oncogenesis	Full-text available to present
40	International Journal of Radiation Oncology Biology Physics	Full-text available to present
41	Advances in Biological Regulation	Full-text available to present
42	ESMO Open	Full-text available to present
43	Molecular Therapy - Oncolytics	Full-text available to present
44	Cancer Immunology, Immunotherapy	Full-text available to present
45	Cancers	Full-text available to present
46	Cancer Biology and Medicine	Full-text available to present
47	Breast Cancer Research and Treatment	Full-text available to present
48	Cancer Science	Full-text available to present
49	Prostate Cancer and Prostatic Diseases	Full-text available with embargo
50	Epigenetics	Full-text available to present

Table 3. Library coverage of the top-50 journals in the **medicine** category, Scimago Journal & Country Rank database.

	Title	**Availability**
1	CA - A Cancer Journal for Clinicians	Full-text available to present
2	MMWR. Recommendations and reports : Morbidity and mortality weekly report.	Full-text available to present
3	Nature Reviews Genetics	Full-text available with embargo
4	Nature Reviews Cancer	Full-text available with embargo
5	MMWR. Surveillance summaries : Morbidity and mortality weekly report. Surveillance summaries / CDC	Full-text available to present
6	Nature Reviews Immunology	Full-text available with embargo
8	New England Journal of Medicine	Full-text available with embargo
9	Nature Medicine	Full-text available to present
10	The Lancet Oncology	Full-text available to present
11	The Lancet	Full-text available to present
12	Annual Review of Immunology	Full-text available to present
13	Nature Reviews Microbiology	Full-text available with embargo
14	Nature Reviews Disease Primers	No full-text available
15	Immunity	Full-text available to present
16	Cancer Cell	Full-text available with embargo
17	The Lancet Neurology	Full-text available to present
18	Physiological Reviews	Full-text available to present
19	Journal of Clinical Oncology	No full-text available
20	Journal of the American College of Cardiology	Full-text available to present
21	Nature Reviews Clinical Oncology	Full-text available with embargo
22	The Lancet Diabetes and Endocrinology	No full-text available
23	Nature Immunology	Full-text available with embargo
24	Genome Research	Full-text available to present
25	World Psychiatry	Full-text available to present
26	The Lancet Infectious Diseases	Full-text available to present
27	Accounts of Chemical Research	Full-text available to present
28	Clinical Microbiology Reviews	Full-text available to present
29	Annual Review of Pathology: Mechanisms of Disease	Full-text available to present
30	European Urology	Full-text available to present
31	Acta Neuropathologica	Full-text available to present
32	The Lancet Global Health	Full-text available to present
33	Science immunology	No full-text available
34	Nature Microbiology	Full-text available with embargo
35	Gut	Full-text available with embargo
36	Journal of Experimental Medicine	Full-text available with embargo
37	Annual Review of Clinical Psychology	Full-text available to present
38	JAMA Oncology	No full-text available
39	Cell Systems	Full-text available to present
40	Lancet Respiratory Medicine,The	Full-text available to present
41	Cancer Discovery	Full-text available with embargo
42	Circulation	No full-text available
43	American Journal of Human Genetics	Full-text available to present
44	Microbiology and Molecular Biology Reviews	Full-text available to present
45	Molecular Systems Biology	Full-text available to present
46	Reports on Progress in Physics	Full-text available to present
47	EMBO Journal	Full-text available to present
48	Science Translational Medicine	No full-text available
49	Nature Reviews Drug Discovery	Full-text available with embargo
50	The Lancet Psychiatry	Full-text available to present

Table 4. Library coverage of the top-50 journals in the **oncology** category, Scimago Journal & Country Rank database.

	Title	**Availability**
1	CA - A Cancer Journal for Clinicians	Full-text available to present
2	Nature Reviews Cancer	Full-text available with embargo
3	The Lancet Oncology	Full-text available to present
4	Cancer Cell	Full-text available with embargo
5	Journal of Clinical Oncology	No full-text available
6	Nature Reviews Clinical Oncology	Full-text available with embargo
7	JAMA Oncology	No full-text available
8	Cancer Discovery	Full-text available with embargo
9	Journal of the National Cancer Institute	Full-text available to present
10	Clinical Cancer Research	Full-text available with embargo
11	Molecular Cancer	Full-text available to present
12	Neuro-Oncology	Full-text available to present
13	Journal for ImmunoTherapy of Cancer	Full-text available to present
14	Cancer Research	Full-text available with embargo
15	Leukemia	Full-text available with embargo
16	Trends in Cancer	No full-text available
17	Drug Resistance Updates	Full-text available to present
18	Cancer Treatment Reviews	Full-text available to present
19	npj Breast Cancer	Full-text available to present
20	Journal of the National Comprehensive Cancer Network : JNCCN	No full-text available
21	European Journal of Cancer	Full-text available to present
22	Journal of Hematology and Oncology	Full-text available to present
23	Journal of Thoracic Oncology	Full-text available with embargo
24	Cancer	Full-text available to present
25	Blood Cancer Journal	Full-text available to present
26	Cancer Epidemiology Biomarkers and Prevention	Full-text available with embargo
27	Biochimica et Biophysica Acta - Reviews on Cancer	Full-text available to present
28	Cancer and Metastasis Reviews	Full-text available to present
29	Journal of Carcinogenesis	Full-text available to present
30	Oncologist	Full-text available to present
31	JCO Precision Oncology	No full-text available
32	Gastric Cancer	Full-text available to present
33	Gynecologic Oncology	Full-text available to present
34	Molecular Cancer Therapeutics	Full-text available with embargo
35	OncoImmunology	Full-text available to present
36	British Journal of Cancer	Full-text available with embargo
37	Breast Cancer Research	Full-text available to present
38	Molecular Cancer Research	Full-text available with embargo
39	Cancer Letters	Full-text available to present
40	Therapeutic Advances in Medical Oncology	Full-text available to present
41	Molecular Oncology	Full-text available to present
42	Critical Reviews in Oncology/Hematology	Full-text available to present
43	International Journal of Cancer	Full-text available to present
44	Journal of Experimental and Clinical Cancer Research	Full-text available to present
45	International Journal of Radiation Oncology Biology Physics	Full-text available to present
46	Blood Reviews	Full-text available to present
47	Liver Cancer	Full-text available to present
48	ESMO Open	Full-text available to present
49	Current Opinion in HIV and AIDS	No full-text available
50	Radiotherapy and Oncology	Full-text available to present

Table 5. Library coverage of the top-50 journals in the **public health** category, Scimago Journal & Country Rank database.

	Title	**Availability**
1	Clinical Microbiology Reviews	Full-text available to present
2	The Lancet Public Health	Full-text available to present
3	Annual Review of Public Health	Full-text available to present
4	The Lancet Planetary Health	Full-text available to present
5	Journal of Occupational Health Psychology	Full-text available to present
6	Tobacco Control	Full-text available with embargo
7	Obesity Reviews	Full-text available to present
8	Eurosurveillance	Full-text available to present
9	Journal of Health Economics	Full-text available to present
10	Implementation Science	Full-text available to present
11	Environmental Research Letters	Full-text available to present
12	Journal of the International AIDS Society	Full-text available to present
13	Environmental Health Perspectives	Full-text available to present
14	Bulletin of the World Health Organization	Full-text available to present
15	Journal of Travel Medicine	Full-text available to present
16	American Journal of Preventive Medicine	Full-text available to present
17	Perspectives on Sexual and Reproductive Health	Full-text available to present
18	American Journal of Public Health	Full-text available to present
19	PLoS Neglected Tropical Diseases	Full-text available to present
20	Value in Health	Full-text available to present
21	Journal of Adolescent Health	Full-text available to present
22	Trauma, Violence and Abuse	Full-text available to present
23	Medical Care	Full-text available with embargo
25	AIDS Patient Care and STDs	No full-text available
26	Emerging Contaminants	Full-text available to present
27	Remedial and Special Education	Full-text available to present
28	BMJ Global Health	Full-text available to present
29	AIDS and Behavior	Full-text available to present
30	Translational Research	Full-text available to present
31	Public Health Reviews	Full-text available to present
32	Preventive Medicine	Full-text available to present
33	Journal of Epidemiology and Community Health	Full-text available with embargo
34	Influenza and other Respiratory Viruses	Full-text available to present
35	LGBT Health	No full-text available
36	Accident Analysis and Prevention	Full-text available to present
37	Vaccine	Full-text available to present
38	Epidemiology and Psychiatric Sciences	Full-text available to present
39	Nicotine and Tobacco Research	Full-text available to present
40	Suicide and Life-Threatening Behavior	Full-text available to present
41	Burnout Research	Full-text available to present
42	Qualitative Health Research	Full-text available to present
43	GeoHealth	Full-text available to present
44	Sexually Transmitted Diseases	No full-text available
45	One Health	Full-text available to present
46	Epidemics	Full-text available to present
47	Maternal and Child Nutrition	Full-text available to present
48	Antimicrobial Resistance and Infection Control	Full-text available to present
49	Occupational and Environmental Medicine	Full-text available with embargo
50	Future of Children	Full-text available to present

University of Windsor
Program Development Committee

*5.2: **Faculty of Arts Humanities and Social Sciences - New Course Proposal (Form D)**

Item for: **Approval**

MOTION: That the following courses be approved:^
GART/SOSC-2060. Practicing Community Program Delivery and Evaluation

^Subject to approval of the expenditures required.

Rationale/Approvals:
- This course has been approved by the Faculty of Arts Humanities and Social Sciences Coordinating Council.
- *See attached.*

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

TITLE OF PROGRAM(S)/CERTIFICATE(S):	**General FAHSS courses**
DEPARTMENT(S)/SCHOOL(S):	**Office of the Dean of FAHSS**
FACULTY(IES):	**FAHSS**

Proposed change(s) effective as of* [Fall, Winter, Spring]: **(subject to timely and clear submission)*	Winter 2022

A. NEW COURSE PROFILE

Course # and Title: GART/SOSC-2060. Practicing Community Program Delivery and Evaluation

A.1 Calendar Description

Calendar descriptions should be written in the third person and should provide a general outline of the course material. Where appropriate, examples of topics or themes, which might be covered in the course, should also be provided.

This course provides students with an opportunity to practice the principles and methods of community program delivery and evaluation, providing them with practical skills for future academic or employment opportunities. Students will be placed in community settings as supported by the local collective impact initiative, ProsperUs, and will carry out activities that may include community activation, frontline and administrative program support, and program evaluation. (Prerequisite: GART/SOSC-2050. Instructor permission. Interview may be required.)

A.2 Other Course Information

Please complete the following tables.

Credit weight	**Total contact hours**	**Delivery format**				**Breakdown of contact hours/week**			
		In-class	**e-learning**	**Distance**	**Other flexible learning delivery** *[please specify]*	**Lecture**	**Lab/ Tutorial**	**Online**	**Co-op/ practicum/ experiential learning**
3.0	36				Community Engagement/ Experiential Learning				10 hour

Pre-requisites	**Co-requisites**	**Anti-requisites**	**Cross-listed with:**	**Required course?**	**Replacing old course***** *[provide old course number]*
GART/SOSC -2050. Instructor permission. Interview may be required	N/A	N/A	N/A	No	N/A

******Replacing Old Course: this does not mean that the former course will be deleted from the calendar. If it is to be deleted, a Form E must be completed.***

Will students be able to obtain credit for the new course and the course(s) that it is replacing?	N/A

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

B. RATIONALE

B.1 Course Goal(s)

Please provide a statement about the purpose of the course within the program of study or as an option.

The purpose of this course is to provide students with the opportunity to carry out community program delivery and evaluation in a community setting. Students will be placed in community settings supported by the local collective impact initiative, ProsperUs, providing students with an experiential learning experience in which they can apply the theoretical knowledge gained throughout their program. As the backbone organization for ProsperUs, United Way Windsor-Essex will oversee and support the internship experience for the students. Students will work with community leaders, service providers, and residents with lived experience, providing a learning experience that will equip them with the tangible skills necessary for a professional career in a community setting or with real-world knowledge invaluable for pursuing further academic studies. Additionally, students will participate in several career development workshops to assist in exploring and preparing for career opportunities in which they can apply the transferable knowledge and skills gained in this course. Students may take this course twice and may have an opportunity to act as a mentor and/or provide project management support if taking the course a second time.

B.2 Indigenous (First Nations, Métis, or Inuit) Content, Perspectives, or Material

The University of Windsor is committed to building and sustaining stronger, more meaningful inclusive partnerships with Indigenous students, scholars, and communities. Indigenization of curriculum takes place in a larger context, including a requirement to respond to the four Calls to Action in education of the Truth and Reconciliation Report (2015) (page 1), the unique legal requirements of the Constitution Act 1982 (Sections 25, 35), the provincial legal requirements of the Ontario Human Rights Code, 1990, and provincial legislation Bill Pr36 (1967).

*In developing this new course, **how** has consideration been given to incorporating Indigenous (First Nations, Métis, or Inuit) content, perspectives, or material into the curriculum?*

Please consider these prompt questions and additional Resources including disciplinary examples:

- *What **process** has your department/Faculty used to consider Indigenization?*
- ***How** have you considered the importance or relevance to the course/program?*
- *How has your department or faculty approached raising awareness for Indigenous knowledges in your area?*
- *What do the TRC and University Principles documents suggest relevant to your course?*
- *What have other similar courses/programs done that might be relevant to your course/program?*
- *In what ways could your course/program have flexibility to include new ways of learning, or content for Indigenous approaches or knowledges?*
- *What is your awareness of the history or background to approaches you are considering, such as the land acknowledgement? How have you developed your awareness?*
- *Which literatures, sources, or Indigenous Knowledge Holders have you consulted? (Please confirm you have permission to share any names, it may be helpful to have the person confirm the text if you will be submitting their name)*
- *Are you engaging in critical analysis of Settler Colonialism and/or Decolonization?*
- *Have you included the information in the other relevant areas in the PDC form (such as learning outcomes) or in the course syllabus where appropriate?*

Students have completed prior learning during GART 2050 in the form of an Equity Challenge assignment focused on Indigenous Reconciliation. Students will continue that learning by completing training on "Indigenous Ways of Knowing" during the orientation to the internship placement with ProsperUs. As the community-driven process evolves, ProsperUs and its partners seek to continue strengthening engagement with Indigenous communities across Windsor-Essex County. During the internships, students will be tasked with activities aimed at developing awareness of Indigenous resources, cultivating relationships with Indigenous community members and organizations, and

supporting the development of practices that address the unique considerations of Indigenous peoples within the work of ProsperUs. For example, students will consult with community stakeholders to create asset maps of Indigenous resources, including the President's Indigenous Peoples Scholars Program, UWindsor's Aboriginal Education Centre, or the Native Student Alliance. Students will use the knowledge and awareness gained through these activities to help ProsperUs implement culturally competent program delivery and evaluation. Program evaluation will involve collecting demographic data from program participants and analyzing data to ensure program delivery is equitable and inclusive, and that continuous improvement processes advance the cultural competence of students and community service providers.

B.3 LEARNING OUTCOMES (QAF section 2.1.1, 2.1.3, and 2.1.6)

Please complete the following table. State the specific learning outcomes that make up the goal of the course (what will students know and be able to do at the end of this course?) and link the learning outcomes to the Characteristics of a University of Windsor Graduate outlined in "To Greater Heights" by listing them in the appropriate rows.

Please note that a learning outcome may link to more than one of the specified Characteristics of a University of Windsor Graduate, and that a single course might not touch on each of the Characteristics. ***If a specific learning outcome is not applicable for the course, please enter N/A or not applicable.***

Information on learning outcomes is appended to this form (Appendix A). Proposers are also strongly encouraged to contact the Centre for Teaching and Learning for assistance with the articulation of learning outcomes.

Course Learning Outcomes *This is a sentence completion exercise.* At the end of this course, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** A U of Windsor graduate will have the ability to demonstrate:
A. –Apply the principles and methods of community program delivery, engagement, and evaluation in a community setting -Enact and support active citizen participation in community program design -Demonstrate community program experience that will act as a stepping stone into future academic or employment opportunities	A. the acquisition, application and integration of knowledge
B. -Implement a community program delivery and evaluation plan in a community setting -Collect, analyze, and report on data in a community setting (Also applies to D)	B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy)
C. -Adapt to community program delivery and evaluation barriers that may arise during community practice -Develop strategies to overcome unique circumstances that may arise during community practice	C. critical thinking and problem-solving skills
D. - Administer surveys and standardized measurement tools, and track administrative data collection to determine program outcomes -Accurately and efficiently catalogue data for reporting	D. literacy and numeracy skills
E. -Engage groups with lived experience to improve the well-being of neighbourhoods and the efficacy of programs	E. responsible behaviour to self, others and society

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

Course Learning Outcomes *This is a sentence completion exercise.* At the end of this course, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** A U of Windsor graduate will have the ability to demonstrate:
F. -Work with neighbourhood residents, service providers, and community leaders to carry out community program delivery and evaluation -Interact with diverse groups with varying perspectives, backgrounds, and ways of communicating -Assist in the delivery of program interventions by support staff of key community agencies	F. interpersonal and communications skills
G. -Collaborate within a team to implement a community program delivery and evaluation plan. - Collaborate with program staff on program delivery at one or more neighbourhood sites -Apply the principles of mentorship	G. teamwork, and personal and group leadership skills
H. N/A	H. creativity and aesthetic appreciation
I. -Participate in the continuous improvement process, adapting quickly to changing community and program situations. -Critically assess the community program delivery and evaluation process.	I. the ability and desire for continuous learning

B.4 Demand for Course

Please provide as much information on projected enrolment as possible.

Projected enrolment levels for the first 5 years of the new course.	Year 1	Year 2	Year 3	Year 4	Year 5
	8	10	12	15	20

*Note – This is assuming an ongoing program year-round and may vary according to the resident-designed programs in target neighborhoods.

B.4.1 Impact of New Course on Enrolment in Existing Courses

What will be the impact of offering the new course on enrolments in existing courses in the program or Department?

As this course is an interdisciplinary offering and will be offered as an elective, it is anticipated that there will be minor impact of offering the new course on enrolments in existing courses as students will come from a variety of programs and departments within the Faculty of Arts, Humanities, and Social Sciences and from other faculties seeking to fulfill their General Arts or Social Sciences credit requirements.

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

B.5 Student Workload

Provide information on the expected workload per week of a student enrolled in this course.
NOTE: Student workload should be consistent with the credit weight assigned to the course.

Average number of hours per week that the student will be expected to devote to:	
0	Lectures
0	Tutorials
0	Labs
12	Practical experience
0	Independent Study
0	Reading for the course
0	Work for assessment (essays, papers, projects, laboratory work)
1	Meeting with others for group work/project assignments
0	Studying for tests/examinations
	Other: *[specify]*
How does the student workload for this course compare with other similar courses in the department/program area?	**As an experiential learning course, the workload will be based in practical experience and similar to that of other courses.**

C. RESOURCES

C.1 Available Faculty Expertise and Staff Resources (QAF sections 2.1.7, 2.1.8, 2.1.9 and 2.1.10)

Describe all faculty expertise and staff resources (e.g., administrative, teaching, supervision) from all affected areas/departments currently available and actively committed to support the new course. Please do not name specific individuals.

The Office of the Associate Vice-President-Academic has offered to provide a sessional stipend and other required resources for this course. There is an existing network of practitioners with community engagement experience available through the United Way who have long engaged with the University.

C.1.1 Extent of Reliance on Adjunct, Limited-term, and Sessional Faculty in Delivering the Revised Program

Describe the area's expected reliance on, and the role of adjunct, limited-term, and sessional faculty in delivering the new course.

The course will likely be offered by a qualified sessional faculty with community engagement experience.

C.2 Resource Implications for Other Campus Units (Ministry sections 3 and 4)

Describe the reliance of the proposed new course on existing resources from other campus units, including for example:

- *faculty teaching,*
- *equipment or facilities outside the proposer's control,*
- *external resources requiring maintenance or upgrading using external resources*

Provide relevant details.

N/A

C.3 Anticipated New Resources (QAF sections 2.1.7, 2.1.8 and 2.1.9; Ministry section 4)

*List all **anticipated new resources** originating from within the area, department or faculty (external grants, donations, government grants, etc.) and committed to supporting the new course.*

United Way Windsor-Essex, as the backbone to ProsperUs, is committed to providing resources to supplement this course. Aside from support and mentorship from United Way Windsor-Essex staff that will be provided to students,

United Way may also offer expense assistance to students who participate in the program, particularly in the form of gas cards for travel to placement locations. ProsperUs may also be able to offer honorariums to student participants.

C.4 Planned Reallocation of Resources and Cost-Savings (QAF section 2.1.7 and 2.1.9; Ministry section 4)

Describe all opportunities for internal reallocation of resources and cost savings identified and pursued by the area/department in support of the new course. (e.g., streamlining existing programs and courses, deleting courses, etc.).

N/A

C.5 Additional Resources Required – Resources Requested (QAF section 2.1.7 and 2.1.9)

*Describe all **additional faculty, staff and GA/TA resources** (in all affected areas and departments) required to offer the new course. If not applicable, write n/a.*

Faculty:	1 sessional faculty with community engagement experience
Staff:	N/A
GA/TAs:	N/A

C.6.1 Additional Institutional Resources and Services Required by all Affected Areas or Departments

*Describe all **additional institutional resources and services** required by all affected areas or departments to offer the new course, including library, teaching and learning support services, student support services, space and facilities, and equipment and its maintenance.*

If not applicable, write n/a.

Library Resources and Services:	N/A
Teaching and Learning Support:	N/A
Student Support Services:	N/A
Space and Facilities:	N/A
Equipment (and Maintenance):	N/A

D.1 Form History *(Leave blank if there have been no changes. Changes can also be noted directly in the Workflow)*

Date of Modification	Approval Body Modifying	Reason for Modification

University of Windsor
Program Development Committee

*5.3: **Nursing (Graduate) – New Course Proposals (Form D)**

Item for: **Approval**

MOTION: That the following courses be approved:^
NURS-8805. Principles of Leadership and Healthcare in Disaster and Emergency Preparedness

^Subject to approval of the expenditures required.

Rationale/Approvals:

- The courses has been approved by the Faculty of Nursing Council and the Faculty of Graduate Studies Council (September 21, 2021).

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

TITLE OF PROGRAM(S)/CERTIFICATE(S):	**Master of Nursing (MN); Master of Science in Nursing (MScN); Doctor of Philosophy in Nursing (PhD)**
DEPARTMENT(S)/SCHOOL(S):	**N/A**
FACULTY(IES):	**Faculty of Nursing**

Proposed change(s) effective as of* [Fall, Winter, Spring]: **(subject to timely and clear submission)*	Fall 2021

A. NEW COURSE PROFILE

Course # and Title: NURS-8805. Principles of Leadership and Healthcare in Disaster and Emergency Preparedness

A.1 Calendar Description

Calendar descriptions should be written in the third person and should provide a general outline of the course material. Where appropriate, examples of topics or themes, which might be covered in the course, should also be provided.

This course teaches nurses the principles required to prevent/mitigate disasters and emergencies as well as the principles required to prepare for, facilitate, and coordinate prompt and effective management and recovery for a wide variety of major emergency and disaster situations within local, national, and global contexts. Four key emergency management components are addressed: prevention and mitigation, preparedness, response and recovery. An all hazards approach is emphasized, including natural and human-induced disasters such as hurricanes, explosions, disease outbreaks and terrorism. Disaster public health, chemical/biological/chemical/nuclear and radiological threats, and leadership during crisis will be addressed. The importance of empowering communities through prevention/education and fostering community resilience will be identified. Topics that will be covered include the principles guiding emergency management, disaster life cycle, legal and ethical issues, crisis communications, disaster research, mass gatherings, complex humanitarian emergencies, care of the vulnerable populations, and the clinical nuances of disaster nursing. A number of historical disasters will be discussed to highlight these topics. Although developed for nurses, the content is also relevant for individuals in other health related disciplines who may be involved in the emergency management of public health emergencies.

A.2 Other Course Information

Please complete the following tables.

Credit weight	**Total contact hours**	**Delivery format**				**Breakdown of contact hours/week**			
		In-class	**e-learning**	**Distance**	**Other flexible learning delivery** *[please specify]*	**Lecture**	**Lab/ Tutorial**	**Online**	**Co-op/ practicum/ experiential learning**
3	36			×				x	

Pre-requisites	**Co-requisites**	**Anti-requisites**	**Cross-listed with:**	**Required course?**	**Replacing old course*** ** *[provide old course number]*
N/A	N/A	N/A	N/A	×	N/A

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

******Replacing Old Course: this does not mean that the former course will be deleted from the calendar. If it is to be deleted, a Form E must be completed.***

Will students be able to obtain credit for the new course and the course(s) that it is replacing?	N/A

This course is an option course that adds to the number and variety of option courses that may be offered to Faculty of Nursing graduate students. It does not replace any former course. Any student registered in Faculty of Nursing graduate programs may obtain credit for this proposed new option course. However only the MN and PhD program structures require successful completion of option courses (see B.1)

B. RATIONALE

B.1 Course Goal(s)

Please provide a statement about the purpose of the course within the program of study or as an option.

This course will provide an option course for any student registered in the Faculty of Nursing graduate programs. Specifically, the MN program structure requires successful completion of four option courses and the PhD program structure requires successful completion of one option course. Historically, the number of option courses available to Faculty of Nursing graduate students has been limited. Sometimes students have needed to take a LOA because no option courses have been available.

B.2 Indigenous (First Nations, Métis, or Inuit) Content, Perspectives, or Material

The University of Windsor is committed to building and sustaining stronger, more meaningful inclusive partnerships with Indigenous students, scholars, and communities. Indigenization of curriculum takes place in a larger context, including a requirement to respond to the four Calls to Action in education of the Truth and Reconciliation Report (2015) (page 1), the unique legal requirements of the Constitution Act 1982 (Sections 25, 35), the provincial legal requirements of the Ontario Human Rights Code, 1990, and provincial legislation Bill Pr36 (1967).

*In developing this new course, **how** has consideration been given to incorporating Indigenous (First Nations, Métis, or Inuit) content, perspectives, or material into the curriculum?*

Please consider these prompt questions and additional Resources including disciplinary examples:

- *What **process** has your department/Faculty used to consider Indigenization?*
- ***How** have you considered the importance or relevance to the course/program?*
- *How has your department or faculty approached raising awareness for Indigenous knowledges in your area?*
- *What do the TRC and University Principles documents suggest relevant to your course?*
- *What have other similar courses/programs done that might be relevant to your course/program?*
- *In what ways could your course/program have flexibility to include new ways of learning, or content for Indigenous approaches or knowledges?*
- *What is your awareness of the history or background to approaches you are considering, such as the land acknowledgement? How have you developed your awareness?*
- *Which literatures, sources, or Indigenous Knowledge Holders have you consulted? (Please confirm you have permission to share any names, it may be helpful to have the person confirm the text if you will be submitting their name)*
- *Are you engaging in critical analysis of Settler Colonialism and/or Decolonization?*
- *Have you included the information in the other relevant areas in the PDC form (such as learning outcomes) or in the course syllabus where appropriate?*

The Faculty of Nursing is committed to the University of Windsor's goal of building and sustaining stronger, more meaningful inclusive partnerships with Indigenous students, scholars, and communities. To this end, many of our faculty have attended workshops provided by CTL to support efforts to indigenize our curriculum. To ensure that all

faculty have at least a beginning understanding of how to indigenize our curriculum, we will invite one or more UWindsor Indigenous Scholars to provide present at our Faculty Council this fall and winter. Effective January 2022, statements of land acknowledgement and a commitment to equity, diversity of inclusion will become part of our standard syllabus template. We are also revising our Tenure and Promotion criteria to better acknowledge Indigenous forms of scholarship and research.

B.3 LEARNING OUTCOMES (QAF section 2.1.1, 2.1.3, and 2.1.6)

Please complete the following table. State the specific learning outcomes that make up the goal of the course (what will students know and be able to do at the end of this course?) and link the learning outcomes to the Characteristics of a University of Windsor Graduate outlined in "To Greater Heights" by listing them in the appropriate rows. Please note that a learning outcome may link to more than one of the specified Characteristics of a University of Windsor Graduate, and that a single course might not touch on each of the Characteristics. ***If a specific learning outcome is not applicable for the course, please enter N/A or not applicable.*** *Information on learning outcomes is appended to this form (Appendix A). Proposers are also strongly encouraged to contact the Centre for Teaching and Learning for assistance with the articulation of learning outcomes.*

Course Learning Outcomes *This is a sentence completion exercise.* At the end of this course, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** A U of Windsor graduate will have the ability to demonstrate:
A. Explain and apply key components and principles guiding emergency management, the disaster life cycle, disaster action planning, and the human response to major emergency situations within Canadian and global contexts. (also relevant to F, D) Explore the role of public health across emergencies/ disaster and in the population from cradle to grave. (also relevant to F, D)	B. the acquisition, application and integration of knowledge
B. Critically and constructively analyze and prioritize availability and allocation of resources, and coordination of activities within a health care organization developed to prevent/mitigate, prepare for, respond to, and recover from major emergencies/disasters. (also relevant to D, F, G)	B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy)
C. Critically appraise factors that influence health personnel's readiness to respond, health facility surge capacity, and personal safety and security in major emergency/disaster situations. (also relevant to B, D, F, G)	C. critical thinking and problem-solving skills
D.	D. literacy and numeracy skills
E. Examine key ethical, cultural and legal issues associated with emergencies and disasters including the importance of building capacity for emergency management within communities. (also relevant to D, F)	E. responsible behaviour to self, others and society
F.	F. interpersonal and communications skills

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

Course Learning Outcomes *This is a sentence completion exercise.* At the end of this course, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** A U of Windsor graduate will have the ability to demonstrate:
G. Articulate and justify the role of advance practice nurses as healthcare leaders in emergency management, including managing infectious diseases, and identifying future research questions and methods for advancing nursing emergency management practice orally and in writing (also relevant to E, F, I).	G. teamwork, and personal and group leadership skills
H.	H. creativity and aesthetic appreciation
I.	I. the ability and desire for continuous learning

B.4 Demand for Course

Please provide as much information on projected enrolment as possible.

Projected enrolment levels for the first 5 years of the new course.	Year 1	Year 2	Year 3	Year 4	Year 5
	20	25	25	25	25

B.4.1 Impact of New Course on Enrolment in Existing Courses

What will be the impact of offering the new course on enrolments in existing courses in the program or Department?

No impact of offering the new course on enrolments in existing courses offered in the Faculty of Nursing graduate programs is anticipated. This course will add to the number and variety of option courses available to Faculty of Nursing graduate students through a focus on a highly relevant healthcare responsibility. Further, it will facilitate timely completion of two graduate programs of study because some students have had to take a LOA when option courses have not been available.

B.5 Student Workload

Provide information on the expected workload per week of a student enrolled in this course.
NOTE: Student workload should be consistent with the credit weight assigned to the course.

Average number of hours per week that the student will be expected to devote to:	
3	Lectures
0	Tutorials
0	Labs
0	Practical experience
1	Independent Study
2	Reading for the course
2	Work for assessment (essays, papers, projects, laboratory work)
1	Meeting with others for group work/project assignments
0	Studying for tests/examinations
0	Other: *[specify]* | n/a

How does the student workload for this course compare with other similar courses in the department/program area?	The workload is comparable to other similar courses in the Faculty of Nursing (2-3 hrs per hr of class time plus 3 hrs class time).

C. RESOURCES

C.1 Available Faculty Expertise and Staff Resources (QAF sections 2.1.7, 2.1.8, 2.1.9 and 2.1.10)

Describe all faculty expertise and staff resources (e.g., administrative, teaching, supervision) from all affected areas/departments currently available and actively committed to support the new course. Please do not name specific individuals.

Administrative support from the Graduate Secretary and one GA are resources committed to supporting this course delivery.

C.1.1 Extent of Reliance on Adjunct, Limited-term, and Sessional Faculty in Delivering the Revised Program

Describe the area's expected reliance on, and the role of adjunct, limited-term, and sessional faculty in delivering the new course.

With permission of Faculty of Nursing Dean this course will be offered by an Adjunct Lecturer faculty member who is a military expert is this field. This aligns with the Faculty of Nursing's commitment to enhancing the involvement of adjunct faculty in our programs.

C.2 Resource Implications for Other Campus Units (Ministry sections 3 and 4)

Describe the reliance of the proposed new course on existing resources from other campus units, including for example: faculty teaching, equipment or facilities outside the proposer's control, external resources requiring maintenance or upgrading using external resources. Provide relevant details.

There are no resource implications for other campus units.

C.3 Anticipated New Resources (QAF sections 2.1.7, 2.1.8 and 2.1.9; Ministry section 4)

*List all **anticipated new resources** originating from within the area, department or faculty (external grants, donations, government grants, etc.) and committed to supporting the new course.*

No new resources to support this proposed new course are anticipated.

C.4 Planned Reallocation of Resources and Cost-Savings (QAF section 2.1.7 and 2.1.9; Ministry section 4)

Describe all opportunities for internal reallocation of resources and cost savings identified and pursued by the area/department in support of the new course. (e.g., streamlining existing programs and courses, deleting courses, etc.).

No opportunities for reallocation of resources and cost savings are planned. Having sufficient option courses available will contribute to timely completion of Faculty of Nursing MN and PhD programs.

C.5 Additional Resources Required – Resources Requested (QAF section 2.1.7 and 2.1.9)

*Describe all **additional faculty, staff and GA/TA resources** (in all affected areas and departments) required to offer the new course.*

If not applicable, write n/a.

Faculty:	n/a
Staff:	The Graduate Secretary provides support to all graduate students in the Faculty of Nursing.
GA/TAs:	1

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

C.6.1 Additional Institutional Resources and Services Required by all Affected Areas or Departments

*Describe all **additional institutional resources and services** required by <u>all affected</u> areas or departments to offer the new course, including library, teaching and learning support services, student support services, space and facilities, and equipment and its maintenance. If not applicable, write n/a.*

Library Resources and Services:	n/a
Teaching and Learning Support:	n/a
Student Support Services:	n/a
Space and Facilities:	n/a
Equipment (and Maintenance):	n/a

D.1 Form History *(Leave blank if there have been no changes. Changes can also be noted directly in the Workflow)*

Date of Modification	Approval Body Modifying	Reason for Modification

University of Windsor
Program Development Committee

*5.4: **Faculty of Arts Humanities and Social Sciences/Political Science - New Course Proposal (Form D)**

Item for: **Approval**

MOTION: That the following courses be approved:^
SOSC-3300/POLS-3300. Psychoactive Substance Use and Social Policy

^Subject to approval of the expenditures required.

Rationale/Approvals:
- The course has been approved by the Department of Political Science and the Faculty of Arts Humanities and Social Sciences Coordinating Council.
- *See attached.*

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

TITLE OF PROGRAM(S)/CERTIFICATE(S):	**FAHSS/Political Science**
DEPARTMENT(S)/SCHOOL(S):	**FAHSSPolitical Science**
FACULTY(IES):	**FAHSS**

Proposed change(s) effective as of* [Fall, Winter, Spring]: **(subject to timely and clear submission)*	Winter 2022

A. NEW COURSE PROFILE

Course # and Title: SOSC-3300/POLS-3300. Psychoactive Substance Use and Social Policy

A.1 Calendar Description

Calendar descriptions should be written in the third person and should provide a general outline of the course material. Where appropriate, examples of topics or themes, which might be covered in the course, should also be provided.

This course provides a critical exploration of social factors affecting our understanding of psychoactive substances (e.g., alcohol, tobacco, cannabis, opiates, cocaine, psylocibin, club drugs, etc.), their use, relevant social policy and how these have changed over time. Course delivery may vary according to instructor preference. (Prerequisite: Semester 5 standing or above, or permission of instructor). (Antirequiste: SACR-3710)

A.2 Other Course Information

Please complete the following tables.

Credit weight	**Total contact hours**	**Delivery format**				**Breakdown of contact hours/week**			
		In-class	**e-learning**	**Distance**	**Other flexible learning delivery** *[please specify]*	**Lecture**	**Lab/ Tutorial**	**Online**	**Co-op/ practicum/ experiential learning**
3	36	X	X				1.5 Small group & class discussion.	1.5	

Pre-requisites	**Co-requisites**	**Anti-requisites**	**Cross-listed with:**	**Required course?**	**Replacing old course*** ** *[provide old course number]*
5th semester standing or higher or permission of instructor.	N/A	SACR3710	N/A	No	N/A

******Replacing Old Course: this does not mean that the former course will be deleted from the calendar. If it is to be deleted, a Form E must be completed.***

Will students be able to obtain credit for the new course and the course(s) that it is replacing?	N/A

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

B. RATIONALE

The development of this course is funded by an Ontario Government eCampus grant. This course and pre-requisites are designed to provide a 3rd year course option that will broadly appeal to FAHSS and University of Windsor students more generally. It is included among the course options for the proposed Interdisciplinary Health Sciences Program.

The addition of this course to FAHSS, POLS and the proposed Interdisciplinary Health Sciences (IHS) program came about as a result of a consultation process with Dr. Cheryl Collier (Associate Dean, FAHSS), Dr. John Sutcliffe (Head, Political Science), Dr. Elena Maltseva (Political Science) & the POLS council, and Dr. Chris Houser (Dean, Faculty of Science).

B.1 Course Goal(s)

Please provide a statement about the purpose of the course within the program of study or as an option.

This course will provide a timely and relevant addition to the SOSC and POLS course offerings, dealing with issues tied to marginalization, stigmatization, diversity, healthy policy and practices, and social justice. It is designed to appeal to students from various programs at the university, including: political science, nursing, women and gender studies, psychology, and the proposed Interdisciplinary Health Sciences (IHS) program.

B.2 Indigenous (First Nations, Métis, or Inuit) Content, Perspectives, or Material

The University of Windsor is committed to building and sustaining stronger, more meaningful inclusive partnerships with Indigenous students, scholars, and communities. Indigenization of curriculum takes place in a larger context, including a requirement to respond to the four Calls to Action in education of the Truth and Reconciliation Report (2015) (page 1), the unique legal requirements of the Constitution Act 1982 (Sections 25, 35), the provincial legal requirements of the Ontario Human Rights Code, 1990, and provincial legislation Bill Pr36 (1967).

*In developing this new course, **how** has consideration been given to incorporating Indigenous (First Nations, Métis, or Inuit) content, perspectives, or material into the curriculum?*

Please consider these prompt questions and additional Resources including disciplinary examples:

- *What **process** has your department/Faculty used to consider Indigenization?*
- ***How** have you considered the importance or relevance to the course/program?*
- *How has your department or faculty approached raising awareness for Indigenous knowledges in your area?*
- *What do the TRC and University Principles documents suggest relevant to your course?*
- *What have other similar courses/programs done that might be relevant to your course/program?*
- *In what ways could your course/program have flexibility to include new ways of learning, or content for Indigenous approaches or knowledges?*
- *What is your awareness of the history or background to approaches you are considering, such as the land acknowledgement? How have you developed your awareness?*
- *Which literatures, sources, or Indigenous Knowledge Holders have you consulted? (Please confirm you have permission to share any names, it may be helpful to have the person confirm the text if you will be submitting their name)*
- *Are you engaging in critical analysis of Settler Colonialism and/or Decolonization?*
- *Have you included the information in the other relevant areas in the PDC form (such as learning outcomes) or in the course syllabus where appropriate?*

Based on a resource search for the course, where appropriate, community-based materials, commission reports, and academic work, relevant to Indigenous people will be incorporated in the assigned course materials. For example, Indigenous cultural views and practices surround certain psychoactive substances (i.e., tobacco) will be explored. In

addition, the role of systemic factors (e.g., colonization and the resulting poverty; the residential school system; generational trauma; cultural dislocation inflicted on Indigenous peoples) in Indigenous substance use problems and the over criminalization of Indigenous people for substance-related crimes will be explored in this context (see below for examples).

We have consulted with the Project Coordinator – Indigenous Curriculum and Pedagogy Initiatives, in the Centre for Teaching and Learning and will be working with her in the future to bring Indigenous voices and experiences into the classroom.

Examples of resources found through researching course resources:

Honouring Our Strengths: A Renewed Framework to Address Substance Use Issues Among First Nations People in Canada. 2011. The Assembly of First Nations (AFN), National Native Addictions Partnership Foundation (NNAPF), and Health Canada. http://nnadaprenewal.ca/

Indigenous Harm Reduction Principles and Practices: Fact Sheet. November 25, 2017. West Vancouver BC: First National Health Authority. https://www.fnha.ca/WellnessSite/WellnessDocuments/FNHA-Indigenous-Harm-Reduction-Principles-and-Practices-Fact-Sheet.pdf

Johnson, M. May 2, 2021. Meet the People Putting Indigenous Culture at the Heart of Addictions Treatment. *CBC.ca*. https://www.cbc.ca/news/canada/british-columbia/reconnecting-saves-lives-1.6010361

Livalley, J. et al. 2018. Reconciliation and Canada's Overdoes Crisis: Responding to the Needs of Indigenous Peoples. *CMAJ*, 190(59), EI466-467. https://www.cmaj.ca/content/190/50/E1466

Maina, G. et al. 2020. A Scoping Review of School-Based Indigenous Substance Use Prevention in Preteens (7-13 years). *Substance Abuse Treatment, Prevention, and Policy*, 15:74, 1-15. https://substanceabusepolicy.biomedcentral.com/track/pdf/10.1186/s13011-020-00314-1.pdf

Russell, C. et al. 2016. Prescription Opioid Prescribing, Use/Misuses, Harms, and Treatment Among Aboriginal People in Canada: A Narrative Review of Available Data and Indicators. *Rural & Remote Health*, 16(4). https://www.rrh.org.au/journal/article/3974

Understanding the Overrepresentation of Indigenous Individuals in the Criminal Justice System. N.D. Ottawa ON: Department of Justice, Government of Canada. https://www.justice.gc.ca/socjs-esjp/en/ind-aut/uo-cs

B.3 LEARNING OUTCOMES (QAF section 2.1.1, 2.1.3, and 2.1.6)

Please complete the following table. State the specific learning outcomes that make up the goal of the course (what will students know and be able to do at the end of this course?) and link the learning outcomes to the Characteristics of a University of Windsor Graduate outlined in "To Greater Heights" by listing them in the appropriate rows. Please note that a learning outcome may link to more than one of the specified Characteristics of a University of Windsor Graduate, and that a single course might not touch on each of the Characteristics. ***If a specific learning outcome is not applicable for the course, please enter N/A or not applicable.*** *Information on learning outcomes is appended to this form (Appendix A). Proposers are also strongly encouraged to contact the Centre for Teaching and Learning for assistance with the articulation of learning outcomes.*

Course Learning Outcomes *This is a sentence completion exercise.* At the end of this course, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** A U of Windsor graduate will have the ability to demonstrate:
A. Identify and describe key concepts and theory relevant to historical and contemporary orientations of policies pertaining to psychoactive substances and their use, including harm-reduction and healthy public policy.	A. the acquisition, application and integration of knowledge
B. Identify the importance of material from video, oral and written resources assigned in class and of consulting alternative resources for further understanding of material pertinent to an exploration	B. research skills, including the ability to define problems and access, retrieve and

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

Course Learning Outcomes *This is a sentence completion exercise.* At the end of this course, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** A U of Windsor graduate will have the ability to demonstrate:
and understanding of psychoactive substances, their use, and relevant social policy.	evaluate information (information literacy)
C. Connect and apply key concepts/theories/methods to an explorations of psychoactive substances, their use and relevant social policy.	C. critical thinking and problem-solving skills
D. Construct and articulate arguments clearly and concisely (also relevant to F). Organize and present evidence coherently (also relevant to F). Read, evaluate and synthesize ideas and research by scholars in the area of psychoactive substances, their use and relevant social policy (also relevant to B and C). Express ideas clearly and persuasively in writing (also relevant to F).	D. literacy and numeracy skills
E.	E. responsible behaviour to self, others and society
F.	F. interpersonal and communications skills
G. Discuss topics pertaining to psychoactive substances, their use and relevant social policy, including harm-reduction and healthy public policy.	G. teamwork, and personal and group leadership skills
H.	H. creativity and aesthetic appreciation
I.	I. the ability and desire for continuous learning

B.4 Demand for Course

Please provide as much information on projected enrolment as possible.

Projected enrolment levels for the first 5 years of the new course.	Year 1	Year 2	Year 3	Year 4	Year 5
	40-50	40-50	50	50	50

B.4.1 Impact of New Course on Enrolment in Existing Courses

What will be the impact of offering the new course on enrolments in existing courses in the program or Department?

It will provide FAHSS and non-FAHSS students, including those in the proposed Interdisciplinary Health Sciences program (IHS), with an additional course option.

B.5 Student Workload

Provide information on the expected workload per week of a student enrolled in this course.
NOTE: Student workload should be consistent with the credit weight assigned to the course.

Average number of hours per week that the student will be expected to devote to:

1	Lectures
	Tutorials
	Labs
	Practical experience
1	Independent Study
2	Reading for the course
2	Work for assessment (essays, papers, projects, laboratory work)
1	Meeting with others for group work/project assignments
1	Studying for tests/examinations
	Other: *[specify]*

How does the student workload for this course compare with other similar courses in the department/program area?	This is similar to other 3000-level seminar courses I have taught.

C. RESOURCES

C.1 Available Faculty and Staff Resources (QAF sections 2.1.7, 2.1.8, 2.1.9 and 2.1.10)

Describe, in general terms, all faculty and staff resources (e.g., administrative, teaching, supervision) from all affected areas/departments currently available and actively committed to support the new course). Please do not name specific individuals.

One FAHSS faculty member.

C.1.1 Faculty Expertise in Support of the Revised Program

Provide an assessment of faculty expertise available and committed to actively support the new course. Please do not name specific individuals.

At least one faculty member has expertise to teach this course based on their knowledge, research and experience in this area.

C.1.2 Extent of Reliance on Adjunct, Limited-term, and Sessional Faculty in Delivering the Revised Program

Describe the area's expected reliance on, and the role of adjunct, limited-term, and sessional faculty in delivering the new course.

A tenured FAHSS professor committed to developing and teaching in this course.

C.2 Resource Implications for Other Campus Units (Ministry sections 3 and 4)

Describe the reliance of the proposed new course on existing resources from other campus units, including for example: faculty teaching, equipment or facilities outside the proposer's control, external resources requiring maintenance or upgrading using external resources. Provide relevant details.

N/A

C.3 Anticipated New Resources (QAF sections 2.1.7, 2.1.8 and 2.1.9; Ministry section 4)

*List all **anticipated new resources** originating from within the area, department or faculty (external grants, donations, government grants, etc.) and committed to supporting the new course.*

N/A

C.4 Planned Reallocation of Resources and Cost-Savings (QAF section 2.1.7 and 2.1.9; Ministry section 4)

Describe all opportunities for internal reallocation of resources and cost savings identified and pursued by the area/department in support of the new course. (e.g., streamlining existing programs and courses, deleting courses, etc.).

This course will add a 3rd year course to the SOSC and POLS offerings. As it will be listed as an option for the proposed Interdisciplinary Health Sciences program, it may result in more non-FAHSS students in the class.

PROGRAM DEVELOPMENT COMMITTEE
NEW COURSE PROPOSALS
FORM D

C.5 Additional Resources Required – Resources Requested (QAF section 2.1.7 and 2.1.9)

*Describe all **additional faculty, staff and GA/TA resources** (in all affected areas and departments) required to offer the new course.*

Faculty:	N/A
Staff:	N/A
GA/TAs:	1 GA/TA will be needed for this course.

C.6.1 Additional Institutional Resources and Services Required by all Affected Areas or Departments

*Describe all **additional institutional resources and services** required by all affected areas or departments to offer the new course, including library, teaching and learning support services, student support services, space and facilities, and equipment and its maintenance.*

Library Resources and Services:	N/A
Teaching and Learning Support:	N/A
Student Support Services:	N/A
Space and Facilities:	N/A
Equipment (and Maintenance):	N/A

D.1 Form History *(Leave blank if there have been no changes. Changes can also be noted directly in the Workflow)*

Date of Modification	Approval Body Modifying	Reason for Modification

University of Windsor
Program Development Committee

*5.5 **Chemistry and Biochemistry - Summary of Minor Course and Calendar Changes (Form E)**

Item for: **Information**

Forwarded by: **Faculty of Science**

Form History *(Leave blank if there have been no changes. Changes can also be noted directly in the Workflow)*

Date of Modification	Approval Body Modifying	Reason for Modification

INSTRUCTIONS ARE PROVIDED IN SHADED AREAS. DO NOT WRITE IN SHADED AREAS.

ALL SECTIONS OF THIS FORM ***MUST*** BE COMPLETED. **LEARNING OUTCOMES MUST BE PROVIDED FOR LISTED COURSES WHERE**:

I. THERE ARE **NO OFFICIAL LEARNING OUTCOMES FOR THE COURSE** IN THE PDC/SENATE RECORD (check the CuMA database at https://ctl2.uwindsor.ca/cuma/public/)

OR

II. THERE ARE **CHANGES TO THE COURSE LEARNING OUTCOMES**

OR

III. IT HAS **BEEN 5 YEARS SINCE LEARNING OUTCOMES FOR THE COURSE WERE LAST** SUBMITTED TO PDC/SENATE (check the CuMA database for the date of last submission at https://ctl2.uwindsor.ca/cuma/public/)

Confirmation of Consultation with AAUs That Will Be Affected, in Major Ways, by the Changes

AAU Consulted	AAU Head/Directors	Date Consulted	Supportive	
			Yes	No
Chemistry and Biochemistry	James Gauld	April 16, 2021	X	

Please specify to which calendar *[Undergraduate or Graduate]* **the changes will be made. Include the effective date*** *[Fall, Winter, Spring, 20XX]***.** **(subject to timely and clear submission)* **These changes require no new resources.**	Undergraduate Winter 2022

A. Proposed Course Calendar Revisions

Please provide the current and the proposed new course information by cutting and pasting from the current undergraduate or graduate online calendar (www.uwindsor.ca/secretariat/calendars) and clearly marking deletions with strikethrough (~~strikethrough~~) and additions/new information with bolding and underlining. For contact hour/laboratory requirement changes which do not always appear in the calendar, please type in the current information and clearly mark deletions with strikethrough (~~strikethrough~~) and additions/new information with bolding and underlining.

Example: **CHEM-1001. University Senates ~~– Role and Power~~** This course explores the history, role, and power of Senates in Canadian universities. ~~(Also offered as BIOC-1001.)~~ (Prerequisite: CHEM-1000.) ~~2 lecture hours and 1 tutorial hour per week~~ **3 lecture hours/week**

PROGRAM DEVELOPMENT COMMITTEE
SUMMARY OF MINOR COURSE AND CALENDAR CHANGES
FORM E

~~SCIE~~ BIOC-4580. ~~Thinking Outside the Cage~~ The Human Subject: ~~Non-~~Animal-Free Methods in Biomedical Research and Toxicology

The future of biomedical ~~sciences lies in~~ research and chemical safety testing is human-centred ~~models~~. In line with emerging global trends, this course exposes students to key concepts and methodologies in alternatives to animal testing. From genomics to whole body physiology and systems biology to personalized medicine and computational toxicology, the course offers a comprehensive overview of human biology-based in vitro platforms for disease modeling and toxicology. Content will be complemented by case studies in biomedical research and chemical safety testing from academic, industry, and government experts. **(Prerequisites: One of BIOC-2010 or BIOC-2015 or permission of the instructor.)** ~~(Prerequisites: BIOL 2040 and BIOL 2131~~). (3 lecture hours per week).

Rationale for the Change: *This course is currently listed as a Science course (SCIE-4580). However, the course content is far more relevant, applicable, and congruent with undergraduate and graduate programs offered by the Department of Chemistry and Biochemistry (as opposed to general Science). In fact, this course was offered as a Special Topics course (BIOC-8208) for students enrolled in the Master of Medical Biotechnology program in Winter 2021 (will be offered again in Fall 2021). Therefore, it would be best to offer the undergraduate version through Chem/Biochem Department as well. We are concurrently processing PDC paperwork to create a new graduate course (BIOC-8580) to be cross-listed with this new name.*

A.1 Indigenous (First Nations, Métis, or Inuit) Content, Perspectives, or Material

The University of Windsor is committed to building stronger, more meaningful partnerships with Indigenous students, scholars and communities. In revising this/these course(s), how has consideration been given to incorporating Indigenous (First Nations, Métis, or Inuit) content, perspectives, or material into the curriculum?

Indigenous Perspectives are already included in the curriculum (not affected by minor changes proposed herein). This course will address Indigenous perspectives in terms of science and ethics. It will address the fact that Indigenous populations are often at a much higher risk of developing disease compared to other populations in Canada, underscoring the need—and the means—to utilize human biology-based methodologies to understand disease mechanisms and to develop therapeutics. The 'ethics and welfare' module in this course will incorporate Indigenous perspectives on animal welfare—how animals are imbued with great spiritual significance in Indigenous cultures, and 'respect for all life' that we so proudly display on the Turtle Island Walk on UWindsor campus ("To know your shared place within creation" and "To honour all of creation"). These Indigenous perspectives on animals and 'respect for all life' in general are congruent with bioethics principles for human subjects in research and the 3Rs principle for animals in research (to Reduce, Refine, and Replace the use of animals whenever possible).

A.2 Experiential Learning Categories

Does the proposed course revision include the addition or deletion of an experiential learning component?
For definitions go to: https://www.uwindsor.ca/cces/1423/experiential-learning-definitions

☒ **No** - the revision(s) does (do) not include the addition or deletion of experiential learning component(s).

☐ **Yes** - the revision(s) include(s) the addition or deletion of experiential learning component(s). Check all that apply:

Experiential Learning Categories	Addition	Deletion
applied research	☐	☐
capstone	☐	☐
clinic	☐	☐
co-op	☐	☐
community service learning	☐	☐
creative performance or exhibit (*for visual and performing arts*)	☐	☐

entrepreneurship	☐	☐
field experience or site visit	☐	☐
field work	☐	☐
industry/community consulting project	☐	☐
interactive simulations	☐	☐
internship – full-time	☐	☐
internship – part-time	☐	☐
professional practicum	☐	☐
research project	☐	☐
study abroad	☐	☐
labs	☐	☐

B. Learning Outcomes for the Courses Listed Above

Please complete the following table. State the specific learning outcomes that make up the goal of the course (what will students know and be able to do at the end of this course?) and link the learning outcomes to the Characteristics of a University of Windsor Graduate outlined in "To Greater Heights" by listing them in the appropriate rows. Please note that a learning outcome may link to more than one of the specified Characteristics of a University of Windsor Graduate, and that a single course might not touch on each of the Characteristics. ***If a specific learning outcome is not applicable for the course, please enter N/A or not applicable.*** *Proposers are strongly encouraged to contact the Centre for Teaching and Learning for assistance with the articulation of learning outcomes.* ***Where there are changes to the learning outcomes, please clearly mark deletions with strikethrough (~~strikethrough~~) and additions/new information with bolding and underlining.*** **COPY AND PASTE THE FOLLOWING ROW and TABLE, AND COMPLETE THEM FOR EACH COURSE LISTED ABOVE.**

COMPLETE THIS TABLE FOR EACH COURSE LISTED IN SECTION "A" ABOVE.	
COURSE NUMBER AND TITLE:	**BIOC-4580. The Human Subject: Animal-Free Methods in Biomedical Research and Toxicology** *(Note: These are revised learning outcomes. They were last updated May 10, 2019)*
SELECT ONE OF THE FOLLOWING:	
I. There are no official learning outcomes for the course in the PDC/Senate record. (check the CuMA database at https://ctl2.uwindsor.ca/cuma/public/)	____ Provide learning outcomes for the course by completing the Learning Outcomes Table below.
II. There are changes to the course learning outcomes	**__X__** Provide learning outcomes for the course by completing the Learning Outcomes Table below.
III. It has been 5 years since learning outcomes for the course were last submitted to PDC/Senate. (check the CuMA database for the date of last submission at https://ctl2.uwindsor.ca/cuma/public/)	____ Provide learning outcomes for the course by completing the Learning Outcomes Table below.
IV. Learning Outcomes have been reviewed in the past 5 years and no revisions are being proposed.	____ Learning outcomes need not be submitted. PROVIDE DATE LAST REVIEWED BY PDC/SENATE then go to the next course: **_May 10, 2019** (check CUMA database at: https://ctl2.uwindsor.ca/cuma/public/)

PROGRAM DEVELOPMENT COMMITTEE
SUMMARY OF MINOR COURSE AND CALENDAR CHANGES
FORM E

BIOC-4580. The Human Subject: Animal-Free Methods in Biomedical Research and Toxicology

Course Learning Outcomes *This is a sentence completion exercise.* At the end of the course, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** A U of Windsor graduate will have the ability to demonstrate:
A. describe major concepts and elements of human-based methods (in vivo, ex-vivo, in vitro, in chemico, and in silico methods) and how they are used in disease research and drug/chemical safety testing;	A. the acquisition, application and integration of knowledge
B. define problems with animal testing and retrieve and apply human-based research concepts/methods in different contexts (disease modelling, drug testing, and chemical safety assessment);	B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy)
C. critically evaluate the scientific literature to understand intrinsic limitations of animal models and describe how to apply novel human biology-based techniques to overcome those limitations;	C. critical thinking and problem-solving skills
D.	D. literacy and numeracy skills
E. explain the ethical responsibility associated with biomedical research and chemical safety testing—respect for animal sentience and welfare as well as laws, regulations, and bioethics governing animal and human research;	E. responsible behaviour to self, others and society
F. use concepts learned in class to communicate with their peers about scientific progress and social issues of animal and human-based research;	F. interpersonal and communications skills
G. conduct group work to apply concepts/methods learned to design time-relevant research projects to incorporate animal-free methods;	G. teamwork, and personal and group leadership skills
H.	H. creativity and aesthetic appreciation
I. identify how knowledge regarding human-centred methods in biomedical research may influence future educational, career, and personal choices.	I. the ability and desire for continuous learning

University of Windsor
Program Development Committee

*5.6: **Dramatic Art - Summary of Minor Course and Calendar Changes (Form E)**

Item for: **Information**

Forwarded by: **Faculty of Arts, Humanities and Social Sciences**

Form History *(Leave blank if there have been no changes. Changes can also be noted directly in the Workflow)*

Date of Modification	Approval Body Modifying	Reason for Modification

INSTRUCTIONS ARE PROVIDED IN SHADED AREAS. DO NOT WRITE IN SHADED AREAS.

ALL SECTIONS OF THIS FORM ***MUST*** BE COMPLETED. **LEARNING OUTCOMES MUST BE PROVIDED FOR LISTED COURSES WHERE**:

I. THERE ARE **NO OFFICIAL LEARNING OUTCOMES FOR THE COURSE** IN THE PDC/SENATE RECORD (check the CuMA database at https://ctl2.uwindsor.ca/cuma/public/)

OR

II. THERE ARE **CHANGES TO THE COURSE LEARNING OUTCOMES**

OR

III. IT HAS **BEEN 5 YEARS SINCE LEARNING OUTCOMES FOR THE COURSE WERE LAST** SUBMITTED TO PDC/SENATE (check the CuMA database for the date of last submission at https://ctl2.uwindsor.ca/cuma/public/)

Confirmation of Consultation with AAUs That Will Be Affected, in Major Ways, by the Changes

AAU Consulted	AAU Head/Directors	Date Consulted	Supportive	
			Yes	No
Dramatic Art	Tina Pugliese	June 4, 2021	√	

Please specify to which calendar *[Undergraduate or Graduate]* **the changes will be made. Include the effective date*** *[Fall, Winter, Spring, 20XX]***.** **(subject to timely and clear submission)***These changes require no new resources.**	*Undergraduate Winter 2022*

A. Proposed Course Calendar Revisions

Please provide the current and the proposed new course information by cutting and pasting from the current undergraduate or graduate online calendar (www.uwindsor.ca/secretariat/calendars) and clearly marking deletions with strikethrough (~~strikethrough~~) and additions/new information with bolding and underlining.
For contact hour/laboratory requirement changes which do not always appear in the calendar, please type in the current information and clearly mark deletions with strikethrough (~~strikethrough~~) and additions/new information with bolding and underlining. Example: **CHEM-1001. University Senates ~~– Role and Power~~** This course explores the history, role, and power of Senates in Canadian universities. ~~(Also offered as BIOC-1001.)~~ (Prerequisite: CHEM-1000.) ~~2 lecture hours and 1 tutorial hour per week~~ **3 lecture hours/week**

DRAM-1000. Introduction to Theatre and Performance Studies I
Introduction to the Process of Theatre and Performance Studies. **Several** ~~Two~~ of the following topics will be covered: ~~the analysis of the play script~~ **play and performance analysis**; ~~the mechanics of performance~~ **genre and style**; ~~the principles of direction; the theories of design/technical theatre, and~~ alternative articulations of performance; **theories and process of production design; a survey of technical practices; and communication and collaboration**. Introduction to Theatre and Performance Studies is a two-part sequence, required for majors in all School of

Dramatic Art programs. A laboratory assignment supporting the production schedule of University Players is required for DRAM-1000 This course must be successfully completed in the first year of the program. (Laboratory hours by arrangement). **(Open to non-majors).**

DRAM-2000. Introduction to Theatre and Performance Studies II
Continuation of DRAM-1000. ~~Two~~ **Several of the following** topics not covered in DRAM-1000 will be covered in DRAM-2000: **play and performance analysis**; **genre and style**; **alternative articulations of performance; theories and process of production design; a survey of technical practices; and communication and collaboration**. Introduction to Theatre and Performance Studies is a two-part sequence, required for majors in all School of Dramatic Art programs. A laboratory assignment supporting the production schedule of University Players is required for DRAM-2000. This course must be successfully completed in the first year of the program. (Laboratory hours by arrangement). **(Open to non-majors)**

A.1 Indigenous (First Nations, Métis, or Inuit) Content, Perspectives, or Material

The University of Windsor is committed to building and sustaining stronger, more meaningful inclusive partnerships with Indigenous students, scholars, and communities. Indigenization of curriculum takes place in a larger context, including a requirement to respond to the four Calls to Action in education of the Truth and Reconciliation Report (2015) (page 1), the unique legal requirements of the Constitution Act 1982 (Sections 25, 35), the provincial legal requirements of the Ontario Human Rights Code, 1990, and provincial legislation Bill Pr36 (1967). In In revising this/these course(s), ***how*** *has consideration been given to incorporating Indigenous (First Nations, Métis, or Inuit) content, perspectives, or material into the curriculum?*

Please consider these prompt questions and additional Resources including disciplinary examples:

- *What* ***process*** *has your department/Faculty used to consider Indigenization?*
- ***How*** *have you considered the importance or relevance to the course/program?*
- *How has your department or faculty approached raising awareness for Indigenous knowledges in your area?*
- *What do the TRC and University Principles documents suggest relevant to your course?*
- *What have other similar courses/programs done that might be relevant to your course/program?*
- *In what ways could your course/program have flexibility to include new ways of learning, or content for Indigenous approaches or knowledges?*
- *What is your awareness of the history or background to approaches you are considering, such as the land acknowledgement? How have you developed your awareness?*
- *Which literatures, sources, or Indigenous Knowledge Holders have you consulted? (Please confirm you have permission to share any names, it may be helpful to have the person confirm the text if you will be submitting their name)*
- *Are you engaging in critical analysis of Settler Colonialism and/or Decolonization?*
- *Have you included the information in the other relevant areas in the PDC form (such as learning outcomes) or in the course syllabus where appropriate?*

Students in the School of Dramatic Art are exposed to the contributions of Indigenous performers, directors, designers, playwrights, authors, scholars, and theatre companies through various courses in the curriculum. Course content also includes discussion of cultural appropriation vs. cultural appreciation. In addition, students in studio-based courses are encouraged to investigate Indigenous artists and scholars for class assignments. Finally, students are provided a link to the Playwrights Canada Press (PCP) website (https://www.playwrightscanadapress.comSubjects) under the Resources section of the School's website and on course outlines the PCP website contains a dedicated link listing the plays of First Nations and Métis playwrights. Many of these titles are available on the Drama Online website free of charge (http://led.uwindsor.ca/drama) or in print or e-book versions through the Leddy Library:

PROGRAM DEVELOPMENT COMMITTEE
SUMMARY OF MINOR COURSE AND CALENDAR CHANGES
FORM E

https://uwindsor.primo.exlibrisgroup.com/permalink/01UTON_UW/74r0r0/alma99882920702181. New plays are added to this resource on an annual basis.

B. Learning Outcomes for the Courses Listed Above

Please complete the following table. State the specific learning outcomes that make up the goal of the course (what will students know and be able to do at the end of this course?) and link the learning outcomes to the Characteristics of a University of Windsor Graduate outlined in "To Greater Heights" by listing them in the appropriate rows. Please note that a learning outcome may link to more than one of the specified Characteristics of a University of Windsor Graduate, and that a single course might not touch on each of the Characteristics. ***If a specific learning outcome is not applicable for the course, please enter N/A or not applicable.*** *Proposers are strongly encouraged to contact the Centre for Teaching and Learning for assistance with the articulation of learning outcomes.* ***Where there are changes to the learning outcomes, please clearly mark deletions with strikethrough (~~strikethrough~~) and additions/new information with bolding and underlining.*** **COPY AND PASTE THE FOLLOWING ROW and TABLE, AND COMPLETE THEM FOR EACH COURSE LISTED ABOVE.**

COMPLETE THIS TABLE FOR EACH COURSE LISTED IN SECTION "A" ABOVE.	
COURSE NUMBER AND TITLE:	**DRAM-1000 Introduction to Theatre and Performance Studies I** **DRAM-2000 Introduction to Theatre and Performance Studies II** *(Note: Learning outcomes were last revised December 14, 2018. No changes are being made to the learning outcomes.)*
SELECT ONE OF THE FOLLOWING:	
I. There are no official learning outcomes for the course in the PDC/Senate record. (check the CuMA database at https://ctl2.uwindsor.ca/cuma/public/)	____ Provide learning outcomes for the course by completing the Learning Outcomes Table below.
II. There are changes to the course learning outcomes	____ Provide learning outcomes for the course by completing the Learning Outcomes Table below.
III. It has been 5 years since learning outcomes for the course were last submitted to PDC/Senate. (check the CuMA database for the date of last submission at https://ctl2.uwindsor.ca/cuma/public/)	____ Provide learning outcomes for the course by completing the Learning Outcomes Table below.
IV. Learning Outcomes have been reviewed in the past 5 years and no revisions are being proposed.	__√__ Learning outcomes need not be submitted. PROVIDE DATE LAST REVIEWED BY PDC/SENATE then go to the next course: **December 14, 2018** (check CUMA database at: https://ctl2.uwindsor.ca/cuma/public/)

University of Windsor
Program Development Committee

*5.7 **Visual Arts – Program Learning Outcomes**

Item for: **Information**

Forwarded by: **Faculty of Arts, Humanities and Social Sciences**

This document contains the following course learning outcomes:
General BA in Visual Arts
Bachelor of Fine Arts in Visual Arts
Combined BA Honours in Visual Arts

General BA in Visual Arts

Program Learning Outcomes

Last Updated: May 22, 2021

Learning Outcomes At the end of the course, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** The University of Windsor graduate will have the ability to demonstrate:	**COU-approved Undergraduate Degree Level Expectations**
Identify general historical and cultural concepts/ideas that influence contemporary practice and apply contemporary concepts to art making processes. Demonstrate technique and concept skills as they relate to studio art projects. **(Also applies to B, C.)**	**A.** the acquisition, application and integration of knowledge	1. Depth and breadth of knowledge 2. Knowledge of methodologies 3. Application of knowledge 5. Awareness of limits of knowledge
Research general technical and conceptual topics in creative activity and produce studio work that incorporates these concerns. **(Also applies to C, H.)**	**B.** research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy)	1. Depth and breadth of knowledge 2. Knowledge of methodologies 3. Application of knowledge 5. Awareness of limits of knowledge
Identify social, political, and technological histories as they relate to studio arts. **(Also applies to A, B.)** Identify and generally apply concepts and intuitive art making into creative practice. **(Also applies to G, H.)** Produce a body of studio work that covers one or more areas of art practice. **(Also applies to D, H.)**	**C.** critical thinking and problem-solving skills	1. Depth and breadth of knowledge 2. Knowledge of methodologies 3. Application of knowledge 5. Awareness of limits of knowledge

	D. literacy and numeracy skills	4. Communication skills 5. Awareness of limits of knowledge
Use written and verbal skills to describe and evaluate artistic experiences. **(Also applies to H, I.)**	**E.** responsible behaviour to self, others and society	5. Awareness of limits of knowledge 6. Autonomy and professional capacity
Identify relationships between their body of work (creative and analytical) with their cultural and historical precedents. **(Also applies to C, E, H.)** Articulate an interpretation of their studio art projects. **(Also applies to D, E.)**	**F.** interpersonal and communications skills	4. Communication skills 6. Autonomy and professional capacity
	G. teamwork, and personal and group leadership skills	4. Communication skills 6. Autonomy and professional capacity
	H. creativity and aesthetic appreciation	2. Knowledge of methodologies 3. Application of knowledge 6. Autonomy and professional capacity
Identify technical, professional, and conceptual practices to aid in career development after graduation.	**I.** the ability and desire for continuous learning	6. Autonomy and professional capacity

Bachelor of Fine Arts in Visual Arts

Program Learning Outcomes

Last Updated: December 15, 2020

Learning Outcomes At the end of the course, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** The University of Windsor graduate will have the ability to demonstrate:	**COU-approved Undergraduate Degree Level Expectations**
Identify historical and cultural concepts/ideas that influence contemporary practice and apply contemporary concepts to art making processes. Demonstrate technique and concept skills as they relate to studio art projects. **(Also applies to B, C.)**	**A.** the acquisition, application and integration of knowledge	1. Depth and breadth of knowledge 2. Knowledge of methodologies 3. Application of knowledge 5. Awareness of limits of knowledge
Research technical and conceptual topics in creative activity and produce studio work that incorporates these concerns. **(Also applies to C, H.)**	**B.** research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy)	1. Depth and breadth of knowledge 2. Knowledge of methodologies 3. Application of knowledge 5. Awareness of limits of knowledge
Analyze social, political, and technological histories as they relate to studio arts. **(Also applies to A, B.)** Synthesize both theoretical concepts and intuitive art making into creative practice. **(Also applies to G, H.)** Produce a coherent body of studio work that covers several areas of art practice. **(Also applies to D, H.)**	**C.** critical thinking and problem-solving skills	1. Depth and breadth of knowledge 2. Knowledge of methodologies 3. Application of knowledge 5. Awareness of limits of knowledge

	D. literacy and numeracy skills	4. Communication skills 5. Awareness of limits of knowledge
Use the creative practice as a method of research and learning that integrates ethics, integrity, and social/personal responsibility. **(Also applies to H, I.)**	**E.** responsible behaviour to self, others and society	5. Awareness of limits of knowledge 6. Autonomy and professional capacity
Articulate the relationship between their body of work (creative and analytical) with their cultural and historical precedents. **(Also applies to C, E, H.)** Articulate an interpretation of their studio art projects. **(Also applies to D, E.)** Use written and verbal skills to describe and evaluate artistic experiences. **(Also applies to D, E.)**	**F.** interpersonal and communications skills	4. Communication skills 6. Autonomy and professional capacity
Work collaboratively on research projects and in the production of public presentation of studio art projects. **(Also applies to E, F.)**	**G.** teamwork, and personal and group leadership skills	4. Communication skills 6. Autonomy and professional capacity
Identify and analyze ongoing research in critical and conceptual thought that is required to keep art practice relevant. **(Also applies to I.)**	**H.** creativity and aesthetic appreciation	2. Knowledge of methodologies 3. Application of knowledge 6. Autonomy and professional capacity
Identify technical, professional, and conceptual practices to aid in career development after graduation.	**I.** the ability and desire for continuous learning	6. Autonomy and professional capacity

Combined BA Honours Visual Arts Programs

Program Learning Outcomes

Last Updated: September 09, 9999

Learning Outcomes At the end of the course, the successful student will know and be able to:	**Characteristics of a University of Windsor Graduate** The University of Windsor graduate will have the ability to demonstrate:	**COU-approved Undergraduate Degree Level Expectations**
Identify historical and cultural concepts/ideas that influence practice in the visual arts as well as another field of study. Demonstrate technique and concept skills as they relate to studio art projects and another field of study. **(Also applies to B, C.)**	**A.** the acquisition, application and integration of knowledge	1. Depth and breadth of knowledge 2. Knowledge of methodologies 3. Application of knowledge 5. Awareness of limits of knowledge
Research technical and conceptual topics with the field of studio arts and another field of concentration. **(Also applies to C, H.)**	**B.** research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy)	1. Depth and breadth of knowledge 2. Knowledge of methodologies 3. Application of knowledge 5. Awareness of limits of knowledge
Analyze social, cultural, political, and technological histories as they relate to studio arts and another field of concentration. **(Also applies to A, B.)** Synthesize both theoretical concepts and intuitive art making into creative practice. **(Also applies to G, H.)** Produce a body of studio work that covers several areas of art practice. **(Also applies to D, H.)**	**C.** critical thinking and problem-solving skills	1. Depth and breadth of knowledge 2. Knowledge of methodologies 3. Application of knowledge 5. Awareness of limits of knowledge

	D. literacy and numeracy skills	4. Communication skills 5. Awareness of limits of knowledge
Use the creative practice and acquired skills in the second area of study as a method of research and learning that integrates ethics, integrity, and social/personal responsibility. **(Also applies to H, I.)**	**E.** responsible behaviour to self, others and society	5. Awareness of limits of knowledge 6. Autonomy and professional capacity
Articulate the relationship between their creative/analytical work with their cultural and historical precedents. **(Also applies to C, E, H.)** Articulate an interpretation of their studio art projects as well as output within a second field of concentration. **(Also applies to D, E.)** Use written and verbal skills to describe and evaluate artistic experience as well as critical tenets of the student's second field of study. **(Also applies to D, E.)**	**F.** interpersonal and communications skills	4. Communication skills 6. Autonomy and professional capacity
Work collaboratively on research projects in studio arts and another area of study as well as prepare work for public presentation. **(Also applies to E, F.)**	**G.** teamwork, and personal and group leadership skills	4. Communication skills 6. Autonomy and professional capacity
Identify and analyze ongoing research in critical and conceptual thought that is required to retain relevancy in the fields of Visual Arts and a second area of concentration **(Also applies to I.)**	**H.** creativity and aesthetic appreciation	2. Knowledge of methodologies 3. Application of knowledge 6. Autonomy and professional capacity

Identify technical, professional, and conceptual practices to aid in career development after graduation.	**l.** the ability and desire for continuous learning	6. Autonomy and professional capacity