

NOTICE OF MEETING

There will be a meeting of the Senate
on Friday, April 9, 2021, at 2:30pm
LOCATION: Virtual Meeting
Link: [Join Microsoft Teams Meeting](#)

AGENDA

- 1 **Approval of Agenda** (Unstarring agenda items)
- 2 **Minutes of the meetings of March 12, 2021 and March 19, 2021** S210312M
S210319M
- 3 **Business arising from the minutes**
- 4 **Outstanding Business/Action Items**
- 5 **Reports/New Business**
 - 5.1 **Report from the Student Presidents (UWSA/GSS/OPUS)** UWSA/GSS/OPUS-Information
 - 5.2 **Report of the President** Robert Gordon
 - 5.2.1 **COVID-19 – Update**
 - 5.2.2 **Addressing Anti-Black Racism and Equity, Diversity, and Inclusion – Update**
 - 5.3 **Report of the Academic Colleague** Philip Dutton
S210409-5.3
 - 5.4 **Senate Student Caucus** Phebe Lam
 - 5.5 **Program Development Committee**
 - *5.5.1 **Program/Course Changes** Greg Chung-Yan-Approval
S210409-5.5.1a-g
 - *a) **Faculty of Law – New Course Proposal (Form D)**
 - *b) **Nursing – New Course Proposals (Form D)**
 - *c) **Computer Science – Degree Completion Program (Form C1)**
 - *d) **Biomedical Sciences – Minor Program Changes (Form C)**
 - *e) **Chemistry and Biochemistry/Biomedical Sciences – Minor Program Changes (Form C)**
 - *f) **Biomedical Sciences – New Course Proposals (Form D)**
 - *g) **Chemistry and Biochemistry – New Course Proposal (Form D)**
 - *5.5.2 **Master of Human Kinetics (Applied Human Performance and Sport Management) – Degree Parchment** Greg Chung-Yan-Approval
S210409-5.5.2

<p>*5.5.3 Learning Outcomes *a) Music – Program Learning Outcomes *b) Nursing – Course Learning Outcomes *c) Computer Science – Graduate Course Learning Outcomes</p>	<p>Greg Chung-Yan-Information S210409-5.5.3a-c</p>
<p>5.5.4 Certificate in Forensic Science – New Program Proposal (Form A)</p>	<p>Greg Chung-Yan-Approval S210409-5.5.4</p>
<p>5.5.5 Bachelor of Science Honours Chemistry (Applied Chemistry Stream) – Major Program Change (Form B)</p>	<p>Greg Chung-Yan-Approval S210409-5.5.5</p>
<p>5.6 Academic Policy Committee</p>	
<p>*5.6.1 Leddy Library Annual Report (2019-2020)</p>	<p>Antonio Rossini-Information S210409-5.6.1</p>
<p>*5.6.2 Film Production Student Code of Conduct</p>	<p>Antonio Rossini-Information S210409-5.6.2</p>
<p>*5.6.3 Social Work – Revisions to Policy on Undergraduate Admissions Requirements</p>	<p>Antonio Rossini-Approval S210409-5.6.3</p>
<p>5.7 Senate Governance Committee</p>	<p>Robert Gordon</p>
<p>5.8 Report of the Provost</p>	
<p>5.8.1 COVID-19 Emergency Academic Plan – Revision</p>	<p>Douglas Kneale-Approval S210409-5.8.1</p>
<p>5.9 Report of Vice-President, Research and Innovation</p>	<p>K W Michael Siu</p>
<p>6 Question Period/Other Business</p>	
<p>7 Adjournment</p>	

Please carefully review the ‘starred’ (*) agenda items. As per the June 3, 2004 Senate meeting, ‘starred’ items 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
Senate**

5.3: **Report of the Academic Colleague**

Item for: **Information**

Forwarded by: **Dr. Philip J. Dutton, Academic Colleague**

Academic Colleagues met online on March 24 and April 1, 2021.

The Council of Ontario Universities met on April 1, 2021.

March 24 and April 1, 2021: Preparation for the Council Meeting

The February Academic Colleagues meeting identified “Building Back Better” as the topic to be prepared for discussion with Executive Heads at the April 1 meeting of the full council of the Council of Ontario Universities. Two morning meetings were held to brainstorm and prepare presentation topics to lead into a discussion of the post-COVID-19 academic world.

April 1, 2021: Council of Ontario Universities Meeting.

Academic Colleagues met with Executive Heads and discussed Building Back Better. A synopsis document (slightly modified) prepared by Colleagues is presented below to outline the topics under discussion.

This past year has been a huge challenge for all members of universities: students, faculty members, staff, and administrators. As we look forward to returning to campus in September 2021 (with some limitations and restrictions still in place) and a hopeful return to ‘normal’ in September 2022, the Academic Colleagues have been discussing how we incorporate the pandemic experience into short-term and longer-term planning. We have centred our discussion on two general questions related to four themes:

- What have we learnt from the past year and how can we apply those lessons in the future?
- What can we do to ensure that we provide better and more inclusive learning experiences and support for our students?

The fourth theme, accessibility, was seen to be woven throughout the other three, and indeed, all three are integrated with one another to some degree. Short verbal presentations that included a brief story or example were presented to council and an open discussion followed.

1) Equity, Diversity, and Inclusion – Karleen Pendelton-Jimenez (Trent)

All universities are committed to the principles of equity, diversity, and inclusion. As we return to campus, we must do so in ways that incorporate and facilitate anti-oppressive and inclusive practices. Doing so effectively will require the collection of data to support anti-oppressive and inclusive practices.

- How can universities ensure that the return to campus does not re-inscribe inequalities?
- How do we incorporate anti-racism practices as we welcome back students to our campuses, especially Asian, Black, and international students?
- How will universities ensure the collection of appropriate data?

2) Online and Blended Learning – Catherine Carstairs (Guelph)

The online environment, including synchronous, asynchronous, and blended learning, affords advantages, such as flexibility and versatility. These may increase access for many students, although it may decrease access for others. Rethinking the use of space on campus and the supports for online and in-person learning, especially human resources, is essential and will need 3-5 years to fully develop the resources and infrastructure. There are real

problems with academic integrity, workload for both faculty and students, and both infrastructure and personnel costs that must be addressed.

- What is the appropriate balance between in-person, blended, and online learning (both synchronous and asynchronous)? Pedagogically, what teaching and learning is best done in-person or through blended or online instruction?
- How will universities invest in online and blended learning (technology and people) to make it truly effective, while supporting students and avoiding re-inscribing inequalities?
- How can universities address the access issues associated with online and blended learning and provide appropriate support to students?

3) Student Mental Health – Kim Hellemans (Carleton)

Given the disproportionate impact of the pandemic on youth and early adults and the culture shock that will be experienced by new and returning students, universities must address student mental health by developing best practices, creating equitable policies, and providing students a degree of control over their learning and workload.

- How do we support student mental health in a still evolving context to ensure student success?
- How do we maintain academic integrity and high-quality learning experiences while ensuring that we provide students (who may also be COVID-19 survivors) compassion, flexibility, and realistic expectations?
- What lessons have we learnt from the pandemic experience to better support student mental health and to ensure that we centre student mental health in our teaching, mentoring, and academic regulations?

4) Accessibility

Universities are committed to access, particularly for traditionally underrepresented students, and the pandemic has had both positive and negative impacts on accessibility.

- What are the bridging needs for students whose learning has been interrupted by the pandemic and who is responsible for remediating? The university? The instructor? The program/faculty?
- How do we ensure adequate preparation for second-entry programs (*e.g.*, medical or law school)? How do we ensure that access to second-entry programs is not negatively affected by the pandemic?

There was a lively discussion of the topics and an understanding that while COVID-19 has created hardships for many, it has also created opportunities. Crises allow changes in attitudes that do occur under stable conditions. Ontario Universities have the opportunity to take good practices, both from past practice and from lessons learned, as a result of COVID-19, forward to the future while planning to avoid reinstalling poor past practice. We need to examine all of our practices as we Build Back Better. Colleagues and Executive Heads agreed that these themes should be monitored in future years as we move forward.

COU Updates

Ontario Budget: A synopsis of the impact of the Ontario Budget was presented to Academic Colleagues. That synopsis is being checked for any confidentiality (likely none, the information is available in the budget document) and will be shared with Senate shortly.

Academic Colleague Updates

Thank you to Karleen Pendelton Jimenez: Karleen has finished her two-year term as co-chair of the Academic Colleagues. She is thanked for her service and the additional task she took on as a member of the search committee for the CEO of the Council of Ontario Universities installed this past year.

Catherine Amara (University of Toronto) was acclaimed by the colleagues for a two-year term as co-chair. Douglas Ivison (Lakehead) continues in his co-chair role.

Respectfully Submitted,

P.J. Dutton, Academic Colleague.

**University of Windsor
Senate**

*5.5.1a **Faculty of Law – New Course Proposal (Form D)**

Item for: **Approval**

Forwarded by: **Program Development Committee**

MOTION: **That the following course be approved: ^
LAWG-5707. Class Action Clinic**

^Subject to approval of the expenditures required.

Rationale/Approvals:

- The proposal has been approved by the Faculty of Law Council and the Program Development Committee.
- Supporting documentation for the proposal can be accessed by contacting the University Secretariat at ext. 3325, or through the March 17, 2021 Combined Program Development Committee PDF meeting file posted on the PDC website at: <http://www.uwindsor.ca/secretariat/59/pdc-agendas-and-minutes>. To access this particular item go to 5.8.

**University of Windsor
Senate**

*5.5.1b: **Nursing – New Course Proposals (Form D)**

Item for: **Approval**

Forwarded by: **Program Development Committee**

MOTION: **That the following courses be approved:^**
 NURS-3551. Course Title: Experiential Learning Lab V
 NURS-3830. Adult Health and Health Alterations III
 NURS-3940. Nursing Care of Infants, Children, and Youth
 NURS-3950. Course Title: Nursing Research
 NURS-3960. Community Health Nursing

^Subject to approval of the expenditures required.

Rationale/Approvals:

- The new course has been approved by the Faculty of Nursing Council and the Program Development Committee.
- Supporting documentation for the proposal can be accessed by contacting the University Secretariat at ext. 3325, or through the March 17, 2021 Combined Program Development Committee PDF meeting file posted on the PDC website at: <http://www.uwindsor.ca/secretariat/59/pdc-agendas-and-minutes>. To access this particular item go to 5.9.

University of Windsor
Senate

*5.5.1c: **Computer Science – Degree Completion Program (Form C1)**

Item for: **Approval**

Forwarded by: **Program Development Committee**

MOTION: That the Bachelor of Computer Science (Honours) for University Graduates be approved.^

^Subject to approval of the expenditures required.

Rationale/Approvals:

- The proposal has been approved by the School of Computer Science Council, Science PDC (as delegated by the Faculty of Science Coordinating Council), and the Program Development Committee.
- Supporting documentation for the proposal can be accessed by contacting the University Secretariat at ext. 3325, or through the March 17, 2021 Combined Program Development Committee PDF meeting file posted on the PDC website at: <http://www.uwindsor.ca/secretariat/59/pdc-agendas-and-minutes>. To access this particular item go to 5.3.

**University of Windsor
Senate**

*5.5.1d **Biomedical Sciences – Minor Program Changes (Form C)**

Item for: **Approval**

Forwarded by: **Program Development Committee**

MOTION 1: **That the degree requirements for the Honours Biomedical Science be changed according to the program/course change form .[^]**

MOTION 2: **That the Honours Molecular Biology and Biotechnology program be renamed Honours Biomedical Science.[^]**

[^]Subject to approval of the expenditures required.

Rationale/Approvals:

- The Honours Biology and Biotechnology program is being renamed to reflect the name of the department in which it is housed, the Department of Biomedical Sciences. Minor program changes are also proposed.
- The proposal has been approved by the Department of Biomedical Sciences, Science PDC (as delegated by the Faculty of Science Coordinating Council), and the Program Development Committee.
- Supporting documentation for the proposal can be accessed by contacting the University Secretariat at ext. 3325, or through the March 17, 2021 Combined Program Development Committee PDF meeting file posted on the PDC website at: <http://www.uwindsor.ca/secretariat/59/pdc-agendas-and-minutes>. To access this particular item go to 5.4.

**University of Windsor
Senate**

*5.5.1e: **Chemistry and Biochemistry/Biomedical Sciences – Minor Program Changes (Form C)**

Item for: **Approval**

Forwarded by: **Program Development Committee**

MOTION: **That the degree requirements for the Honours Biochemistry and Biomedical Science (Health Stream) be changed according to the program/course change form.^**

^Subject to approval of the expenditures required.

Rationale/Approvals:

- The proposal has been approved by the Department of Chemistry/Biochemistry, the Department of Biomedical Sciences, Science PDC *as delegated by the Faculty of Science Coordinating Council), and the Program Development Committee.
- Supporting documentation for the proposal can be accessed by contacting the University Secretariat at ext. 3325, or through the March 17, 2021 Combined Program Development Committee PDF meeting file posted on the PDC website at: <http://www.uwindsor.ca/secretariat/59/pdc-agendas-and-minutes>. To access this particular item go to 5.5.

**University of Windsor
Senate**

*5.5.1f: **Biomedical Sciences – New Course Proposals (Form D)**

Item for: **Approval**

Forwarded by: **Program Development Committee**

MOTION: That the following courses be approved:^
BIOM-4008. Special Topics in Biomedical Sciences
BIOM-4904. Undergraduate Research in Biomedical Sciences I
BIOM-4914. Undergraduate Research in Biomedical Sciences II

^Subject to approval of the expenditures required.

Rationale/Approvals:

- The proposal has been approved by the Department of Biomedical Sciences, Science PDC (as delegated by the Faculty of Science Coordinating Council), and the Program Development Committee.
- Students will normally only take one of the Undergraduate Research in Biomedical Sciences courses. The course BIOM 4904 (6.0 credits) is usually the only course that students take. It is taken over the duration of two semesters with 10 hours of lab per week - therefore 240 hours over the two semesters. In addition, there are also 10 lecture hours per semester. The course BIOM 4914 is the second course with the same structure as BIOM 4904.
- Supporting documentation for the proposal can be accessed by contacting the University Secretariat at ext. 3325, or through the March 17, 2021 Combined Program Development Committee PDF meeting file posted on the PDC website at: <http://www.uwindsor.ca/secretariat/59/pdc-agendas-and-minutes>. To access this particular item go to 5.6.

**University of Windsor
Senate**

*5.5.1g: **Chemistry and Biochemistry – New Course Proposal (Form D)**

Item for: **Approval**

Forwarded by: **Program Development Committee**

**MOTION: That the following course be approved: ^
CHEM-4528. Supramolecular Chemistry**

^Subject to approval of the expenditures required.

Rationale/Approvals:

- The proposal has been approved by the Department of Chemistry and Biochemistry Council, Science PDC (as delegated by the Faculty of Science Coordinating Council), and the Program Development Committee.
- Although the course CHEM-4528 will be cross-listed with graduate course CHEM-8528, there will be differences in learning outcomes for the courses.
- Supporting documentation for the proposal can be accessed by contacting the University Secretariat at ext. 3325, or through the March 17, 2021 Combined Program Development Committee PDF meeting file posted on the PDC website at: <http://www.uwindsor.ca/secretariat/59/pdc-agendas-and-minutes>. To access this particular item go to 5.7.

**University of Windsor
Senate**

***5.5.2 Master of Human Kinetics (Applied Human Performance and Sport Management) – Degree Parchment**

Item for: **Approval**

Forwarded By: **Program Development Committee**

MOTION: That the Master of Human Kinetics (MHK) Applied Human Performance and Sport Management fields be added to the degree parchment.

Rationale/Approvals:

- The proposed change to include the major fields in the Convocation booklet and on the Degree Parchment was approved at the Faculty of Human Kinetics Council (February 26, 2021) and the Program Development Committee.
- Currently, students can specialize in either Applied Human Performance or Sport Management field. However, these distinct specializations are not being recognized on the student's degree parchment.
- Students prefer to have their specialization clearly included in the title of their degree as it indicates that they have a strong knowledge base and expertise in that particular field of study.
- The reason this issue was brought forward to Kinesiology was that a student was trying to get a work permit in the United States and when they showed their degree, the adjudicating officer would not accept MHK for the work they were doing. The designation of the distinct fields would likely have helped the student secure employment.
- The MHK *Applied Human Performance* field focusses on the application of movement science in sport, the workplace, and activities of daily living whereas the MHK *Sport Management* field focusses on components of organization studies in the context of sport.

University of Windsor
Senate

*5.5.3a **Music – Program Learning Outcomes**

Item for: **Information**

Forwarded by: **Program Development Committee**

This package contains the following learning outcomes:

BA Music

Combined BA Music

Honours Bachelor of Arts in Music Program Learning Outcomes

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
Recognize and describe a wide range of melodic, harmonic, rhythmic and formal structures in diverse music styles and time periods. <p style="text-align: right;">(Also applies to E.)</p>	A. the acquisition, application and integration of knowledge	<ol style="list-style-type: none"> 1. Depth and breadth of knowledge 2. Knowledge of methodologies 3. Application of knowledge 5. Awareness of limits of knowledge
Access, retrieve, and evaluate information through written analysis and criticism as well as through independent, collaborative work and presentations. <hr/> Define technical and analytical problems in musical culture, performances and ensemble rehearsals settings.	B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy)	<ol style="list-style-type: none"> 1. Depth and breadth of knowledge 2. Knowledge of methodologies 3. Application of knowledge 5. Awareness of limits of knowledge
Integrate musical theory, historical, and philosophical approaches to articulate technical and analytical components of culture as seen through a musical lens and musical performances. <hr/> Practice individually and rehearse in an ensemble setting to identify techniques and approaches to improve performance.	C. critical thinking and problem-solving skills	<ol style="list-style-type: none"> 1. Depth and breadth of knowledge 2. Knowledge of methodologies 3. Application of knowledge 5. Awareness of limits of knowledge

<p>Develop integral and theoretical methodologies to analyze musical texts and scores.</p> <hr/> <p>Employ applied musical literacy/numeracy skills to the student's voice/instrument to develop performance practice in an independent and ensemble setting.</p>	<p>D. literacy and numeracy skills</p>	<p>4. Communication skills</p> <p>5. Awareness of limits of knowledge</p>
<p>Proficiently engage in group activities such as music ensembles and collaborative research projects to cultivate team building and experiential learning for professional music career settings.</p> <hr/> <p>Identify and apply models of professional responsibility in rehearsal, performance, and academic settings.</p>	<p>E. responsible behaviour to self, others and society</p>	<p>5. Awareness of limits of knowledge</p> <p>6. Autonomy and professional capacity</p>
<p>Effectively communicate both verbally and musically in ensemble settings and academic musical environments.</p> <p style="text-align: right;">(Also applies to G.)</p>	<p>F. interpersonal and communications skills</p>	<p>4. Communication skills</p> <p>6. Autonomy and professional capacity</p>
<p>Develop leadership and mentoring skills through in-course settings such as conducting and ensemble sectionals.</p>	<p>G. teamwork, and personal and group leadership skills</p>	<p>4. Communication skills</p> <p>6. Autonomy and professional capacity</p>
<p>Demonstrate musicianship and technical proficiency as well as interpretive and understanding through performance and academic research.</p>	<p>H. creativity and aesthetic appreciation</p>	<p>2. Knowledge of methodologies</p> <p>3. Application of knowledge</p> <p>6. Autonomy and professional capacity</p>
<p>Learn independently through performance and research to meet individual professional goals.</p>	<p>I. the ability and desire for continuous learning</p>	<p>6. Autonomy and professional capacity</p>

Combined Honours Bachelor of Arts in Music - Program Learning Outcomes

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
<p>Recognize and describe a range of melodic, harmonic, rhythmic and formal structures in diverse music styles and time periods.</p> <p style="text-align: right;">(Also applies to E.)</p> <hr/> <p>Assess formal and conceptual materials from Music and another discipline.</p>	A. the acquisition, application and integration of knowledge	<ol style="list-style-type: none"> 1. Depth and breadth of knowledge 2. Knowledge of methodologies 3. Application of knowledge 5. Awareness of limits of knowledge
<p>Demonstrate ability to access, retrieve, and evaluate information through written analysis and criticism in Music and the students' other field of concentration.</p> <hr/> <p>Define technical and analytical problems in musical culture, performances and ensemble rehearsals settings.</p>	B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy)	<ol style="list-style-type: none"> 1. Depth and breadth of knowledge 2. Knowledge of methodologies 3. Application of knowledge 5. Awareness of limits of knowledge
<p>Critically evaluate and apply relevant theory in Music and another field of study</p> <hr/> <p>Demonstrate problem-solving skills through effective practice and rehearsal in performance settings such as ensemble concerts and solo performance juries.</p>	C. critical thinking and problem-solving skills	<ol style="list-style-type: none"> 1. Depth and breadth of knowledge 2. Knowledge of methodologies 3. Application of knowledge 5. Awareness of limits of knowledge

<p>Apply relevant vocabulary, techniques, and methods from both Music and another discipline.</p> <hr/> <p>Employ applied musical literacy/numeracy skills to the student's voice/instrument to develop performance practice in an independent and ensemble setting.</p>	<p>D. literacy and numeracy skills</p>	<p>4. Communication skills</p> <p>5. Awareness of limits of knowledge</p>
<p>Proficiently engage in group activities such as music ensembles and collaborative research projects to cultivate team building and experiential learning for professional music career settings.</p> <hr/> <p>Identify and apply models of professional responsibility in rehearsal, performance, and academic settings.</p>	<p>E. responsible behaviour to self, others and society</p>	<p>5. Awareness of limits of knowledge</p> <p>6. Autonomy and professional capacity</p>
<p>Develop interpersonal and communication skills through collaborative research and group presentations in music and another major study concentration.</p> <p style="text-align: right;">(Also applies to G.)</p>	<p>F. interpersonal and communications skills</p>	<p>4. Communication skills</p> <p>6. Autonomy and professional capacity</p>
<p>Effectively communicate both verbally, non-verbally, and musically in ensemble settings.</p>	<p>G. teamwork, and personal and group leadership skills</p>	<p>4. Communication skills</p> <p>6. Autonomy and professional capacity</p>
<p>Demonstrate musicianship and technical proficiency as well as interpretive and understanding through performance and academic research.</p>	<p>H. creativity and aesthetic appreciation</p>	<p>2. Knowledge of methodologies</p> <p>3. Application of knowledge</p> <p>6. Autonomy and professional capacity</p>
<p>Learn independently through performance and study/research to meet individual professional goals in music and another major study concentration.</p>	<p>I. the ability and desire for continuous learning</p>	<p>6. Autonomy and professional capacity</p>

University of Windsor
Senate

*5.5.3b: **Nursing – Course Learning Outcomes**
[NURS-1900 Writing for the Professional Nurse]

Item for: **Information**

Forwarded by: **Program Development Committee**

COURSE NUMBER AND TITLE: NURS 1900. Writing for the Professional Nurse

Learning Outcomes <i>This is a sentence completion exercise.</i> <u>At the end of this course, the successful student will know and be able to:</u>	Characteristics of a University of Windsor Graduate <u>A U of Windsor graduate will have the ability to demonstrate:</u>
A. Identify the purpose and diverse types of written communication required in the nursing profession (e.g., scholarly, correspondence by email, medical terminology and short forms) (Also applies to G). <u>Identify the purpose and the value of scholarship in nursing (Also applies to B, E).</u> <u>Demonstrate the appropriate and safe use of medical terminology and short forms in written communication (Also applies to E)</u>	A. the acquisition, application and integration of knowledge
B. Conduct effective scholarly literature searches, <u>using academic databases, for a variety of nursing topics</u>	B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy)
C. Evaluate the quality and appropriateness of scholarly and other resources that are relevant to nursing (Also applies to D, E). <u>Compare information from multiple sources in written communication</u>	C. critical thinking and problem-solving skills
D. Identify the common grammatical errors that are made when communicating in writing and edit documents to correct them. <u>Demonstrate scholarly communication, in a variety of formats (e.g., emails, discussion posts, expository reports, infographics), that is clear, concise, accurate, and organized (Also applies to H).</u> Distinguish between content that is plagiarized and that which is properly sourced (Also applies to E)	D. literacy and numeracy skills

Learning Outcomes <i>This is a sentence completion exercise.</i> <u>At the end of this course, the successful student will know and be able to:</u>	Characteristics of a University of Windsor Graduate <u>A U of Windsor graduate will have the ability to demonstrate:</u>
<u>Demonstrate proper citation, referencing, and integration of scholarly sources into written assignments using correct APA style.</u> <u>Disseminate scholarly work through written assignments (e.g., papers, infographics, posters, pamphlets, or other written materials)</u>	
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.	H. creativity and aesthetic appreciation
I.	I. the ability and desire for continuous learning

**University of Windsor
Senate**

*5.5.3c: **Computer Science – Graduate Course Learning Outcomes**
[COMP-8390. Emerging Non-traditional Database Systems]

Item for: **Information**

Forwarded by: **Program Development Committee**

COURSE NUMBER AND TITLE: COMP-8390. Emerging Non-traditional Database Systems

Course Learning Outcomes <i>This is a sentence completion exercise.</i> <u>At the end of the course, the successful student will know and be able to:</u>	Characteristics of a University of Windsor Graduate <u>A U of Windsor graduate will have the ability to demonstrate:</u>
A. Design normalized databases and data warehouses for real life applications, appropriately incorporating theories of database management systems, relational data model, database definition and query languages, indexes, database transaction management and query optimization techniques, as well as apply data mining methods (also relevant to H).	A. the acquisition, application and integration of knowledge
B. Create and solve original research problems in databases, data warehousing and mining.	B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy)
C. analyze and review different warehousing and mining solutions through complexity and/or experimental analysis.	C. critical thinking and problem-solving skills
D.	D. literacy and numeracy skills
E. Prepare research and project reports following professional principles of protection of intellectual property.	E. responsible behaviour to self, others and society
F.	F. interpersonal and communications skills
G.	G. teamwork, and personal and group leadership skills
H. Document and comment (i.e., add explanatory non-computational comments) a database system for future maintenance (also relevant to D and F).	H. creativity and aesthetic appreciation

Course Learning Outcomes <i>This is a sentence completion exercise.</i>	Characteristics of a University of Windsor Graduate
<u>At the end of the course, the successful student will know and be able to:</u>	<u>A U of Windsor graduate will have the ability to demonstrate:</u>
I. Solve a variety of problems with warehouse integration and mining approaches.	I. the ability and desire for continuous learning

University of Windsor
Senate

5.5.4: **Certificate in Forensic Science – New Program Proposal (Form A)**

Item for: **Approval**

Forwarded by: **Program Development Committee**

MOTION: **That the Certificate in Forensic Science be approved.^**

^Subject to approval of the expenditures required.

Rationale/Approvals:

- The proposal has been approved by Science PDC (as delegated by the Faculty of Science Coordinating Council), the Provost, and the Program Development Committee.
- *See attached.*

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

1. New Program Steering Committee/Provost Approval to Develop New Program Proposal

Prior to completing this form, proposers MUST complete a “[New Program Notice of Intent Form](#)” and obtain APPROVAL to proceed from the New Program Steering Committee and the Provost.

Date of New Program Steering Committee/Provost approval to proceed with development of the new program proposal:	October 26, 2017
--	------------------

A. Basic Program Information

Faculty(ies)	Faculty of Science
Department(s)/School(s)	Forensic Sciences
Name of Program as it Will Appear on the Diploma (e.g., Bachelor of Arts Honours Psychology with thesis)	Certificate in Forensic Science
Proposed Year of Offering* [Fall, Winter, Spring]: *(subject to timely and clear submission)	Winter 2021
Mode of Delivery:	Blend of classroom and online courses
Planned steady-state Student Enrolment (per section B.4.2)	50
Normal Duration for Completion:	Within a 4-year degree
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)

Relevance and Importance: Forensic science is an interdisciplinary area of study with applications in many fields (e.g., law, national security, public health). In the ever-changing global scenario with new kinds of crimes, and the addition of diverse new technologies to solve the crimes, the demand for forensic investigators is ever increasing, including but not limited to: law enforcement agencies, financial institutions, hospitals, military, environmental protection agencies, food and agriculture, border protection services, and private institutions. The widespread use of forensic science techniques suggests that the employment of forensic science technicians is projected to grow by 14% (faster than average) from 2018-2018 (Bureau of Labor Statistics, n.d.). Similarly, within Canada, there is a range of employment opportunities available for those who acquire the interdisciplinary knowledge and skills associated with forensic science (see section B.4.1 for employment data).

Aim and Impact: The **Certificate in Forensic Science** is designed to offer students opportunities to learn various aspects of crime scene investigation and management, forensic evidence analysis with new and traditional techniques, criminal law and courtroom (expert witness) testimony, as well as having the opportunity to do more focussed coursework in topics such as forensic medicine, bioterrorism and forensic anthropology. Acquiring this range of scientific knowledge offers students diversity in their employment prospects. Furthermore, the proposed certificate caters to student interests as evident by the increasing enrollment in the on-campus and on-line courses being offered by the Forensic Programs at the University of Windsor (see section B.4.4). To the best of our knowledge, within Ontario, Ryerson is the only university that offers a certificate in forensic science; however, this certificate has a specific focus on digital forensics. As such, the proposed certificate is designed to fill a gap in curricula.

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

The **Certificate in Forensic Science** will provide UWindsor students with the theoretical and technical skills required to analyze and interpret evidence that can be used in civil and criminal proceedings. The certificate consists of 8 courses: four required courses that provide a fundamental understanding of forensic science and criminal investigations; one course that provides hands-on training in forensic identification and/or laboratory techniques, one course on the Canadian legal system; and two courses selected by students that offer advanced knowledge and skills in forensics (e.g., bioterrorism, forensic medicine, etc.). A student graduating with this certificate will have: 1) an understanding of the fundamentals of forensic science, crime scene investigation and evidence analysis as applied to the human species; 2) knowledge of advanced analytical techniques needed for forensic investigations; 3) an introduction to how the legal system within Canada works; and 4) advanced knowledge in an area of forensic science that interests them. Please see section 'C.4 Learning Outcomes' for a more detailed description of the knowledge, skills, and abilities students will have gained upon successful completion of the certificate.

As a result, the proposed **Certificate in Forensic Science** is designed to provide added value to students already enrolled in Science by filling a gap in programming designed to prepare students with career-ready forensic science skills fully integrated into a strong science background. This certificate program is designed for Science students, but it is available to any student with an interest in forensic science who has available electives.

Consistency with Institutional Goals: This certificate has a strong interdisciplinary focus, containing aspects of forensic science, the social sciences and criminal law. It is designed for students interested in pursuing careers within law, business, social sciences, management and civil services, police and security services, and forensics sciences. As a result, the new program stream aligns with several Strategic Areas of Program Strength and Expansion within the SMA by addressing 'Business' and 'Law' (point one and nine within the program areas of strength) and 'Law, Education, and Professional Studies', 'Engineering, Science, and Computing', and 'Business, Cultures and Governance' (point two, three, and five within program areas of expansion). Courses within this certificate offer many opportunities for students to engage in hands-on learning which allows them to connect theory and practice. Providing these learning experiences that will prepare students for life after graduation and employment in a variety of sectors. The proposed certificate also contributes to the University of Windsor's mission, goals and objectives through improving the student learning experience in the area of career preparation and innovations in teaching and learning excellence, through the provision of high impact learning experiences.

References

Bureau of Labor Statistics. (n.d.) U.S. Department of Labor, Occupational Outlook Handbook, Forensic Science Technicians, on the Internet at <https://www.bls.gov/ooh/life-physical-and-social-science/forensic-science-technicians.htm> (visited May 12, 2020).

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.

Undergraduate degree programs in Forensic Science are offered at nine universities in Canada (four of these programs are offered in Ontario). There are a small number of universities and colleges in Ontario, and across Canada that offer certificates in forensic science (see section 'B.4.5 Duplication' for more information).

The University of Windsor offers a Combined BA in Forensics (+ a second major) and Honours Bachelor of Forensic Science. The curriculum included in the proposed certificate is a derivative of these programs, whereby students are completing core courses in forensic science that will provide them with the theoretical understandings and practical experiences needed to have an understanding of forensic science. More specifically, the certificate consists of 8 courses: four required courses that provide a fundamental understanding of forensic science and

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

criminal investigations, one course that provides hands-on training in forensic identification, one course that introduces students to the Canadian legal context, and two advanced skills courses where students will specialize in an area of forensic science (e.g., bioterrorism, forensic medicine, etc.). The quantity of courses included in this certificate as well as the subject areas are similar to other certificate programs. As such, the courses included in this certificate are **consistent with the state of the discipline**.

Please see section C.2 for a summary of courses included in the certificate.

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.

To the best of our knowledge, within Ontario, Ryerson is the only university that offers a certificate in forensic science (see section 'B.4.5 Duplication' for more information). As such, the proposed certificate program will offer a **unique contribution** to the discipline.

A **distinguishing feature** of the proposed certificate is that it allows students to complete their degree while simultaneously earning a certificate. This certificate can be combined with both science and non-science degrees, thus providing an opportunity for students from varying backgrounds to collaborate, share perspectives, and approaches. This certificate provides more depth than a minor, focuses on various aspect of the discipline, and includes both online and in-class courses offering flexibility to students.

This certificate offers courses in a blended format. Some courses are only available online, some courses are available only face-to-face, and some courses are offered both online and face-to-face providing allowing students to choose their preferred mode of delivery (see below). Students must be available to attend face-to-face courses. The program offers an **innovative curriculum**, including introductory-level forensics and crime scene courses that are not available anywhere except through the University of Windsor on e-Campus. These introductory forensic courses typically have enrolments that exceed 200 students for each course (400+combined- in class and on-line) annually at the University of Windsor. These courses include unique and innovative learning opportunities, including access to state-of-the-art forensics technologies and analyses. The courses included in this certificate have built-in experiential learning components and high impact practices where students will engage in crime scene and moot court examinations, and practical exams. Select courses within the program are taught by practitioners (e.g., police officers and criminal lawyers) who offer professional insights and 'real-world' applications of the subject matter. This will allow students to build their professional network.

The curriculum for the proposed certificate has four major components that will allow students to gain expertise and applied experiences in forensic science. The selected courses will allow students to progress from introductory to mastery level of the certificate learning outcomes. The major components and constitutive courses are:

A. Fundamentals of forensic science (four required courses):

- FRSC 1101 (in person)/1107 (online) Introductory Crime Scene Investigation
- FRSC 2007 Introduction to Forensic Science (in person and online depending on course section)
- FRSC 2100 Crime Scene Evidence Analysis (online)
- SACR 2150 Principles of Physical Anthropology (in person)

B. Hands on skills (1 course): Students must select one course from the following:

- FRSC 3105 Forensic Identification (in person)
- FRSC 3101 Forensic Science Laboratory (in person)

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

C. Legal Context (1 course): Students must select one course from the following:

- LAWS 2190 Forensic Evidence and the Canadian Legal System (in person)
- FRSC 3010 Expert Witness in Forensic Science (in person)

D. Advanced Knowledge and Skills (2 courses): Students must select two courses from the following:

- SACR 3230 Forensic Anthropology (in person)
- FRSC 3201 Applied Entomology (in person)
- FRSC 3217 Forensic Serology and DNA Analysis (online)
- FRSC 4018 Special Topics in Forensic Science (content varies) (online or in person depending on topic)
- FRSC 4207 New Perspectives in Forensic Evidence Analysis (online)
- FRSC 4217 Advances in Human Identification (online)
- FRSC 4227 Forensic Medicine: Toxins and Pathology (online)
- FRSC 4237 Bioterrorism, Food and Environmental Forensics (online)

There are three courses included in the proposed certificate that are offered outside of the Faculty of Science, specifically Sociology, Anthropology, and Criminology (SACR-2150, SACR-3230) and Law (LAWS-2190). All three of these courses are required as part of the BA and BFSc in Forensics. With respect to the proposed certificate, **only** SACR 2150 is a required course. Since this certificate will be completed by current UWindsor students, who may already be completing these courses as part of their degree program or through electives, we do not anticipate that introducing this certificate will greatly impact the enrolment of SACR-2150. SACR-2150 is taught by a faculty member who is part of the existing Forensic Science program.

B.2.2 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 developing this program, how has consideration been given to incorporating Indigenous (First Nations, Métis, or Inuit) content, perspectives, or material into the curriculum?

The Faculty of Science has implemented a Common Ground strategy in the Faculty of Science to provide support to faculty in how to incorporate Indigenous content, perspectives, and material into the curriculum in an authentic and sustainable manner. Indigenous content, perspectives, and material may be included in various certificate courses based upon the discretion of the instructor, who will be provided with access to the resources developed as part of this strategy. Individual instructors will review course materials and identify areas where indigenous content can be integrated to provide a holistic perspective of a topic. Courses may include opportunities to discuss: vulnerable populations perspectives, the media representation of indigenous persons, ethical considerations when researching vulnerable populations, and population sampling for geographical representation.

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.

The University of Windsor defines a certificate to be “a non-degree program that... recognizes special sets of skills and knowledge not necessarily based in a single discipline...” Through its breadth, range of courses, and focus on forensic science and associated disciplines, the **Certificate in Forensic Science** fulfils this definition.

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

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.).

Labour Market Data:

The new certificate has a strong interdisciplinary focus in forensic science and the social sciences, and recognizes fundamental knowledge in forensics, crime scene investigations and evidence analysis, as well as an introduction to the legal system within Canada. One of the benefits of completing this interdisciplinary certificate is that it widens the scope of job prospects for students and allows them to draw connections between concepts across boundaries and facilitates creative and critical thinking. Following the completion of this certificate, students will be prepared for a range of careers within law, business, social sciences, management and civil services, police and security services, and forensic science.

The employment of forensic science techniques is anticipated to grow by 14% (faster than average) from 2018-2028 (Bureau of Labor Statistics, n.d; see Figure 1 and Table 1).

Figure 1: (Reference U.S. Bureau of Labor Statistics, Employment Projections program)

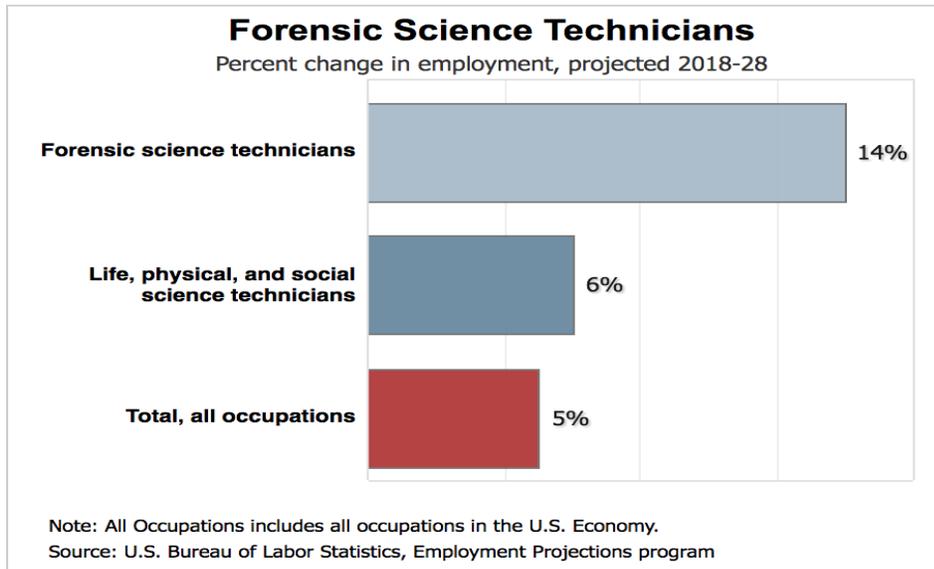


Table 1. (Reference U.S. Bureau of Labor Statistics, Employment Projections program)

Quick Facts: Forensic Science Technicians	
2019 Median Pay ?	\$59,150 per year \$28.44 per hour
Typical Entry-Level Education ?	Bachelor's degree
Work Experience in a Related Occupation ?	None
On-the-job Training ?	Moderate-term on-the-job training
Number of Jobs, 2018 ?	16,700
Job Outlook, 2018-28 ?	14% (Much faster than average)
Employment Change, 2018-28 ?	2,400

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

Multiple job searches were conducted using key words such as ‘forensic science’, ‘forensics’, and ‘forensic scientist’ (searches were performed on May 21st, 2020). Below is a summary of the number of postings by search source:

- Indeed Canada: 123 jobs (keyword ‘forensic science’); 376 jobs (keyword ‘forensics’)
- Glassdoor: 8 jobs (keyword ‘forensic scientist’)
- WOWjobs: 109 jobs (keyword ‘forensic science’)
- Forensics.ca Job Posting Board: 32 jobs

Within Ontario, labour market information and statistics suggests that there are current and projected job opportunities in many of the sectors that graduates with experience in forensic science would be prepared for (Ministry of Labour, Training and Skills Development, 2017; see Table 2 for examples). The vast majority of these positions require a university degree and/or completion of a college program, have low unemployment rates, and have a stable job outlook. Therefore, there is evidence of market demand for with skills garnered through this certificate. Please see Table 2 for examples of potential job profiles and employment statistics.

Table 2. Employment statistics

Job profile	Median income	Projected number of job openings (2017-2021)	Job outlook (2017-2021) [^]	Number of job postings	Unemployment rate
Police officers (except commissioned)	\$105,854	4,001-5,000	Average	313	0.6% ⁺
Commissioned police officers	\$140,086	201-300	Undetermined	18	2% ⁺
Correctional service officers	\$79,208	801-900	Undetermined	92	1.2% ⁺
Other professional occupations in social science	\$68,421	201-300	Average*	315	5.7%
Sheriffs and bailiffs	\$53,098	<=100	Undetermined	4	3.9% ⁺
Probation and parole officers and related occupations	\$76,003	501-600	Undetermined	7	0.5% ⁺
Other services supervisors (e.g., chief security guard)	\$42,220	1,001-2,000	Undetermined	58	5.4%
Social and community service workers (e.g., community services officer – social services)	\$50,932	10,001-15,000	Average	784	3.7% ⁺
Security guards and related security service occupations	\$35,552	10,001-15,000	Average	3991	6.5%
Employment insurance, immigration, border services and revenue officers	\$68,339	2,001-3,000	Undetermined	102	1.8% ⁺

Note: These data were gathered from the Ministry of Training, Colleges and Universities Ontario’s labour market website for the aforementioned job profiles.

[^]Job outlook ratings can tell you how future demand for this job is expected to compare with other jobs across Ontario.

*indicates this occupation was assessed as part of a broader group of similar occupations due to sample size restrictions.

⁺Unemployment rate is below the National unemployment rate (5.5% as of June 2019) within Canada:

<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410028703>

Police officers (except commissioned): <https://www.iaccess.gov.on.ca/labourmarket/jobProfile/jobProfileFullView.xhtml?nocCode=4311>

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

Commissioned police officers: <https://www.iaccess.gov.on.ca/labourmarket/jobProfile/jobProfileFullView.xhtml?nocCode=0431>
 Correctional service officers: <https://www.iaccess.gov.on.ca/labourmarket/jobProfile/jobProfileFullView.xhtml?nocCode=4422>
 Other professional occupations in social science: <https://www.iaccess.gov.on.ca/labourmarket/jobProfile/jobProfileFullView.xhtml?nocCode=4169>
 Sheriffs and bailiffs: <https://www.iaccess.gov.on.ca/labourmarket/jobProfile/jobProfileFullView.xhtml?nocCode=4421>
 Probation and parole officers and related occupations: <https://www.iaccess.gov.on.ca/labourmarket/jobProfile/jobProfileFullView.xhtml?nocCode=4155#annualJobOpeningsSection>
 Other services supervisors: <https://www.iaccess.gov.on.ca/labourmarket/jobProfile/jobProfileFullView.xhtml?nocCode=6316>
 Social and community service workers: <https://www.iaccess.gov.on.ca/labourmarket/jobProfile/jobProfileFullView.xhtml?nocCode=4212>
 Security guards and related security service occupations: <https://www.iaccess.gov.on.ca/labourmarket/jobProfile/jobProfileFullView.xhtml?nocCode=6541>
 Employment insurance, immigration, border services and revenue officers: <https://www.iaccess.gov.on.ca/labourmarket/jobProfile/jobProfileFullView.xhtml?nocCode=1228>

The labour data from job searches and the Ministry of Labour, Training and Skills Development labour market analysis provide support that there are current and projected job openings in forensic science, policing, and related fields. Course enrollment data suggests considerable existing interest among UWindsor students to complete the courses offered within the certificate program (see Table 3 in Section B.4.4.).

Based upon the review of student enrollment (see Table 3) and market demand as well as literature, the proposed certificate program will assist students with the development of theoretical and hands-on skills in forensic science addressing a current gap in the labour market.

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.

The percentages of domestic and international students enrolling into the certificate are likely to represent the range of students already enrolled at the University of Windsor.

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.

<i>Projected enrolment levels for the first five years of operation. (If the program is in operation, use actual and projected data.)</i>	First Year of Operation	Second Year of Operation	Third Year of Operation	Fourth Year of Operation	Fifth Year of Operation (Steady-state enrolment overall)
<i>In the regular program (non-co-op)</i>	15	25	35	45-50	50
<i>In the co-op/experiential learning stream (if applicable)</i>					
<i>For co-op option: projected number of international students enrolled in the co-op stream</i>					

<i>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)</i>	15
--	----

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

<i>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)</i>	
---	--

We assume a gradual uptake of the certificate: enrolment of 15 students in first year of operation, 10 in second, 10 in third, reaching a steady state intake of 10-15 in fourth year, for a total of 50 for the steady state.

B.4.3 Collaborative Program (QAF section 1.6)

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

N/A

B.4.4 Societal Need (Ministry section 6)

<i>Describe the tools and methodology used to assess societal need.</i>
<i>Elaborate on the</i> <i>1) dimensions of (e.g., socio-cultural, economic, scientific, or technological),</i> <i>2) geographic scope of (e.g., local, regional, provincial, or national), and</i> <i>3) anticipated duration of, and trends in,</i> <i>societal need for graduates of the new program</i>
<i>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.</i>

Forensic science is the application of science, and the scientific method to the judicial system. According to the Canadian Society of Forensic Science (n.d.), forensic science “is used to enforce laws and government regulations and statutes, to resolve disputes, to assess blame and establish responsibility, and to improve public safety” (para 3). Forensic science has applications to both criminal and civil proceedings. Given the scope of forensics, it is critically important for lawyers, judges, enforcement officials, and the public to understand the applications and limitations of forensic science (Canadian Society of Forensic Science, n.d.).

In Canada, forensic sciences are a cornerstone in any effective justice system; experts on a multidisciplinary report unanimously concluded that forensic sciences must grow and develop in Canada to enhance public health, safety, and justice (Pollanen, Bowes, VanLaerhoven, & Wallace, 2012). In the ever-changing global scene of population growth and crime, the demand for forensic investigators is increasing in many fields including but not limited to: law enforcement agencies, financial institutions, hospitals, military, environmental protection agencies, food and agriculture, border protection services, and private institutions. As such, students in different degree programs (e.g., computer science, biology, chemistry, criminology) are likely to be interested in this certificate. Information on anticipated labour and student market demand trends can be found in section B. 4.1.

The American Chemical Society (ACS) Forensic Science position statement emphasizes the important role that forensic science has in the investigation of domestic and international incidents, national security, and public health and safety. In particular, they ask policy makers to support forensic science reform through in the following ways:

- Strengthen scientific rigor within the forensics culture and expand and integrate forensic science research with the larger scientific community, including ACS

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

- Validate and improve the accuracy of forensic analytical methods
- Monitor and ensure the quality of forensic science education and practice (American Chemical Society, n.d.).

To accomplish these aims, academic institutions must expand their forensic science curriculum which will contribute to the training of future forensic science practitioners.

This proposed certificate will be designed to offer students flexible learning opportunities to learn various aspects of crime scene management, forensic evidence analysis, bioterrorism, food and environmental forensics, forensic pathology, law, and court testimony, etc. The possession of these skills has good market value (Bureau of Labor Statistics, n.d.; Ministry of Labour, Training and Skills Development, 2017) and this is evident by the increasing enrolment in the on-campus and online courses being offered by the Forensic Sciences Program at the University of Windsor.

This proposal builds on the success of the existing courses in forensic sciences that have significantly contributed to a 72% growth in science enrolments since 2011 and 573% growth in course enrolment within interfaculty programs since 2014 at the University (see Table 3). Table 3 demonstrates that many of the FRSC courses are at or close to capacity; however, a high percentage of the students taking the introductory courses are either non-forensic and/or non-science students (e.g. criminology majors) interested in forensic science. As such, growth in the introductory courses is expected to be minimal. The introduction of the certificate is a way for such students to formalize their interest. Indeed, such formalization is advantageous in that it also allows planning for future growth in the upper-year courses and additional allocation of resources if required.

Table 3. Current course offerings in Forensic Sciences at University of Windsor

Course No.	Course Name	Enrolment											
		Winter 2015	Fall 2015	Winter 2016	Fall 2016	Winter 2017	Fall 2017	Winter 2018	Fall 2018	Winter 2019	Fall 2019	Winter 2020	Fall 2020
FRSC 1107/ 1101 57-110	Introductory Crime Scene Investigation		200 (200)		200		257 (250)		253		247		52+ 198 +134 (I/S)
FRSC 2007 57-201	Introduction to Forensic Science	325 (300)		400 (400)		400		459 (450)		455		193+ 251	165 (added)
FRSC 2100 57-210	Crime Scene Evidence Analysis		102 (100)		108		114		130 (120)		102		107
FRSC 3217	Forensic Serology and DNA Applications									59 (60)		60	
FRSC 3101	Laboratory in Forensic Science		27 (24)		30		22		22		22		N/O
FRSC 3105	Forensic Identification	39 (40)		22		38		30		41		N/O	
FRSC 3111	Digital Photography	19 (40)		40		36		22		30		38	
FRSC 3010	Expert Witness		23 (40)		26		37		35		40		40
FRSC 3201 / 14-57- 304	Insect Evidence / Applied Entomology		16 (12)		12		N/A		2		19 (18)		23 (24)
FRSC 4207 57-410	New Perspectives in Forensic Evidence Analysis				45 (50)		43		46		43		47

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

FRSC 4217 57-411	Advances in Human Identification			76 (50)		54		50		41		62	
FRSC 4227 57-480	Forensic Medicine: Toxins and Pathology							40 (40)		35		46	
FRSC 4237 57-482	Bioterrorism, Food and Environmenta l Forensics									50 (50)		39	
LAWS 2190/99- 215	Forensic Evidence and the Canadian Legal System		15		37		36		44 (50)		29 (30)		42 (40)
SACR 2150 / 48-215	Principles of Physical Anthropology		38		47		68 (80)			60 (50)	51 (50)		99 (100)
SACR 3230	Forensic Anthropology			18 (50)		19		30		27		49	

Note: Numbers in brackets indicate enrolment caps – if no number, not changed from previous year.

The certificate is designed to provide added value to students already enrolled in degree programs at the University of Windsor and was intentionally created to be interdisciplinary and available to science and non-science students. The benefit of this certificate is that it allows student to earn two credentials in a four-year span. The certificate structure provides students with an opportunity to gain exposure and experience with forensic science which may prepare them for post-graduate education. Through this unique package of existing courses, students will gain an in-depth understanding of forensic theories, complemented with practical experiences in forensic investigation and identification designed to prepare students for careers as crime scene officers, border services officer, behaviour profiler, internet security analyst, forensic psychologist, etc.

Given that this undergrad certificate is dependent on enrollment in other programs at the University of Windsor (i.e., students have to be enrolled in a degree program) and there are a limited number of additional new courses being offered, a full external review of societal need was not required.

References

American Chemical Society. (n.d.). Forensic science: ACS position statement. Retrieved from <https://www.acs.org/content/acs/en/policy/publicpolicies/science-policy/forensic-science.html>

Canadian Society of Forensic Science. (n.d.). What is forensic science. Retrieved from <https://www.csfs.ca/student-zone/student-zone/>

Ministry of Labour, Training and Skills Development. (2017). Ontario's labour market. Retrieved from <https://www.ontario.ca/page/labour-market>

Pollanen, M., Bowes, M., VanLaerhoven, S., Wallace, J. (2013). Forensic science in Canada: A report of multidisciplinary discussion. Retrieved from <https://www.crime-scene-investigator.net/forensic-science-in-canada.pdf>

Bureau of Labor Statistics. (n.d.) U.S. Department of Labor, Occupational Outlook Handbook, Forensic Science Technicians, on the Internet at <https://www.bls.gov/ooh/life-physical-and-social-science/forensic-science-technicians.htm> (visited May 12, 2020).

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

B.4.4.1 Societal Need – Letters, Surveys, Statistics

<ul style="list-style-type: none"> 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	___ No, explain below
<ul style="list-style-type: none"> 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. 	___ Yes	_X_ No, explain below
<ul style="list-style-type: none"> 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.)? 	___ Yes	_X_ No, explain below
<ul style="list-style-type: none"> 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? 	___ Yes	_X_ No, explain below
If yes, append letters, survey or statistics to proposal.		
If no, explain:		
We have not undertaken a full consultation with industry and community partners regarding this certificate. Given that this undergrad certificate is dependent on enrollment in other programs at the University of Windsor and consists of existing courses, a full external review of societal need was not required. However, based upon the review of the literature there is evidence of societal need for the program.		

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.ucc.ca/showdcu.html. Also, list similars program in the geographically contiguous area, e.g., Michigan/Detroit.

Within Canada, there are seven degree programs in forensic science. Five of these programs are offered at Ontario universities:

- University of Toronto, Mississauga, Forensic Science Honours BSc
- Laurentian University, BSc Forensic Science; BA Forensic Identification
- University of Windsor, Honours Bachelor of Forensic Science; Combined BA Honours in Forensics
- Trent University, Honours BSc. F.S in Forensic Science; Joint Major in Forensics
- University of Ontario Institute of Technology, Bachelor of Science (Honours), Bachelor of Science and Management (Honours)

The course requirements of the aforementioned degree programs are much more than the course requirements of the proposed certificate program.

To the best of our knowledge there is one certificate in Forensic Science within Ontario:

- Ryerson University, Computer Security and Digital Forensics

There are also three colleges in Ontario that offer programs in Forensic Science:

- Humber College, Forensic Identification (Ontario Graduate Certificate)
- Humber College, Forensic Practice (Ontario Graduate Certificate)
- Fleming College, Biotechnology-Advanced Diploma
- Seneca College, Biotechnology-Advanced Diploma

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

- Seneca College, Fraud Examination & Forensic Accounting (Ontario College Graduate Certificate)
- Algonquin College, Forensic Accounting and Fraud Investigations (Ontario College Graduate Certificate)

The first five college programs are likely to provide students with some theoretical and procedural components of specific aspects of forensic science, while the last are more related to accounting. However, the courses included within the proposed certificate will provide a broader scope of scientific literature and theoretical concepts within forensics and social sciences (e.g., law).

To the best of our knowledge, there is only one certificate in forensic science within Ontario offered by an Ontario University; however, there are several offered by colleges. This certificate, offered at Ryerson University, has a specialized focus in computer security and digital forensics. There is no anticipated overlap between Ryerson's program and the proposed certificate program. As such, the proposed program is a unique and innovative opportunity to fill a gap in programming designed to prepare students with career-ready forensic science skills fully integrated into an interdisciplinary background.

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.

Within Ontario, there is only one known certificate program in Forensic Science, which has a focus on computer security and digital forensics. There is no anticipated overlap between our proposed certificate and Ryerson's certificate program. Furthermore, the proposed certificate is unique in that it includes online courses, covers a broad range of forensic science topics, and will expose students to state-of-the-art forensic technologies and analyses. This certificate program requires no additional resources, therefore, the benefits of offering this program far outweigh any potential risks.

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.

The Faculty of Science is committed to supporting this certificate. All courses within this certificate program are offered within the current academic calendar so there are no additional resources required. These courses are regularly offered by faculty members within Science. Faculty leading courses in this certificate have expertise that are central to this program.

Administrative tracking will be provided within the UWinsite system. The Academic Advisor within the Faculty of Science will advise students on matters related to completing this certificate to ensure appropriate sequencing and course selection. The program is intended as a value-added opportunity, and as part of a suite of certificate programs that will enhance enrolment in science overall.

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

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.

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			
Dr. John Albanese, Associate Professor	N/A	Forensic Science & Sociology/Anthropology and Criminology	Forensic Science & Sociology/Anthropology and Criminology
Dr. Sherah VanLaerhoven, Associate Professor	N/A	Forensic Science & Integrative Biology	Forensic Science & Integrative Biology
Category 2: Tenure-track Professors teaching exclusively in this AAU			
...			
Category 3: Ancillary Academic Staff such as Learning Specialists Positions			
Dr. Pardeep Jasra, Learning Specialist	N/A	Forensic Science & School of the Environment	Forensic Science & School of the Environment
Dr. Shashi Jasra, Learning Specialist	N/A	Forensic Science & BioMedical Sciences	Forensic Science & BioMedical Sciences
Category 4: Limited-term Appointments teaching exclusively in this AAU			
...			
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			
...			
Category 6: Sessionals and other non-tenure track faculty			
Steve Hubley, Sessional Instructor and Adjunct Assistant Professor of Practice	N/A	Forensic Science	Forensic Science

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

Brian Manarin, Sessional Instructor and Adjunct Professor (LAW)	N/A	Faculty of Law	Forensic Science
Jennifer McLean, Sessional instructor	N/A	Forensic Science	Forensic Science
Gary Scoyne, Sessional instructor and Adjunct Assistant Professor of Practice	N/A	Forensic Science	Forensic Science
Category 7: Others – Tenure, tenure-track, LTA professors, or sessionals involved in teaching and/or supervision in other AAUs.			
Maria Cioppa, Associate Professor, Forensic Programs Administrator,	N/A	School of the Environment, Forensic Programs	School of the Environment, Forensic Programs

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 Faculty of Science is committed to supporting this certificate, and the Dean of Science has published on the need for high impact and experiential learning. All certificate courses will be led by specialists in the area who have expertise in the subjects that are central to this program. Given that the courses within the certificate are already being offered within the current academic calendar, there is already a sufficient number of highly qualified faculty to support this proposed program. These expert faculty have published in leading national and international journals on topics (or similar topics) to the courses offered within the program.

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 courses within the certificate program are part of two larger degree programs: Honours Bachelor of Forensic Science (BFS) and Combined Bachelor of Arts in Forensics. The required or elective forensic courses taught within the full degree programs by non-permanent appointments represents only 5/18 courses (~27%) with 2-3 additional courses taught by full time faculty on overload. Sessional instruction is included in these full degree programs where the sessional instructors provide a clear industry expertise and experience that is not possible in tenure-or permanence-track faculty. The use of sessional instructors within the full program has not influenced the sustainability of these degree programs and was not identified as an issue in the last IQAP review.

Within the proposed certificate, only 4 of 15 courses are taught by non-permanent staff (see section [B.5.1.5a](#) for a summary table). As enrolment grows in these degree programs, additional permanent resources will be allocated to

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

support this program. The creation of the certificate will ensure that we have sustainable and appropriate-sized sections and can limit the number of electives at a savings that is to be invested in new faculty hires.

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.

N/A

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*

The courses within the certificate program are offered within the current undergraduate academic calendar. Students from other program can already take the courses in the certificate and this certificate is recognizing their activity and ensure that if they complete a specific combination of courses, they will earn a degree and certificate simultaneously. As such, there is already adequate resources available and a commitment to sustaining the educational experience of undergraduate students within the forensic programs.

Additional sections of specific courses (e.g. FRSC 3010, FRSC 3105, FRSC 3111, LAWS 2190) are already anticipated to be required as enrolment in the programs has increased in the last couple of years. This increase will require additional space and equipment, and this is currently under discussion with the Faculty of Science office. However, no new resources beyond those already planned are required to offer this certificate.

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 other 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.*

The courses within the certificate program are offered regularly within the current undergraduate academic calendar. For some science students, the courses within the certificate are already used as options within their degree program. There are two courses within this certificate from Sociology, Anthropology, and Criminology. SACR-2150 is a required course and SACR-3230 is an elective. These two courses are already required courses for the BA and BFSc in Forensics, and their enrolment typically consists of 50% forensic students and 50% non-science

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

(SACR) students. Since this certificate will be completed by current UWindsor students, who may already be completing these courses as part of their degree program or through electives, we do not anticipate that introducing this certificate will greatly impact the enrolment of SACR-2150, which is taught by a faculty member who is part of the existing Forensic Science program. There is also one elective course from Law (LAW-2190). This course is also a required course for the BA and BFSc in Forensics. LAW 2190 is not a required course in this certificate program. Instead, students can choose to take LAW 2190 or FRSC 3010 so this choice minimizes the reliance on resources from other units. All other courses within the program are offered within the Faculty of Science, so there is minimal reliance on existing resources from other campus units.

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.

N/A

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.)

N/A

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:	No change beyond what is expected from normal enrollment growth
Staff:	No change beyond what is expected from normal enrollment growth
GA/TAs:	No change beyond what is expected from normal enrollment growth

The courses within the certificate program are part of two larger degree programs: Honours Bachelor of Forensic Science (BFS) and Combined Bachelor of Arts in Forensics. In the last two years, “normal enrolment growth” has led to adding sections of several courses, increasing enrolment in others, modifying course requirements (adding lab sections and TAs), and introducing several pilot special topics courses (including a Destination Science field course at Strathclyde University). The Faculty of Science has supported these curriculum changes and has committed to support the additional costs as enrolment continues to increase. As enrolment grows in these degree programs, additional permanent resources will be allocated to support this program. As noted in the table below, the courses included in the certificate are primarily taught by full-time faculty (i.e., 11 of 15 courses). Sessional instructors are relied on when industry expertise and experience is required and is not available in tenure-or-permanence-track faculty.

Course	Instructor	Rank
*FRSC 1101/1107 Introductory Crime Scene Investigation (Required)	Dr. Pardeep Jasra	Learning Specialist
*FRSC 2007 Introduction to Forensic Science (Required)	Dr. Shashi Jasra / Dr. Pardeep Jasra	Learning Specialist
*FRSC 2100 Crime Scene Evidence Analysis (Required)	Dr. Shashi Jasra	Learning Specialist

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

*SACR 2150 Principles of Physical Anthropology (Required)	Dr. John Albanese	Associate Professor
FRSC 3105 Forensic Identification (Elective)	Constable Gary Scoyne (Ret.) Constable Wade Knaap (Ret.)	Sessional Instructor and Adjunct Assistant Professor of Practice (Scoyne)
*FRSC 3101 Forensic Science Laboratory (Elective)	Dr. Shashi Jasra	Learning Specialist
LAWS 2190 Forensic Evidence and the Canadian Legal System (Elective)	Dr. Brian Manarin	Sessional Instructor and Adjunct Professor (LAW)
FRSC 3010 Expert Witness in Forensic Science (Elective)	Constable Steve Hubley	Sessional Instructor and Adjunct Assistant Professor of Practice
*SACR 3230 Forensic Anthropology (Elective)	Dr. John Albanese	Associate Professor
*FRSC 3201 Applied Entomology (Elective)	Dr. VanLaerhoven	Associate Professor
FRSC 3217 Forensic Serology and DNA Analysis (Elective)	Ms. Jennifer McLean	Sessional instructor
*FRSC 4207 New Perspectives in Forensic Evidence Analysis (Elective)	Dr. Pardeep Jasra	Learning Specialist
*FRSC 4217 Advances in Human Identification (Elective)	Dr. Shashi Jasra	Learning Specialist
FRSC 4227 Forensic Medicine: Toxins and Pathology (Elective)	Dr. Shashi Jasra	Learning Specialist
FRSC 4237 Bioterrorism (Elective)	Dr. Pardeep Jasra	Learning Specialist

Note: * indicates courses taught as part of the normal teaching load by full-time faculty.

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:	No change
Teaching and Learning Support:	No change
Student Support Services:	No change
Space and Facilities:	No change beyond what is expected from normal enrollment growth
Equipment (and Maintenance):	No change beyond what is expected from normal enrollment growth

The Faculty of Science has demonstrated commitment to the growth of this program by investing in new equipment in the last two years and continues to explore opportunities to further develop and support the program. This has allowed the changes mentioned in B.5.1.5a.

C. Program Details

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.

All students who have met the entrance requirements for Science or who are in good standing are eligible to

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

register for the certificate program. Open only to students currently enrolled in a degree program and in good academic standing in their program.

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.

All students who have met the entrance requirements for Science or who are in good standing are eligible to register for the certificate program. For some science students, the courses required are already part of their degree program; therefore, these students should be able to meet the intended learning outcomes for the certificate program. For those students who complete these courses as electives within their degree program, proper course sequencing will ensure students will be prepared for the successful attainment of the intended learning outcomes. The Academic Advisor within the Faculty of Science will advise students on matters related to completing this certificate to ensure appropriate sequencing and course selection.

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.

Certificate in Forensic Science

Total courses: 8

Degree requirements:

Fundamentals of forensic science (four required courses):

- FRSC 1101/1107 Introductory Crime Scene Investigation
- FRSC 2007 Introduction to Forensic Science
- FRSC 2100 Crime Scene Evidence Analysis
- SACR 2150 Principles of Physical Anthropology

Hands on skills (1 course): Students must select one course from the following:

- FRSC 3105 Forensic Identification
- FRSC 3101 Forensic Science Laboratory

Legal Context (1 course): Students must select one course from the following:

- LAWS 2190 Forensic Evidence and the Canadian Legal System
- FRSC 3010 Expert Witness in Forensic Science

Advanced Knowledge and Skills (2 courses): Students must select two courses from the following:

- SACR 3230 Forensic Anthropology
- FRSC 3201 Applied Entomology
- FRSC 3217 Forensic Serology and DNA Analysis
- FRSC 4207 New Perspectives in Forensic Evidence Analysis
- FRSC 4217 Advances in Human Identification
- FRSC 4227 Forensic Medicine: Toxins and Pathology
- FRSC 4237 Bioterrorism

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

This certificate program is designed for science but is also available to any student with an interest in forensic sciences who has available electives.

Courses used to calculate the major average are:

N/A (see C.3.2 for requirements for continuation and graduation).

Description of thesis option (if applicable): N/A

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]: N/A

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

Guidelines for experiential learning/co-op work term reports: N/A

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

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

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

N/A

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.

N/A

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

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]*

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

Minimum of 60% in all courses taken for the certificate.

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

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 as set out in Senate policy. Specify standing required for graduation in the experiential learning option or co-op option of the program, where applicable.

Minimum of 60% in all courses taken for the certificate.

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).

YEAR 1: FRSC 1101/1107, FRSC 2007,

YEAR2: FRSC 2100, SACR 2150

YEAR 3: LAWS 2190 or FRSC 3010, FRSC 3105 or FRSC 3101

YEAR 4: Two advanced knowledge and skills courses

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

COMPLETE THIS TABLE FOR UNDERGRADUATE PROGRAMS

*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 DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS**

FORM A

<p>Program Learning Outcomes (Degree Level Expectations) <i>This is a sentence completion exercise. Please provide a minimum of 1 learning outcome for each of the boxes associated with a graduate attribute.</i></p> <p><u>At the end of this program, the successful student will know and be able to:</u></p>	<p>Characteristics of a University of Windsor Graduate</p> <p><u>A UWindsor graduate will have the ability to demonstrate:</u></p>	<p>COU-approved Undergraduate Degree Level Expectations</p>
<p>A. Identify, integrate, and apply the fundamentals of forensic science, crime scene investigation and evidence analysis as applied to the human species.</p>	<p>A. the acquisition, application and integration of knowledge</p>	<p>1. Depth and Breadth of Knowledge 2. Knowledge of Methodologies 3. Application of Knowledge 5. Awareness of Limits of Knowledge</p>
<p>B. Collect, review, and evaluate scientific research within the context of forensic science and forensic case studies.</p>	<p>B. research skills, including the ability to define problems and access, retrieve and evaluate information (information literacy)</p>	<p>1. Depth and Breadth of Knowledge 2. Knowledge of Methodologies 3. Application of Knowledge 5. Awareness of Limits Knowledge</p>
<p>C. Critically analyze crime scenes and apply appropriate analytical techniques to forensic investigations and evidence analysis.</p>	<p>C. critical thinking and problem-solving skills</p>	<p>1. Depth and Breadth of Knowledge 2. Knowledge of Methodologies 3. Application of Knowledge 5. Awareness of Limits of Knowledge</p>
<p>D. Construct arguments that present evidence clearly, concisely, and coherently (also relevant to F).</p>	<p>D. literacy and numeracy skills</p>	<p>4. Communication Skills 5. Awareness of Limits of Knowledge</p>
<p>E. Investigate, analyze, interpret and present forensic evidence according to relevant legal, ethical, and professional protocols (also relevant to G).</p>	<p>E. responsible behaviour to self, others and society</p>	<p>5. Awareness of Limits of Knowledge 6. Autonomy and Professional Capacity</p>
<p>F. Communicate forensic science ideas using written, spoken, numerical, and visual formats (also relevant to D)</p>	<p>F. interpersonal and communications skills</p>	<p>4. Communication Skills 6. Autonomy and Professional Capacity</p>
<p>G. Debate and discuss current issues in forensic science.</p>	<p>G. teamwork, and personal and group leadership skills</p>	<p>4. Communication Skills 6. Autonomy and Professional Capacity</p>
<p>H. Describe the role and limitations of professional experts in forensic science.</p>	<p>H. creativity and aesthetic appreciation</p>	<p>2. Knowledge of Methodologies 3. Application of Knowledge 6. Autonomy and Professional Capacity</p>
<p>I. Recognize and identify trends, new techniques, and developments within forensic science.</p>	<p>I. the ability and desire for continuous learning</p>	<p>6. Autonomy and Professional Capacity</p>

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

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.

Through completion of the certificate's courses, students will be provided with the knowledge, skills, and abilities to understand a range of scientific literature, critically analyze crime scenes and apply appropriate analytical techniques to forensic investigations, and apply the fundamentals of forensic science. The Dean's office within the Faculty of Science and the Academic Advisor for Science will oversee that certificate requirements are being met.

The certificate consists of 8 courses: four required courses that provide a fundamental understanding of forensic science and criminal investigations, one course that provides hands-on training in forensic identification and/or crime scene analysis, one course that introduces students to the Canadian legal context, and two advanced skills courses where students will specialize in an area of forensic science (e.g., bioterrorism, forensic medicine, etc.). Course specific assessments will be used to evaluate students' mastery of the certificate learning outcomes. These assessments may include, though are not limited to: standard lectures with active learning techniques embedded (e.g., debates, discussions), laboratories, mock crime scene and moot court practical experiences, integrative review of research papers, presentations, and written assignments. Furthermore, the structure of the certificate program is scaffolded to ensure students can meet the learning outcomes as well as progress from 'introduction' to 'mastery' of the certificate learning outcomes. Please see Table 5 for a summary of the certificate curriculum map.

Table 5. Curriculum map

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
FRSC-1101/1107	I	I	I	I	I	I	I	I	I
FRSC-2007	I	I	I	I	I	I		I	I
FRSC-2100	R		R	R	R	R	R	R	R
SACR-2150	R		R	R		R		R	R
FRSC-3105 or FRSC 3101	R	R		R	R	R		R	R
LAWS-2190 or FRSC-3010	R	R		R		R		R	
Two courses in 'Advanced Knowledge and Skills'	M	M	M	M	M	M	M	M	M

* = Required course; all other categories provide choice in course selection

LO = learning outcome

I = Introduction

R = Reinforce

M = Mastery

PLO1: Identify, integrate, and apply the fundamentals of forensic science, crime scene investigation and evidence analysis as applied to the human species.

PLO2: Collect, review, and evaluate scientific research within the context of forensic science and forensic case studies.

PLO3: Critically analyze crime scenes and apply appropriate analytical techniques to forensic investigations and evidence analysis.

PLO4: Construct arguments that present evidence clearly, concisely, and coherently (also relevant to F).

PLO5: Investigate, analyze, interpret and present forensic evidence according to relevant legal, ethical, and professional protocols (also relevant to G).

PLO6: Communicate forensic science ideas using written, spoken, numerical, and visual formats (also relevant to D)

PLO7: Debate and discuss current issues in forensic science.

PLO8: Describe the role and limitations of professional experts in forensic science.

PLO9: Recognize and identify trends, new techniques, and developments within forensic science.

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

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.

N/A

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.

Introductory and technique-focused courses primarily rely on face-to-face offerings, with **some** courses offered online (see list in section B.2.1) Course delivery may vary according to instructor; however, courses may include: standard lectures with active learning techniques embedded (e.g., debates, discussions), laboratories, mock crime scene and moot court practical experiences, integrative review of research papers, presentations, and written assignments.

The modes of delivery and the teaching methods used will provide students with a variety of learning experiences and assist them in developing the knowledge, skills, and abilities to meet the learning outcomes.

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 <i>per week</i> the Student is Expected to Devote to Each Component Over the Course of the Program
Lectures	2-3
Tutorials	0-1
Practical experience/labs	0-3
Service or experiential learning	
Independent study	2-3
Reading and work for assessment, including meeting classmates for group work/project assignments (essays, papers, projects, laboratory work, etc.)	2-3
Studying for tests/examinations	1
Other: <u>[specify]</u>	

Compare the student workload for this program with other similar programs in the AAU:
The majority of courses in the certificate program are offered as courses for students in science programs. Therefore, the workload of this certificate program will be consistent with the level of efforts required in science programs.

D. 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.

Curriculum mapping was undertaken to ensure assessments were sufficiently measuring students' ability to meet the indent learning outcomes. These planned assessment activities are intended to focus on achievement of knowledge and skills in forensic science. This is consistent with the stream learning outcomes. Assessments may take different forms, including though not limited to: examinations, written documents (e.g., research papers,

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

literature reviews, essays), practical exams, debates/discussions, crime scene and moot court examinations/presentations, and presentations. Following the completion of curriculum mapping, it is evident that assessments adequately align with, and measure students' achievement of the program learning outcomes (see Table 5 for a copy of the curriculum map).

For an overview of assessment methods that may be used to evaluate students' achieving the learning outcomes please see Table 6: Alignment of assessments & learning outcomes.

The academic advisor within the Faculty of Science will be responsible for overseeing that requirements are being met as well as how student process through the program. As questions arise, students can consult the academic advisor.

Table 6. Alignment of assessments & learning outcomes

Courses	Assessments*	Alignment with Program Learning Outcomes (PLO)	Sequence
Fundamentals Four Required Courses			
FRSC-1101/1107	Examinations, case study presentations, discussion	PLO1-PLO9	Year 1
FRSC-2007	Examinations, discussion, assignments	PLO1-PLO6, PLO8, PLO9	Year 1
FRSC-2100	Examinations, assignments, discussion	PLO1, PLO3-PLO9	Year 2
SACR-2150	Examinations	PLO1, PLO3, PLO4, PLO6-PLO9	Year 2
Hands on skills One course from:			
FRSC-3105	Mock crime scene and moot court examination/presentation, critical review, individual/peer evaluation, examinations	PLO1, PLO2, PLO4-PLO6, PLO8, PLO9	Year 3
FRSC-3101	Examinations, discussion, lab exam	PLO1, PLO2, PLO4-PLO6, PLO8, PLO9	Year 3
Legal Context One Course from:			
LAWS-2190	Examinations	PLO1, PLO2, PLO4, PLO6, PLO8	Year 3
FRSC 3010	Examinations, paper, presentation of opinion evidence (mock courtroom testimony)	PLO1, PLO2, PLO4, PLO6, PLO8	Year 3
Advanced Knowledge and Skills Two courses from:			
SACR-3230	Practical examination, case report	PLO1-PLO9	Year 4
FRSC-3201	Examinations, assignments, insect collection	PLO1-PLO9	Year 4
FRSC-3217	Examination, assignments	PLO1-PLO9	Year 4
FRSC-4207	Examination, assignments, discussion, peer review assignment, written assignment, class activities	PLO1-PLO9	Year 4
FRSC-4217	Examinations, peer review assignment, discussion, research paper	PLO1-PLO9	Year 4
FRSC-4227	Examination, research paper, discussion	PLO1-PLO9	Year 4

**PROGRAM DEVELOPMENT COMMITTEE
PROPOSAL BRIEF FOR NEW PROGRAMS
FORM A**

FRSC-4237	Examination, case study, blog submission and comments	PLO1-PLO9	Year 4
-----------	---	-----------	--------

Note: Students are provided choice in some of course requirements for the certificate. However, regardless of the electives chosen, they will provide additional opportunities for reinforcement and mastery of the learning outcomes.

* This is not a comprehensive list of assessments as there may be additional assessments used within courses that test students' achievement of certificate LOs.

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.

Students will work towards the mastery of certificate learning outcomes through the completion of eight courses. Planned assessment activities will focus on achievement of theoretical and technical skills related to forensic science, crime scene investigation and evidence analysis as well as an introduction to the legal system in Canada, aligning with the certificate learning outcomes. While there is flexibility in course selection, all courses will provide foundational knowledge and test to what extent students have achieved the learning outcomes through a variety of evaluation formats. Please see Table 5 in C.4.1 for the curriculum map and Table 6 in 'Monitoring and Evaluation' for how course assessments may align with certificate learning outcomes.

As the certificate evolves student success and performance level will be tracked through consultation, student feedback, and grades. The academic advisor within Forensic Science will be responsible for monitoring student progression and responding to student questions regarding the stream. All courses will contribute to students' attainment of the program learning outcomes.

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.]

N/A

University of Windsor
Senate

5.5.5: **Bachelor of Science Honours Chemistry (Applied Chemistry Stream) – Major Program Change (Form B)**

Item for: **Approval**

MOTION: That the Bachelor of Science Honours Chemistry (Applied Chemistry Stream) be approved.^

^Subject to approval of the expenditures required.

Rationale/Approvals:

- The Department of Chemistry and Biochemistry is proposing a new stream, Applied Chemistry, within the Honours Chemistry program to recognize the interests of CAAT graduates from a three-year Chemical Laboratory Technology program.
- The variability in Chem Lab Tech programs in Ontario has limited our offering to only St. Clair College at this time. In the future we aim to revisit the program requirement and to expand the pathways to other CAATs.
- This stream will facilitate a new degree completion pathway, structured as a '3+1' where students will earn an advanced diploma in Chemical Laboratory Technology from a recognized CAAT (or equivalent) in three years, followed by completing their degree at the University of Windsor in an additional one year.
- Students who graduate from this program will obtain a BSc degree which is the same qualification as someone completing a four-year BSc. The Department will provide academic consultation to the transfer students who wish to pursue professional schools and/or graduate schools, similarly to what we provide to students with direct admission from high schools.
- The proposal has been approved by the School of the Environment Council, SPDC as delegated by the Faculty of Science Coordinating Council, the Provost and Program Development Committee
- *See attached.*

**PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B**

A. Basic Program Information

Faculty(ies)	Science
Department(s)/School(s)	Department of Chemistry and Biochemistry
Name of Program as it Will Appear on the Diploma (e.g., Bachelor of Arts Honours Psychology with thesis)	Honours Chemistry - Applied Chemistry Stream
Proposed Year of Offering* [Fall, Winter, Spring]: *(subject to timely and clear submission)	Summer 2020
Mode of Delivery:	Classroom
Planned steady-state Student Enrolment (per section B.4.2)	10 students
Normal Duration for Completion:	1 year (3 terms, part/full time) following the completion of a recognized three-year College of Applied Arts and Technology (CAAT) advanced diploma or equivalent in Chemical Laboratory Technology if students complete specific math courses at St. Clair College (see C.2 Program Curriculum Structure/Program of Study) 1.5 years (5 terms, part/full time) following the completion of a recognized three-year College of Applied Arts and Technology (CAAT) advanced diploma or equivalent in Chemical Laboratory Technology if students do not complete specific math courses at St. Clair College (see C.2 Program Curriculum Structure/Program of Study).
Will the program run on a cost-recovery basis?	Yes

B. Major Program Changes - Overall Plan

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

Please provide a rationale for the proposed change, including a brief statement about the direction, relevance and importance of the revised program.

Describe the overall aim and intended impact of the revised program.

Describe the consistency of the revised 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)

Relevance and Importance: The Department of Chemistry and Biochemistry is proposing a new stream, **Applied Chemistry**, within the Honours Chemistry program to recognize the interests of CAAT graduates from a three-year Chemical Laboratory Technology program. These college graduates would have knowledge in the core sciences as well as problem-solving fundamentals for chemistry, biochemistry, physics, and math (St. Clair College, 2020). This stream will target students from Chemical Laboratory Technology programs (MCU 61302); however, additional CAAT equivalent programs across Canada could be applicable and will be reviewed for consideration on an ad-hoc basis. This stream will facilitate a new degree completion pathway, structured as a '3+1' where students will earn an advanced diploma in Chemical Laboratory Technology from a recognized CAAT (or equivalent) in three years, followed by completing their degree at the University of Windsor in an additional one year. Please note, in order for students to complete the Honours Chemistry - Applied Chemistry Stream in one year following their CAAT advanced diploma

PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B

they will need to complete specific optional math courses (described in section C.2). If students do not complete these optional math courses than it will take students approximately 1.5 years (or 5 terms) to earn the Honours Chemistry - Applied Chemistry Stream degree.

Please note, that while not part of the degree requirement, students may choose to complete a research project (CHEM-4900. Research); however, it is a 6-credit course and so it would result in those students taking a supernumerary course and complete an addition year of study (i.e., complete two years at the University of Windsor instead of one).

This new stream, which facilitates the degree completion pathway, allows the Faculty of Science to maintain competitive with other institutions who have transfer/articulation agreements in place and provides accessible and transparent opportunities for movement between postsecondary institutions, thus aligning with the Ontario Government's "Policy Statement for Ontario's Credit Transfer System" (Ontario MTCU, 2011). Specifically, this policy states:

"Ontario will have a comprehensive, transparent and consistently applied credit transfer system that will improve student pathways and mobility, support student success and make Ontario a postsecondary education destination of choice. The credit transfer system will assist qualified students to move between postsecondary institutions or programs without repeating prior, relevant learning. (Ontario MTCU, 2011)".

Through this new stream, the Faculty of Science is catering to this need for credit transfer by offering a transparent degree completion pathway which allows students to move between postsecondary institutions without repeating previously learned material. Beyond offering an accessible credit transfer system, this new stream will assist in supporting the demand for hybrid higher education in Ontario (Brown, 2016) and the projected number of job openings in relevant fields that generally have low employment rates, high salaries, and positive job outlooks (see section B.4.1 Expected Impact of the Proposed Changes to Student and Market Demand). While there are multiple job sectors for chemists to work, some of these positions require employees to have a bachelor degree; therefore, the applied stream will improve CAAT students' opportunities for employment in these fields. This new stream will increase the overall enrollment in Science, specifically in the Department of Chemistry and Biochemistry, by recruiting college graduates to complete the new stream while not requiring additional resources beyond what is associated with typical program growth. We believe our degree completion pathway, facilitated through this new stream will be an attractive option for students wanting to earn a university degree, due to the potential cost savings compared to direct entry into a four-year degree program (Trick, 2013). Students will also earn two credentials – an advanced diploma and degree in four years (assuming full time status). The Dean of Science has discussed this new stream and degree completion pathway with the Vice President Academic at St. Clair College and has received their support. St. Clair college will also help advertise and promote this program to their students as well as advise students on how to successfully transfer into this new stream (see Appendix B for their letter of support).

This new stream, although distinct from the traditional four-year Honours Chemistry degree, has been mapped to show equivalency in terms of the program-level learning outcomes and careful consideration has been given to the program standards students would have met following the successful completion of their CAAT advanced diploma (or equivalent) in order to ensure minimal duplication in curricula. The new stream offers complementary, yet equivalent, learning outcomes when compared to the traditional four-year degree. The new stream recognizes the applied experiences students will have garnered through their CAAT advanced diploma, whereas the traditional 4-year program will offer students enhanced learning opportunities such as undergraduate research experiences and access to a greater range of courses from which to choose that offer high-impact learning experiences compared to those students in the new stream. While both programs offer hands-on experiences, students in the traditional 4-year program will gain these through the University of Windsor, while students in the stream would have already acquired many of the technical laboratory skills at the college; thus, students within the new stream will not negatively impact the availability of high impact courses for students in the 4-year program. There will also be an Associate Dean hired

PROGRAM DEVELOPMENT COMMITTEE

MAJOR PROGRAM CHANGES

FORM B

to oversee the college-to-university transfer pathways in Science and they will be responsible for finding ways of fostering a cohort experience among college transfer students possibly through student groups, clubs, and other activities. It is noted that the Department of Chemistry and Biochemistry already has a successful cohort-based Masters of Medical Biotechnology (MMB) program and these learnt and developed experiences will help inform the delivery of a cohort-based experience for students in this presently proposed stream.

Aim and Impact: This new stream in **Applied Chemistry** will offer a degree completion pathway for CAAT graduates from a Chemical Laboratory Technology program. Specifically, students may obtain an Honours Chemistry - Applied Chemistry Stream following the completion of a Chemical Laboratory Technology CAAT (or equivalent) advanced diploma program (see section C.1 Admission Requirements for more information on admission).

Within Ontario, there are approximately four colleges that offer Chemical Laboratory Technology programs. Some of these programs have specialities (e.g., pharmaceutical) that limit the breadth of chemistry courses offered. Therefore, at this time, one pathway has been created for St. Clair College; however, the Department of Chemistry and Biochemistry will be collaborating with other colleges that offer Chemical Laboratory Technology to develop comparable pathways into this applied stream. See C.2. Program Curriculum Structure/Program of Study for a description of the pathway for St. Clair College.

To facilitate this degree completion pathway, we reviewed the Chemical Laboratory Technology program standards to ensure minimal duplication of course content. This degree completion pathway will help to streamline and harmonize the student experience and will provide an efficient pathway for students to combine their hands-on college education with a strong theoretical background in chemistry. Students will receive diverse learning experiences from a variety of sources, including experiential learning and high impact practices that will position them for future career success as well as opportunities to pursue post-graduate education. Please see section 'C.4 Learning Outcomes' for a detailed description of the knowledge, skills, and abilities students will have gained upon successful completion of the new program stream.

Consistency with Institutional Goals: This new stream aligns with multiple *Strategic Areas of Program Strength and Expansion* within the SMA by addressing 'Physical and Chemical Sciences' (point ten within the program areas of strength) and 'Engineering, Science, and Computing' (point three within program areas of expansion). This new stream will help address the need for trained persons who have problem-solving skills, the understanding of multiple sciences, and in-depth knowledge of chemistry. The applied experiences gained from the college, combined with the theoretical and high impact learning experiences from the University of Windsor will foster well-rounded students who are prepared for life after graduation; aligning with the University of Windsor's commitment to providing learning experiences that will prepare students for employment. This stream will facilitate partnership building with colleges (a priority within the SMA) and expand the University of Windsor's college-university pathway development, thus increasing overall enrollment.

References:

Brown, L. (2016). Transferring credits between college and university can be rocky. *Maclean's*. Retrieved from <https://www.macleans.ca/education/college/transferring-credits-between-college-and-university-can-be-rocky/>

Ontario Ministry of Training, Colleges and Universities. (2011). Policy statement for Ontario's credit transfer system. Retrieved from https://www.ontransfer.ca/files_docs/content/pdf/en/news_and_events/news_and_events_2.pdf

St. Clair College. (2020). Chemical Laboratory Technology Program Overview. Retrieved from <https://www.stclaircollege.ca/programs/chemical-laboratory-technology>

PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B

Trick, D. (2013) College-to-University Transfer Arrangements and Undergraduate Education: Ontario in a National and International Context. Toronto: Higher Education Quality Council of Ontario. Retrieved from <http://www.heqco.ca/SiteCollectionDocuments/Transfer%20Arrangements%20Trick%20ENG.pdf>

B.2 Changes to Program Content (QAF Section 2.1.4)

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

We are proposing a new stream in **Applied Chemistry** to facilitate a degree completion pathway. This new stream will recognize students who have an in-depth knowledge of chemistry (e.g., understanding chemical properties, chemical reactions, operating laboratory equipment, etc.) and analytical testing skills, as well as significant applied experience combined with problem-solving fundamentals for chemistry gained through their Chemical Laboratory Technology advanced diploma or equivalent. As such, this stream is consistent with the current discipline.

Across Canada, there are a number of diploma-to-degree pathways, and transfer and articulation agreements between universities and colleges for Chemical Laboratory Technology programs (e.g., Algoma, Royal Military College, York, Western, University of Guelph). Providing college graduates an opportunity to receive credits towards a university degree is common within the current state of the discipline. For example, institutions such as Western allows graduates of Fanshawe's Chemical Laboratory Technology- Science Laboratory program to transfer into Year 3 Western's Bachelor of Science degree. Similar articulation agreements exist with Seneca and the University of Guelph where graduates of the Chemical Laboratory Technology-Pharmaceutical program are granted up to 10 credits towards a General BSc or an Honours BSc. Transfer opportunities also between the Chemical Laboratory Technology program at St. Clair College and Algoma, Queen's University, York, and Royal Military College of Canada. York University also offers many block transfer arrangements.

Providing CAAT graduates from Chemical Laboratory Technology programs (or equivalent) an opportunity to receive credit towards a University degree or a degree completion pathway is common within the current state of the discipline.

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 the revised program from existing programs elsewhere.

The proposed new stream is innovative as it allows CAAT graduates from Chemical Laboratory Technology (or equivalent) to complete their diploma and University degree in four years (i.e., 3 years at the college and 1 year at the University). Through the degree completion pathway, from Chemical Laboratory Technology, students will be admitted into the Honours Chemistry - Applied Chemistry Stream. The enrollment in this stream will consist only of graduates from the Chemical Laboratory Technology advanced diploma program or equivalent. This structure will facilitate a sense of community and collaboration among peers.

Two-year diploma programs in relevant chemistry fields will be analyzed for additional potential credit transfer on an ad-hoc basis, while considering minimum residency and core course requirements.

The new stream will benefit students by recognizing the value of hands-on career-oriented educational experiences learned at college, while complementing these practical experiences with additional scientific knowledge gained through university courses. Additionally, this new degree completion pathway will streamline and harmonize the student experience by ensuring college course content is not duplicated, while offering a diverse learning opportunity as students will arrive from different institutions allowing for varied perspectives.

PROGRAM DEVELOPMENT COMMITTEE

MAJOR PROGRAM CHANGES

FORM B

The new stream and degree completion pathway were intentionally designed based upon the analysis of CAAT program standards set forth by the Ministry of College and Universities (MCU). Program standards apply to all similar programs of instruction offered by publicly funded colleges across the province. The development of program standards by the Ministry first started in the 1990s to bring more consistency to college programming, broaden the skills of college graduates to include essential employability skills and provide accountability for the quality and relevance of college programs (MCU, 2017). Thus, by mapping these program standards against our curriculum and utilizing the information to develop a customized program stream and degree completion pathway, rather than targeting specific programs at specific CAATs, we are able to widen our recruitment scope (see Appendix C for details on the review and analysis of CAAT program standards and curriculum mapping). In addition to working within the program standard framework set forth by MCU, these institutions are required to follow a rigorous quality review process at a program level basis on a regular frequency.

Please note, because of the variability in the type of chemistry courses offered within some of the Chemical Laboratory Technology programs, we have created one pathway for St. Clair College; however, the Department of Chemistry and Biochemistry will be collaborating with other colleges that offer Chemical Laboratory Technology to develop comparable pathways into this applied stream.

In most jurisdictions, the cost to the government and the student of a degree achieved through three years at the college followed by one year at the university is lower than a four-year university program (Trick, 2013.). As a result, our degree completion pathways allow students to gain applied educational experiences at the college, while also saving money compared to completing four years of full-time study at a university. Moreover, our 3+1 model will be an attractive option to students as most institutions' articulation agreements require students to complete more than one year at their institution.

References:

MCU. (2017). Published college program standards. Retrieved from <http://www.tcu.gov.on.ca/pepg/audiences/colleges/progstan/>

Trick, D. (2013). College-to-University Transfer Arrangements and Undergraduate Education: Ontario in a National and International Context. Toronto: Higher Education Quality Council of Ontario. Retrieved from <http://www.heqco.ca/SiteCollectionDocuments/Transfer%20Arrangements%20Trick%20ENG.pdf>

B.2.2 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 developing or revising this program, how has consideration been given to incorporating Indigenous (First Nations, Métis, or Inuit) content, perspectives, or material into the curriculum?

It is noted that the presently proposed stream does not create any new courses, instead provides a pathway to successful completion based on currently offered courses. Individual instructors within the department have previously and will continue to engage with the Indigenous community for their natural products course (BIOC-3030) and the Department of Chemistry and Biochemistry continues to reflect on, identify, pursue ways to, and include additional Indigenous perspectives and content during their current program accreditation renewal.

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

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

The proposed name for the new stream, **Applied Chemistry** recognizes both the subject area of study and the practical educational experiences students received within their CAAT advanced diploma. Therefore, we believe the name is representative of the program content and current usage in the discipline.

**PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B**

B.4 DEMAND FOR THE MODIFIED PROGRAM

B.4.1 Expected Impact of the Proposed Changes to Student and Market Demand

Describe the tools and methodology used to conduct the market assessment in support of the proposed program revisions.

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

Degree programs in chemistry offer students career paths as researchers, laboratory technicians, quality assurance superiors, and research and design managers. Students are also well positioned to pursue professional schools (medicine, pharmacy, dentistry). One of the benefits of completing this stream is that it allows CAAT graduates to pursue professional schools that they would otherwise be ineligible for following their CAAT advanced diploma. Through this stream, students will learn core chemistry, but also gain strong communication and analytical skills. Generally, individuals employed in a chemistry-related position are well paid (American Chemical Society, 2014).

Labour Market Data:

In 2017, the chemical industry employed 87,300 workers (see Table 1 and Figure 2) which represented 5.5% of all manufacturing jobs. Many in-direct jobs exist to support the purchasing and expenditure-induced activity of the chemical industry such that it supports approximately 525,000 jobs in the overall Canadian economy. Within Ontario, the chemical industry directly employed 46,200 people in Ontario (280,000 indirect jobs), an increase of 4.7% from 2016 (Chemistry Industry Association of Canada, 2017).

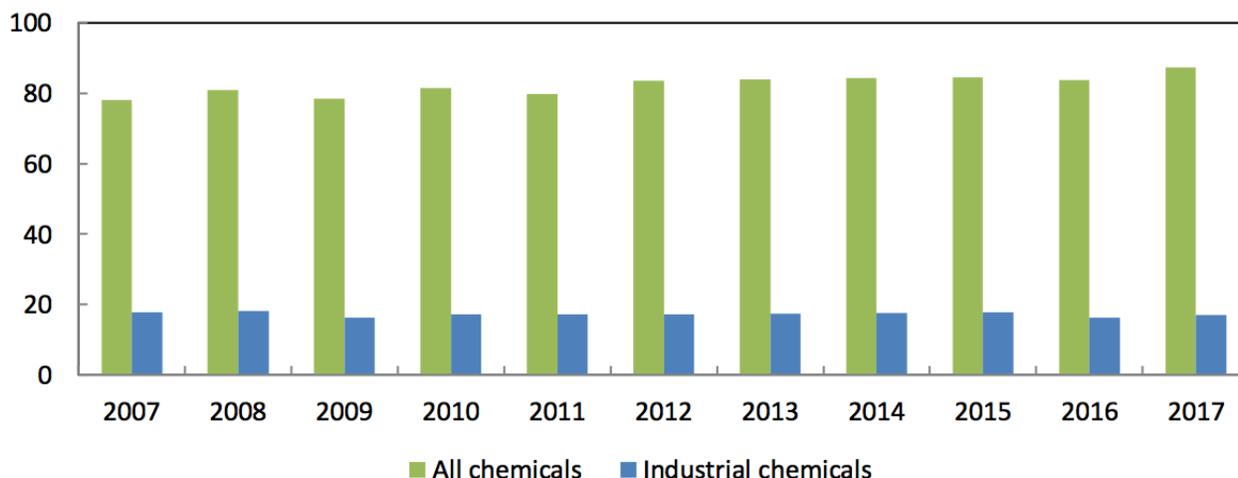
Table 1: Employment in the Canadian Chemical Industry



Total employment, thousand	2016	2017	Change 2016-17
All chemicals	83.8	87.3	4.0%
Industrial chemicals	16.3	17.0	4.3%

Chemistry Industry Association of Canada. (2017). Chemistry Industry Economic Profile, 2017. Retrieved from https://canadianchemistry.ca/wp-content/uploads/2018/06/Stats_Review_2017-FINAL.pdf

Figure 1: Chemical industry employment



PROGRAM DEVELOPMENT COMMITTEE

MAJOR PROGRAM CHANGES

FORM B

Chemistry Industry Association of Canada. (2017). Chemistry Industry Economic Profile, 2017. Retrieved from https://canadianchemistry.ca/wp-content/uploads/2018/06/Stats_Review_2017-FINAL.pdf

Multiple job searches were conducted on job posting websites using key words such as ‘chemist’, ‘chemistry’, ‘research chemist, and ‘laboratory technician’ (searches were performed on January 26th, 2020). Below is a summary of the number of postings by search and source:

- Indeed Canada: 144 jobs (keyword ‘chemist’); 811 jobs (keyword ‘chemistry’)
- LinkedIn: 1,025 jobs (keyword ‘chemist’); 1,328 jobs (keyword ‘chemistry’); 98 jobs (keyword ‘research chemist’); 705 (keyword ‘laboratory technician’)
- Workopolis: 137 jobs (keyword ‘chemist’); 1,520 jobs (keyword ‘chemistry’)

Based on these searches, there appears to be a number of positions available for chemistry graduates.

Within Ontario, labour market information suggests that there are current and projected job opportunities within chemistry and related fields (Ministry of Labour, Training and Skills Development, 2017; see Table 2 for examples). Most of these job profiles have low unemployment rates, projected job openings, and require a bachelor degree and/or the completion of a college program. However, more commonly, individuals working as policy researchers, consultants, and program officer, as chemists, and within the physical sciences have a bachelor’s degree rather than college diplomas. Therefore, students earning an advanced diploma and honours degree will improve their employment opportunities in these sectors. This combination of theoretical and applied scientific knowledge gained through the advanced diploma and degree will help ensure students are attractive candidates for these jobs.

Table 2. Employment statistics

Job profile	Median income	Projected number of job openings (2017-2021)	Job outlook (2017-2021) [^]	Number of job postings	Unemployment rate
Chemists	\$70,502	1,001-2,000	Average	167	3.1% ⁺
Chemical technologists and technicians	\$60,855	1,001-2,000	Below average	113	6.3%
Supervisors, petroleum, gas and chemical processing and utilities	\$94,813	1,001-2,000	Undetermined	0	2.7% ⁺
Natural and applied science policy researchers, consultants and program officers	\$85,673	1,001-2,000	Undetermined	89	3.3% ⁺
Other professional occupations in physical sciences	\$88,349	401-500	Average	27	7.3%

Note: These data were gathered from the Ministry of Training, Colleges and Universities Ontario’s labour market website for the aforementioned job profiles.

[^]Job outlook ratings can tell you how future demand for this job is expected to compare with other jobs across Ontario.

⁺Unemployment rate is below the National unemployment rate (5.5% as of June 2019) within Canada:

<https://www150.statcan.gc.ca/t1/tb1/en/tv.action?pid=1410028703>

Chemists: <https://www.iaccess.gov.on.ca/labourmarket/jobProfile/jobProfileFullView.xhtml?nocCode=2112>

Chemical technologists and technicians: <https://www.iaccess.gov.on.ca/labourmarket/jobProfile/jobProfileFullView.xhtml?nocCode=2211>

Supervisors, petroleum, gas and chemical processing and utilities:

<https://www.iaccess.gov.on.ca/labourmarket/jobProfile/jobProfileFullView.xhtml?nocCode=9212>

PROGRAM DEVELOPMENT COMMITTEE

MAJOR PROGRAM CHANGES

FORM B

Natural and applied science policy researchers, consultants and program officers:

<https://www.iaccess.gov.on.ca/labourmarket/jobProfile/jobProfileFullView.xhtml?nocCode=4161>

Other professional occupations in physical sciences: <https://www.iaccess.gov.on.ca/labourmarket/jobProfile/jobProfileFullView.xhtml?nocCode=2115>

Student data: The number of students seeking a baccalaureate education across all disciplines is projected to increase from 50,000 to 104,000 from 2009 to 2025 (Trick, 2013). CAAT graduation rates from Chemical Laboratory Technology (see Table 3) suggest that there is a sufficient pool of potential graduates to attract into the Applied Chemistry Stream. Furthermore, St. Clair College offers the Chemical Laboratory Technology project and we anticipate a great deal of interest from these students. We believe meeting our steady state target of 6-10 students will be very feasible and that our new stream will be an attractive option to college graduates wishing to earn a university degree due to potential cost savings and the opportunity to earn two credentials in a four-year span. Specifically, Trick (2013) estimates cost savings for college-to university transfer programs within Ontario to student who can complete a university degree in a total of four years of study (e.g., 3 years at college + 1 years at university; 3+1 model).

Following the approval of this new program stream, the Faculty of Science will formally begin their recruitment plan. This includes emailing recruitment flyers to all program coordinators of relevant business programs as well as launching a social media campaign targeted towards individuals who meet the programs demographics. In the Fall 2020, additional recruitment efforts (e.g., site visits) will take place in order to achieve the projected steady state in year two. The Dean within the Faculty of Science has discussed this new stream and degree completion pathway with the Vice President Academic at St. Clair College and has received their support. St. Clair College will help advertise and promote this program to their students as well as advise students on how to successfully transfer into this new stream (see Appendix B for the letter of support).

Table 3. Number of graduates of full-time postsecondary college programs

Program	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
Chemical Laboratory Technology (3 years)	69	111	94	133	75

Data source: Ministry of Training, Colleges and Universities. (2018). Labour Market. Retrieved from <https://www.app.tcu.gov.on.ca/eng/labourmarket/employmentprofiles/compare.asp>

Based upon the review of market demand and college graduation rates, the proposed new stream will assist students with the development of chemistry knowledge, addressing a current gap in the labour market.

References

American Chemical Society. (2014). Chemistry Employment: Domestic Workforce by the Numbers. Retrieved from <https://www.acs.org/content/acs/en/careers/salaries/surveys/salary-graduate-survey-highlights/chem-employment-survey-2014.html>

Chemistry Industry Association of Canada. (2017). Chemistry Industry Economic Profile, 2017. Retrieved from https://canadianchemistry.ca/wp-content/uploads/2018/06/Stats_Review_2017-FINAL.pdf

Ministry of Labour, Training and Skills Development. (2017). Ontario's labour market. Retrieved from <https://www.ontario.ca/page/labour-market>

Trick, D. (2013). College-to-University Transfer Arrangements and Undergraduate Education: Ontario in a National and International Context. Toronto: Higher Education Quality Council of Ontario. Retrieved from <http://www.heqco.ca/SiteCollectionDocuments/Transfer%20Arrangements%20Trick%20ENG.pdf>

**PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B**

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 expect all students to be domestic.

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

Provide details on projected enrolments for the revised program 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.

<i>Projected enrolment levels for the first five years of operation of the revised program. (If the program is in operation, use actual and projected data.)</i>	First Year of Operation	Second Year of Operation	Third Year of Operation	Fourth Year of Operation	Fifth Year of Operation (Steady-state enrolment overall)
<i>In the regular program (non-co-op)</i>	6	10	10	10	10
<i>In the co-op/experiential learning stream (if applicable)</i>					
<i>For co-op options: projected number of international students enrolled in the co-op stream</i>					

<i>Annual projected student intake into the first year of the revised 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)</i>	10
<i>Annual projected student intake into the first year of the co-op/experiential learning version of the revised 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)</i>	N/A

B.4.3 New Involvement in a Collaborative Program/Changes to Collaborative Program (QAF section 1.6)

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

N/A

B.4.4 Evidence of Societal Need for the Revised Program (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 modified program

PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B

Provide evidence that the proposed program revisions respond to societal need for graduates of the revised program and/or changes in the field, including sources of data and expert input or feedback collected to support this change in direction.

Increasing the rate of college to university transfers has been a priority within Ontario. (e.g., Kerr, McCloy, & Liu, 2010; Ontario MTCU, 2011). As a response to the Ontario government's call for visible credit transfers between colleges and universities, this new stream was designed to assist qualified students to move between postsecondary institutions or programs without repeating prior learning (Ontario MTCU, 2011). Building partnerships with colleges has been identified as an important part of institutional collaborations and partnerships in the 2017-2020 SMA. This new stream will significantly enhance these partnerships by further engaging with college students and facilitating a degree completion pathway between colleges to the University of Windsor in a visible way and address this movement towards comprehensive, transparent and consistently applied credit transfers. In doing so, the University of Windsor is streamlining and harmonizing the student experience for CAAT graduates wishing to earn a university degree. Advanced diploma programs have the highest rates of transfer (McCloy, Steffler, & Decock, 2017).

Given the rising cost of education, we believe our 3+1 model will be appealing to students as it offers an opportunity to earn two credentials within a four-year time period. Cost projections suggest our new stream will offer a less expensive route to earning a university degree compared to students pursuing a four-year direct entry into university (Trick, 2013). Savings are also generated by eliminating credit duplication. This stream will also improve Ontario's ability to meet the demand for a skilled and flexible workforce through building capacity and flexibility in postsecondary education (Ontario MTCU, 2011). Beyond these possible cost savings, we are responding to the demand for hybrid higher education in Ontario. Each year 55,000 students switch institutions, and 40% of these students move from a college to a university (Brown, 2016). Similarly, Trick (2013) has projected that the number of students seeking a baccalaureate education will increase from 50,000 to 104,000 from 2009 to 2025. Lastly, this stream will also prepare students for post-graduate education (e.g., graduate degrees, law school, etc.) which they would have been previously ineligible for following the completion of the CAAT diploma.

For information on anticipated labour and student market demand trends can be found in section B. 4.1.

References:

Brown, L. (2016). Transferring credits between college and university can be rocky. *Maclean's*. Retrieved from <https://www.macleans.ca/education/college/transferring-credits-between-college-and-university-can-be-rocky/>

Kerr, A., McCloy, U., Liu, S. (2010). Forging Pathways: Students who Transfer Between Ontario Colleges and Universities. Toronto: Higher Education Quality Council of Ontario. Retrieved from <http://www.heqco.ca/SiteCollectionDocuments/ForgingPathwaysENG.pdf>

McCloy, U., Steffler, M., & Decock, H. (2017). The changing patterns of college-to-university transfer: Examination of Ontario's Graduate Satisfaction Survey 2007-2015. Retrieved from <https://www.senecacollege.ca/mobilityresearch/reports/The-Changing-Patterns-of-College-to-University-Transfer.pdf>

Ontario Ministry of Training, Colleges and Universities. (2011). Policy statement for Ontario's credit transfer system. Retrieved from https://www.ontransfer.ca/files_docs/content/pdf/en/news_and_events/news_and_events_2.pdf

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

**PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B**

www.oraweb.aucc.ca/showdcu.html. Also, list similar programs in the geographically contiguous area, e.g., Michigan/Detroit.

Degree programs in Science are available at most institutions across Ontario, as are programs in Chemistry. Within Ontario there are a number of diploma-to-degree pathways as well as transfer and articulation agreements between universities and colleges for Chemical Laboratory Technology programs. These transfer opportunities exist for a range of CAAT Chemical Laboratory Technology programs into BSc programs. Some of the institutions that offer these programs include, though are not limited to*:

- Western
- Algoma University
- York University
- University of Guelph
- Queen's University
- Royal Military College of Canada

Despite the possible similarities that exist, it is important for the Faculty of Science to offer a degree completion pathway for college students in order to stay competitive with other institutions' programming. Furthermore, we believe our degree completion pathway will be more appealing to students as it allows them to earn their advanced diploma and degree within four years (assuming full time study) compared to other institutions whose pathways require longer for students to earn their degree.

*Note: for a comprehensive list of all transfer options, please see: https://www.ontransfer.ca/index_en.php

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

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

Despite the existence of diploma-to-degree pathways and transfer and articulation agreements between universities and colleges for Chemical Laboratory Technology programs at other institutions, some universities require students to complete more than one year of full-time study to earn their degree. As such, we believe our 3+1 degree completion pathway where students earn a college advanced diploma and university degree in four years will be more attractive to students. The new stream requires no additional resources beyond those associated with typical program growth, but will increase the overall enrollment in the Department of Chemistry and Biochemistry and will allow it to remain competitive with other universities that have transfer/articulation agreements in place with colleges.

B.5 RESOURCES

*[The resource impact of a proposal is almost never neutral. Note: Proposers must also complete and submit the attached **Budget Summary** (Appendix A) with the revised 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 program change(s). Please do not name specific individuals in this section.

Courses within this new stream are offered regularly within the current academic calendar, such that there are no anticipated additional resources required to offer this new stream beyond what is associated with natural

**PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B**

enrollment growth over time. The vast majority of courses are offered from the Department of Chemistry and Biochemistry, which has capacity for growth and will be able to accommodate the projected increases in enrollment. Students will also complete two courses in Physics and potentially courses in Computer Science and Mathematics and Statistics (depending on their college electives). These programs can also accommodate the projected growth in enrollment. The core university courses required are regularly offered by faculty members within departments within Science. Faculty teaching courses within this stream have current knowledge and expertise that are central to the program curriculum.

Administrative tracking will be provided within the UWinsite Student system. Academic advising will occur within the Department of Chemistry and Biochemistry. The advisor responsible for the Honours Chemistry will also advise students on matters related to the new stream, including appropriate sequencing and course selection. St. Clair college has also confirmed that they will advise students on how to successfully transfer into this new stream (see Appendix B for the letter of support).

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

Note: Faculty program affiliations will be the same for the existing and new programs stream. In addition to faculty from the Department of Chemistry and Biochemistry, only the faculty members from departments outside of the Department of Chemistry and Biochemistry who typically teach core courses within this new stream were included in the table below.

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 REVISED program
Category 1: Tenured Professors teaching exclusively in the AAU offering the program			
Dr. Sirinart Ananvoranich, Associate Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Dr. Tricia Carmichael, Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Dr. Phil Dutton, Associate Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Dr. S. Holger Eichhorn, Associate Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Dr. James Gauld, Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Dr. James Green, Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Dr. Samuel Johnson, Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry

**PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B**

Dr. Lana Lee, Associate Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Dr. Stephen Loeb, University Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Dr. Siyaram Pandey, Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Dr. Jeremy Rawson, Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Dr. Keith Taylor, Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Dr. Jichang Wang, Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Dr. Zhuo Wang, Associate Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Dr. Panayiotis Vacratis, Associate Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Category 2: Tenure-track Professors teaching exclusively in this AAU			
Dr. Marcus Drover, Assistant Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Dr. Drew Marquardt, Assistant Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Dr. Scott Mundle, Assistant Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Dr. Simon Rondeau-Gagné, Assistant Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Dr. John Trant, Assistant Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Dr. Yufeng Tong, Assistant Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Dr. Nick Vukotic, Assistant Professor	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Category 3: Ancillary Academic Staff such as Learning Specialists Positions			
Dr. Tranum Kaur, Learning Specialist	N/A	Chemistry and Biochemistry	Chemistry and Biochemistry
Category 4: Limited-term Appointments teaching exclusively in this AAU			
...			
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			
...			

**PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B**

Category 6: Sessionals, Lecturers, and other non-tenure track faculty			
Category 7: Others- Tenure, tenure-track, LTA professors, or sessionals involved in teaching and/or supervision in other AAUs.			
Dr. Arunita Jaekel, Professor (COMP-2067)	N/A	Computer Science	Computer Science
Prof. Justin Lariviere, Learning Specialist and Director, Math and Stats Learning Centre, (MATH-2780)	N/A	Mathematics and Statistics	Mathematics and Statistics
Dr. Elena Maeve, Professor, (PHYS-2250)	N/A	Physics	Physics
Dr. Chitra Rangan, Professor, (PHYS-2000)	N/A	Physics	Physics
Dr. Dilian Yang, Professor, (MATH-2790)	N/A	Mathematics and Statistics	Mathematics and Statistics

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

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

All courses from the University of Windsor are offered from the Department of Chemistry and Biochemistry and Department of Physics. Two courses will be taken from the School of Computer Science, or Department of Mathematics and Statistics (depending on college electives). These courses are offered regularly within the undergraduate calendar and are already taught by expert faculty. As such, there is already a sufficient number of highly qualified faculty to support this new stream. The faculty teaching these courses are specialists in the area who have expertise in the subjects that are central to the new program stream. These expert faculty have published in leading national and international journals on topics (or similar topics) to the courses offered within the program.

B.5.1.1c 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 revised program.

There is no anticipated reliance on adjunct, limited-term, or sessional faculty beyond what is already being used.

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 in the revised program.

N/A

**PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B**

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

Where appropriate to the revised 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 revised 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*

Courses within this new stream are offered regularly within the current academic calendar. Most of the courses within this stream are offered from the Department of Chemistry and Biochemistry which has capacity for growth and will be able to accommodate the projected increases in enrollment without impact on resources. There are no anticipated new resources required to sustaining the educational experience of undergraduate students beyond what is associated with natural enrollment growth over time.

With continual enrollment growth, this new stream may require two sessional lectures to offer CHEM-2500 and CHEM-2510 during the summer term. These courses would also be made available to all students in the Department of Chemistry and Biochemistry as well as students from other departments interested in the subject matter and serve as an additional opportunity to complete these courses (BIOC-2010 is already offered in Winter and Summer terms).

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

Describe the reliance of the proposed program revisions on existing resources from other 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.

The majority of courses within this stream are offered through the Department of Chemistry and Biochemistry. Two courses will be completed in the Department of Physics and potentially courses from the School of Computer Science and Department of Mathematics and Statistics (depending on college electives). Departments that offer these courses can accommodate the increased enrolment numbers as our projected enrolment from the new stream.

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 revised program.*

N/A

**PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B**

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 support of the revised program. (e.g., streamlining existing programs and courses, deleting courses, etc.)

N/A

B.5.1.5 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 run the revised program.

Faculty:	No change beyond what is expected from normal enrollment growth
Staff:	No change beyond what is expected from normal enrollment growth
GA/TAs:	No change beyond what is expected from normal enrollment growth

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 revised program, including library, teaching and learning support services, student support services, space and facilities, and equipment and its maintenance.

Library Resources and Services:	No change
Teaching and Learning Support:	No change
Student Support Services:	No change
Space and Facilities:	No change
Equipment (and Maintenance):	No change

C. Program Details

C.1 Admission Requirements (QAF section 2.1.2)

Describe new or changes to

- *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.*

Pathway for St. Clair College:

- 1) Graduates of a three-year Ontario College Advanced Diploma in Chemical Laboratory Technology programs (MCU 61302) from a qualifying Ontario or equivalent College of Applied Arts and Technology (CAAT), with a cumulative average of a least a B (73%) grade), are eligible for admission to Honours Chemistry - Applied Chemistry Stream degree program offered by the Department of Chemistry and Biochemistry at the University of Windsor under the provisions of this agreement. The Dean of Science or their designate has the authority to admit students from qualifying colleges in equivalent diploma programs within Canada pending that they meet all other admission requirements.

PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B

- 2) Students admitted to the Honours Chemistry - Applied Chemistry Stream will obtain the equivalent of 3 years of Advanced Standing (or awarded **up** to 27 course transfers).
- 3) Students are required to complete eighteen (18)* courses at the University of Windsor in fulfillment of the requirements of the Honours Chemistry - Applied Chemistry Stream.
- 4) The Honours Chemistry - Applied Chemistry Stream will be reviewed and amended, if appropriate, by the Department of Chemistry and Biochemistry every five years following the approval of the stream. This timing corresponds with the review frequency undertaken by the CAAT diploma programs forming the basis of admission and this frequency of review will ensure the program curriculum and requirements adapt to these standards as they shift.

***Through the completion of specific optional courses at St. Clair College, student can reduce the number of required courses to 13.**

Recognized programs include:

- Any chemistry-related program from a qualifying Ontario CAAT or other Canadian College deemed equivalent by the Dean of Science or their designate.

Note: Two-year diplomas programs will be analyzed for potential credit transfer on an ad-hoc basis, while considering minimum residency and core course requirements.

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

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

Admission requirements ensure that students entering the Honours Chemistry - Applied Chemistry Stream meet an equivalent basis of admission as students entering directly from high school into the Honours Chemistry. Generally, students in the Applied Chemistry Stream will complete the same core courses as those students in the Honours Chemistry program (excluding courses that are deemed equivalent to the material covered in the CAAT programs and where the BSc degree program permits choice). As such, students will be prepared to successfully meet the intended learning outcomes for this new stream. Additionally, prior research suggests that students transferring from college to university are satisfied with their academic preparation (Decock, McCloy, Liu, & Hu, 2011).

Reference:

Decock, H., McCloy, U., Liu, S., and Hu, B. (2011). The Transfer Experience of Ontario Colleges who Further their Education – An analysis of Ontario's College Graduate Satisfaction Survey. Toronto: Higher Education Quality Council of Ontario.

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 revised 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 names.

*Identify in **BOLD** and **STRIKETHROUGH** the changes to program requirements.*

**PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B**

Pathway for St. Clair College:

Total courses: 18*

Degree requirements: (list of remaining courses required for completion of degree program):

(a) PHYS-1400, PHYS-1410, MATH-1720 or MATH -1760, MATH-1730, MATH-1250, BIOC-2010, CHEM-2500, CHEM-2510, CHEM-3300, CHEM-3310, CHEM-3400, CHEM-3500, CHEM-3710, three of CHEM-4XXX (excluding CHEM-4007), two of COMP-2067, MATH-2780, MATH-2790, PHYS-2200 or PHYS-2250.

***Through the completion of specific optional courses at St. Clair College, student can reduce the number of required courses to 13.**

SCC MTH 605 (optional math course) credit towards UWin MATH 1720 or MATH-1760 and MATH-1730. **At minimum, it is strongly recommended that students complete MTH 605 at St Clair College to ensure a seamless and efficient transfer pathway.**

SCC MTH 505 (optional math course) credit towards UWin MATH-1250

SCC MTH 705 (optional math course) credit towards UWin MATH-2780

SCC MTH 805 (optional math course) credit towards UWin MATH-2790

Elective course for those wanting to complete a research project: CHEM-4900

Notes:

- Students wishing to complete a research project will also complete CHEM-4900 in addition to the fulfilling the aforementioned degree requirements. However, this is a 6-credit course and so it would result in those students taking a supernumerary course and complete an additional year of study.
- A review of program standards and their elements of performance was done for the Chemical Laboratory Technology CAAT program to ensure minimal duplication of course content within degree requirements. Courses that were deemed sufficiently covered by the program standards were removed from the degree requirements.

Courses used to calculate the major average are: All courses listed under section (a).

Description of thesis option (if applicable):

While not part of the degree requirement, students may choose to complete a research project (CHEM-4900. Research); however, it is a 6-credit course and so it would result in those students taking a supernumerary course and complete an additional year of study (i.e., complete two years at the University of Windsor instead of one).

CHEM-4900. Research:

Original laboratory research under the direction of a faculty member. Student must present three seminars discussing their research project. (1 lecture, 12 laboratory hours per week over two terms; 6 credit hours.) (Only open to students in Chemistry Honours, Biochemistry Honours; please consult the "Program Requirements" section above.) (Prerequisites: major average of 72% and a cumulative average of 72%.)

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]:* N/A

**PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B**

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

Guidelines for experiential learning/co-op work term reports: N/A

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

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

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 revised program requirements can be reasonably completed within the proposed time period.

N/A

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 revised program.

N/A

C.3.1.3 New or Changes to 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 New or Changes to 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 as set out in Senate policy.
Specify new or changes to standing required for continuation in the experiential learning option or co-op option of the revised program, where applicable.*

Continuation in this new stream is consistent with those for the Honours Chemistry program.

C.3.2.2 New or Changes to 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 as set out in Senate policy.
Specify new or changes to standing required for graduation in the experiential learning option or co-op option of the revised program, where applicable.*

Graduation from this stream is consistent with the Honours Chemistry.

C.3.2.3 New or Changes to Suggested Program Sequencing

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

**PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B**

Where applicable, provide work/study/placement sequencing for each year of the experiential learning/co-op version of the revised 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).

13 Course Sequence for St. Clair College Students* (if students complete all of the specified optional math courses at St. Clair College)

Summer: CHEM-2500, CHEM-2510, BIOC-2010

Fall: PHYS-1400, CHEM-3300, CHEM-3400, CHEM-3500, one of CHEM-4XXX (excluding CHEM-4007),

Winter: PHYS-1410, CHEM-3310, CHEM-3710, two of CHEM-4XXX (excluding CHEM-4007)

With Research Project (CHEM-4900)*

Summer: CHEM-2500, CHEM-2510, BIOC-2010

Fall: PHYS-1400, CHEM-3300, CHEM-3400, CHEM-3500, one of CHEM-4XXX (excluding CHEM-4007), CHEM-4900 (overload)

Winter: PHYS-1410, CHEM-3310, CHEM-3710, CHEM-4900, one of CHEM-4XXX (excluding CHEM-4007)

18 Course Sequence for St. Clair College Students (if no additional math courses are completed at St. Clair College)

Summer 1: CHEM-2500, CHEM-2510, BIOC-2010, MATH-1250

Fall 1: PHYS-1400, MATH-1720, CHEM-3300, CHEM-3400, CHEM-3500

Winter 1: MATH-1730, PHYS-1410, CHEM-3310, CHEM-3710, one of CHEM-4XXX (excluding CHEM-4007)

Summer 2 (and Fall 2): two of COMP-2067, MATH-2780, MATH-2790, PHYS-2200 or PHYS-2250 (PHYS-2200 or PHYS-2250 are generally offered in the fall)

Fall 2: two of CHEM-4XXX (excluding CHEM-4007)

With Research Project (CHEM-4900)*

Summer 1: CHEM-2500, CHEM-2510, BIOC-2010, MATH-1250

Fall 1: PHYS-1400, MATH-1720, CHEM-3300, CHEM-3400, CHEM-3500

Winter 1: MATH-1730, PHYS-1410, CHEM-3310, CHEM-3710, one of CHEM-4XXX (excluding CHEM-4007),

Summer 2 (and Fall 2): two of COMP-2067, MATH-2780, MATH-2790, PHYS-2200 or PHYS-2250 (PHYS-2200 or PHYS-2250 are generally offered in the fall)

Fall 2: CHEM-4900, two of CHEM-4XXX (excluding CHEM-4007)

Winter 2: CHEM-4900

Note: CHEM-2500 and CHEM-2510 exist online through e-campus Ontario.

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

COMPLETE THIS TABLE FOR UNDERGRADUATE PROGRAMS

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.

**PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B**

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) <i>This is a sentence completion exercise. Please provide a minimum of 1 learning outcome for each of the boxes associated with a graduate attribute.</i> <u>At the end of this program, the successful student will know and be able to:</u>	Characteristics of a University of Windsor Graduate <u>A UWindsor graduate will have the ability to demonstrate:</u>	COU-approved Undergraduate Degree Level Expectations
Explain and apply the major theories and concepts of chemistry in all four traditional sub-disciplines (analytical, inorganic, organic, and physical). (also applies to D) Explain and apply the scientific method as it relates to chemistry research and societal issues. (also applies to B, C, H, and I)	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
Review and evaluate relevant scientific literature and data sets in chemistry to solve applied problems. (also applies to C and D) Properly select, calibrate, troubleshoot, and operate laboratory instruments for solving chemical problems. (also applies to C)	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 Knowledge
Assess and correctly interpret scientific data and the accuracy of the results. (also applies to D)	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

**PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B**

Program Learning Outcomes (Degree Level Expectations) <i>This is a sentence completion exercise. Please provide a minimum of 1 learning outcome for each of the boxes associated with a graduate attribute.</i> <u>At the end of this program, the successful student will know and be able to:</u>	Characteristics of a University of Windsor Graduate <u>A UWindsor graduate will have the ability to demonstrate:</u>	COU-approved Undergraduate Degree Level Expectations
Report scientific results concisely and accurately. (also applies to F)	D. literacy and numeracy skills	4. Communication Skills 5. Awareness of Limits of Knowledge
Effectively use safe laboratory practice (e.g., use and handling of chemicals). (also applies to G)	E. responsible behaviour to self, others and society	5. Awareness of Limits of Knowledge 6. Autonomy and Professional Capacity
Communicate chemistry subjects, data, results, and analysis in oral, written, and numerical form. (also applies to D)	F. interpersonal and communications skills	4. Communication Skills 6. Autonomy and Professional Capacity
Integrate and apply scientific knowledge in a group or leadership role.	G. teamwork, and personal and group leadership skills	4. Communication Skills 6. Autonomy and Professional Capacity
Use scientific concepts in designing solutions to chemistry problems.	H. creativity and aesthetic appreciation	2. Knowledge of Methodologies 3. Application of Knowledge 6. Autonomy and Professional Capacity
Monitor and identify advances in chemistry knowledge and laboratory techniques.	I. the ability and desire for continuous learning	6. Autonomy and Professional Capacity

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

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

All Chemical Laboratory Technology programs within Ontario adhere to the same Ministry Program Standards. The knowledge, skills, and abilities detailed within these Ministry Program Standards have been captured in the Honours Chemistry- Applied Chemistry Stream learning outcomes. Therefore, CAAT graduates will be prepared to successfully meet the learning outcomes of the new stream (see Appendix C for more information on curriculum mapping).

CAAT graduates would have achieved sophisticated knowledge in the core sciences, problem solving fundamentals for chemistry and biochemistry, the ability to analyze and synthesize chemical compounds and samples, and basic laboratory techniques needed to test chemical reactions safely. Upon entering the new stream, students will be introduced to a broader scope of scientific literature and laboratory techniques in chemistry. As such, all CAAT graduates will enter the Applied Chemistry stream with at the 'reinforcement' level understanding of the program learning outcomes. As they progress through the stream, they will gain more depth and breadth of scientific

**PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B**

knowledge, including designing experiments, understanding chemical properties, and advanced laboratory techniques needed to study chemical processes and reactions.

The new stream includes course-specific assessments that will be used to evaluate students' mastery of the learning outcomes. These assessments may include, though are not limited to: examinations (e.g., quizzes, midterms, final exams), assignments of various formats related to course content (e.g., problem sets, lab reports), papers (e.g., research papers), and presentations. The structure of the stream is scaffolded to ensure students can meet the learning outcomes as well as progress from 'reinforcement' to 'mastery' of the stream learning outcomes. There will also be many opportunities for students to reinforce and practice these skills through both the required and elective courses within economics. Please see Appendix C for a copy of the curriculum map.

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

For programs with a proposed 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.

There are no new or revised experiential learning components.

C.4.3 Mode of Delivery (QAF section 2.1.5)

Demonstrate that the proposed modes of delivery are appropriate to meet the new or revised 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.

Courses primarily rely on face-to-face offerings and delivery may vary according to instructor. Approaches may include: standard lectures with active learning techniques embedded (e.g., discussions), laboratories, tutorials, presentations, and written assignments.

The modes of delivery and the teaching methods used will provide students with a variety of learning experiences and assist them in developing the knowledge, skills, and abilities to meet the learning outcomes.

C.5 Student Workload

Provide information on the expected workload per course credit (3.0) of a student enrolled in this revised 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	1-3
Tutorials	0-1
Practical experience	
Service or experiential learning	
Independent study	2-3
Reading and work for assessment, including meeting classmates for group work/project assignments (essays, papers, projects, laboratory work, etc.)	2-3
Studying for tests/examinations	1
Other: <i>[specify]</i>	Laboratories: 0-3 hours
Compare the student workload for this program with other similar programs in the AAU:	

**PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B**

The core university courses for this stream are courses that are completed by students enrolled in the Honours Chemistry program. Therefore, the workload for the new stream is consistent with the workload for a student completing a Honours Chemistry degree.

D. MONITORING AND EVALUATION (QAF section 2.1.6)

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

Curriculum mapping was undertaken to ensure assessments were sufficiently measuring students' ability to meet the intended learning outcomes. These planned assessment activities are intended to focus on achievement of knowledge, skills, and methods in chemistry. This is consistent with the stream learning outcomes. Assessments may take different forms, including though not limited to: examinations (e.g., quizzes, midterms, final exams), assignments of various formats related to course content (e.g., problem sets, lab reports), papers (e.g., research papers), and presentations. Following the completion of curriculum mapping, it is evident that assessments adequately align with, and measure students' achievement of the program learning outcomes (see Appendix C for a copy of the curriculum map).

For an overview of assessment methods that may be used to evaluate students' fulfillment of the learning outcomes, please see Table 4: Alignment of assessments & learning outcomes.

The academic advisor within the Department of Chemistry and Biochemistry will be responsible for overseeing that requirements are being met as well as how student process through the program. As questions arise students can consult the academic advisor.

Table 4. Alignment of assessments & learning outcomes

Courses	Assessments*	Alignment with Program Learning Outcomes (PLO)	Sequence
BIOC-2010	Examinations, lab reports	PLO1-PLO3, PLO5-PLO9, PLO11	Summer term
CHEM-2500	Examinations	PLO1, PLO5-PLO8, PLO11	Summer term
CHEM-2510	Examination, labs	PLO1, PLO4, PLO6-PLO8	Summer term
PHYS-1400	Examinations, lab reports		Fall term
CHEM-3300	Labs, examinations, reports, presentation	PLO1, PLO3-PLO6, PLO8-PLO11	Fall term
CHEM-3400	Lab reports, examinations	PLO1-PLO6, PLO8	Fall term
CHEM-3500	Examinations, written assignments, labs	PLO1-PLO4, PLO6, PLO8, PLO9, PLO11	Fall term
PHYS-1410	Examinations, lab reports		Winter term
CHEM-3710	Examinations, presentation	PLO1-PLO3, PLO5-PLO10	Winter term

Note: Students are required to take three of CHEM-3310, CHEM-4XXX (excluding CHEM-4007). These were not included in the curriculum map or Table 4 given the variety of courses students are able to choose from. However, regardless of the courses chosen, they will provide additional opportunities for reinforcement and mastery of the stream learning outcomes.

Students may also have to complete some, or all of MATH-1720 or MATH-1760, MATH-1730, MATH-1250 or MATH 1270, and two of COMP-2067, MATH-2780, MATH-2790, PHYS-2200 or PHYS-2250 if they do not take the corresponding course equivalencies at St. Clair College; however, through student advising, we anticipate these courses being completed at SCC and therefore did not include them in the curriculum map or Table 2.

*This is not a comprehensive list of assessments as there may be additional assessments used within courses that test students' achievement of certificate LOs.

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

PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B

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

As the stream evolves, student success and performance level will be tracked through consultation, student feedback, and grades. The academic advisor within the Department of Chemistry and Biochemistry will be responsible for monitoring student progression and responding to student questions regarding the stream. All courses will contribute to students' attainment of the program learning outcomes.

Please see Appendix C for the curriculum map and Table 4 for how course assessments may align with program learning outcomes.

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

[Complete this section ONLY if the program change includes new or revisions to the experiential learning/co-op component involving paid or unpaid placements.]

Note: There are no new or revised experiential learning components.

**PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B
APPENDIX A – BUDGET SUMMARY SHEET**

Contact the Office of Quality Assurance for assistance in completing this form.

Projections of Enrolment, Expenditures and Revenues (enrolments over 5 years)						
Year	2020-21	2021-22	2022-23 Steady stream	2023-24	2024-25	Total
Revenue						
Tuition income*1	\$34,800 (5,800x6)	\$58,870 (5,887x10)	\$59,750 (5,975x10)	\$60,650 (6,065x10)	\$61,560 (6,156x10)	\$275,630
Potential Provincial funding*2	\$34,800	\$58,870	\$59,750	\$60,650	\$61,560	\$275,630
Other sources of funding <i>(please list)</i>						
	0	0	0	0	0	0
Total Revenue	\$69,600	\$117,740	\$119,500	\$121,300	\$123,120	\$551,260
Expenses						
Additional Sessional Faculty*3	\$20,000 (10,000x2)	\$20,200 (10,100x2)	\$20,402 (10,201x2)	\$20,606 (10,303x2)	\$20,812 (10,406x2)	\$102,020
GA/TA*4	\$10,000 (5,000x2)	\$10,100 (5,050x2)	\$10,202 (5,101x2)	\$10,304 (5,152x2)	\$10,408 (5,204x2)	\$51,014
Total Expenses	\$30,000	\$30,300	\$30,604	\$30,910	\$31,220	\$153,034
Net Income	\$39,600	\$87,440	\$88,896	\$90,390	\$91,900	\$398,226

*1 Estimate \$5,800 per full-time equivalent domestic undergraduate student per year in 2020-21, with a 1.5% increase in each future year tuition rates.

*2 Estimate same amount as tuition per full-time equivalent domestic undergraduate student

*3 Estimate Sessional Faculty costs of \$10,000 in 2020-21 and a 1% annual increase

*4 Estimate \$5,000 per GA/TA allocation in 2020-21 and a 1% annual increase

**PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B
Appendix B-Letter of Support from St. Clair College**



January 24, 2020

Dr. Chris Houser
Dean, Faculty of Science
University of Windsor
401 Sunset Avenue
Windsor, Ontario
N9B 3P4

Dear Chris:

After reviewing the block transfer proposals to allow admission for St. Clair College graduates into the Forensics, Environmental Science, Economics, and Chemistry programs, please accept this letter as support to obtain the necessary approvals at the University of Windsor.

These 2 + 2-degree completion pathways will provide opportunities for graduates from programs related to: Police Foundations, business, the environment, and chemistry.

We anticipate that approximately 5 to 10% of graduating students from the aforementioned program areas will be interested in transferring to one of the prescribed degree completion pathways. St. Clair College will assist in advertising and promoting the programs to their students (e.g. sharing flyers, allowing site visits, etc.), as well as advising students on how to successfully transfer to the University of Windsor.

Should you require further information, I may be reached by email at whabash@stclaircollege.ca or by telephone at 519-972-2727, extension 5090.

I look forward to our continued collaboration.

Waseem Habash
Vice President, Academic

**PROGRAM DEVELOPMENT COMMITTEE
MAJOR PROGRAM CHANGES
FORM B**

Appendix C-Review and Analysis of CAAT Program Standards & Curriculum Mapping

Background information:

CAAT program standards and their elements of performance for Chemical Laboratory Technology were carefully reviewed and categorized by the Characteristics of a University of Windsor Graduate. Following this review, stream learning outcomes were created that captured both the Chemical Laboratory Technology program standards and the program learning outcomes for the Honours Chemistry.

Note: The degree completion pathway is structured to ensure course material is not duplicated between Chemical Laboratory Technology programs and University of Windsor courses. Potential duplication in course content between Chemical Laboratory Technology and the University of Windsor courses were determined by examining the program standards and their elements of performance. For more information, please see the curriculum map below.

* Chemical Laboratory Technology program standards and their elements of performance can be accessed here:

<http://www.tcu.gov.on.ca/pepg/audiences/colleges/progstan/techno/CheLabT6.html>

University of Windsor
Senate

*5.6.1: **Leddy Library Annual Report (2019-2020)**

Item for: **Information**

Forwarded by: **Academic Policy Committee**

See attached.

Leddy Library Annual Report to APC, 2019-2020

1. Executive Summary

A. Introduction

The Leddy Library facilitates and transforms learning, research, and teaching by providing services, collections, and physical space to meet the needs of our community of students, staff, faculty, and researchers. 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 Leddy Library includes the Centre for Digital Scholarship, the University Archives and Special Collections, and the Academic Data Centre

The Library houses a collection of almost 1.7 million titles in all formats, including roughly 1,000,000 unique e-book titles and 100,000 e-journal titles. Additionally, there are more than 15,000 digital objects available through the Leddy Library's institutional repository *Scholarship @ UWindsor*. The Leddy Library has built a comprehensive collection of online, full-text databases, journals, reference tools, and indexes to meet the needs of the campus faculties, schools, centres, and institutes.

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 to electronic resources over the past 10 years. Leveraging of library funding for digital resources has taken place through provincial (Ontario Council of University Libraries) and national (Canada Research Knowledge Network) consortial agreements, resulting in a complement of resources that compares well to other Ontario and Canadian institutions. Our virtual branch, the Leddy Library website, is as important as the two buildings that comprise our campus physical environment and connects users near and far with our services and collections.

In the 2019-2020 reporting year, Leddy Library welcomed over 645,000 people through its doors and loaned more than 47,000 physical items, before having to close the physical library due to the COVID-19 pandemic.

On March 18th, 2020, Leddy Library moved quickly to adapt services to an online environment to ensure that students were able to continue to access critical library services, such as reference and research assistance, through various virtual options. Librarians also transitioned their face-to-face information literacy classes and instruction to the online environment. Leddy Library staff and librarians also assisted by identifying digital resources that could meet course and research needs of faculty.

Following the building closure, much effort was committed to the development of protocols and procedures for the re-emergence of key library services including contactless pick-up (launched mid-July), digital delivery, computer access, and the re-opening of the Statistics Canada Research Data Centre.

Leddy Library's rich digital collection met the information needs of the University's faculty and students as they transitioned to the remote work and learning environment. The Library has provided full-text access to a variety of electronic books and journals that have been critical in meeting the needs for teaching, learning, and research on campus. The teaching and instruction work of librarians also evolved throughout the current year. The Library delivered 83 teaching presentations before transitioning to the remote work environment. In response to the transition to online learning, librarians worked diligently to increase the availability of online tutorials, remote library instruction, and digital reference assistance.

B. Goals and Objectives of Reporting Year

1. *Provide an exceptional undergraduate experience:*

- September 2019 marked the grand opening of the Student Research Collaboratory at the Leddy Library. The \$718,000 space renovation was 100% fundraised. The newly renovated area has changed the traditional use of library space into an interactive place for students to share ideas and innovate. It offers a multi-modal environment that allows for both group and independent study and boasts adjustable zone lighting, video conferencing capabilities, and a digital presentation space where students can share their research findings and develop collaborative relationships with partners from across campus and globally. The space has become a much enjoyed gathering spot on campus for students and has been used to host special talks, workshops, and events.
- The Leddy Library partnered with the Wellness Outreach Office to enhance student mental health initiatives at the Library throughout the semester. Each Wednesday during the 2019-2020 academic year, students were treated to *Take the Moment*, a weekly event hosted in the Library's fourth-floor lounge that allowed nearly 100 students to partake in healthy activities such as yoga and meditation.
- The Library kicked off the fall semester with the 2019 Leddy Library Scholar Series. The event provided a variety of research-based workshops for students to explore research skills, digital exhibits, visualization tools, as well as data and statistic manipulation software.
- Students in Nicholas Hrynck's Queer Activism course shared the importance of community engagement, academic research, and activism via their final project display in the Leddy Library's main entrance. The students exhibited pamphlets, zines, newsletters, blogs, playlets, maps, letters, and materials advertising planned events, such as an information session, roundtable discussion, film festival, trivia night, and rallies designed to support queer activists and their allies. The projects were designed to inform, educate, and empower to make Windsor-Essex county area a more positive and safe space for everyone. In addition to the display, the Library partnered with the Sexual Misconduct Response and Prevention Office to host a Queer Zine Making workshop for students that was hosted in the Student Research Collaboratory.
- A new and improved library may be on the horizon for UWindsor students, faculty, and staff. The University of Windsor has hired Hariri Pontarini Architects, to work with the Leddy Library to modernize the library. Ideas and visions for the new space were collected by the library's Master Space Plan Committee along with architects by hosting several campus consultations and focus groups. Feedback gathered from stakeholders will be used to lay the blueprint to transform the library space into an innovative hub for learning, teaching, research, and creative activity.
- Leddy Library's Archives and Special Collections celebrated Archives Awareness Week online for 2020. Following the University's building closures and move to essential services, the Library altered plans to celebrate the week online. With the rise of home baking during the COVID-19 lockdown, the Archives invited patrons to participate in the Historic Home Cooking Challenge. Patrons were encouraged to try their hand at cooking one of the daily historic recipes that were shared on the Library's website and encouraged to post their creations on social media.

2. *Pursue strengths in research and graduate education:*

- The Academic Data Centre hosted a series of workshops to teach students and faculty how to use geospatial and numeric datasets, open-source GIS and statistical applications, and research data management techniques. Workshops highlighted various functions available in programs such as R, ArcGIS and ggplot2 that can be used to collect and analyze data for research.

- In January 2020, Leddy Library, in partnership with 13 other Ontario university libraries, launched Omni, a new services platform and search tool as part of the OCUL Collaborative Futures project. The new Omni search tool gives users enhanced capabilities and streamlined access to valuable resources at the University of Windsor libraries and partner institutions. It replaced the current One Stop Search with a single tool that enables the search of multiple library collections and databases simultaneously and provides access to millions of new resources. It offers significant improvements including better AODA accessibility compliance, reduced maintenance, greater discovery of academic resources, and increases the number of resources available to our campus community by sharing collections and expertise with our partner institutions.
- The Library supports a variety of open access initiatives to make scholarship more accessible to patrons. In 2019, Leddy Library hosted a week-long challenge designed to give researchers options to improve the impact of research, find metrics, and to find people to collaborate with for research and scholarship. The challenge provided researchers an opportunity to network and learn how to increase research visibility through open access sources.
- With changes to the Canadian federal granting agencies on the horizon, the Leddy Library and its partners, the Office of Research and Innovation Services, the Office of the Research Ethics Board, and Information Technology Services to host a half-day information and consultation session on research data management. The event included a series of invited talks on Canadian research data management policy, working with sensitive and restrictive data, data infrastructure and storage, and a panel to discuss the effects of the upcoming Tri-Agency research data management policy on researchers.
- Leddy's Library's collection of electronic resources is monitored and analyzed for usage each year, and those resources that are not being well used are typically considered for cancellation. After consulting faculty for input on cancellations, funding for cancelled resources is redirected to provide other resources in the disciplinary area. In 2019-2020, the following items were added and cancelled:

New Additions
<ul style="list-style-type: none"> • Sage Research Methods Core subsequent collection updates. • Sponsoring Consortium for Open Access Publishing³ Phase III OA content in physics • Journal of Green Building • Journal of Nursing Regulation • Mplus Base Program • Allied Health Collection from Films on Demand • Unpaywall journals integration • Journal of the AMS • Yale University EHRAF Archaeology • EHRAF World Cultures • Feminist Studies • Violence & Victims • American Chemical Society's Guide to Scholarly Communication
Re-subscribed
<ul style="list-style-type: none"> • ArtStor • CAIRN French language journals • Birds of the World
Cancellations
<ul style="list-style-type: none"> • Journal Spine • Art Full Text • LGBT Life

3. ***Recruit and retain the best faculty and staff:***

- In 2019, Leddy Library welcomed a new academic data librarian, Berenica Vejvoda. Berenica leads the Leddy Library's Academic Data Centre and helps the campus community understand, use, and analyze data. In addition to providing consultation, Berenica also helps researchers use statistical software and provides support during all phases of the research process and data life cycle, including helping researchers manage their original data for preservation.
- Leddy Library also welcomed a new archivist in 2019, Dr. Sarah Glassford. Sarah stewards Leddy Library's Archives and Special Collections. The collection includes institutional records of the University of Windsor and Assumption College, literary and historical books and manuscripts as well as community records documenting the history of the Windsor-Essex County region.
- The Information Services department welcomed a new liaison librarian, Adam Mulcaster, to the team. Joining in January 2020, Adam was able to establish his footings and get acquainted with colleagues before the campus switched to a remote work environment in response to COVID-19. Adam is one of many librarians who helped faculty transition to online courses by identifying new materials to support online delivery.
- In 2019, the Canadian Association of Research Libraries (CARL) honoured associate university librarian, Dr. Selinda Berg, with the CARL Award of Merit. The award recognizes individuals who have made an outstanding local, regional or national contribution within an area of research librarianship. Selinda has made significant contributions to the CARL Librarian Research Institute, an institute that she helped co-found in 2012 with colleague Dr. Heidi L.M. Jacobs.
- After publishing her debut novel, *Molly of the Mall: Literary Lass and Purveyor of Fine Footwear* in early 2019, Dr. Heidi L.M. Jacobs was awarded the Stephen Leacock Medal for Humour in 2020. Heidi's novel was one of 84 submissions considered for the \$15,000 annual award that celebrates Canadian authors in memory of Stephen Leacock and is presented to the best book of humour each year.
- The Chinese American Librarians Association (CALA) recognized systems librarian, Grace Liu with the 2020 Distinguished Service Award. The award recognizes individuals who consistently demonstrate outstanding leadership and achievement in library and information services at the national and/or international level. Grace assisted CALA in achieving its strategic goals by collaborating with members, leaders, and other partners, organizations to increase CALA's impact at the local, state, national and international levels.
- The Leddy Library helped welcome 30 new faculty members to UWindsor during the 2019 New Faculty Orientation. The library team offered interactive demos of the new Course Resource List software, connected new faculty with their respective liaison librarian, and explained the various services available to support them on campus.
- Librarians offer a variety of services to assist faculty members on campus. One of the services provided is to assist faculty publishing. In 2019, Leddy Library helped facilitate the publishing process by preparing an electronic submission form to allow the authors of *Tikkun* to submit, review, and edit their chapters. Mita Williams, the scholarly communications librarian, worked with education professor, Yvette Daniel, to streamline the process and prepare the book for open access publication.

4. ***Engage and build the Windsor and Essex County community through partnerships.***

- Librarians from across Canada visited the University of Windsor for the fourth biennial Canadian Library Assessment Workshop (CLAW) in October 2019. Supported by the Canadian Association of Research

Libraries (CARL), the workshop aids academic libraries in developing outcome-based measures to demonstrate library impact on research, teaching, and learning. The workshop covered a variety of topics to help libraries develop assessment strategies to better understand the needs of the community and guide decision making.

- The Leddy Library worked with Tourism Windsor-Essex Pelee Island (TWEPI) to create a summer-long events display to showcase unique festivals and recreation opportunities in Windsor-Essex. Students enrolled in courses during the summer months were treated to a display and guides to encourage them to explore the unique offerings of the region.
 - Librarian, Mita Williams, joined a panel of academics for a public lecture to explore public safety, security and surveillance following a proposal made by Windsor mayor, Drew Dilkens, suggesting the city's police department partner with Amazon Ring, a video sharing security system. The event "Safer Communities in a 'Smart Tech' World," also featured Chris Gilliard, a professor of English at Macomb Community College, and UWindsor law professor Kristen Thomasen, mediated by Education professor Bonnie Stewart.
 - Associate university librarian, Karen Pillon, was invited to represent Leddy Library as a Windsor-Essex Changemaker during the Women's Enterprise Skills Training of Windsor Inc. Women's Day gala in March 2020. The theme, "Balance for Better," was intended to spark dialogue in the community to encourage positive change and a gender-balanced society. In addition, she has helped with WEST'S Young Women in LEAD (Leadership, Education and Development) by helping participants build skills via mock employment interviews.
 - The Leddy Library has continued its partnership with the Windsor Public Library to offer an extended collection of resources to the University of Windsor community via regular campus visits from FRED, the Freedom to Read, Educate, and Discover bookmobile. FRED delivers a plethora of both recreational and educational materials conveniently to campus. The partnership allows students, faculty, and staff to access the diverse offerings of the Windsor Public Library, including popular books, DVDs, magazines, games, international, national, and local newspapers. It also offers thousands of e-resources including popular digital streaming apps such as Kanopy and Hoopla that provide members access to movies, documentaries, eBooks and audiobooks. As libraries across Canada continue to experience funding shortfalls, creative partnerships between academic libraries and public libraries provide users with enhanced access to knowledge and information.
5. ***Promote international engagement:***
- The Polish-Canadian Students' Association and the Polish-Canadian Business and Professional Association of Windsor hosted an exhibit at Leddy Library in November 2019 sharing the story of Jerzy Radwanek, a Polish pilot and member of the Camp Resistance Movement. Radwanek was detained by the Gestapo, Nazi secret police, during his attempt to smuggle clandestine documents for the resistance. He was transported in December 1940 from prison to the concentration camp, Konzentrationslager Auschwitz (KL Auschwitz), where he became "Number 7782." The exhibit features rare documents and photos from the Institute of National Remembrance and the Auschwitz-Birkenau National Museum in Oświęcim, including letters written by Radwanek.
 - As the number of international students at the University of Windsor continues to rise, Leddy Library's English Conversation Group has experienced a spike in attendance. The Library's English Conversation Group sessions help international students enhance their language skills during their transition to academic life in Canada. Roughly 30 students take advantage of the weekly meetings to improve their English language skills in an informal, low-pressure environment.

C. Successes

- The summer of 2019 saw the safe and successful completion of Student Research Collaboratory renovation in the Leddy Library. The space was opened to students in the fall semester.
- In January 2020, the Leddy Library along with 13 partnering libraries successfully integrated the new academic search tool, Omni.
- The Leddy Library hired Hariri Pontarini Architects, to work with the University to modernize the library. Ideas and visions for the new space were collected by the library's Master Space Plan Committee along with architects by hosting several campus consultations and focus groups. Feedback gathered from stakeholders will help transform the library space into an innovative hub for learning, teaching, research, and creative activity.

D. Challenges

- The Library's response to COVID-19 and quick adaptation to the new remote work environment had many challenges including:
 - **Equipment for success:** Although employees were able to pivot quickly to the online environment, it became apparent that some staff needed better computing equipment to be able to create an efficient remote working environment. The library offered equipment borrowing, including laptops, chairs, hardware such as ergonomic mice etc. This was a challenge that was not part of the initial planning and needed to be addressed as soon as the province announced lockdown. We continue to monitor the needs of staff to ensure they are set up to work remotely successfully.
 - **New ways of delivering resources:** Access to materials both online and in person have been a daunting challenge that has required our staff and librarians to change the expected narrative around resources. For example, as physical course reserves were no longer available to students (because of their high use turn around), both librarians and staff had to work with faculty to find comparable resources for students to use. Inter-library loan (ILL) was also problematic since many shipping and receiving departments paused shipment of materials across the province. Digitization and scanning have replaced much of this structure. Services offered through the Academic Data Centre, the Research Data Center, the Centre for Digital Scholarship, and the Archives and Special Collections have also transformed into virtual services. In addition, librarians implemented virtual research help and reference sessions to support students remotely.
 - **On-boarding of new employees or returning employees:** During this pandemic we have on-boarded a learning specialist in the Academic Data Centre and have welcomed back returning staff from other departments due to maternity leaves and shifting positions. In this environment, we had to adjust our procedures to be COVID compliant when on-boarding new or returning staff. This has been challenging as the pandemic landscape, both on site and virtually, has fundamentally changed the way we offer services.
 - **Communication with campus community:** Provincial and local health regulations have changed often. Library leadership has been continuously troubleshooting, addressing, and communicating issues with many departments on campus such as Health and Safety, Human Resources, Facility Services and Distribution services to develop corresponding service models. Safety Operating Procedures (SOPs) have been written and re-written depending on the local status of the pandemic. The communication to staff, students and faculty is constant and critical. Revisions to websites, reservation systems and resources must be updated to reflect the status of the pandemic. This has consumed much of the staff working in the library and makes it difficult to focus attention elsewhere.

2. Report

A. Area's Goals and Objectives and the University's Strategic Plan

2019-2020 Goals & Objectives		UWindsor Strategic Priorities				
		Provide an exceptional undergraduate experience	Pursue strengths in research and graduate education	Recruit and retain the best faculty and staff	Engage in community partnerships	Promote international engagement
Ledly Library 2018 – 2021 Strategic Goals	<p>Invest: Organizational Capacity and Culture</p> <p>Build our organizational capacity and foster a culture that engages and supports the people of the library.</p> <ol style="list-style-type: none"> 1. Develop a strategic knowledge and skills development plan for staff and librarians to support the strategic priorities. 2. Establish mechanisms, share expertise, problem-solve and collaborate on initiatives in order to work towards best practices. 3. Develop and implement an internal communication plan to foster clear and transparent communication across the library. 4. Identify and implement strategies to support the research and scholarship role of librarians. 5. Identify and implement strategies to engage staff and librarians in planning initiatives including participation in working groups and committees. 			✓		✓
	<p>Innovate: Relevant Services, Supports and Collections</p> <p>Recalibrate our work within a multimodal environment to meet the needs of the University community.</p> <ol style="list-style-type: none"> 1. Establish an evidence-based framework to assess the usage of print and digital collections (including special collections and archival holdings) to inform collection management, budget and preservation decisions. 2. Establish an ongoing user consultation and research of best practices process to enable the library to make decisions regarding services, support and space. 	✓			✓	

<ol style="list-style-type: none"> 3. Develop and implement a plan to make changes to services, supports and collections based on data gathered through assessments, consultations and research. 4. Develop and deploy a plan to align the library's investment, both employee and budgetary, with changes in practices and services. 5. Develop and implement a plan to address the specific needs of the downtown campus. 6. Develop a technology strategy to address current and emerging needs of the library and its users. 7. Invest in our web presence, as it is our "digital branch." 					
<p>Integrate: Community Engagement and Outreach</p> <p>Position the library as a valued partner and strengthen our connections on campus and in the community.</p> <ol style="list-style-type: none"> 1. Develop a comprehensive marketing and communication plan to improve awareness and understanding of library resources and services. 2. Establish collaborative programs/initiatives with academic and administrative areas to support research, teaching, student learning and the student experience. 3. Develop and implement a fundraising plan to support the space transformation and service enhancements. 4. Manage, strengthen and cultivate connections within campus and with the broader community through targeted services, events, collaborations and other opportunities. 				✓	
<p>Invigorate: Transformation of Our Spaces</p> <p>Transform the library space into an innovative campus hub for learning, teaching, research, and creative activity.</p> <ol style="list-style-type: none"> 1. Identify and implement key actions to modernize the library and create flexible, welcoming, safe, accessible and comfortable spaces for learning, collaboration, research and independent study (including space, furniture and other environmental factors). 2. Conduct a comprehensive review of the library spaces, users' needs and develop a space master plan. 3. Create and promote multi-purpose spaces to increase engagement of the campus and broader community. 	✓	✓	✓		

	4. Identify and implement opportunities to improve the discovery and visibility of services, spaces and collections.					
--	--	--	--	--	--	--

B. Future Actions/Initiatives

Progress Report on Future Actions & Initiatives: 2018/19 Annual Report

- | | |
|--|--|
| 1. Develop a knowledge and skills development plan for staff and librarians to support the strategic priorities. | Staff and librarian consultations indicated a desire for better on-boarding initiatives for new employees as well as possible job shadowing opportunities. |
| 2. Create an institutional strategy for research data management practice on campus. | The Research Data Management (RDM) coordinating work group, with Leddy, ORIS, ITS and Research Ethics worked on an RDM institutional strategy assessment using a readiness tool from JISC. |
| 3. Work with institutional analysis to analyze institutional citations and create a citation database. | Leddy Library's focus for research impact metrics has been to respond to and meets requests by individuals, departments, and faculties. The Office of Institutional Analysis has been responding to requests at the institutional level. The creation of an institutional database of citations/research outputs is not permitted by the web-based analytics resource. |
| 4. Establish a vision, seek input, and select an architect for strategic space development in the Leddy Library. | The Library selected Hariri Pontarini Architects to lead the renovation the library Master Space Plan project. Consults and focus groups were conducted with campus partners and students to gather input for the transformation plan. |
| 5. Plan and complete the redesign of the library website to meet the AODA compliance for 2021. | The Library website committee has built a beta website to comply with the AODA requirements. The committee anticipates releasing the site by the summer of 2021. |

In the current reporting year (2019/2020) Leddy Library is pursuing the following specific actions and initiatives:

1. Formalize Research Data Management (RDM) institutional strategy with researcher advisory group and aim to prepare for Senate endorsement by September 2021 in collaboration with ORIS, ITS, and REB.
2. Begin initial work with facilities on building renovation with smaller renovation projects, selected new furniture and green infrastructure initiatives in 2021.
3. Work with University Advancement to begin to articulate a capital fundraising plan for Leddy Library.

C. Recommendations for Senate consideration

No recommendations.

APPENDIX A: Leddy Library External Review Recommendations: Year Two Report (2019-2020)

Organizational Recommendations	Completion	Primary	Contributing
Increase ULAC engagement	Ongoing	ULAC	
Regular All Staff-Meetings	Ongoing	UL	
Balancing functional and liaison responsibilities	2020-2021	ULAC	Strategic Planning
Librarian criteria for research and scholarship	2020-2021	UL & LCC	
Guidelines around special projects	Complete	UL	Strategic Planning & workload
Staff job flexibility	2020-2021	UL & VP HR	AUL
Support staff recommendations	2019-2020	UL	AUL
Integrate more staff training & PD	Ongoing	UL & VP HR	AUL
Library Leadership			
Library communications to campus	Complete	ULAC	Communications Coordinator
Library communication & Enrollment-based budgeting	Complete	UL & AULs	Communications Coordinator
Engaging development officer time	Ongoing	UL & MD Univ. Camp.	
Physical Library			
Overall renovation plan for Leddy	2019-2020	UL, ULAC & VP PA	Leddy Master Space Planning Committee
Noise control measures in Leddy	Ongoing	UL & Facilities	Leddy Master Space Planning Committee
Electrical needs in Leddy	Ongoing	UL & Facilities	Leddy Space Committee
Replace old furniture	Ongoing	UL & Facilities	Leddy Space Committee
Improve food services in Leddy	Complete	UL & Facilities	Food services
Police services in Leddy	Complete	UL & Police	
Accessibility Annex opening hours	Complete	UL & SAS	
Technology & Digital Initiatives			
Collection analysis	Ongoing	UL& ULAC	Information Services
Simplify OA deposit	Vendor	UL& ULAC	Scholarly Comms Librarian/Elsevier
E-book perpetual access clarity	Complete	UL& ULAC	Information Services, Acq/Bib
Collection policy clarity	Complete	UL& ULAC	Information Services
Monograph print preservation	Ongoing	UL& ULAC	Information Services
Deans discussion e-resources	Ongoing	UL	Information Services, Comms Coordinator
Enhance student communications	Ongoing	UL & ULAC, PAC	Comms Coordinator
Enhance student feedback	Ongoing	UL& ULAC	Comms Coordinator
Campus Relations			
Liaison librarian standards	2020-2021	UL, ULAC	Librarian Criteria Committee
Regular liaison meetings	Complete	Information Services	
Library services overview for students	Complete	UL	Comms Coordinator, Information Services

Library accessibility		Ongoing	UL, ULAC, Web Team	Accessibility Liaison, Comms Coordinator
Enhance campus partner communications		Complete	UL, AULs	Comms Coordinator
Enhance and diversify comms to students		Complete	UL, AULs	Comms Coordinator, Student Experience, PAC
Community Engagement				
Enhance Digital Curation Sustainability		Ongoing	UL, AULs	Librarian workload
Colour guide:	Completion	Good progress	Starting/ some progress	Not started

**University of Windsor
Senate**

*5.6.2: **Film Production Student Code of Conduct**

Item for: **Information**

Forwarded by: **Academic Policy Committee**

Rationale/Approvals:

- The proposal has been approved by the Department of Communication Media and Film, and the School of Creative Arts (January 8, 2021). It is submitted to APC and Senate for information.
- *See below.*

BFA Film Production Student Code of Conduct

While it is expected that students will conduct themselves in a collegial, courteous, respectful, and professional manner at all times, this Code of Conduct is an added measure of assurance that takes into account many of the demands unique to film production.

This code is an integral part of the educational experience and helps students develop the methods, standards, and behaviours expected in professional practice. Any student who commits an act of misconduct may be disciplined as per University policy.

For details about this process please refer to the Procedures for Addressing Student Non-Academic Misconduct at:

www.uwindsor.ca/policies or

<https://lawlibrary.uwindsor.ca/Presto/content/Detail.aspx?ctID=OTdhY2QzODgtNjhYi00ZWY0LTg2OTUtNmU5NjEzY2JkMWYx&riD=MTE2&inr=VHJ1ZQ==&dc=YWRk&rrtc=VHJ1ZQ==&bckToL=>

1. All students will conduct themselves in a courteous and professional manner and be respectful at all times with colleagues, staff, faculty, and community members.
2. Students will demonstrate zero tolerance for harassment, discrimination, bullying, and violence whether intentional or unintentional.
3. All productions will make best efforts to facilitate gender and diversity representation both on-screen and off.
4. No lewd, lascivious, obscene, hateful, racist, sexist, homophobic, or explicitly violent content may be produced.
5. Smoking, vaping, drugs, or alcoholic beverages are not permitted at any time on any set, location, or in any facility.
6. Students are expected to refrain from conduct that injures persons, animals, or property, or impedes in any way the orderly operations of the school and/or community.
7. Students shall not be forced to conduct work in non-professional environments in which they may feel uncomfortable or at personal risk, such as, but not limited to, private hotel rooms, vehicles, or homes.
8. Cast and crew members shall not be forced to work alone with individuals.
9. Rehearsals and performances involving sensitive or culturally-specific content must be conducted with advance consultation with their course instructor.

10. No simulated criminal activity may take place in public or shared spaces.
11. If a student is required to engage in any form of physical contact - such as, but not limited to, dancers, actors, directors, and choreographers - the contact must be consensual and they must be able to speak out against non-consensual touch.
12. The use of incendiary devices and/or the production of sparks, flames and/or explosions is strictly prohibited.
13. No sexual activity, simulated or otherwise, may be filmed. Sexually suggestive dialogue or behaviour in the context of minors is prohibited.
14. Filming inside of a vehicle in motion is prohibited.
15. The use of weapons of any sort including, but not limited to, replica or toy guns, knives, or other weapons is prohibited.
16. All crew members must be currently enrolled University of Windsor CMAF and/or SoCA students in the same cohort or in a lower academic level as the project's student producer.
17. All collaboration on a project or assignment with persons not in the course must be approved in writing by the faculty supervisor.
18. Unauthorized use of any University equipment or facility (including studios, editing suites, computer rooms, classrooms, faculty and administrative offices) on or off the premises is prohibited.
19. Unauthorized solicitation of funds, goods or services for film production is prohibited.
20. All productions must closely follow University health and safety policies and procedures.
<https://www.uwindsor.ca/humanresources/527/policies-procedures-and-programs-topic>
21. All productions must closely follow the policies and procedures of CMAF and/or SoCA equipment booking and usage.
22. Only officially sanctioned student projects made for course credit may conduct affairs purporting to be under the auspices of the University of Windsor and/or display University logos, work marks, or titles. Versioning or modification of the work for use outside of the academic context for which it was intended will require removal of said University branding.
23. A production plan, including script, shot list, schedule, location survey, call sheets, and crew list must be approved by course instructor before filming.

Failure to comply with this code of conduct will be reported to Department Head or Director for a determination of disciplinary action to student producer and crew members, under the University's academic and non-academic bylaws and policies.

**University of Windsor
Senate**

*5.6.3: **Social Work – Revisions to Policy on Undergraduate Admissions Requirements**

Item for: **Approval**

Forwarded by: **Academic Policy Committee**

MOTION: That the proposed revisions to the Policy on Admissions Requirements (Undergraduate) be approved.

Proposed Revisions

[revisions are in bold]

ADMISSION REQUIREMENTS FOR YEAR III SECOND-ENTRY PROGRAMS

Admission to Social Work Programs

Years 3 and 4:

[...]

Admission to the professional program in Year 3 requires that students **submit a supplemental application** ~~apply~~ to the Office of the Registrar prior to ~~February 1~~ **the application deadline decided upon by the School of Social Work. The supplemental application is available on the Year 3** ~~Applications are available on the~~ Social Work website. **Please refer to the Year 3 Social Work admissions website or the Office of the Registrar for specific application deadlines.** A minimum average 70% in Social Work courses is required. ~~References must accompany the application.~~ An interview may be required, and early applications are encouraged. Entry is for the next Fall term only, and enrolment is limited. Students who are accepted to Year 3 will be notified by the Office of the Registrar. Selection of candidates for admission will be based on grades and other relevant criteria determined by the Social Work Admissions Committee. In preparation for application to the professional program in Year 3, students are strongly encouraged to engage in volunteer experiences in human services agencies and organizations in the community. All applicants, not covered by section A, must demonstrate proficiency in English to be considered for admission.

[...]

Rationale:

- Revisions have been made in 2020, due to the impact of the COVID-19 pandemic, to the Social Work Year 3 Supplemental Application and the Application Deadline.
 - The Supplemental Application has been revised for internal applications to remove the requirement of submitting a reference letter to help streamline the application process and allow for submission online through the UWinsite Student portal; a provision that is helpful while campus is closed and applicants ability to work with their references is more challenged.
 - The Application Deadline was pushed from February 1st to February 5th to provide more time for submission.
- The proposed revisions would formalize the changes put in place for the pandemic on a going forward basis; allowing flexibility in defining the specific requirements for the supplemental application (such as the requirement for references or other items (profile, letters, etc.)) and in setting the deadline.
- The change does not provide any added requirements or added burden to the applicants. It only provides the ability to have flexibility in the definition of the supplemental application and the application deadline which will be managed by the School of Social Work and the Office of the Registrar.

**University of Windsor
Senate**

5.8.1: COVID-19 Emergency Academic Plan – Revision

Item for: **Approval**

MOTION: That the revised COVID-19 Emergency Academic Plan be approved.

Rationale:

- Planning for inter/summer session, and for the fall term is premised on the assumption that COVID-19 will still impacting the campus and conduct of teaching and research. We are planning that health and safety requirements will still require social distancing etc. and thus the capacity to return to normal program delivery will be delayed into 2022. The request to continue the emergency plan for a further academic year reflects that reality and accords flexibility to take action to meet a constantly changing environment brought on by living with COVID in our community.
- We are suggesting Senate review periods in October to follow inter/summer session, and in December to follow the fall term.
- We will continue with the present compassionate grading policy through to and including the fall term, after which it will be reviewed.
- We will continue the current COVID emergency plan practice adopted regarding SET administration and usage in RTP and performance reviews through to and including the fall term, after which it will be reviewed.

REVISED COVID-19 Emergency Academic Plan

After declaration of a COVID-19 Emergency, the following academic plans may be implemented, until April 30, 2022 (the “COVID-19 emergency period”):

- [1] A suspension of Senate Bylaw 54 Undergraduate Academic Evaluation Procedures 54.1. to 54.2.17 and Senate Bylaw 55 Graduate Academic Evaluation Procedures to allow for greater flexibility in the evaluation of student performance and recording of grades provided that the intent of the bylaws is respected.
- [2] Provide for faculty, after approval by the Head of Department, the Dean or the Associate Dean, to redesign courses (including prerequisite requirements and course learning outcomes), make any changes to academic evaluation that deviate from Senate Bylaws 54 and 55 pursuant to clause [1], and alter the mode of delivery of classes (including contact hours) to other than that stated in the calendar, provided that the learning outcomes of the program can still be met.
- [3] Use of an on-line approval of graduates eligible to graduate during the COVID-19 emergency period in substitution for a formal Senate meeting.
- [4] Alteration of semester timetables, class schedules and examination periods.
- [5] To allow the AVP Enrolment Management and the Registrar to work in conjunction with academic departmental Deans, Associate Deans and Heads of Department, to make any necessary accommodations to allow eligible students to register in the programs to which they have been admitted.

- [6] To request RTP committees to be cognizant of the extenuating circumstances resulting from the COVID-19 pandemic in any discussion of a faculty member's SET scores during this COVID-19 emergency period.
- [7] Following approval by the relevant Dean, to waive other Senate bylaw or policy provisions which impact academic regulations, courses and degree progression, provided that the academic integrity of the course and degree is upheld.
- [8] To allow e-votes (or e-meetings) for Senate or Senate Committee matters, where a meeting cannot be held in-person due to COVID-19 restrictions.
- [9] To report to the October 2021 and December 2021 Senate meetings on any changes made pursuant to the COVID-19 Emergency Academic Plan made between April 9th and December 1st, 2021.