SENATE

NOTICE OF MEETING

May 15, 2020

The Agenda and documents for the meeting of Senate of Concordia University held on Friday, May 22, 2020, at 2 p.m. are now posted on the website.

Please note that while there is an Open Session, given that the meeting is being held by video conference, only members of Senate and invited guests will be admitted to the meeting.

As usual, the meeting will be recorded, and any member of the community who would have otherwise attended the meeting in the observer's gallery will be able to view the meeting at RMAD, in accordance with the *Guidelines pertaining to Broadcasting and Recording of Senate meetings* (US-2).

D. Tessier

Danielle Tessier
Secretary of Senate

AGENDA OF THE OPEN SESSION
OF THE MEETING OF SENATE

Held on Friday, May 22, 2020,
immediately following the Closed Session
via Zoom Video Conferencing

Item		Presenter/s	Action
1.	Call to order	G. Carr	
1.1	Adoption of the Agenda	G. Carr	Approval
1.2	Adoption of April 24, 2020 Minutes	G. Carr	Approval
2.	Business arising from the Minutes not included on the Agenda		
3.	President's Remarks	G. Carr	Information
4.	Academic update *(Document US-2020-3-D5)*	A. Whitelaw	Information
CONSENT			
5.	Committee reports		Information
5.1	Academic Planning and Priorities *(Document US-2020-3-D6)*		
5.2	Library *(Document US-2020-3-D7)*		
6.	Committee appointments *(Document US-2020-3-D8)*		Approval
7.	Academic Programs Committee – Report and recommendations *(Document US-2020-3-D9)*		Approval
7.1	Undergraduate curriculum proposals – Faculty of Arts and Science		
7.1.1	Department of Applied Human Sciences *(Document US-2020-3-D10)*		
7.1.2	Department of Chemistry *(Document US-2020-3-D11)*		
7.1.3	Department of Education *(Document US-2020-3-D12)*		

7.1.4 Department of Political Science *(Document US-2020-3-D13)*
7.1.5 Department of Sociology and Anthropology *(Department US-2020-3-D14)*

7.2 Undergraduate curriculum proposals – Faculty of Fine Arts
7.2.1 Department of Design and Computation Arts *(Document US-2020-3-D15)*
7.2.2 Department of Music *(Document US-2020-3-D16)*

7.3 Undergraduate curriculum proposal – John Molson School of Business – Department of Management *(Document US-2020-3-D17)*

7.4 Graduate curriculum proposal – Faculty of Arts and Science – Department of Chemistry *(Document US-2020-3-D18)*

7.5 Graduate curriculum proposal – Faculty of Fine Arts – Department of Creative Arts Therapies *(Document US-2020-3-D19)*

7.6 Graduate curriculum proposals – Gina Cody School of Engineering and Computer Science
7.6.1 Graduate Co-op option *(Document US-2020-3-D20)*
7.6.2 Concordia Institute for Information Systems Engineering *(Document US-2020-3-D21)*
7.6.3 Department of Electrical and Computer Engineering *(Documents US-2020-3-D22 and D23)*
7.6.4 Department of Mechanical, Industrial and Aerospace Engineering *(Document US-2020-3-D24)*

REGULAR

8.	Update on COVID-19	G. Carr	Information
9.	Question period *(maximum - 15 minutes)*		
10.	Other business		
11.	Adjournment	G. Carr	

US-2020-2

MINUTES OF THE OPEN SESSION OF THE MEETING OF SENATE

Held on Friday, April 24, 2020, at 2 p.m.
via Zoom Video Conferencing

PRESENT

Voting members: Graham Carr *(Chair)*; Ali Akgunduz; Bakry Alsaieq; Shimon Amir; Amir Asif; Maryam Bagherzadeh; Leslie Barker; Guylaine Beaudry; Pascale Biron; Elizabeth Bloodgood; Catherine Bolton; Sue Callender; Sally Cooke; Frank Crooks; Anne-Marie Croteau; Ricardo Dal Farra; Alex De Visscher; Effrosyni Diamantoudi; Rebecca Duclos; Linda Dyer; Medhi Farashahi; Ariela Freedman; Vince Graziano; Jarrad Hass; Chris Kalafatidis; Esther Morand; Helena Osana; Karan Pande; Gilles Peslherbe; Colin Philip; John Potvin; Martin Pugh; Patrick Quinn; Marguerite Rolland; André Roy; Timir Baran Roy; Bayan Abu Safieh; Matt Soar; Reza Soleymani; Robert Soroka; Marc Steinberg; Ron Stern; Alex Stojda; Marlena Valenta; Victoria Videira; Jean-Philippe Warren; Anne Whitelaw; Paula Wood-Adams; Radu Zmeureanu

Non-voting members: Joanne Beaudoin; Philippe Beauregard; Paul Chesser; Denis Cossette; Roger Côté; Stéphanie de Celles; Isabel Dunnigan; Nadia Hardy; Tom Hughes; Candace Jacobs; Frederica Jacobs

ABSENT

Voting members: Matthew Barker; Christopher Brett; Maha Siddiqui

1. Call to order

The meeting was called to order at 2:04 p.m.

1.1 Approval of Agenda

R-2020-2-1 *Upon motion duly moved and seconded, it was unanimously resolved that the Agenda of the Open Session be approved.*

1.2 Approval of the Minutes of the Open Session meeting of January 24, 2020

R-2020-2-2 *Upon motion duly moved and seconded, it was unanimously resolved that the Minutes of the Open Session meeting of January 24, 2020, be approved.*

2. Business arising from the Minutes not included on the Agenda

There was no business arising from the Minutes not included on the Agenda.

3. Research Committee recommendations

3.1 Policy revisions: Policy on Conflict of Interest in Research (VPRGS-5) and Policy for the Responsible Conduct of Research (VPRGS-12) (Document US-2020-2-D1)

Dr. Wood-Adams conveyed to Senate that minor revisions were made to the two policies in order to ensure consistency with the recently revised Policy on Conflict of Interest (BD-4).

R-2020-2-3 *Upon motion duly moved and seconded, it was unanimously resolved that, on recommendation of the Research Committee, Senate approve the revisions to the Policy on Conflict of Interest in Research (VPRGS-5) and Policy for the Responsible Conduct of Research (VPRGS-12).*

3.2 University recognition of Research Units: Indigenous Futures Research Centre (IFRC) and Security Research Centre (SRC) (Document US-2020-2-D2)

Dr. Wood-Adams introduced the item, after which each director described the respective center they are leading.

Jason Lewis explained that the IFRC plays an important role in catalyzing innovative research in the area of Indigenous research-creation and promoting unique research opportunities for faculty and non-faculty.

Mourad Debbabi explained that the SRC has the largest research capacity in cybersecurity in Quebec and Canada with strong ties with the government and industries. The Center is well funded with 18 faculty researchers from three faculties.

R-2020-2-4 *Upon motion duly moved and seconded, it was unanimously resolved that, on recommendation of the Research Committee, Senate grant the university-recognized status, in the category of emerging research centre, to the Indigenous Futures Research Centre (IFRC), in accordance with the Policy on Research Units (VPRGS-8).*

R-2020-2-5 *Upon motion duly moved and seconded, it was unanimously resolved that, on recommendation of the Research Committee, Senate grant the university-recognized status, in the category of established research centre, to the Security*

Research Center (SRC), in accordance with the Policy on Research Units (VPRGS-8).

3.3 Equity, Diversity and Inclusion Action Plan for the Canada Research Chairs Programs (Document US-2020-2-D3)

Dr. Wood-Adams recalled that the initial version of the EDI Plan had been submitted to Senate in January 2018 but had not been approved by the Canada Research Chairs (CRC) Secretariat. The Plan was subsequently revised and resubmitted last September, following which the University received the "fully satisfies" rating. She explained that Senate's approval is being sought, but the Plan will continue to evolve as CRC Programs change.

R-2020-2-6 *Upon motion duly moved and seconded, it was resolved that, on recommendation of the Research Committee, Senate approve the final version of Concordia's Equity, Diversity and Inclusion Action Plan.*

CONSENT

4. Committee reports
4.1 Academic Planning and Priorities (Document US-2020-2-D4)
4.2 Library (Document US-2020-2-D5)

These reports were submitted for information purposes.

5. Committee appointments (Document US-2020-2-D6)

R-2020-2-7 *That the committee appointments, outlined in Document US-2020-2-D6, be approved.*

6. Academic Programs Committee – Report and recommendations (Document US-2020-2-D7)

6.1 Undergraduate curriculum proposal – Faculty of Arts and Science – Department of English (Document US-2020-2-D8)

R-2020-2-8 *That the undergraduate curriculum proposals in the Faculty of Arts and Science be approved.*

6.2 Undergraduate curriculum proposal – Faculty of Fine Arts -Department of Studio Arts (Document US-2020-2-D9)

R-2020-2-9 *That the undergraduate curriculum proposals in the Faculty of Fine Arts be approved.*

6.3 Undergraduate curriculum proposal – Gina Cody School of Engineering and Computer Science – Department of Computer Science and Software Engineering (Document US-2020-2-D10)

R-2020-2-10 That the undergraduate curriculum proposals in the Gina Cody School of Engineering and Computer Science be approved.

6.4 Graduate curriculum proposals – Faculty of Arts and Science
6.4.1 Department of Applied Human Sciences (Document US-2020-2-D11)
6.4.2 Department of English (Document US-2020-2-D12)
6.4.3 Department of Health, Kinesiology and Applied Physiology (Document US-2020-2-D13)

R-2020-2-11 That the graduate curriculum proposals in the Faculty of Arts and Science be approved.

6.5 Graduate curriculum proposals – Faculty of Fine Arts
6.5.1 Department of Art Education (Document US-2020-2-D14)
6.5.2 Department of Creative Arts Therapies (Document US-2020-2-D15)

R-2020-2-12 That the graduate curriculum proposals in the Faculty of Fine Arts be approved.

6.6 Graduate curriculum proposals – Gina Cody School of Engineering and Computer Science
6.6.1 Department of Computer Science and Software Engineering (Documents US-2020-2-D16 and D17)
6.6.2 Department of Electrical and Computer Engineering (Document US-2020-2-D18)

R-2020-2-13 That the graduate curriculum proposals in the Gina Cody School of Engineering and Computer Science be approved.

6.7 Graduate curriculum proposals – John Molson School of Business
6.7.1 Graduate Diploma in Business Administration (Document US-2020-2-D19)
6.7.2 Department of Supply Chain and Business Technology Management (Document US-2020-2-D20)

R-2020-2-14 That the graduate curriculum proposals in the John Molson School of Business be approved.

6.8 Graduate curriculum proposal - Institute for Co-operative Education – Requirements (Document US-2020-2-D21)

R-2020-2-15 That the graduate curriculum proposals in the Institute for Co-operative Education be approved.

7. Graduate calendar regular changes (Document US-2020-2-D22)

This document was submitted for information purposes.

REGULAR

8. Update on COVID-19

Before providing the update on COVID-19, the President shared some University updates with Senate. The highlights of his remarks are summarized as follows:

- Dr. Wood-Adams and Dr. Diamantoudi were respectively appointed as interim Vice-President Research and Graduate Studies and interim Dean of Graduate Studies.
- Pascale Sicotte and Annie Gérin were respectively appointed as Dean of the Faculty of Arts and Science and Dean of the Faculty of Fine Arts. Both begin their mandates on August 1.
- Today is Dean Asif's last Senate meeting as he is leaving the University on May 1 to be Vice-President of Research & Innovation at York University. Dr. Carr acknowledged his remarkable tenure at the University and informed Senate that Dr. Debbabi has been appointed as interim Dean.
- Dean Roy has been appointed as inaugural President of the *Université de l'Ontario français*. Dr. Carr congratulated him and mentioned Dean Roy has one last Senate meeting to attend.
- Concordia's Institute of Investigative Journalism, led by Patti Sonntag, earned the Dan McArthur Award from the Radio Television Digital News Association (RTDNA) for its work with the "Tainted H2O" project.
- Aphrodite Salas and a team of Department of Journalism students also earned a prestigious RTDNA honour for a project on the creation of a solar micro-grid in Kiashke Zaaging Anishinaabek-Gull Bay First Nation.
- The Times Higher Education Impact Assessment ranked Concordia among the world's top 20 universities for its work on sustainable cities and communities and climate change.

Dr. Carr then proceeded with the COVID-19 update. The highlights of his update are summarized as follows:

- In the past 6 weeks, the University was forced to make difficult decisions in the context of the crisis, but Dr. Carr reiterated his thanks to the community for making such a collective effort to navigate through theses challenges.
- Dr. Carr summarized the work that has been accomplished since the outset of the crisis in early January 2020, noting that the actions of the University were driven by the following priorities:
    - Protect the health and safety of the community;
    - Deliver the semester and allow students to complete their courses; and
    - Serve the larger Montreal and Quebec community through our expertise and volunteerism.
- Following the government announcement, the University suspended in-person classes for the remainder of the semester and suspended all teaching for one week, during which more than 1300 faculty members were trained by

CTL in order to resume online course delivery. More than 2000 courses were moved to remote delivery within that week.

- The shutdown of campuses had a disruptive effect on research, but the government directives were very clear and only COVID-19 research labs and few other exceptional cases are allowed to stay open.
- One of Concordia's labs in GCS is used as national test site for Quebec-made masks.
- On the advice of Santé publique, the University took the decision to reduce the number of students in residence. The University helped students return home and find alternative accommodation. Today, approximately 50 students, many of whom are international students unable to travel, are still in residence. They continue to be supported by the university. Measures have been put in place to ensure that public safety guidelines are respected.
- The move to online courses led to a series of other academic decisions. The principle was to be as flexible and accommodating as possible while respecting both academic freedom of faculty with regards to course-related matters and needs of students coping with a challenging reality. The University instituted a pass/fail notation, extended the late DISC deadline and allowed a 50% rebate on late DISCs, the most generous provision of any Quebec university.
- In support for students in financial difficulty, University Advancement launched the COVID-19 Emergency Student Relief fund.
- Externally, like many other universities, Concordia lobbied provincial and federal governments to relax deadlines on student loan repayment and to provide financial support for students.
- Further supportive measures include counselling and psychological services through Campus Wellness. The Student Success Center moved its academic assistance services online, and the Birks Student Services Centres remains accessible through phone and email.
- The University decided to suspend the June Convocation and is now exploring opportunities to conduct a different kind of ceremony.
- To help the community cope with requirements of self-isolation, Concordia launched CU at Home. This virtual community supports students, staff, faculty and alumni. It had thousands of hits in a matter of days.
- The University has maintained regular communication with the community with a FAQ page, a COVID-19 web page and regular messages to the community either in writing or by video.
- To contribute to the relief effort in the community at large, Concordia released its UNESCO Prize-winning literacy software, ABRACADBRA and READS, through the Ministry of Education's Open School portal, which provides primary education online and created components for PPE, among other initiatives.
- Dr. Carr reached out to the external community including the *Chambre de commerce* and has a call scheduled with the City of Montreal to reiterate the University's commitment to its partners and put its expertise to the service of the community.

- Concordia's researchers are collaborating with government and industry to contribute expertise in areas that include cybersecurity, supply chain and business technology management, social entrepreneurship and technology-driven inclusion of older adults.
- As part of the Montreal Behavioural Medicine Centre, Concordia launched iCARE, a global online survey looking at how countries and citizens are responding to COVID-19.
- Concordia's ACT project is supporting grocery delivery to seniors in NDG.
- Concordia's LIVE Centre and University Advancement have launched CU Cares. Members can register with CU Cares online to receive targeted volunteer opportunities.
- In terms of the future, the short-term plan includes the planning of a graduated return to work and school, health and safety being the first priority. Dr. Carr explained that the return needs to be coordinated with many different groups, such as public transportation, schools and daycares and enormous ranges of considerations need to be taken into account. The University also needs to assess its finances and explore mitigation plans. The summer classes will be delivered online and fall admissions are being processed. The challenge is to figure out how the University will deliver this education in the fall.

Further to Dr. Carr's presentation, Mr. Côté responded to a question regarding privacy and security issues with the Zoom application and apprised Senate that regular security updates are done on University devices and that individuals are asked to update their personal computer as well as the applications regularly. He also shared other measures being implemented to secure the use of Zoom and other applications.

In response to a concern regarding access to research labs, Dr. Carr and Dr. Wood-Adams informed Senate that they understand the damaging effect on research and that the University is in communication with government authorities to ask them to prioritize research labs when reopening certain sectors of activities. However, they reiterated that for the moment, only COVID-19-related research labs are allowed to function and the return to research will be gradual.

Following concerns raised for international students facing financial difficulties, Dr. Carr conveyed to Senate that the payment of tuition fees have been delayed by one semester and that the University is providing ancillary services to help international students. Dr. Carr reiterated that the University is lobbying both levels of government to provide support to international students, and the recent series of announcement by the federal government are a positive sign. The University continues to look at ways it can provide support to its international students, which will also depend on the University financial situation.

9. Question period

No questions were asked.

10. Other business

There was no other business to bring before Senate.

11. Adjournment

Dr. Carr reiterated thanks to the members of his team as well as to the whole community for their work during the crisis, further to which he declared the meeting adjourned at 3:33 p.m.

D. Tessier

Danielle Tessier
Secretary of Senate

Internal Memorandum

To: Members of Senate
From: Anne Whitelaw, Interim Provost and Vice-President, Academic
Date: May 13, 2020
Re: Academic Update

I want to take this opportunity to thank everyone for their continued resilience and resourcefulness during this pandemic. We have been working within a framework of uncertainty, and despite the difficult situation we are all working together to find solutions to the myriad of challenges that come up every day. Thank you.

I also want to give special thanks and recognition to two members of Senate, who are attending their last meeting with us. Dean of Fine Arts Rebecca Duclos and Dean of Arts and Science, André Roy, are both completing their terms this summer. During the past five years, they have worked tirelessly to champion their Faculties – students, faculty, and staff – and contributed to the betterment of Concordia.

I also want to give a warm welcome to Mourad Debbabi, Interim Dean of the Gina Cody School of Engineering and Computer Science, and who is joining Senate in his new role.

Concordia campuses may be closed, but there has nevertheless been a lot of action at Concordia.

With the appointment of Mourad Debbabi as Interim Dean, Emad Shihab (CSSE) has become the Associate Dean, Research and Graduate Studies in GCS. A recognized as a leader in the field of software engineering, mining software repositories, and software analytics, he recently received the NSERC Discovery Accelerator Supplement - awarded to the top 4% NSERC Discovery Grant applicants.

Concordians made significant contributions to the Biennial Contemporary Native Arts Exhibition. The 5th edition of the event explores the evolution of identities and relations between diverse First Nations, Métis and Inuit communities. On April 23, the Biennial hosted an online, virtual opening of the multi-gallery exhibition, much of which is viewable until June 21. Every two years, the exhibit is overseen by a different curatorial team that explores a new theme. The 2020 edition is hosting works by roughly 50 artists, many of whom are Concordians, engaging with the topic of honouring kinship.

Concordia launched Canada's first sustainable investing university practicum. Supported by Manulife, the three-credit practicum will enable undergraduate John Molson School of Business students to understand better the principles of environmental, social and governance investment in a capital market environment. A virtual recognition event took place on May 5, and provided an opportunity to thank those who saw the importance of investing in a unique and groundbreaking program.

Executive search firm Odgers Berndtson has been running the CEOx1DAY program for the last seven years. It allows third- and fourth-year students from across Canada to get a taste of what it's like to be at the helm of some of the country's top companies. Finalists are paired with presidents and CEOs from

industries including retail, technology, not-for-profits, government and financial services. This year, three students from the John Molson School of Business – Cristian Pulido, Adreano Alacchi and Maurice Ngwakum-Akisa – were among the 20 finalists.

The prestigious Lieutenant Governor's Youth Medal recognizes the involvement, determination and constant striving of Quebecers who have or have had a positive influence in their community. Four Concordia students are among the 2020 recipients.

The CERC Smart, Sustainable and Resilient Communities and Cities team will be leading a series of conversations called Co-creating the Next-Generation Quartier, beginning on Thursday, May 7. Hosted virtually by 4TH SPACE, the event features experts from Concordia and the Montreal community who will be invited to explore what a next-generation quartier might look like. In the context of the pandemic, the CERC team is well-placed to comment on what makes a city resilient. From local food production to solidarity neighbourhoods, they are mapping out a plan for weathering the months and years to come.

Rolf Wuthrich (MIAE and CME) and Wael Saleh (MIAE) are leading an initiative to use 3D printers to manufacture visor support pieces for frontline workers in the fight against COVID-19. Twenty-three people, professors and students from departments across the School, have pitched in to help.

Luis Rodrigues (ECE and CIADI) participated in a Facebook live event organized by 4TH SPACE to speak about his work on developing an emergency response drone. Rodrigues is collaborating with the International Civil Aviation Organization (ICAO) in developing autonomous navigation and control for Ambular, an emergency response urban air mobility vehicle designed to transport people in tight, hazardous urban environments from their homes to the hospital.

Concordia has partnered with *Savoir Media* to bring expert knowledge to the public in a new video series that allows researchers to debunk popular myths in Quebec society. Jean-Philippe Warren, (Sociology and Anthropology, CURC for the Study of Quebec) developed the idea for the series. *Le croyez-vous?,* which consists of short clips, about three minutes in length. These can be viewed on the *Savoir Media* website: https://savoir.media/sujet/sciences-sociales-et-humaines/serie-le-croyez-vous

District 3 created a special section in their online startup library dedicated to funding available to support startups in Canada given COVID-19. Over 80 startups are receiving District 3 services remotely, including access to one-on-one coaching, workshops, expert doses, and more. Executive Director, Xavier-Henri Hervé published an Op-Ed as part of *The Hill Times*, to highlight the importance of investing in scientific entrepreneurship to build a prosperous and resilient Canadian economy.

Kash Khorasani (ECE) will be leading a project funded by the Department of National Defence under their Innovation for Defence Excellence and Security (IDEaS) Innovation Networks. The project entitled "*Cooperative Network of Autonomous Unmanned Vehicles Protection, Trustworthiness, and Resilient Recovery Subject to Faults and Cyber Attacks"*, aims to develop new scientific foundations to overcome technological and human-machine interaction barriers for secure, trustworthy, reliable and assured Cooperative Autonomous Networked Unmanned Vehicle (CANUMV) assets. Concordia is leading a group of partners including the University of Windsor, *École de Technologie Supérieure*, McGill University and Rockwell Collins.

Brigitte Jaumard (CSSE) is leading an unprecedented 111-internship block MITACS award supported by EXFO, for the project entitled "*Detection and Prediction of Network Vulnerabilities with Machine Learning*

Models and Algorithms". Concordia students and post-docs will gain hands-on industrial experience while investigating the research and development of static and dynamic autonomous network management agents that will be able to analyze telecommunication network behaviors and predict faults and outages.

Dylan Fraser (Biology) and Monica Mulrennan (Geography, Planning and Environment and Associate Vice-President Research, Development and Outreach) are collaborating on a project led out of *Université Laval* entitled "FISHES: Fostering Indigenous Small-scale fisheries for Health, Economy, and food Security". Funded under Genome Canada's 2018 Large-Scale Applied Research Project Competition, the FISHES project will develop and apply genomic approaches in concert with Traditional Ecological Knowledge to address critical challenges and opportunities related to food security and commercial, recreational and subsistence fisheries of northern Indigenous Peoples in Canada (Inuit, Cree and Dené communities).

Concordia established a collaboration with Henan University of Technology (HUT), China to advance research on combatting coronavirus (Covid-19). Two HUT Research postdocs funded through Mitacs are currently working under Gilles Pelsherbe's supervision (Chemistry and Biochemistry). The research uses computer modeling and simulations in two main directions: the development of a chimeric vaccine candidate to prevent the disease, and the search for an antiviral protein inhibitor drug target to stop or cure the disease once contracted.

Additional research successes include the following:

- Simon Bacon (Health, Kinesiology and Applied Physiology) received a CIHR Catalyst Grant of $100,000 for one year;
- Christian Moreau (MIAE) and John Oh (Chemistry and Biochemistry) were each awarded $15,000 over one year for collaborative projects with the National Research Council;
- Jean-Philippe Gouin (Psychology) received $10,000 from the *Réseau québécois sur le suicide, les troubles de l'humeur et troubles associés* for his project "Psychological distress and adherence to social distancing during the COVID-19 pandemic: a longitudinal, population-based survey";
- Khaled Galal (Building, Civil and Environmental Engineering) received $500,000 over five years through the Alliance program;
- Cynthia Hammond (Art History) received an award of $199,998 in the Partnership Development Grant program;
- Amy Luers (Geography, Planning and Environment) received an award of $50,000 from the Knowledge Synthesis Grants – Living within the Earth's Carrying Capacity program;
- Robert Nason (Management) received an award of $25,000 from the Partnership Engage program
- Martin French (Sociology and Anthropology) received $351,280 over four years in the FRQSC *Action concertée : Programme de bourses sur le jeu responsible*.

In a very positive sign of our graduate students' commitment to staying engaged with Concordia, early registration for summer offerings in GradProSkills exceeded that of previous years, and 75% of available spaces are already full for this summer. GPS is offering 39 webinars on topics including leadership, project management, graduate writing and publishing, career planning, and wellness.

The PERFORM Centre revised its regular colloquium series format to use the platform to offer a series of webinar sessions geared toward the general public. The first webinar, *Strategies for eating healthy and being active at home during the COVID-19 pandemic,* was held on April 23, 2020. Plans are underway to host additional sessions to cover topics such as sleep and mental health.

The Leonard and Bina Ellen Gallery went online following the campus closure and used its website and social media to feature its programming. It is focused first on the interrupted exhibition *In the no longer not yet,* which addressed notions of the apocalypse. The Gallery also held an online lecture by Rodney Saint-Eloi, a Montreal based Haitian poet and publisher, and a live sound event by artist James Goddard. In April, they featured a weekly thematic around the artists participating in *Ignition,* the end of year Graduate student exhibition. From May through August, the Gallery is featuring *Reprise,* a bimonthly dispatch that reactivates the Gallery's public programming archives through a series of responses to selected events from the past decade (2010-2019).

Mia Donovan, an award-winning Montreal-based filmmaker who received a BFA in Photography at Concordia University, spoke at Milieux during an event hosted by the Post Image Cluster. Donovan's films have been presented worldwide at film festivals, on TV, in theaters and on digital platforms such as Netflix. Her latest film, Dope is Death, tells the story of how the Black Panther Party in the U.S. launched a radical harm reduction program to treat heroin addiction with acupuncture.

In response to the COVID-19 pandemic and resulting closure of Concordia's campuses, the Digital Strategy is fast-tracking the acquisition of the Udemy e-learning platform, originally planned as part of the digital capabilities project, as a resource for students, faculty and staff to provide online non-academic training in various areas of professional and personal development. The learning resources of Udemy's e-learning platform go beyond the technical to offer business courses such as Leadership & Management, Data Science, Marketing, Personal Development and many others.

With the campus closure, the Open Educational Resources (OER) project quickly turned its attention to proactively identifying possible titles for the specific courses being offered at Concordia this summer. They were able to find at least one open textbook (and often more than one) that faculty could consider for 126 of our summer courses. These files were shared via the Library's COVID-19 page, the OER guide, and via our subject librarians to their departments. They are working on a project to scale this service for the Fall semester.

The Library's online "Ask-a-Librarian" services – live chat and email – was put to excellent use during this crisis. Since the campus closure, librarians answered almost 950 chat/email questions (compared to 450 last year during the same period), and the subject librarians provided another 327 in-depth consultations via Zoom/phone/email.

Although the Library's online Course Reserves service continues to provide access to digital course materials, the Library has also implemented a process for faculty to request the purchase of electronic versions of print books and DVDs normally available from the Library's Course Reserves rooms. The Library has provided over 120 electronic books and streaming films thus far. In cases where a multi-user electronic version is not available for library purchase, subject librarians are assisting faculty with obtaining temporary online textbook access for students and finding alternate online materials including Open Educational Resources. Requests for electronic books from faculty and graduate students to support their research are also being processed, although required course materials are the priority. The Library has also activated temporary access offered due to the pandemic to over 20 digital collections such as Academic Video Online, Bloomsbury Academic, British Online Archives, Cambridge Textbooks, Curio.ca (CBC), EBSCO Academic eBooks, JoVE Science Education, and MIT Press.

ACADEMIC PLANNING AND PRIORITIES COMMITTEE
REPORT TO SENATE
Dr. Anne Whitelaw
May 22, 2020

The Academic Planning and Priorities Committee met on April 8, 2020.

The Academic Planning and Priorities committee (APPC) met on April 8, 2020. The committee was updated on the progress of the ad hoc committee on internships. They heard how the draft report has been circulated to the members of the Ad Hoc committee for their review. The APPC has approved an extension to submit the report in at the Fall Senate meeting. The ad hoc committee co-Chairs asked for an extension in order to have a more comprehensive report.

Dr. Guylaine Beaudry, Vice-Provost, Digital Strategy and the University Librarian gave a presentation on the University's digital strategy. She outlined the process and the progress in creating the strategy for the University.

UNIVERSITÉ Concordia UNIVERSITY

LIBRARY

US-2020-3-D7

REPORT TO SENATE
FROM THE
LIBRARY COMMITTEE

(Senate Meeting – May 22, 2020)

This is the last meeting of the 2019-2020 Academic Year

1.

As of March 12, the Library has been closed. On Friday, March 13th the Library was organizing on how best to work from home. Since this date all managers, librarians and professionals are working from home full-time. Most of the support staff are also working from home with a good number full-time with the exception of a limited number of library assistants, responsible for service at the circulation desk or shelving books, whom can provide limited services from home due to the nature of their tasks. The Library is continuing to work on different projects trying to involve the maximum number of our staff.

The Library team is also working on professional development activities. The Digital Capabilities project of the Digital Strategy is accelerated and will be delivered shortly. Among other services, the platform Udemy, which offers more than 4000 courses on all kinds of topics, will be offered to the entire Concordia community.

All-staff meetings are scheduled every two weeks through Zoom, the first one had close to 130 connections. Dr. Beaudry writes emails to all staff biweekly to keep everyone informed. All other meetings are ongoing and we continue to work on our ongoing projects.

The BCI shared platform project continues and all the working groups are at work. As per the BCI shared platform, we were planning on implementing full service in mid-June, we are having discussions to think of the impact of COVID on this timeline. Some of you may have received an invitation to fill out a survey regarding the BCI platform, we are working on the visual identity of our shared platform, if you can complete the survey in the coming days.

2. Library Support During the COVID-19 Period

a) Equipment loans - Special program

Since the beginning of the Covid period, we have been working with IITS and HR to coordinate the distribution of equipment among student, staff and faculty. We especially wanted the library equipment to be distributed to students only as this was the big part of the need. A web form has been implemented to facilitate this process. The library cabinet team was involved in the first distribution of equipment the other two distributions were handled by IITS. Overall distribution: 185 laptops for staff and faculty, 265 laptops, 95

tablets and 103 headsets to students only and received some internet sticks from TELUS and 200 from BELL.

b) Collections and Reserves

Although the Library's online Course Reserves service continues to provide access to digital course materials, while campuses are closed there is no access to items in the Library's Course Reserves rooms. During the first week of closure the Library therefore implemented a process for faculty to request electronic versions of books and videos via the Suggest A Purchase form. The Library's Collection Services department then buys digital versions where available. Over the past three weeks we have acquired over 80 electronic books and streaming films to support courses.

For requests where a multiuser electronic version is not available for library purchase – primarily textbooks – subject librarians are also assisting faculty with navigating various publisher offers to provide temporary textbook access to students, as well as finding alternate online materials including Open Educational Resources. Collection Services has also activated a number of COVID-19 offers from providers such as JSTOR, Cambridge University Press, JoVE Science Education, and Bloomsbury Academic, making collections of digital resources temporarily available. Undergraduate students making requests through the form are asked to contact their instructors, who may already be arranging online access or modifying their course readings. Requests for online materials from graduate students and faculty to support their research are also being processed, although purchasing required course readings is Collection Services' first priority.

c) Chat Reference

Our long-standing chat service was particularly useful to students during closure of the campus and the Library. We were able to provide our usual "Ask a Librarian" chat service (7 days per week including weekday evenings) and saw a 40% increase in the number of chat sessions with over 400 initiated by patrons between March 16 and April 14. Questions initially focused on concerns about fines and inquiries about laptops, and then moved to finding materials to finish their courses and assignments. Students were very appreciative of the calm, caring and helpful responses they received in real time. Email and consultation services with specific subject librarians were also still available during this period

d) Interlibrary loans

As of March 27, this service has resumed and our staff has been able to work from home. Since the beginning of the shutdown period we have received 180 borrowing requests and more than half have been filled with 25 ongoing. Also received 449 lending requests and have handled 50 already.

e) Online Teaching Support

As of Friday, March 13th over 25 librarians, library professionals and systems technicians volunteered to attend a last minute "Train the Trainer" session to build a support team to help faculty in moving their courses online. This team quickly learned the standard workflows recommended by the Centre of Teaching and Learning (CTL) and was trained on Teams so as to build an online community of practice to help support each other in

troubleshooting with faculty. This team was able to take a substantial burden off of CTL who were still working on workflows, documentation, and answering nuanced pedagogical needs and concerns. Over 370 online teaching help tickets were sent our way and triaged by our technicians between the Library, CTL, and the Moodle support team, with the Library team answering about 240 of these help requests. The Library team also welcomed a group of Educational Technology students into their support team who gained some valuable experience for their future professional lives. The Library is committed to supporting our faculty and our students in these extraordinary times in whatever ways we can.

Respectfully submitted,
Dr. Guylaine Beaudry
Vice-Provost, Digital Strategy and University Librarian
6 May 2020

UNIVERSITÉ Concordia UNIVERSITY

COMMITTEE APPOINTMENTS

Committee	Appointee	Term
Library	Dario Brancato (A&S)	2020/2023
Research	Alex De Visscher (Faculty Senator)	2020/2021
	Ferhat Khendek (GCS)	2020/2023
	Virginia Penhune (Faculty Senator)	2020/2021
Special Graduation	Ali Akgunduz (Faculty Senator)	2020/2021
	Catherine Bolton (Faculty Senator)	2020/2021
Steering	Ali Akgunduz (GCS)	2020/2021
	Elizabeth Bloodgood (A&S)	2020/2021
	Linda Dyer (JMSB)	2020/2021
	Christopher Moore (FA)	2020/2021
	Virginia Penhune (A&S)	2020/2021
	Robert Soroka (Part-time faculty)	2020/2021

Appointments requiring Senate ratification	Appointee	Term
Faculty Tribunal Pool	Anjali Awasthi (GCS)	2020/2022
	Elizabeth Bloodgood (A&S)	2020/2022
	Rebecca Dziedzic (GCS)	2020/2022
	Sang Hyeok Han (GCS)	2020/2022
	Anthony Noce (A&S)	2020/2022
	Stephen Powell (A&S)	2020/2022
	Nathalie Rothschild (A&S)	2020/2022
	Ahmed Soliman (GCS)	2020/2022
Honorary Degree and Convocation Committee	Shimon Amir (Senator)	2020/2021
	Anne-Marie Croteau (Dean)	2020/2021
	Robert Soroka (Senator)	2020/2021

May 4, 2020

ACADEMIC PROGRAMS COMMITTEE
REPORT TO SENATE
Sandra Gabriele, PhD
May 22, 2020

The Academic Programs Committee requests that Senate consider the following undergraduate changes for the 2021-22 Undergraduate Calendar:

Following approval of Faculty Councils, on April 30, 2020, APC members reviewed the undergraduate curriculum submissions from the Faculty of Arts and Science, the Faculty of Fine Arts and the John Molson School of Business. As a result of discussions, APC resolved that the following undergraduate curriculum proposals be forwarded to Senate for approval:

Faculty of Arts and Science

Department of Applied Human Sciences
US-2020-3-D10 (For September 2020 Implementation)
[The proposal involves modifications to the prerequisites for courses AHSC 321 and AHSC 355.]

- Courses

Department of Chemistry
US-2020-3-D11 (For May 2021 Implementation)
[The proposal involves the introduction of a new course, CHEM 428, and modifications to the prerequisites for course CHEM 495.]

- Courses

Department of Education
US-2020-3-D12 (For September 2021 Implementation)
[The proposal involves the removal of TESL 415 from the program requirements for the Certificate and Minor in TESL, modifications to course descriptions for TESL 324, 415 and 424, and modifications to the course number, credit value and description for TESL 435.]

- Courses

Department of Political Science
US-2020-3-D13 (For September 2021 Implementation)
[The proposal involves the deletion of POLI 451 Directed Studies in Political Science, the creation of five new 400-level topic-specific Directed Studies courses in its place, and the introduction of a new 300-level Directed Studies course.]

- Courses
- Requirements

Department of Sociology and Anthropology
US-2020-3-D14 (For September 2020 Implementation)
[The proposal involves modifications to the titles and descriptions for three courses, and the addition of notes to clarify that cross listed SOCI/ANTH courses may be considered as either SOCI or ANTH credits as needed to satisfy program requirements.]

- Courses
- Requirements

Faculty of Fine Arts

Department of Design and Computation Arts

US-2020-3-D15 (For September 2021 Implementation)

[The proposal involves a modification to the title of the BFA Major in Computation Arts (to be combined with the Computer Applications Option) to "BFA Joint Major in Computation Arts and Computer Science." This change aligns with the recent modification made to the title of the BSc Joint Major in Computation Arts and Computer Science and offers a clearer description of the program for students.

- Courses

Department of Music

US-2020-3-D16 (For September 2021 Implementation)

[The proposal involves the deletion of six MUSI courses and their replacement with six new courses, replacing a linear series of courses with a modular structure in which the course content is more clearly defined; changes to prerequisites for three MUSI courses; and the removal of the reference to the Program Guide from the program requirements for the Major in Music.]

- Requirements
- Courses

John Molson School of Business

US-2020-3-D17 (For September 2021 Implementation)

[The proposal involves modifications to the course description for MANA 477.]

- Courses

The Academic Programs Committee requests that Senate consider the following graduate changes for the Winter 2020 Graduate Calendar:

Following approval of Faculty Councils and the Graduate Curriculum Committee, on April 30, 2020, APC members reviewed the graduate curriculum submissions from the Faculty of Arts and Science, the Faculty of Fine Arts, and the Gina Cody School of Engineering and Computer Science. As a result of discussions, APC resolved that the following graduate curriculum proposals be forwarded to Senate for approval:

Faculty of Arts and Science

Department of Chemistry

US-2020-3-D18 (For January 2021 Implementation)

[The proposal involves updates to the program requirements for the PhD in Chemistry to align with changes in SGS policy regarding fast-tracking; the addition of one new course; modifications to the notes for eight courses; editorial changes to the descriptions of two courses; and a modification to the course number for one course.]

- Courses
- Requirements

Faculty of Fine Arts

Department of Creative Arts Therapies

US-2020-3-D19 (For May 2020 Implementation)

[The proposal involves the replacement of the letter grading system with a pass/fail assessment for three 1-credit Creative Arts Therapies ethics courses.]

- Courses

Gina Cody School of Engineering and Computer Science

US-2020-3-D20 (For May 2020 Implementation)
[The proposal involves the replacement of the Industrial Experience Option with the Graduate Co-op Option in course-based Master's programs in Engineering and Computer Science, as well as modifications to the description and prerequisites for course ENCS 6931 Industrial Stage and Training.]

- Requirements
- Courses

Concordia Institute for Information Systems Engineering
US-2020-3-D21 (For September 2020 Implementation)
[The proposal involves the introduction of a new course, INSE 6710.]

- Courses

Department of Electrical and Computer Engineering
US-2020-3-D22 (For September 2020 Implementation)
[The proposal involves the introduction of a new course, COEN 6561.]

- Courses

Department of Electrical and Computer Engineering
US-2020-3-D23 (For September 2020 Implementation)
[The proposal involves a modification to the prerequisites and minor editorial changes to the course description for ELEC 6891.]

- Courses

Department of Mechanical, Industrial and Aerospace Engineering
US-2020-3-D24 (For September 2020 Implementation)
[The proposal involves the addition of a new course, ENCS 6171.]

- Courses

Sandra Gabriele, PhD
Vice-Provost, Innovation in Teaching and Learning May 5, 2020

US-2020-3-D10

INTERNAL MEMORANDUM

TO: Dr Sandra Gabriele, Vice-Provost, Innovation in Teaching and Learning
Office of the Provost and Vice-President, Academic Affairs
Chair, Academic Programs Committee

FROM: Dr André Roy, Dean, Faculty of Arts and Science
Chair, Arts and Science Faculty Council

DATE: March 6, 2020

SUBJECT: 2021-22 Undergraduate Calendar Curriculum Changes
Department of Applied Human Sciences
AHSC-35
Changes to AHSC 321, 355

The following proposal was reviewed and approved at the Arts and Science Faculty Council meeting of March 6, 2020. We request that this proposal be considered at the next meeting of APC.

The **Department of Applied Human Sciences** is modifying the prerequisites to two courses, AHSC 321 *Historical Foundations of Leisure and Recreation* and AHSC 355 *Foundations of Family Life Education*. The prerequisites for AHSC are revised to include a requirement that students complete 24 credits of study before enrolling. This will allow the course to build upon the basic knowledge in recreation and leisure that students would acquire during their first year, and will result in more meaningful discussions. Under AHSC 355, students may now take the prerequisite courses AHSC 260 and 313 concurrently to facilitate progression through the Specialization in Human Relations program and the Certificate in Family Life Education.

Thank you for your consideration of this proposal for which there are no additional resource implications.

Reference documents:
FCC 2019.4_AHSC-35
ASFC-2020-2M-A

Department of Applied Human Sciences

AHSC-35

Memo from Chair

Prerequisite Change

AHSC 321 *Historical Foundations of Leisure and Recreation*

AHSC 355 *Foundations of Family Life Education*

Concordia University
Arts and Science
Department of Applied Human Sciences

INTERNAL MEMORANDUM

TO: Richard Courtemanche
FROM: Peter Morden
DATE: January 6, 2020
SUBJECT: **Curriculum Proposal: Prerequisite changes**

Following their unanimous approval by the Full-time Faculty Committee at its meeting on November 7, 2019, the Department of Applied Human Sciences is proposing the following two undergraduate curriculum changes for your consideration:

1. *AHSC 355: Foundations of Family Life Education*
   Change prerequisite from "AHSC 232, 260, 313" to "AHSC 232; AHSC 260 and AHSC 313 previously or concurrently"

Currently, student progression through the HR specialization program can be stalled due to the required series of courses that culminates in *AHSC 456, Advanced Family Life Education*. As well, it has been determined that AHSC 260 (Program Planning, Design and Evaluation) and AHSC 313 (Family Communication) are not strictly required as prerequisites, and that students can appropriately pursue these courses concurrent to AHSC 355. Consequently, we propose this change to facilitate student progression and minimize time-to-completion.

2. *AHSC 321: Historical Foundations of Leisure and Recreation*
   Change prerequisites from "AHSC 241" to "24 university credits including AHSC 241."

Currently, not all students are sufficiently academically prepared during their first year of study to participate at the level that is required. Moving this course into students' second year will allow for greater and more meaningful discussion that is borne out of a basic of knowledge of Recreation and Leisure Studies acquired during students' first year.

I would be pleased to respond to any questions you may have about this proposal.

P Morden

Peter Morden
Chair, Department of Applied Human Sciences
L-VE- 223.02

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **AHSC-35** VERSION: 3

COURSE CHANGE: AHSC 321 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2020

Faculty/School: Arts and Science
Department: Applied Human Sciences
Program: Spec, Major in Rec and Leisure Studies; Spec in Therapeutic Recreation
Degree: BA
Calendar Section/Graduate Page Number: 31.010

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[X] Prerequisite
[ ] Course Description	[ ] Editorial	[ ] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 2020/2021) calendar	**Proposed Text**
AHSC 321 ***Historical Foundations of Leisure and Recreation*** (3 credits) Prerequisite: AHSC 241. This course offers an overview of leisure and recreation throughout history, highlighting selected major trends among different historical eras. This includes the historical and philosophical roots of leisure, the conditions in society that have affected leisure, the responses to those conditions, and the role of leisure in contemporary life. This course offers an opportunity to analyze the values, beliefs and ethics relating to leisure that shape modern traditions and cultures. *NOTE: Students who have received credit for AHSC 215, HIST 215, PHIL 255 or for this topic under an AHSC 298 number may not take this course for credit.*	**AHSC 321** ***Historical Foundations of Leisure and Recreation*** (3 credits) Prerequisite: 24 university credits including AHSC 241. This course offers an overview of leisure and recreation throughout history, highlighting selected major trends among different historical eras. This includes the historical and philosophical roots of leisure, the conditions in society that have affected leisure, the responses to those conditions, and the role of leisure in contemporary life. This course offers an opportunity to analyze the values, beliefs and ethics relating to leisure that shape modern traditions and cultures. *NOTE: Students who have received credit for AHSC 215, HIST 215, PHIL 255 or for this topic under an AHSC 298 number may not take this course for credit.*

Rationale:
Moving this course into students' second year will allow for greater and more meaningful discussion that is borne out of a basic of knowledge of Recreation and Leisure Studies acquired during students' first year.

Resource Implications:
None.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **AHSC-35** VERSION: 3

COURSE CHANGE: AHSC 355 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2020

Faculty/School: Arts and Science
Department: Applied Human Sciences
Program: Specialization in Human Relations, Certificate in Family Life Ed
Degree: BA
Calendar Section/Graduate Page Number: 31.010

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[X] Prerequisite
[ ] Course Description	[ ] Editorial	[ ] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 2020/2021) calendar	**Proposed Text**
AHSC 355 ***Foundations of Family Life Education*** (3 credits) Prerequisite: AHSC 232, 260~~,~~ ~~–~~313. This course examines Family Life Education from its inception as a field of practice to its current status in North America. It highlights complex related issues and the role of the educator, including attention to personal values and ethical principles of the practitioner. Topics include distinctions between prevention education and therapeutic intervention, and an overview of the range of different family life education programs and current practices.	**AHSC 355** ***Foundations of Family Life Education*** (3 credits). Prerequisite: AHSC 232; AHSC 260 and 313 previously or concurrently This course examines Family Life Education from its inception as a field of practice to its current status in North America. It highlights complex related issues and the role of the educator, including attention to personal values and ethical principles of the practitioner. Topics include distinctions between prevention education and therapeutic intervention, and an overview of the range of different family life education programs and current practices.

Rationale:
Currently, student progression through the HR specialization program can be stalled due to the required series of courses that culminates in AHSC 456, Advanced Family Life Education. As well, it has been determined that AHSC 260 (Program Planning, Design and Evaluation) and AHSC 313 (Family Communication) are not strictly required as prerequisites, and that students can appropriately pursue these courses concurrent to AHSC 355. Consequently, we propose this change to facilitate student progression and minimize time-to-completion.

Resource Implications:
None.

Other Programs within which course is listed:

None.

US-2020-3-D11

INTERNAL MEMORANDUM

TO: Dr Sandra Gabriele, Vice-Provost, Innovation in Teaching and Learning
Office of the Provost and Vice-President, Academic Affairs
Chair, Academic Programs Committee

FROM: Dr André Roy, Dean, Faculty of Arts and Science
Chair, Arts and Science Faculty Council

DATE: March 6, 2020

SUBJECT: 2021-22 Undergraduate Calendar Curriculum Changes
Department of Chemistry and Biochemistry
CHEM-66
New course CHEM 428; prerequisite change to CHEM 495

The following proposal was reviewed and approved at the Arts and Science Faculty Council meeting of March 6, 2020. We request that this proposal be considered at the next meeting of APC.

The **Department of Chemistry and Biochemistry** is introducing a new course, CHEM 428 *Medicinal Chemistry,* which focuses on the design and synthesis of drugs and is relevant for students wishing to pursue careers in research and development. Also, the prerequisites to CHEM 495 *Advanced Molecular Characterization* are modified from "CHEM 234, 241, 333" to "CHEM 241, 293 and 6 credits of 300-level CHEM courses" to provide more flexible prerequisites consistent with the broadening of the course scope and catering to a more diverse student audience. Under CHEM 293 *Spectroscopy and Structure of Organic Compounds,* students are introduced to spectroscopies that are explored in greater detail in CHEM 495 making it a natural progression. Adding a prerequisite of six credits of 300-level chemistry also ensures that students have sufficient background preparations for this 400-level course.

Thank you for your consideration of this proposal for which there are no additional resource implications.

Reference documents:
FCC 2019.4_CHEM-66
ASFC-2020-2M-B

Department of Chemistry and Biochemistry

CHEM-66

Memo from Chair

New course

CHEM 428 *Medicinal Chemistr*y

Prerequisite change

CHEM 495 *Advanced Molecular Characterization*

TO: Richard Courtemanche, Associate Dean, Academic Programs, Faculty of Arts and Science
FROM: Christine DeWolf, Chair, Department of Chemistry and Biochemistry
DATE: January 9, 2020
SUBJECT: 2021-2022 Undergraduate Course/Program Changes (CHEM-66)

Dear Richard,

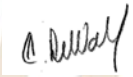
The following are changes required for the 2021-2022 Undergraduate Calendar:

- **CHEM 495** prerequisite changes. The course name and description were changed last year to better reflect the contemporary content of the course, with a scope broadened from spectroscopy to more general molecular characterization techniques. Changing prerequisites to CHEM 241, CHEM 293 and 6 credits of 300-level CHEM courses removes redundant or un-necessary (CHEM 234, CHEM 333) pre-requisites to the updated course content while adding a sufficient number of 300-level CHEM courses as a requirement for this advanced course. This selection of flexible prerequisites is consistent with the broadening of the course scope and catering to a more diverse student audience. Approved by the Department Curriculum Committee at its meetings of March 5, 2019. Approved by the Department of Chemistry and Biochemistry via email consent 6 January 2020.

- **CHEM 498I/CHEM 428.** The *Medicinal Chemistry* course has been offered three times in the last seven years (2013/14, 2017/18 and 2019/20) as a slot course (CHEM 498I) and should be given the permanent course number of CHEM 428. Approved in principle by the Department Curriculum Committee at its meeting of March 5, 2019. Approved by the Department of Chemistry and Biochemistry via email consent 6 January 2020.

There are no resource implications for these changes.

Regards,



Christine DeWolf
Chair, Department of Chemistry and Biochemistry

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **CHEM-66** VERSION: 5

COURSE CHANGE: CHEM 428 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: May 2021

Faculty/School: Arts and Science
Department: Chemistry and Biochemistry
Program: n/a
Degree: BSc
Calendar Section/Graduate Page Number: 31.050

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[X] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 20xx/20xx) calendar	**Proposed Text**
	CHEM 428 ***Medicinal Chemistry*** (3 credits) Prerequisite: CHEM 293, 324. This course provides an introduction to the small molecule drug discovery process, addressing early target identification, hit discovery, lead optimization, preclinical considerations, up to clinical trials. The course focuses primarily on the rational design and synthesis of drugs that employ multidisciplinary approaches to satisfy a multitude of specificity and safety requirements. The emphasis is on organic synthesis within the special context of medicinal chemistry that illustrates the challenges involved in leveraging the opportunities presented by high throughput, parallel and/or combinatorial synthesis in light of physical limitations imposed by processing large numbers of compounds. Case studies from the current literature are used to highlight how new technologies and strategies have overcome some of those limitations and are used to highlight recent innovations in the field. The course also charts the evolution of powerful techniques from structural research (NMR, X-ray crystallography, and computational modelling) as fully integrated medicinal chemistry tools for modern drug-discovery to highlight key advances.

Rationale:
Medicinal Chemistry has been offered three times in the last five years as a slot course (CHEM 498I) with enrolments of 25/25 (2015-16), 19/20 (2017-18) , 19/20 (2019-20). It should be given a permanent course number of CHEM 428.

Resource Implications:
None, this course will be offered as part of the regular department course allotment.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **CHEM-66** VERSION: 5

COURSE CHANGE: CHEM 495 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: May 2021

Faculty/School: Arts and Science
Department: Chemistry and Biochemistry
Program: Honours, Specialization in Chemistry
Degree: BSc
Calendar Section/Graduate Page Number: 31.050

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[X] Prerequisite
[ ] Course Description	[ ] Editorial	[ ] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 2020/2021) calendar	**Proposed Text**
CHEM 495 ***Advanced Molecular Characterization*** (3 credits) Prerequisite: CHEM ~~234,~~ 241~~, 333~~. This course presents advanced techniques to characterize the geometric and electronic structures of molecules. This includes spectroscopic (rotational, vibrational, electronic, photoelectron, NMR, EPR, Mössbauer), diffraction and electrochemical methods. The course introduces the techniques and applies them to concrete case studies. Lectures only.	**CHEM 495** ***Advanced Molecular Characterization*** (3 credits) Prerequisite: CHEM 241, 293; six credits of 300-level CHEM courses.This course presents advanced techniques to characterize the geometric and electronic structures of molecules. This includes spectroscopic (rotational, vibrational, electronic, photoelectron, NMR, EPR, Mössbauer), diffraction and electrochemical methods. The course introduces the techniques and applies them to concrete case studies. Lectures only.

Rationale:
Changing the prerequisites for this course to CHEM 241, CHEM 293 and 6 credits of 300-level courses removes redundant or unnecessary (CHEM 234, CHEM 333) prerequisites as defined by current course content while adding a sufficient number of 300-level courses as a requirement for this advanced course. In CHEM 293 Spectroscopy and Structure of Organic Compounds students are introduced to spectroscopies (applications) that are explored in greater detail in CHEM 495 (advanced theory and applications) and so this is a natural progression and so CHEM 293 is a more suitable prerequisite than CHEM 234 Physical Chemistry I: Thermodynamics which is not directly related to the course content of CHEM 495 . This selection of flexible prerequisites is consistent with the broadening of the course scope and catering to a more diverse student audience.

A prerequisite of six credits of 300-level chemistry courses is added to (1) prevent students from taking 495 too early and (2) give them a chance to take CHEM 325, 333, 335 or 341, which would help them in CHEM 495.

Resource Implications:
None.

Other Programs within which course is listed:

None.

CHEM 498-05 / 620-05 – An Introduction to Medicinal Chemistry – W2020

GENERAL INFORMATION

This course will develop an understanding of drug design and the molecular mechanisms by which drugs act on the body. It will envelop areas of overlapping disciplines such as chemistry, physiology, biochemistry, microbiology, cell biology and pharmacology. The course is presented in a "reading" format supported by some lectures, discussions and presentations by students. Class discussions and lectures will not necessarily "cover" the textbook material. We will focus on key points, but also examine issues that arise from the material in the course textbook and from recent literature. In the event of extraordinary circumstances beyond the university's control, the content and/or evaluation scheme in this course is subject to change.

Instructor **Dr. Pat Forgione**
Office hours: appointment by email as required.
Telephone: (514) 848-2424, ext 5802
Email: pat.forgione@concordia.ca

Course Format Lectures: 2.5 h / week, 13 sessions; W/Fr 11:45-1:00

Required Materials 1) An Introduction to Medicinal Chemistry, G.L. Patrick, Oxford University Press, 2013, paperback ISBN 978-0-19-969739-7

Interesting Read Molecules that Changed the World, Nicolaou, K.C. Montagnon, T. Wiley-VCH, 2008 ISBN 978-3-527-30983-2

Molecular models: Using models helps considerably with many aspects of organic chemistry – many concepts require you to picture, rotate and draw 3D objects. Models **are** permitted in exams. You are strongly advised to buy a model kit.

GRADING SCHEME, DEADLINES & ABSENCES

To pass the course, you must earn a cumulative ≥ 50% on the in-class tests and final exams. The final grade will be weighted as follows:

Oral Presentations:	20 % (**March 18th, 25th, 27th, April 3rd**)
Term Paper:	20 %
In-Class Tests:	20-30 % (2 tests, one on each of Part A and B of the text book each weighted equally).
Take Home Test:	0-10 % (up to four depending on the number of guest lectures)
Final Exam:	30% (Covers only Part C of the course text book plus Heterocyclic Synthesis)

Oral Presentations: Undergraduate students will each make a presentation on an approved drug from the FDA over the past 20 years (from 1999 onwards) that includes at least one heterocycle. The presentation will be short (10 minutes each, maximum of 10 slides). You should specifically relate the topics covered in your presentation to specific sub-sections of the course textbook (ie you should relate it to 12.4.1 not just 12.4 because this would be too broad.) The better the interconnection of your presentation with the course text book, the better your grade! This will also help you best prepare for the final exam. In order to ensure the highest quality presentations, I will aid you in preparing the final version. In order for you to obtain feedback, you must send a preliminary copy to me 1 week before your presentation. The presentations should include the disease area, the drug target and the synthesis or modification of a heterocycle (either the final product and/or intermediate) with the mechanism. This does not have to be a final version, but a rough draft to discuss what important aspects you should include, ensure you are not including too much material etc. Students who seek my help in advance have always been among the best presentations. However, if you come to me at the last-minute for help, I will not be able to do so, so please prepare accordingly! In order to ensure everyone has an appropriate drug choice, **please inform me of your choice and bring the relevant literature references by January 24th 2020.** An evaluation form will be handed out before the presentations. The presentation evaluation will be weighted in the following way: 60% instructor and 40% classmates. If a student misses the day of their presentation, with a suitable note justifying the absence, they will be allowed to present in a subsequent class. If no note is provided within 1 week, the student will receive a grade of 0. To prepare chemical structures for the presentation, an excellent free tool is available here: http://accelrys.com/products/informatics/cheminformatics/draw/

Presentation Participation: Each student is required to ask (at least) 3 questions over the entire presentation periods. Question will be evaluated on quality and questions that engage the class in learning. You may not obtain more points by asking more than three questions but you are certainly welcome to ask more but please limit yourself to one question per

lecture during the presentations. If a student misses more than 25% of the presentations without a suitable note provided within 1 week of the missed class(es), they will obtain a score of 0 for the participation grade.

Term Paper: Each student is required to provide a 5-page term paper on the drug that they presented for their oral presentation. The topic should fit into many of the topics that will be covered in Section C (particularly Ch. 12, 13 and 14) of the course textbook and should be based on the primary science literature (eg J. Med. Chem., Med. Chem. Lett., etc, see me if you are unsure). You should specifically relate the topics covered in your paper to specific sub-sections of the course text book (ie you should relate it to 12.4.1 not just 12.4 because this would be too broad.) The better the interconnection of your term paper with the course text book, the better your grade! This will also help you prepare for your final exam. Feel free to see me in advance of this due date to discuss your topic choices. Late submissions will result in a penalty of -10% / day! I will evaluate this and constructive comments will be provided to help you with potential pitfalls that may be present in your disconnections. Grading will be based on the originality of the topic, the legibility and quality of the writing/chemical structures, proper referencing (ACS style) and formatting. Please see me if you need additional information for the expectations. Final paper is **due April 1st, in-class (late submissions – 10% / day!)**. Additional information for the final paper:

1. In the past, many abstracts were too *medical* in nature, and not *medicinal chemistry* enough. Some abstracts go too far in the other direction and are too "chemical" in nature. The topics should encompass concepts we will discuss throughout the course. Particular emphasis should be on Part C (particularly Ch. 12, 13 and 14) of the course textbook, but likely will cover aspects of Parts A and B as well. As I suggest above, the Journal of Medicinal Chemistry is ideal for this exercise, but you can use journals beyond this one, however if you do so you run the risk of moving too far away from *medicinal chemistry*.

2. It is very important to write this paper in your own words. Practicing this is a good exercise in science writing that will be useful in many different career paths. Try to write "formally" and do not include terms that would be considered “slang”. Try to write in the third person, past passive tense, this is the typical style in science writing (i.e. avoid "I" "we" "they", these are active styles, not passive).

3. When you have chosen a suitable paper, invariably there will be excellent background to that paper in the introduction that will be very useful. Read over these papers, as it may provide additional understanding of the paper you are using and allow you to write a better final product.

4. Paper Formatting: Font Size = 12, Font Style = Times New Roman, Full Justification, Margins 2.0 cm in all directions, line spacing = 1.5. Additionally, the term-paper is 5-pages of text, but you can include up to 5 schemes/figures. If a scheme takes up a half a page, then your final paper should be 5.5 pages. If you have two schemes at half a page each, then your final paper should be six pages etc. Schemes and Figures can be extremely powerful to make your paper as clear as possible (a picture is worth a thousand words!), however in order for them to be effective, they should be referenced in the text as often as possible (ie see Fig. 1 or see Compound 1, Scheme 2). I would strongly encourage you to use five figures in your paper. References are separate from the 5-page limit. For the five-page limit (plus schemes and references), if you are beyond or below this limit by more than 10%, your grade will be increasingly reduced.

In-Class Tests: This will be based Part A and B of the course textbook. Each test date will be announced in class and each test will be weighted equally.

Take-Home Tests: There may be up to four guest lectures in this course. If so, take-home tests related to these lectures may be given that will be worth 10% total, each worth an equal amount (if four guest lectures, 2.5% each, if two, 5 % each etc.) and are due the week after the lecture was given.

Final Exam: This will be based on Part C of the course textbook and cover heterocyclic synthesis only (ie Parts A and B will not be explicitly examined, however this material may be helpful in answering questions since Part C builds on these previous sections)

US-2020-3-D12

INTERNAL MEMORANDUM

TO: Dr Sandra Gabriele, Vice-Provost, Innovation in Teaching and Learning
Office of the Provost and Vice-President, Academic Affairs
Chair, Academic Programs Committee

FROM: Dr André Roy, Dean, Faculty of Arts and Science
Chair, Arts and Science Faculty Council

DATE: March 6, 2020

SUBJECT: 2021-22 Undergraduate Calendar Curriculum Changes
Department of Education
EDUC-76
Changes to TESL minor and certificate; TESL 324, 415, 424, 435

The following proposal was approved at the Arts and Science Faculty Council meeting of March 6, 2020. We request that this proposal be considered at the next meeting of APC.

The **Department of Education** is modifying the Certificate and Minor in TESL in response to student feedback relative to the assessment course, TESL 415 *Testing, Evaluation and Course Design.* The competency-based English as a Second Language (ESL) programs in Québec "requires a different approach to evaluation of the ESL learners that is unrelated to the career purposes of the students in the Certificate and Minor in TESL graduates." While TESL 415 is still appropriately housed under the BEd in TESL, the department is removing it from the certificate and minor and spreading the assessment component over its practicum and methodology courses. TESL 435 *Practicum* (formerly numbered TESL 433) sees its credit value increased to six credits. TESL 433 (3 credits) is renumbered to TESL 435 (6 credits) due to this change.

Adding an evaluation component (additional 3 credits) to the TESL 433 *Practicum* (new TESL 435) will ensure that certificate students can integrate assessments as part of their field experience. At that stage in the program, students in the Certificate in TESL have already completed the methodology courses (TESL 324 and 424), and they are ready to apply this knowledge. An assessment component (previously in the removed TESL 415) is also added to the courses TESL 324 and 424 (*Methodology I and II)*.

Thank you for your consideration of this proposal. The department will reallocate sections to compensate for the additional three credits added to the practicum course (TESL 435). There are therefore no resource implications.

Reference documents:
FCC 2019.4_EDUC-76
ASFC-2020-2M-C

Department of Education

EDUC-76

Memo from Chair

Program change

Certificate in the Teaching of English as a Second Language

Minor in Teaching English as a Second Language

Course description change

TESL 324 *Methodology I*

TESL 415 *Testing, Evaluation and Course Design*

TESL 424 *Methodology II*

Course number, credit value, note and description change

TESL 435 *Practicum* (6 credits)

UNIVERSITÉ Concordia UNIVERSITY

INTERNAL MEMORANDUM

To: Richard Courtemanche, Associate Dean, Academic Programs

From: Sara Kennedy, Chair, Department of Education

Date: December 20, 2019

RE: **TESL Certificate, Minor and BEd Curriculum Changes**

The Department proposes for consideration, the attached dossier (EDUC-76), which was approved at the November 13, 2019 Department of Education Council meeting with the following modifications for the TESL Certificate, Minor and BEd programs. This was approved as well by CTEC on November 4, 2019 for the modifications to TESL 415 for the TESL BEd program

Background information:

1) Currently, TESL 415 *Testing, Evaluation and Course Design* provides the knowledge and skills related to evaluating ESL learners in the three TESL programs: Certificate in TESL, Minor in TESL and the BEd in TESL.

2) Graduates from the BEd in TESL, instructors in the BEd in TESL, internship supervisors, and also CAPFE (*Comité d'agrément des programmes de formation à l'enseignement*)—the committee that reviews and accredits teacher education programs in Quebec—have stressed the importance of a specific course focused on evaluation of ESL learners which attends to the requirements of the Ministry of Education and the context of primary and secondary schools in Quebec. To fulfill this request, TESL 415 has been recently adapted and successfully implemented to also serve the needs of BEd in TESL students.

3) Competency-based ESL programs in Quebec require a different approach to evaluation of the ESL learners that is unrelated to the career purposes of the students in the TESL Certificate and Minor. The TESL Certificate and Minor programs are aimed to prepare ESL teachers for continuing education, adult education in private enterprises, language centres, or teaching abroad. With the recent modifications to TESL 415, students in the TESL Certificate and Minor have complained about being required to acquire extensive knowledge of the competency-based ESL programs in Quebec and less about other evaluation approaches for other ESL contexts.

Problem:

One single course is not enough to attend to the needs related to the evaluation of ESL learners in three different TESL programs.

Solution:
Remove TESL 415 from the TESL Certificate and Minor programs and add 3 credits to TESL 433 *Practicum* specifically focused on the evaluation of ESL learners in more diverse ESL contexts.

The added 3 credits to TESL 433 will comprise presenting and exploring ways to gather evidence of learner's proficiency for evaluation purposes, integrating evaluation in the teaching activities, planning for evaluation, adapting and creating evaluation tools—such as rubrics and tests—and analysing the gathered information. As the credit value of TESL 433 is changing, the course requires renumbering and will now be TESL 435.

Further supporting rationale:

1) Having TESL 415 reserved for students in the BEd in TESL will allow to fully target the competency-based evaluation of the elementary and secondary ESL programs in Quebec as per the CAPFE recommendation.
2) Adding an evaluation component (additional 3 credits) to TESL 433 (replaced by TESL 435) will ensure certificate students integrate assessment as part of their field experience. Being the last course in the program, students in the Certificate in TESL have already completed the methodology courses (TESL 324 *Methodology I* and TESL 424 *Methodology II*) and are ready to apply this knowledge in evaluation and learning. This is already done in the BEd in TESL program where the evaluation of ESL learners is an integral part of the field experiences—TESL 486 *Internship: Primary II* and TESL 487 *Internship: Secondary II*.
3) The formula of having a lecture and a field experience has been very successful in the course TESL 326 *TESL Pedagogy: General* in the BEd program. TESL 433 (replaced by TESL 435) can mirror this structure and thus benefit students in transferring the content of the lecture into the practicum experience.
4) From a scheduling perspective, students who wish to complete the Certificate in TESL in one academic year have difficulties with the workload in their second term—the winter term. Moving 3 credits from the winter term—when they usually took TESL 415—to the summer term—when TESL 433 (replaced by TESL 435) is offered—will ease their progression and ensure completion within a year.

Program Implications:
There are no program implications for the BEd in TESL. The Certificate and Minor in TESL will experience minor modifications in scheduling and credit load, both of which are advantageous to students.

Resource Implications:
Section count in the Department of Education: One section of TESL 341 *Language Acquisition* will be cancelled when transformed into an online course with only one section per year. Therefore, adding 3-credits to TESL 433 (replace by TESL 435) will not increase the final section count.

In short, for the TESL Certificate and Minor, we are creating TESL 435 (6 credits) to replace TESL 433 (3 credits) and modifying TESL 324 and TESL 424 to include evaluation. TESL 415 (3 credits) will be removed from the TESL Certificate and Minor and modifying it to only be for students in the TESL BEd.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **EDUC-76** VERSION: 7

PROGRAM CHANGE: Certificate in TESL

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2020

Faculty/School: Arts and Science
Department: Education
Program: Certificate in the Teaching of English as a Second Language
Degree: Certificate
Calendar Section/Graduate Page Number: 31.090

Type of Change:

[ ] Editorial [X] Requirements [ ] Regulations [ ] Program Deletion [ ] New Program

Present Text (from 2020/2021) calendar	**Proposed Text**
30 Certificate in the Teaching of English as a Second Language 6 ENGL 212[3] and 213[3]; or 396[6] 24 TESL 221[3], 231[3], 324[3], 331[3], 341[3], ~~415[3],~~ 424[3], ~~433[3]~~ NOTE I: Students must demonstrate proficiency in the language of instruction prior to being admitted into the program. NOTE II: Students in the TESL Certificate must achieve at least a “C” grade in the Practicum, that is, TESL 43~~3~~. Students are allowed to repeat the course in question only once in order to achieve the required grade (see Calendar §16.2.6).	**30 Certificate in the Teaching of English as a Second Language** 6 ENGL 212[3] and 213[3]; or 396[6] 24 TESL 221[3], 231[3], 324[3], 331[3], 341[3], 424[3], 435[6] NOTE I: Students must demonstrate proficiency in the language of instruction prior to being admitted into the program (see Calendar §31.002). NOTE II: Students in the TESL Certificate must achieve at least a “C” grade in the Practicum, that is, TESL 435. Students are allowed to repeat the course in question only once in order to achieve the required grade (see Calendar §16.2.6).

Rationale:
1) Currently, TESL 415 provides the knowledge and skills related to evaluating ESL learners in the three TESL programs: Certificate, Minor and B.Ed. in TESL.
2) Post the recent CAPFE visit, the modifications made to TESL 415 have received complaints from Minor and Certificate students about being required to acquire extensive knowledge of the competency-based ESL programs in Quebec and less about other evaluation approaches for other ESL contexts.

Solution:
Remove TESL 415 from the Certificate in TESL program and add 3 credits to TESL 433 (replaced by TESL 435) specifically focused on the evaluation of ESL learners in more diverse ESL contexts.
The added 3 credits to TESL 433 (replaced by TESL 435) will comprise presenting and exploring ways to gather evidence of learner’s proficiency for evaluation purposes, integrating evaluation in the teaching activities, planning for evaluation, adapting and creating evaluation tools—such as rubrics and tests—and analysing the gathered information.

Resource Implications:
n/a

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **EDUC-76** VERSION: 7

PROGRAM CHANGE: Minor in TESL

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2020

Faculty/School: Arts and Science
Department: Education
Program: Minor in Teaching English as a Second Language
Degree: Minor
Calendar Section/Graduate Page Number: 31.090

Type of Change:

[ ] Editorial [X] Requirements [ ] Regulations [ ] Program Deletion [ ] New Program

Present Text (from 2020/2021) calendar	**Proposed Text**
24 Minor in Teaching English as a Second Language 24 TESL 221^{3}, 231^{3}, 324^{3}, 331^{3}, 341^{3}, ~~415^{3},~~ 424^{3}, ~~433^{3}~~ NOTE I: Students must demonstrate proficiency in the language of instruction prior to being admitted into the program. NOTE II: Students in the Minor in TESL must achieve at least a “C” grade in the Practicum, that is, TESL 43~~3~~. Students are allowed to repeat the course in question only once in order to achieve the required grade (see Calendar §16.2.6).	**24 Minor in Teaching English as a Second Language** 24 TESL 221^{3}, 231^{3}, 324^{3}, 331^{3}, 341^{3}, 424^{3}, 435^{6} NOTE I: Students must demonstrate proficiency in the language of instruction prior to being admitted into the program. NOTE II: Students in the Minor in TESL must achieve at least a “C” grade in the Practicum, that is, TESL 435. Students are allowed to repeat the course in question only once in order to achieve the required grade (see Calendar §16.2.6).

Rationale:
1) Currently, TESL 415 provides the knowledge and skills related to evaluating ESL learners in the three TESL programs: Certificate, Minor and B.Ed. in TESL.
2) Post the recent CAPFE visit, the modifications made to TESL 415 have received complaints from Minor and Certificate students about being required to acquire extensive knowledge of the competency-based ESL programs in Quebec and less about other evaluation approaches for other ESL contexts.

Solution:
Remove TESL 415 from the Minor in TESL program and add 3 credits to TESL 433 (replaced by TESL 435) specifically focused on the evaluation of ESL learners in more diverse ESL contexts.
The added 3 credits to TESL 433 (replaced by TESL 435) will comprise presenting and exploring ways to gather evidence of learner’s proficiency for evaluation purposes, integrating evaluation in the teaching activities, planning for evaluation, adapting and creating evaluation tools—such as rubrics and tests—and analysing the gathered information.

Resource Implications:
n/a

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **EDUC-76** VERSION: 7

COURSE CHANGE: TESL 324 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2020

Faculty/School: Arts and Science
Department: Education
Program: Certification, Minor in TESL
Degree: Certificate, Minor
Calendar Section/Graduate Page Number: 31.090.1

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[X] Course Description	[ ] Editorial	[ ] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 2020/2021) calendar	**Proposed Text**
TESL 324 ***Methodology I*** (3 credits) This course reviews current theory in applied linguistics which relates directly to teaching and learning ESL in the classroom. Techniques and methods appropriate to child, adolescent, and adult learners are discussed and demonstrated. In this course the emphasis is on classroom-oriented techniques and materials related to the teaching of listening and speaking. *NOTE: Students enrolled in the BEd Specialization in Teaching English as a Second Language may not take this course for credit.*	**TESL 324** ***Methodology I*** (3 credits) This course reviews current theory in applied linguistics which relates directly to teaching and learning ESL in the classroom. Techniques and methods appropriate to child, adolescent, and adult learners are discussed and demonstrated. In this course the emphasis is on classroom-oriented techniques and materials related to the teaching and assessment of listening and speaking skills. *NOTE: Students enrolled in the BEd Specialization in Teaching English as a Second Language may not take this course for credit.*

Rationale:
Competency-based ESL programs in Quebec require a different approach to evaluation of the ESL learners that is unrelated to the career purposes of the Certificate and Minor in TESL. The Certificate and Minor in TESL programs are aimed to prepare ESL teachers for continuing education, adult education in private enterprises, language centres, or teaching abroad.
Adding an evaluation component to TESL 324, as students will no longer be taking TESL 415, will ensure Certificate and Minor students integrate assessment throughout the program (TESL 324, 424 and 435) as opposed to it being concentrated in one course (TESL 415) which is proposed to be removed.

Resource Implications:
n/a

Other Programs within which course is listed:

None

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **EDUC-76** VERSION: 7

COURSE CHANGE: TESL 415 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2020

Faculty/School: Arts and Science
Department: Education
Program: BEd, Certification, Minor in TESL
Degree: BEd, Certificate, Minor
Calendar Section/Graduate Page Number: 31.090.1

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[X] Prerequisite
[X] Course Description	[ ] Editorial	[ ] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 2020/2021) calendar	**Proposed Text**
TESL 415 ***Testing, Evaluation and Course Design*** (3 credits) Prerequisite: ~~For BEd in TESL:~~ TESL 426 or 427 previously or concurrently~~; for Certificate and Minor in TESL: TESL 324 previously or concurrently~~. The purpose of this course is to prepare students to test and evaluate learners in different types of ESL programs. Students examine syllabi and evaluation systems used in the schools ~~and in adult education settings,~~ and become familiar with ~~placement and proficiency testing materials~~.	**TESL 415** ***Testing, Evaluation and Course Design*** (3 credits) Prerequisite: TESL 426 or 427 previously or concurrently. The purpose of this course is to prepare students to test and evaluate learners in different types of ESL programs. Students examine syllabi and evaluation systems used in the schools and become familiar with evaluation-related documents produced by Ministère de l'Éducation et de l'Enseignement supérieur (MEES).

Rationale:
Having TESL 415 reserved for students in the B.Ed. in TESL will allow to fully target the competency-based evaluation of the elementary and secondary ESL programs in Quebec as per the CAPFE recommendation. Due to these modifications to TESL 415, students in the Certificate and Minor in TESL have complained about being required to acquire extensive knowledge of the competency-based ESL programs in Quebec and less about other evaluation approaches for other ESL contexts. To resolve this, we propose to integrate the evaluations into TESL 324, 424 and 435 to better serve the students in the Certificate and Minor in TESL programs. As other courses do not specify the BEd in TESL it is removed for consitency.

Resource Implications:
n/a

Other Programs within which course is listed:

None

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **EDUC-76** VERSION: 7

COURSE CHANGE: TESL 424 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2020

Faculty/School: Arts and Science
Department: Education
Program: Certification, Minor in TESL
Degree: Certificate, Minor
Calendar Section/Graduate Page Number: 31.090.1

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[X] Course Description	[ ] Editorial	[ ] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 2020/2021) calendar	**Proposed Text**
TESL 424 ***Methodology II*** (3 credits) Prerequisite: TESL 324. This course continues the presentation of techniques and methods begun in TESL 324. In this course the emphasis is on classroom-oriented techniques and materials related to the teaching of reading and writing. *NOTE: Students enrolled in the BEd Specialization in Teaching English as a Second Language may not take this course for credit.*	**TESL 424** ***Methodology II*** (3 credits) Prerequisite: TESL 324. This course continues the presentation of techniques and methods begun in TESL 324. In this course the emphasis is on classroom-oriented techniques and materials related to the teaching and assessment of reading and writing skills. *NOTE: Students enrolled in the BEd Specialization in Teaching English as a Second Language may not take this course for credit.*

Rationale:
Competency-based ESL programs in Quebec require a different approach to evaluation of the ESL learners that is unrelated to the career purposes in the Certificate and Minor in TESL. The programs are aimed to prepare ESL teachers for continuing education, adult education in private enterprises, language centres, or teaching abroad.
Adding an evaluation component to TESL 424, as students will no longer be taking TESL 415, will ensure Certificate and Minor students integrate assessment throughout the program (TESL 324, 424 and 435) as opposed to it being concentrated in one course (TESL 415) which is proposed to be removed.

Resource Implications:
n/a

Other Programs within which course is listed:

None

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **EDUC-76** VERSION: 7

COURSE CHANGE: TESL 433 New Course Number: TESL 435

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2020

Faculty/School: Arts and Science
Department: Education
Program: Certification, Minor in TESL
Degree: Certificate, Minor
Calendar Section/Graduate Page Number: 31.090.1

Type of Change:

[X] Course Number [ ] Course Title [X] Credit Value [X] Prerequisite
[X] Course Description [ ] Editorial [ ] New Course
[ ] Course Deletion [ ] Other - Specify:

Present Text (from 2020/2021) calendar	**Proposed Text**
TESL 433 ***Practicum*** (3 credits) Prerequisite: Enrolment in TESL Certificate or Minor; TESL 331, 341, 415, and 424 either previously or concurrently. In this course, students practise techniques which were introduced in their methodology courses. There are opportunities for observation of ESL classes taught by experienced teachers. Techniques presented in TESL 324 and 424 are practised in micro-teaching, peer teaching, and sessions with groups of ESL students. Requirements include lesson planning and the evaluation of one's own teaching performance. *NOTE I: Students enrolled in the BEd Specialization in Teaching English as a Second Language may not take this course for credit.* *NOTE II: Students in the TESL Certificate and Minor must achieve at least a "C" grade in this course. Students will be allowed to repeat this course only once in order to achieve the required grade (see Calendar §16.2.6).*	**TESL 435** ***Practicum*** (6 credits) Prerequisite: Enrolment in TESL Certificate or Minor; TESL 331, 341, and 424 either previously or concurrently. In this course, students practise techniques which were introduced in their methodology courses, TESL 324 and TESL 424. This course includes lectures and field teaching experiences. The lectures will focus on theories and techniques for the assessment of ESL learners. The field teaching experiences will include observation of ESL classes, peer teaching, and the facilitation of sessions with groups of ESL learners. Requirements include lesson planning, assessment of ESL leaners, and the evaluation of peers and one's own teaching performance. *NOTE I: Students enrolled in the BEd Specialization in Teaching English as a Second Language may not take this course for credit.* *NOTE II: Students in the TESL Certificate and Minor must achieve at least a "C" grade in this course. Students will be allowed to repeat this course only once in order to achieve the required grade (see Calendar §16.2.6).*

Rationale:
Competency-based ESL programs in Quebec require a different approach to evaluation of the ESL learners that is unrelated to the career purposes of the students in the Certificate and Minor in TESL. The Certificate and Minor in TESL programs are aimed to prepare ESL teachers for continuing education, adult education in private enterprises, language centres, or teaching abroad. With the recent modifications to TESL 415, students in the Certificate and Minor in TESL have complained about being required to acquire extensive knowledge of the competency-based ESL programs in Quebec and less about other evaluation approaches for other ESL contexts.

The BEd in TESL has a similar course with a theory and a practicum component, TESL 326 for 6 credits, which has a minimum grade requirement. This model is working well and we would like to duplicate it for TESL 435. The course is not necessarily more demanding because it has another component; it will have required additional work, to count for 6 credits.

Also, in order to ensure consistency in teaching and approach, we would prefer to keep this as one course, which we had considered prior to submitting the curriculum change; separating the two components would require two instructors and lot more coordination. Also, if issued to a part-time member, it ensures that the same professor is assigned the course, again for consistency.

Problem:

One single course is not enough to attend to the needs related to the evaluation of ESL learners in three different TESL programs.

Solution:
Remove TESL 415 from the Certificate and Minor in TESL program and add 3 credits to TESL 433 (replaced by TESL 435) specifically focused on the evaluation of ESL learners in more diverse ESL contexts.
The added 3 credits to TESL 433 will comprise presenting and exploring ways to gather evidence of learner's proficiency for evaluation purposes, integrating evaluation in the teaching activities, planning for evaluation, adapting and creating evaluation tools—such as rubrics and tests—and analysing the gathered information. As we cannot make TESL 433 a 6-credit course, TESL 435 will replace TESL 433. We reviewed the previous course numbers, it was not used (TESL 434) was the last course number in this sequence dating back to 1978-79.

Further supporting rationale:
1) Adding an evaluation component (additional 3 credits) to TESL 433 (new TESL 435) will ensure certificate students integrate assessment as part of their field experience. Being the last course in the program, students in the Certificate in TESL have already completed the methodology courses (TESL 324 and 424) and are ready to apply this knowledge in evaluation and learning. This is already done in the BEd in TESL program where the evaluation of ESL learners is an integral part of the field experiences—TESL 486 and TESL 487.
2) The formula of having a lecture and a field experience has been very successful in the course TESL 326 in the BEd program. TESL 433 (new TESL 435) can mirror this structure and thus benefit students in transferring the content of the lecture into the practicum experience.
3) From a scheduling perspective, students who wish to complete the Certificate in TESL in one academic year have difficulties with the workload in their second term—the winter term. Moving 3 credits from the winter term—when they usually took TESL 415—to the summer term—when TESL 433 (new TESL 435) is offered—will ease their progression and ensure completion within a year.

Resource Implications:
n/a

Other Programs within which course is listed:

None

US-2020-3-D13

INTERNAL MEMORANDUM

TO: Dr Sandra Gabriele, Vice-Provost, Innovation in Teaching and Learning
Office of the Provost and Vice-President, Academic Affairs
Chair, Academic Programs Committee

FROM: Dr André Roy, Dean, Faculty of Arts and Science
Chair, Arts and Science Faculty Council

DATE: March 6, 2020

SUBJECT: 2021-22 Undergraduate Calendar Curriculum Changes
Department of Political Science
POLI-44
New courses POLI 359, 451, 452, 453, 454, 455; deletion of POLI 491; prerequisite change POLI 410

The following proposal was reviewed and approved at the Arts and Science Faculty Council meeting of March 6, 2020. We request that this proposal be considered at the next meeting of APC.

The **Department of Political Science** is replacing its directed studies course, POLI 491 *Directed Studies in Political Science* with five courses designed to cover each subfield that original course offered, namely POLI 451 *Directed Studies in International Politics*, POLI 452 *Directed Studies in Comparative Politics*, POLI 453 *Directed Studies in Canadian and Quebec Politics*, POLI 454 *Directed Studies in Public Policy and Administration*, and POLI 455 *Directed Studies in Political Theory*. In addition, POLI 359 *Directed Studies in Political Science* is proposed as a new course due to a lack of directed studies courses at the 300-level. Currently, special topics courses have been used to fill this gap in the curriculum.

Thank you for your consideration of this proposal for which there are no additional resource implications.

Reference documents:
FCC 2019.4_POLI-44
ASFC-2020-2M-D

Department of Political Science

POLI-44

Memo from Chair

Course groups list updated

New course

POLI 359 *Directed Studies in Political Science*

POLI 451 *Directed Studies in International Politics*

POLI 452 *Directed Studies in Comparative Politics*

POLI 453 *Directed Studies in Canadian and Quebec Politics*

POLI 454 *Directed Studies in Public Policy and Administration*

POLI 455 *Directed Studies in Political Theory*

Course deleted

POLI 491 *Directed Studies in Political Science*

Concordia University
Arts and Science

INTERNAL MEMORANDUM

TO: Richard Courtemanche, Associate Dean, Academic Programs

FROM: Elizabeth Bloodgood, Chair, Department of Political Science

DATE: January 15, 2020

SUBJECT: **Political Science Calendar Change Request**

The Department of Political Science is requesting two course changes.

We request to remove POLI 491 *Directed Studies in Political Science* from the 2021-22 calendar. In its place, we would like to add POLI 451, 452, 453, 454, 455, which would be Directed Studies courses specific to each subfield, i.e. International Politics, Comparative Politics, Canadian and Quebec Politics, Public Policy and Administration, and Political Theory. This change is requested in order to simplify assigning these courses to the five requirement groups in the Department. Students must take courses in at least two requirement groups and using one course number complicated degree audits at the end of their program.

Finally, we request to create POLI 359, *Directed Studies in Political Science*. There is currently no course option for a directed studies course at the 300-level.We have been working around this missing course code by adding students to a POLI Special Topics course (POLI 311-317). This temporary solution was problematic, as it looked like a regular course open to 60 students rather than a Directed Studies. A new permanent 300-level course code would resolve this issue.

The proposed changes to Directed Studies courses were discussed and approved by the Department's Undergraduate Curriculum Committee and recommended to the Department Council. Department Council discussed these course changes on November 1, 2019 and approved them on November 29, 2019.

There are no resource implications for these changes.

We request that these changes proceed for the 2021-22 calendar.

Should you require additional information, please contact me.

/cn

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **POLI-44** VERSION: 4

PROGRAM CHANGE: Course groups

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2020/2021
Implementation Month/Year: September 2021

Faculty/School: Arts and Science
Department: Political Science
Program: Major, Honours, and Honours (Thesis)
Degree: BA
Calendar Section/Graduate Page Number: 31.240

Type of Change:
[ ] Editorial [ ] Requirements [ ] Regulations [ ] Program Deletion [X] New Program

Present Text (from 20XX/20XX) calendar	**Proposed Text**
Group 1: International Politics	**Group 1: International Politics**
POLI 301 Social Movements and Protest Politics (3 credits)	**POLI 301** Social Movements and Protest Politics (3 credits)
POLI 302 Causes of War (3 credits)	**POLI 302** Causes of War (3 credits)
POLI 303 Chinese Security Politics (3 credits)	**POLI 303** Chinese Security Politics (3 credits)
POLI 304 Theories of Foreign Policy Making (3 credits)	**POLI 304** Theories of Foreign Policy Making (3 credits)
POLI 305 International Political Economy (3 credits)	**POLI 305** International Political Economy (3 credits)
POLI 311 International Public Law (3 credits)	**POLI 311** International Public Law (3 credits)
POLI 312 Special Topics in International Politics (3 credits)	**POLI 312** Special Topics in International Politics (3 credits)
POLI 315 International Organizations (3 credits)	**POLI 315** International Organizations (3 credits)
POLI 318 Introduction to Strategic Studies (3 credits)	**POLI 318** Introduction to Strategic Studies (3 credits)
POLI 329 American Foreign Policy (3 credits)	**POLI 329** American Foreign Policy (3 credits)
POLI 332 Theories of International Relations (3 credits)	**POLI 332** Theories of International Relations (3 credits)
POLI 388 Human Rights and International Justice (3 credits)	**POLI 388** Human Rights and International Justice (3 credits)
POLI 391 Middle East and Global Conflict (3 credits)	**POLI 391** Middle East and Global Conflict (3 credits)
POLI 394 Globalization and Sustainable Development (3 credits)	**POLI 394** Globalization and Sustainable Development (3 credits)
POLI 400 Advanced Seminar in International Relations Theory (3 credits)	**POLI 400** Advanced Seminar in International Relations Theory (3 credits)
POLI 402 Advanced International Political Economy (3 credits)	**POLI 402** Advanced International Political Economy (3 credits)
POLI 403 Global Ecopolitical Analysis (3 credits)	**POLI 403** Global Ecopolitical Analysis (3 credits)
POLI 404 International Institutions (3 credits)	**POLI 404** International Institutions (3 credits)
POLI 419 Strategic Studies (3 credits)	**POLI 419** Strategic Studies (3 credits)
POLI 420 Politics of Conservation (3 credits)	**POLI 420** Politics of Conservation (3 credits)
POLI 421 Transnational Politics (3 credits)	**POLI 421** Transnational Politics (3 credits)
POLI 422 Canadian Foreign Policy (3 credits)	**POLI 422** Canadian Foreign Policy (3 credits)
POLI 423 Peace Studies and Global Governance (3 credits)	**POLI 423** Peace Studies and Global Governance (3 credits)
POLI 486 Advanced Seminar in International Relations (3 credits)	**POLI 451** Directed Studies in International Politics (3 credits)
	POLI 486 Advanced Seminar in International Relations (3 credits)
Group 2: Comparative Politics	**Group 2: Comparative Politics**
POLI 301 Social Movements and Protest Politics (3 credits)	**POLI 301** Social Movements and Protest Politics (3 credits)
POLI 307 The U.S. Presidency (3 credits)	**POLI 307** The U.S. Presidency (3 credits)

POLI 308	Politics of Emerging Economies (3 credits)
POLI 310	Politics of the U.S. (3 credits)
POLI 313	Special Topics in Comparative Politics (3 credits)
POLI 319	European Politics and Government (3 credits)
POLI 320	Development of Western Legal Systems (3 credits)
POLI 322	Israeli Political System (3 credits)
POLI 323	Politics of Eastern Europe (3 credits)
POLI 327	Comparative Democratization (3 credits)
POLI 331	Comparative Party Systems (3 credits)
POLI 335	Politics of the People's Republic of China (3 credits)
POLI 352	Comparative Urban Politics and Government (3 credits)
POLI 366	Politics of Africa (3 credits)
POLI 379	Politics of Latin America (3 credits)
POLI 395	Politics of the Middle East (3 credits)
POLI 405	Comparative Electoral Systems (3 credits)
POLI 406	Comparative Federalism and Political Integration (3 credits)
POLI 410	Environmental Policy in the Developing World (3 credits)
POLI 412	Comparative Social Policy (3 credits)
POLI 424	Corruption (3 credits)
POLI 429	Political Socialization in Canadian and Comparative Perspective (3 credits)
POLI 431	State-Society Relations in China (3 credits)
POLI 434	Politics of Violence in Latin America (3 credits)
POLI 435	Advanced Seminar in U.S. Politics (3 credits)
POLI 436	State and Society in the Middle East (3 credits)
POLI 437	Special Issues in African Development (3 credits)
POLI 438	Decentralization and Development (3 credits)
POLI 481	Advanced Seminar in European Politics (3 credits)
POLI 483	State and Society in Latin America (3 credits)
POLI 484	Post-Communist Democracies (3 credits)
POLI 485	Issues in Development and Democracy (3 credits)
POLI 487	Advanced Seminar in Comparative Politics (3 credits)
Group 3: Canadian and Quebec Politics	
POLI 309	Women and Politics in Canada (3 credits)
POLI 314	Special Topics in Canadian and Quebec Politics (3 credits)
POLI 321	Canadian and Quebec Law (3 credits)
POLI 324	Parliament and the Charter (3 credits)
POLI 334	Political Participation in Canada (3 credits)
POLI 339	Quebec Politics and Society/La vie politique québécoise (3 credits)
POLI 340	Canadian Political Culture (3 credits)
POLI 341	Provincial and Territorial Politics (3 credits)
POLI 351	Canadian Federalism (3 credits)
POLI 356	Canadian Political Parties (3 credits)
POLI 363	Issues in Canadian Public Policy (3 credits)
POLI 365	Canadian Public Administration (3 credits)
POLI 367	Quebec Public Administration (3 credits)
POLI 407	Parliamentary Bills of Rights (3 credits)
POLI 408	Public Opinion and Public Policy (3 credits)
POLI 409	Canada: State-Society Relations (3 credits)

POLI 308	Politics of Emerging Economies (3 credits)
POLI 310	Politics of the U.S. (3 credits)
POLI 313	Special Topics in Comparative Politics (3 credits)
POLI 319	European Politics and Government (3 credits)
POLI 320	Development of Western Legal Systems (3 credits)
POLI 322	Israeli Political System (3 credits)
POLI 323	Politics of Eastern Europe (3 credits)
POLI 327	Comparative Democratization (3 credits)
POLI 331	Comparative Party Systems (3 credits)
POLI 335	Politics of the People's Republic of China (3 credits)
POLI 352	Comparative Urban Politics and Government (3 credits)
POLI 366	Politics of Africa (3 credits)
POLI 379	Politics of Latin America (3 credits)
POLI 395	Politics of the Middle East (3 credits)
POLI 405	Comparative Electoral Systems (3 credits)
POLI 406	Comparative Federalism and Political Integration (3 credits)
POLI 410	Environmental Policy in the Developing World (3 credits)
POLI 412	Comparative Social Policy (3 credits)
POLI 424	Corruption (3 credits)
POLI 429	Political Socialization in Canadian and Comparative Perspective (3 credits)
POLI 431	State-Society Relations in China (3 credits)
POLI 434	Politics of Violence in Latin America (3 credits)
POLI 435	Advanced Seminar in U.S. Politics (3 credits)
POLI 436	State and Society in the Middle East (3 credits)
POLI 437	Special Issues in African Development (3 credits)
POLI 438	Decentralization and Development (3 credits)
POLI 452	Directed Studies in Comparative Politics (3 credits)
POLI 481	Advanced Seminar in European Politics (3 credits)
POLI 483	State and Society in Latin America (3 credits)
POLI 484	Post-Communist Democracies (3 credits)
POLI 485	Issues in Development and Democracy (3 credits)
POLI 487	Advanced Seminar in Comparative Politics (3 credits)
Group 3: Canadian and Quebec Politics	
POLI 309	Women and Politics in Canada (3 credits)
POLI 314	Special Topics in Canadian and Quebec Politics (3 credits)
POLI 321	Canadian and Quebec Law (3 credits)
POLI 324	Parliament and the Charter (3 credits)
POLI 334	Political Participation in Canada (3 credits)
POLI 339	Quebec Politics and Society/La vie politique québécoise (3 credits)
POLI 340	Canadian Political Culture (3 credits)
POLI 341	Provincial and Territorial Politics (3 credits)
POLI 351	Canadian Federalism (3 credits)
POLI 356	Canadian Political Parties (3 credits)
POLI 363	Issues in Canadian Public Policy (3 credits)
POLI 365	Canadian Public Administration (3 credits)
POLI 367	Quebec Public Administration (3 credits)
POLI 407	Parliamentary Bills of Rights (3 credits)
POLI 408	Public Opinion and Public Policy (3 credits)
POLI 409	Canada: State-Society Relations (3 credits)

POLI 428	Constitutional Politics in Canada (3 credits)
POLI 429	Political Socialization in Canadian and Comparative Perspective (3 credits)
POLI 481	Advanced Seminar in European Politics (3 credits)
POLI 488	Advanced Seminar in Canadian and Quebec Politics (3 credits)

Group 4: Public Policy and Administration

POLI 316	Special Topics in Public Policy and Administration (3 credits)
POLI 320	Development of Western Legal Systems (3 credits)
POLI 328	Public Policy and the Politics of Equality (3 credits)
POLI 330	Principles of Public Administration (3 credits)
POLI 349	Political and Social Theory and the City (3 credits)
POLI 352	Comparative Urban Politics and Government (3 credits)
POLI 353	Principles of Public Policy (3 credits)
POLI 361	Advocacy Groups and Public Policy (3 credits)
POLI 363	Issues in Canadian Public Policy (3 credits)
POLI 365	Canadian Public Administration (3 credits)
POLI 367	Quebec Public Administration (3 credits)
POLI 410	Environmental Policy in the Developing World (3 credits)
POLI 411	Gender and Public Policy (3 credits)
POLI 412	Comparative Social Policy (3 credits)
POLI 438	Decentralization and Development (3 credits)
POLI 463	Government and Business in Canada (3 credits)
POLI 489	Advanced Seminar in Public Policy and Administration (3 credits)

Group 5: Political Theory

POLI 306	Classical Political Thought (3 credits)
POLI 317	Special Topics in Political Theory (3 credits)
POLI 345	Contemporary Political Philosophy (3 credits)
POLI 349	Political and Social Theory and the City (3 credits)
POLI 364	Hellenistic, Roman, Medieval Political Philosophy (3 credits)
POLI 368	Media, Technology and Politics (3 credits)
POLI 371	Early Modern Political Philosophy (3 credits)
POLI 373	Late Modern Political Philosophy (3 credits)
POLI 384	Principles of Political Theory (3 credits)
POLI 386	Contemporary Liberalism and Its Critics (3 credits)
POLI 389	Religion and Politics (3 credits)
POLI 401	American Political Thought (3 credits)
POLI 414	Authors of Political Imagination (3 credits)
POLI 415	Modern Political Theory and Religion (3 credits)
POLI 416	Ancient Political Texts (3 credits)
POLI 417	Governance (3 credits)
POLI 418	Machiavelli (3 credits)
POLI 425	Foundations of Liberalism (3 credits)
POLI 426	Nietzsche (3 credits)
POLI 427	Political Thought of the Enlightenment (3 credits)
POLI 433	Critics of Modernity (3 credits)
POLI 490	Advanced Seminar in Political Theory (3 credits)

POLI 428	Constitutional Politics in Canada (3 credits)
POLI 429	Political Socialization in Canadian and Comparative Perspective (3 credits)
POLI 453	Directed Studies in Canadian and Quebec Politics (3 credits)
POLI 488	Advanced Seminar in Canadian and Quebec Politics (3 credits)

Group 4: Public Policy and Administration

POLI 316	Special Topics in Public Policy and Administration (3 credits)
POLI 320	Development of Western Legal Systems (3 credits)
POLI 328	Public Policy and the Politics of Equality (3 credits)
POLI 330	Principles of Public Administration (3 credits)
POLI 349	Political and Social Theory and the City (3 credits)
POLI 352	Comparative Urban Politics and Government (3 credits)
POLI 353	Principles of Public Policy (3 credits)
POLI 361	Advocacy Groups and Public Policy (3 credits)
POLI 363	Issues in Canadian Public Policy (3 credits)
POLI 365	Canadian Public Administration (3 credits)
POLI 367	Quebec Public Administration (3 credits)
POLI 410	Environmental Policy in the Developing World (3 credits)
POLI 411	Gender and Public Policy (3 credits)
POLI 412	Comparative Social Policy (3 credits)
POLI 438	Decentralization and Development (3 credits)
POLI 454	Directed Studies in Public Policy and Administration (3 credits)
POLI 463	Government and Business in Canada (3 credits)
POLI 489	Advanced Seminar in Public Policy and Administration (3 credits)

Group 5: Political Theory

POLI 306	Classical Political Thought (3 credits)
POLI 317	Special Topics in Political Theory (3 credits)
POLI 345	Contemporary Political Philosophy (3 credits)
POLI 349	Political and Social Theory and the City (3 credits)
POLI 364	Hellenistic, Roman, Medieval Political Philosophy (3 credits)
POLI 368	Media, Technology and Politics (3 credits)
POLI 371	Early Modern Political Philosophy (3 credits)
POLI 373	Late Modern Political Philosophy (3 credits)
POLI 384	Principles of Political Theory (3 credits)
POLI 386	Contemporary Liberalism and Its Critics (3 credits)
POLI 389	Religion and Politics (3 credits)
POLI 401	American Political Thought (3 credits)
POLI 414	Authors of Political Imagination (3 credits)
POLI 415	Modern Political Theory and Religion (3 credits)
POLI 416	Ancient Political Texts (3 credits)
POLI 417	Governance (3 credits)
POLI 418	Machiavelli (3 credits)
POLI 425	Foundations of Liberalism (3 credits)
POLI 426	Nietzsche (3 credits)
POLI 427	Political Thought of the Enlightenment (3 credits)
POLI 433	Critics of Modernity (3 credits)
POLI 455	Directed Studies in Political Theory (3 credits)
POLI 490	Advanced Seminar in Political Theory (3 credits)

Rationale:
We would like to add POLI 451, 452, 453, 454, 455, which would be directed studies courses specific to each subfield, i.e. international politics, comparative politics, Canadian and Quebec politics, public policy and administration, and political theory.This change is requested in order to simplify assigning these courses to the five requirement groups in the department. Students must take courses in at least two requirement groups and using one course number complicated degree audits at the end of their program.

Resource Implications:
None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **POLI-44** VERSION: 4

COURSE CHANGE: POLI 359 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Arts and Science
Department: Political Science
Program: Major, Honours, and Honours (Thesis)
Degree: BA
Calendar Section/Graduate Page Number: 31.240

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[X] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 20xx/20xx) calendar	**Proposed Text**
	POLI 359 *Directed Studies in Political Science* (3 credits) Prerequisite: POLI 203, 204, 205 or 206; permission of the undergraduate program director. This special reading course is designed in conjunction with a faculty member to explore topics and themes in a specific research area of interest to the student and faculty member. *NOTE: This course may not be taken more than once for credit.*

Rationale:
There is currently no course option for a directed studies course at the 300-level.We have been working around this missing course code by adding students to a POLI Special Topics course (POLI 311-317).

Resource Implications:
None.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **POLI-44** VERSION: 4

COURSE CHANGE: POLI 451 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Arts and Science
Department: Political Science
Program: Major, Honours, and Honours (Thesis)
Degree: BA
Calendar Section/Graduate Page Number: 31.240

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[X] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 20xx/20xx) calendar	**Proposed Text**
	POLI 451 ***Directed Studies in International Politics*** (3 credits) Prerequisite: See N.B. number (3); permission of the undergraduate program director. This special reading course is designed in conjunction with a faculty member to explore topics and themes in a specific research area in international politics of interest to the student and faculty member. *NOTE: Enrolment is limited to one 400-level Directed Studies course per student.*

Rationale:
In removing POLI 491, we are adding five courses to cover Directed Studies in each subfield Political Science offers. Namely, International Politics, Comparative Politics, Canadian and Quebec Politics, Public Policy and Administration, and Political Theory.

Resource Implications:
None.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **POLI-44** VERSION: 4

COURSE CHANGE: POLI 452 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Arts and Science
Department: Political Science
Program: Major, Honours, and Honours (Thesis)
Degree: BA
Calendar Section/Graduate Page Number: 31.240

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[X] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 20xx/20xx) calendar	**Proposed Text**
	POLI 452 ***Directed Studies in Comparative Politics*** (3 credits) Prerequisite: See N.B. number (3); permission of the undergraduate program director. This special reading course is designed in conjunction with a faculty member to explore topics and themes in a specific research area in comparative politics of interest to the student and faculty member. *NOTE: Enrolment is limited to one 400-level Directed Studies course per student.*

Rationale:
In removing POLI 491, we are adding five courses to cover Directed Studies in each subfield Political Science offers. Namely, International Politics, Comparative Politics, Canadian and Quebec Politics, Public Policy and Administration, and Political Theory.

Resource Implications:
None.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **POLI-44** VERSION: 4

COURSE CHANGE: POLI 453 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Arts and Science
Department: Political Science
Program: Major, Honours, and Honours (Thesis)
Degree: BA
Calendar Section/Graduate Page Number: 31.240

Type of Change:

[ ] Course Number [ ] Course Title [ ] Credit Value [ ] Prerequisite
[ ] Course Description [ ] Editorial [X] New Course
[ ] Course Deletion [ ] Other - Specify:

Present Text (from 20xx/20xx) calendar	**Proposed Text**
	POLI 453 ***Directed Studies in Canadian and Quebec Politics*** (3 credits) Prerequisite: See N.B. number (3); permission of the undergraduate program director. This special reading course is designed in conjunction with a faculty member to explore topics and themes in a specific research area in Canadian and Quebec politics of interest to the student and faculty member. *NOTE: Enrolment is limited to one 400-level Directed Studies course per student.*

Rationale:
In removing POLI 491, we are adding five courses to cover Directed Studies in each subfield Political Science offers. Namely, International Politics, Comparative Politics, Canadian and Quebec Politics, Public Policy and Administration, and Political Theory.

Resource Implications:
None.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **POLI-44** VERSION: 4

COURSE CHANGE: POLI 454 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Arts and Science
Department: Political Science
Program: Major, Honours, and Honours (Thesis)
Degree: BA
Calendar Section/Graduate Page Number: 31.240

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[X] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 20xx/20xx) calendar	**Proposed Text**
	POLI 454 ***Directed Studies in Public Policy and Administration*** (3 credits) Prerequisite: See N.B. number (3); permission of the undergraduate program director. This special reading course is designed in conjunction with a faculty member to explore topics and themes in a specific research area in public policy and administration of interest to the student and faculty member. *NOTE: Enrolment is limited to one 400-level Directed Studies course per student.*

Rationale:
In removing POLI 491, we are adding five courses to cover Directed Studies in each subfield Political Science offers. Namely, International Politics, Comparative Politics, Canadian and Quebec Politics, Public Policy and Administration, and Political Theory.

Resource Implications:
None.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **POLI-44** VERSION: 4

COURSE CHANGE: POLI 455 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Arts and Science
Department: Political Science
Program: Major, Honours, and Honours (Thesis)
Degree: BA
Calendar Section/Graduate Page Number: 31.240

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[X] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 20xx/20xx) calendar	**Proposed Text**
	POLI 455 ***Directed Studies in Political Theory*** (3 credits) Prerequisite: See N.B. number (3); permission of the undergraduate program director. This special reading course is designed in conjunction with a faculty member to explore topics and themes in a specific research area in political theory of interest to the student and faculty member. *NOTE: Enrolment is limited to one 400-level Directed Studies course per student.*

Rationale:
In removing POLI 491, we are adding five courses to cover Directed Studies in each subfield Political Science offers. Namely, International Politics, Comparative Politics, Canadian and Quebec Politics, Public Policy and Administration, and Political Theory.

Resource Implications:
None.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **POLI-44** VERSION: 4

COURSE CHANGE: POLI 491 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Arts and Science
Department: Political Science
Program:
Degree:
Calendar Section/Graduate Page Number: 31.240

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[ ] New Course	
[X] Course Deletion	[ ] Other - Specify:		

Present Text (from 2020/2021) calendar	**Proposed Text**
~~**POLI 491 — *Directed Studies in Political Science*** (3 credits) Prerequisite: See N.B. number (3) and permission of the undergraduate program director. This special reading course is designed in conjunction with a faculty member to explore topics and themes in a specific research area of interest to the student and faculty member.~~	

Rationale:
In removing POLI 491, we are adding five courses to cover Directed Studies in each subfield Political Science offers. Namely, International Politics, Comparative Politics, Canadian and Quebec Politics, Public Policy and Administration, and Political Theory.

Resource Implications:
None.

Other Programs within which course is listed:

None.

US-2020-3-D14

INTERNAL MEMORANDUM

TO: Dr Sandra Gabriele, Vice-Provost, Innovation in Teaching and Learning
Office of the Provost and Vice-President, Academic Affairs
Chair, Academic Programs Committee

FROM: Dr André Roy, Dean, Faculty of Arts and Science
Chair, Arts and Science Faculty Council

DATE: March 6, 2020

SUBJECT: 2021-22 Undergraduate Calendar Curriculum Changes
Department of Sociology and Anthropology
SOAN-37
NB note change; title and description changes to ANTH 204, SOCI 362, 476

The following proposal was reviewed and approved at the Arts and Science Faculty Council meeting of March 6, 2020. We request that this proposal be considered at the next meeting of APC.

The **Department of Sociology and Anthropology** is modifying the course titles and descriptions to three courses to better reflect current course content. The department is also expanding on the entry requirement notes (N.B. 3) in both the Sociology and Anthropology sections of the calendar to clarify that crosslisted courses within the department may be used to satisfy the requirements of their program.

Thank you for your consideration of this proposal for which there are no additional resource implications.

Reference documents:
FCC 2019.4_SOAN-37
ASFC-2020-2M-E

Department of Sociology and Anthropology

SOAN-37

Memo from Chair

N.B. notation change

N.B. item 3 (Sociology)

N.B. item 3 (Anthropology)

Course title and description change

ANTH 204 *Indigenous Peoples of North America*

SOCI 362 *Introduction to Criminology*

SOCI 476 *Contemporary Feminist Thought*

UNIVERSITÉ Concordia UNIVERSITY

INTERNAL MEMORANDUM

TO: Richard Courtemanche, Associate Dean, Academic Programs
Faculty of Arts and Science

FROM: Amy Swiffen, Chair, Department of Sociology and Anthropology;
Aaron Brauer, Undergraduate Programs Director, Department of Sociology and Anthropology

DATE: January 24, 2020

SUBJECT: Undergraduate curriculum changes for the Sociology and Anthropology programs - 2021-2022

The Department of Sociology and Anthropology is requesting curriculum changes to its undergraduate programs. These changes were recommended by the Department Curriculum Committee on October 15, 2019, December 3, 2019, and January 9, 2020. The October 15, 2019 Curriculum Committee recommendations were unanimously approved at the November 18, 2019 Department Assembly. The December 3, 2019 and January 9, 2020 Curriculum Committee recommendations were unanimously approved at the January 13, 2020 Department Assembly. We are submitting these curriculum changes for your and the Faculty Curriculum Committee's consideration. There are no resources implications for any of the proposed changes.

The **first** set of changes pertains to permanent courses for which we are proposing modifications to the course titles and course descriptions. The changes to the course titles and descriptions more accurately reflect the course content and the way in which the courses are taught. The following table summarizes these changes.

	Type of Change	
Course	**Title**	**Description**
ANTH 204 – Native Peoples of North America (C) ANTH 204 – Indigenous Peoples of North America (P)	✓	✓
SOCI 362 – Crime and Justice (C) SOCI 362 – Introduction to Criminology (P)	✓	✓
SOCI 476 – Feminist Sociological Theories (C) SOCI 476 – Contemporary Feminist Thought (P)	✓	✓

(C) Current (P) Proposed

Rationale for the changes to ANTH 204: The course title and course description change reflect the current and appropriate terminology in reference to indigenous peoples.

Rationale for the changes to SOCI 362: This course is taught as the sociological study of crime, which is criminology. Including criminology in the course title is a more accurate reflection of the course content and will more likely appeal to students. Moreover, the current course description is too narrow. The sociological study of crime includes much more than the processes of the criminal legal system on which the current course description focuses. The changes also pave the way to further develop the curriculum by offering 400-level courses in the study of criminology (e.g. advanced topics in criminology).

Rationale for the changes to SOCI 476: The course title and description change more accurately reflect the course content and the way in which the course is taught by focusing primarily on current debates and issues since the latter part of the twentieth century.

The **second** change is to add a note to the calendar clarifying that cross listed SOCI/ANTH courses can be used as either SOCI or ANTH as needed to satisfy program requirements. Currently, students in our Sociology Honours, Specialization, and Major programs must take a minimum of three credits in Anthropology, and students in our Anthropology Honours, Specialization, and Major programs must take a minimum of three credits in Sociology. Some students satisfy this requirement by taking one of our cross listed courses but register for it using the course prefix in their discipline, rather than registering for it using the course prefix in the other discipline. We have resolved this in the past by having students submit a request asking that the cross listed ANTH credit they have taken be counted as a SOCI credit or that the that the cross listed SOCI credit they have taken be counted as an ANTH credit, as needed to satisfy program requirements. While these requests were routinely approved at the faculty level, this has started to become a source of confusion with Enrollment services when they audit a degree for graduation. Since the calendar does not explicitly state that a cross listed SOCI/ANTH course can count as either SOCI or ANTH as needed to satisfy program requirements, we are proposing to add a sentence to clarify this intention in N. B.: 3 which refers to our cross listed courses as follows:

Entry requirements for Sociology/Anthropology crosslisted courses depend on the discipline through which the course is entered. Once students have taken a crosslisted course under one disciplinary designation they may not take the course under the corresponding designation in the other discipline for credit.

The proposed additional sentence is:

A cross listed SOCI/ANTH course counts as either SOCI or ANTH as needed to satisfy the program requirements regardless of whether the student registered for the course as SOCI or ANTH.

The details for the aforementioned proposed changes are documented in the attached Provotrack forms.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **SOAN-37** VERSION: 2

PROGRAM CHANGE: NB note (SOAN)

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2020

Faculty/School: Arts and Science
Department: Sociology and Anthropology
Program:
Degree: BA
Calendar Section/Graduate Page Number: 31.310

Type of Change:
[ ] Editorial [ ] Requirements [X] Regulations [ ] Program Deletion [ ] New Program

Present Text (from 2020/2021) calendar	**Proposed Text**
Courses *N.B.:* 1. 300-level courses are open to students who have successfully completed SOCI 203 or equivalent, plus at least three credits of 200-level Sociology courses. Students in related disciplines who wish to take cognate courses in Sociology may apply to the Sociology undergraduate advisor for a prerequisite waiver on the basis of equivalent background. 2. 400-level courses are open to students who have successfully completed at least six credits from 300-level SOCI courses. 3. Entry requirements for Sociology/Anthropology crosslisted courses depend on the discipline through which the course is entered. Once students have taken a crosslisted course under one disciplinary designation they may not take the course under the corresponding designation in the other discipline for credit. **SOCI 203** ***Introduction to Society*** (3 credits)	**Courses** *N.B.:* 1. 300-level courses are open to students who have successfully completed SOCI 203 or equivalent, plus at least three credits of 200-level Sociology courses. Students in related disciplines who wish to take cognate courses in Sociology may apply to the Sociology undergraduate advisor for a prerequisite waiver on the basis of equivalent background. 2. 400-level courses are open to students who have successfully completed at least six credits from 300-level SOCI courses. 3. Entry requirements for Sociology/Anthropology crosslisted courses depend on the discipline through which the course is entered. Once students have taken a crosslisted course under one disciplinary designation they may not take the course under the corresponding designation in the other discipline for credit. A crosslisted SOCI/ANTH course counts as either SOCI or ANTH as needed to satisfy the program requirements regardless of whether the student registered for the course as SOCI or ANTH. **SOCI 203** ***Introduction to Society*** (3 credits) ....

Rationale:
Text is added to the third N.B. note to clarify that students may take crosslisted courses to satisfy the requirements of their program regardless of whether they register under SOCI or ANTH. This will alleviate the influx of student requests and will better facilitate graduation assessments.

Resource Implications:
None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **SOAN-37** VERSION: 2

PROGRAM CHANGE: NB note (ANTH)

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2020

Faculty/School: Arts and Science
Department: Sociology and Anthropology
Program:
Degree: BA
Calendar Section/Graduate Page Number: 31.310

Type of Change:
[ ] Editorial [ ] Requirements [X] Regulations [ ] Program Deletion [ ] New Program

Present Text (from 2020/2021) calendar	**Proposed Text**
Courses *N.B.:* 1. 300-level courses are open to students who have successfully completed ANTH 202 or equivalent, plus at least three credits of 200-level Anthropology courses. 2. 400-level courses are open to students who have successfully completed ANTH 301, plus at least nine credits of 300-level Anthropology courses or permission of the Anthropology advisor. 3. Entry requirements for Sociology/Anthropology crosslisted courses depend on the discipline through which the course is entered. Once students have taken a crosslisted course under one disciplinary designation they may not take the course under the corresponding designation in the other discipline for credit. **ANTH 202** ***Introduction to Culture*** (3 credits)	**Courses** *N.B.:* 1. 300-level courses are open to students who have successfully completed ANTH 202 or equivalent, plus at least three credits of 200-level Anthropology courses. 2. 400-level courses are open to students who have successfully completed ANTH 301, plus at least nine credits of 300-level Anthropology courses or permission of the Anthropology advisor. 3. Entry requirements for Sociology/Anthropology crosslisted courses depend on the discipline through which the course is entered. Once students have taken a crosslisted course under one disciplinary designation they may not take the course under the corresponding designation in the other discipline for credit. A crosslisted SOCI/ANTH course counts as either SOCI or ANTH as needed to satisfy the program requirements regardless of whether the student registered for the course as SOCI or ANTH. **ANTH 202** ***Introduction to Culture*** (3 credits) ....

Rationale:
Text is added to the third N.B. note to clarify that students may take crosslisted courses to satisfy the requirements of their program regardless of whether they register under SOCI or ANTH. This will alleviate the influx of student requests and will better facilitate graduation assessments.

Resource Implications:
None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **SOAN-37** VERSION: 2

COURSE CHANGE: ANTH 204 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2020/2021
Implementation Month/Year: September 2020

Faculty/School: Arts and Science
Department: Sociology and Anthropology
Program:
Degree: BA
Calendar Section/Graduate Page Number: 31.310

Type of Change:

[ ] Course Number	[X] Course Title	[ ] Credit Value	[ ] Prerequisite
[X] Course Description	[ ] Editorial	[ ] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 2020/2021) calendar	**Proposed Text**
ANTH 204 ~~***Native***~~ ***Peoples of North America*** (3 credits) Focusing primarily on the ~~Native~~ peoples of Canada, this course examines the ecological, economic, social, and religious aspects of ~~Native~~ cultures. A representative society from each geographic area of Canada is studied. This course is primarily ethnographic in emphasis, but it also seeks to provide some of the social and historical background necessary to understand the current situation of ~~Native~~ communities.	**ANTH 204** ***Indigenous Peoples of North America*** (3 credits) Focusing primarily on the Indigenous peoples of Canada, this course examines the ecological, economic, social, and religious aspects of Indigenous cultures. A representative society from each geographic area of Canada is studied. This course is primarily ethnographic in emphasis, but it also seeks to provide some of the social and historical background necessary to understand the current situation of Indigenous communities.

Rationale:
The course title and description are changed to reflect the current and appropriate terminology in reference to Indigenous peoples.

Resource Implications:
None.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **SOAN-37** VERSION: 2

COURSE CHANGE: SOCI 362 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2020/2021
Implementation Month/Year: September 2020

Faculty/School: Arts and Science
Department: Sociology and Anthropology
Program:
Degree: BA
Calendar Section/Graduate Page Number: 31.310

Type of Change:

[ ] Course Number	[X] Course Title	[ ] Credit Value	[ ] Prerequisite
[X] Course Description	[ ] Editorial	[ ] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 2020/2021) calendar	**Proposed Text**
SOCI 362 ***Crime and Justice*** (3 credits) Prerequisite: See N.B. number (1). This course ~~provides a critical analysis~~ of ~~the Canadian~~ criminal ~~justice system. The focus is on the process by which the accused is judged guilty or innocent, sentenced, punished or "corrected," and the treatment of the victim~~.	**SOCI 362** ***Introduction to Criminology*** (3 credits) Prerequisite: See N.B. number (1). This course is an introduction to criminology — the sociological study of crime. Through the course, students gain an understanding of criminality as a social phenomenon, including the role of criminal law in Canada; the social correlates of crime; underlying social processes involved in defining criminality; different approaches to the study of crime; and defining the concept of "crime" itself.

Rationale:
This course is taught as the sociological study of crime, which is criminology. Including criminology in the course title is a more accurate reflection of the course content. The current course description is too narrow and the proposed change presents a broader description that addresses the sociological study of crime. The changes also pave the way to further develop the curriculum by offering 400-level courses in the study of criminology (e.g. advanced topics in criminology).

Resource Implications:
None.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **SOAN-37** VERSION: 2

COURSE CHANGE: SOCI 476 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2020/2021
Implementation Month/Year: September 2020

Faculty/School: Arts and Science
Department: Sociology and Anthropology
Program:
Degree: BA
Calendar Section/Graduate Page Number: 31.310

Type of Change:

[ ] Course Number	[X] Course Title	[ ] Credit Value	[ ] Prerequisite
[X] Course Description	[ ] Editorial	[ ] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 2020/2021) calendar	**Proposed Text**
SOCI 476 ***Feminist ~~Sociological Theories~~*** (3 credits) Prerequisite: See N.B. number (2). ~~Analysis of recent debates and perspectives within~~ feminist ~~social~~ theor~~y,~~ in particular ~~the concepts of~~ gender, equality, difference, identity, and power~~; feminist dialogues with, and critiques of, sociological theory~~.	**SOCI 476** ***Contemporary Feminist Thought*** (3 credits) Prerequisite: See N.B. number (2). This course examines contemporary feminist theories and the role of the feminist theorist in society. Focusing in particular on debates and perspectives since the latter part of the 20th century, the course addresses issues such as gender, equality, difference, identity, intersectionality, and power.

Rationale:
This course title and description changes more accurately reflect the course content and the way in which the course is taught by focusing primarily on debates and issues since the latter part of the twentieth century.

Resource Implications:
None.

Other Programs within which course is listed:

None.

UNIVERSITÉ Concordia UNIVERSITY

US-2020-3-D15

FACULTY OF FINE ARTS

INTERNAL MEMORANDUM

TO: Dr. Sandra Gabriele, Chair, Academic Programs Committee

FROM: Dr. Rebecca Duclos, Dean, Faculty of Fine Arts

CC: Dr. Elaine Paterson, Associate Dean Academic, Faculty of Fine Arts

DATE: February 17, 2020

RE: Curriculum Dossier for the Department of Design and Computation Arts, DART-21

As Dean of the Faculty of Fine Arts, I fully support the curriculum changes proposed in DART-21. The dossier was reviewed and approved unanimously by the Fine Arts Faculty Council at its meeting on February 14, 2020.

There are no resource implications.

Rebecca Duclos
Dean, Faculty of Fine Arts
Rebecca.Duclos@concordia.ca
848-2424 ext. 4602

UNIVERSITÉ Concordia UNIVERSITY

FACULTY OF FINE ARTS

Internal Memorandum

To: Rebecca Duclos, Dean, Faculty of Fine Arts

From: Elaine Paterson, Associate Dean, Academic

Date: December 19, 2019

Re: Curriculum dossier for the Department of Design and Computation Arts, DART-21

The Faculty of Fine Arts Curriculum Committee has reviewed and approved the DART-21 curriculum dossier from the Department of Design and Computation Arts on December 18, 2019. We hereby submit this dossier for review by the Faculty Council on February 14, 2020.

This document proposes to change the name of the *BFA Major in Computation Arts (combined with Computer Applications Option)* by *BFA Joint Major in Computation Arts and Computer Science*. This modification is prompted by curriculum changes made by the Department of Computer Science and Software Engineering (Gina Cody School of Engineering and Computer Science) and according to which all Computer Science Options will be removed from their program offering (dossier COMP-101).

There are no resource implications.

With thanks for your consideration.

Elaine Paterson, PhD
Associate Dean, Academic
Faculty of Fine Arts
elaine.paterson@concordia.ca

Concordia University
Fine Arts
Department of Design and Computation Arts

INTERNAL MEMORANDUM

TO: Dr. Elaine Paterson, Associate Dean, Academic, Faculty of Fine Arts

FROM: Christopher Moore, Acting Chair, Department of Design and Computation Arts

DATE: November 22, 2019

SUBJECT: Updates in the FoFA Sections of the Undergraduate Calendar – Program Name Change for the BFA - Major in Computation Arts (DART-21)

On November 19th, 2019 the Undergraduate Program Director, Dr. Jonathan Lessard, met with Dr. Lata Narayanan, Chair in the Department of Computer Science and Software Engineering to discuss the impact of a curriculum change on our BFA Major in Computation Arts program. As this change removes all Computer Science options from their programs, we can no longer define our program as "to be combined with Computer Applications Option."

In order to maintain our joint program, they have proposed a new program named *BCompSc Joint Major in Computation Arts and Computer Science*. This 45-credit program seamlessly replaces the Computer Applications Option. This means that our part of the curriculum is entirely unaffected; we simply need to change the language that defines the relationship of the program to Computer Science.

Our curriculum committee met that same day and agreed unanimously to support the curriculum change by Computer Science for which a dossier in Provotrack is in process (COMP-101). To maintain the coherency of our program, the committee has proposed the following tentative change:

45 BFA ~~Major in Computation Arts (to be combined with Computer Applications Option)~~ 6 FFAR 250[6] 12 CART 210[3], 211[3], 212[3], 214[3] ...	**45 BFA Joint Major in Computation Arts and Computer Science** 6 FFAR 250[6] 12 CART 210[3], 211[3], 212[3], 214[3] .... 45 Credits from Computer Science (see §71.80)

The curriculum committee considers the program name change appropriate, as there is a history of applicants misunderstanding the current name. Many applicants have interpreted the Major as a default program to be taken in combination with a minor. However, our CART Major is a special program tied to Computer Science and Software Engineering's curriculum that leaves no room for a minor. Our committee considers that the new terminology "joint major" clarifies this program offering.

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The proposed change implicates no additional resource

implications. Regards,

Christopher
Moore
Acting
Chair
Faculty of
Fine Arts
Department of Design and
Computation Arts Email:
christopher.moore@concordia.ca
Tel: 514-848-2424 ext: 5020

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **DART-21** VERSION: 7

PROGRAM CHANGE: Program Name Change - BFA Degree Requirements

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Design and Computation Arts
Program: Joint Major in Computation Arts and Computer Science
Degree: BFA
Calendar Section/Graduate Page Number: 81.20.1

Type of Change:

[X] Editorial [ ] Requirements [ ] Regulations [ ] Program Deletion [ ] New Program

Present Text (from 2019/2020) calendar	**Proposed Text**
81.20.1 BFA Degree Requirements 2. A candidate for graduation must satisfy the Fine Arts General Education requirement by successfully completing a minimum of six credits from course offerings outside the Fine Arts academic sectors (Visual Arts and Performing Arts). The non-Fine Arts academic sectors are defined as: Humanities, Social Sciences, Sciences, Business, Engineering and Computer Science. BFA students graduating with the ~~Major in~~ Computation Arts ~~Option Computer Applications double~~ program or the Specialization in Art Education – Visual Arts will be considered as having satisfied the General Education requirement. The courses FLIT 382; COMS 301, 304, 416, 434 can only be applied within a student's degree as electives from the Visual Arts sector and therefore do not fulfill the General Education requirement. This list is subject to modification.	**81.20.1 BFA Degree Requirements** 2. A candidate for graduation must satisfy the Fine Arts General Education requirement by successfully completing a minimum of six credits from course offerings outside the Fine Arts academic sectors (Visual Arts and Performing Arts). The non-Fine Arts academic sectors are defined as: Humanities, Social Sciences, Sciences, Business, Engineering and Computer Science. BFA students graduating with the Joint Major in Computation Arts and Computer Science program or the Specialization in Art Education – Visual Arts will be considered as having satisfied the General Education requirement. The courses FLIT 382; COMS 301, 304, 416, 434 can only be applied within a student's degree as electives from the Visual Arts sector and therefore do not fulfill the General Education requirement. This list is subject to modification.

Rationale:
The program name change was proposed by the Department of Computer Science and Software Engineering and approved by their Chair and curriculum committee. A dossier # COMP-101 has been submitted stating that enrollment figures show a steady decline of interest in all their options and an increase in the General Option therefore, removal of all options will increase flexibility in choosing electives. This change does not affect our BFA program and the new terminology "joint major" clarifies this program offering.

Resource Implications:
None

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **DART-21** VERSION: 7

PROGRAM CHANGE: Program Name Change - Programs

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Design and Computation Arts
Program: Joint Major in Computation Arts and Computer Science
Degree: BFA
Calendar Section/Graduate Page Number: 81.90.2

Type of Change:
[X] Editorial [ ] Requirements [ ] Regulations [ ] Program Deletion [ ] New Program

Present Text (from 2019/2020) calendar	**Proposed Text**
Programs *Students are responsible for fulfilling their particular degree requirements; hence, the following sequence must be read in conjunction with §81.20.* *The superscript indicates credit value.* **60 BFA Specialization in Computation Arts** 18 CART 210^3, 211^3, 212^3, 214^3, 253^3, 263^3 3 CART 310^3 12 Chosen from 300-level CART courses 3 CART 410^3 9 Chosen from 400-level CART courses 9 Chosen from CART, DART, or other Fine Arts electives 6 Chosen from other Fine Arts non-studio electives **45 BFA ~~Major in~~ Computation Arts ~~(to be combined with Computer Applications Option)~~** 6 FFAR 250^6 12 CART 210^3, 211^3, 212^3, 214^3 3 CART 310^3 6 Chosen from 300-level CART courses 3 CART 410^3 9 Chosen from 400-level CART courses 6 Chosen from DART or other Fine Arts electives	**Programs** *Students are responsible for fulfilling their particular degree requirements; hence, the following sequence must be read in conjunction with §81.20.* *The superscript indicates credit value.* **60 BFA Specialization in Computation Arts** 18 CART 210^3, 211^3, 212^3, 214^3, 253^3, 263^3 3 CART 310^3 12 Chosen from 300-level CART courses 3 CART 410^3 9 Chosen from 400-level CART courses 9 Chosen from CART, DART, or other Fine Arts electives 6 Chosen from other Fine Arts non-studio electives **45 BFA Joint Major in Computation Arts and Computer Science** 6 FFAR 250^6 12 CART 210^3, 211^3, 212^3, 214^3 3 CART 310^3 6 Chosen from 300-level CART courses 3 CART 410^3 9 Chosen from 400-level CART courses 6 Chosen from DART or other Fine Arts electives NOTE: This program must be taken in combination with the BCompSc Joint Major in Computation Arts and Computer Science (45 credits) offered by the Department of Computer Science and Software Engineering, for a total of 90 credits (see §71.80 for detail).

Rationale:
The program name change was proposed by the Department of Computer Science and Software Engineering and approved by their Chair and Curriculum Committee. A dossier # COMP-101 has been submitted stating that enrollment figures show a steady decline of interest in all their options and an increase in the General Option therefore, removal of all options will increase flexibility in choosing electives. This change does not affect our BFA program and the new terminology "joint major" clarifies this program offering.

Resource Implications:
None

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **DART-21** VERSION: 7

PROGRAM CHANGE: Program Name Change - Admissions

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Design and Computation Arts
Program: Joint Major in Computation Arts and Computer Science
Degree: BFA
Calendar Section/Graduate Page Number: 81.90.2

Type of Change:
[X] Editorial [ ] Requirements [ ] Regulations [ ] Program Deletion [ ] New Program

Present Text (from 2019/2020) calendar	**Proposed Text**
~~**Admission to the Specialization, Major, Minor** in Computation Arts, and Minor** in Game Design**~~ In addition to the normal admission procedure of Concordia University, there is a distinct admission procedure for applicants to the Specialization or ~~Major in~~ Computation Arts. All applicants must submit a *portfolio* of their own work, as well as a *letter of intent*, as part of the admission process. *The ~~Major in~~ Computation Arts (45 credits) must be taken in combination with the ~~Option in Computer Applications~~ (45 credits) offered by the Department of Computer Science and Software Engineering. Candidates applying for the ~~Major in~~ Computation Arts are required to complete the 10.12 profile: Mathematics 103 or 201-NYA and 203 or 201-NYB, and 105 or 201-NYC. Candidates lacking Cegep profile 10.12, but with a suitable background, may also be considered for this program. Applicants to the Specialization or Minor in Computation Arts require no background in mathematics. **The Minor in Computation Arts and the Minor in Game Design are available to a limited number of high-ranking students. Applicants must submit a full portfolio by the March 1 deadline and may contact the Department of Design and Computation Arts for specific application procedures. For more information concerning these additional requirements and submission deadline dates, please visit concordia.ca/ finearts/design.	**Admission to the Specialization and Minor** in Computation Arts, the Joint Major* in Computation Arts and Computer Science, and the Minor** in Game Design** Specialization and Minor** in Computation Arts, the Joint Major* in Computation Arts and Computer Science, and the Minor** in Game Design In addition to the normal admission procedure of Concordia University, there is a distinct admission procedure for applicants to the Specialization or the Joint Major in Computation Arts and Computer Science. All applicants must submit a *portfolio* of their own work, as well as a *letter of intent*, as part of the admission process. *The BFA Joint Major in Computation Arts and Computer Science (45 credits) must be taken in combination with the BCompSc Joint Major in Computation Arts and Computer Science (45 credits) offered by the Department of Computer Science and Software Engineering (see §71.80 for details). Candidates applying for the Joint Major in Computation Arts and Computer Science are required to complete the 10.12 profile: Mathematics 103 or 201-NYA and 203 or 201-NYB, and 105 or 201-NYC. Candidates lacking Cegep profile 10.12, but with a suitable background, may also be considered for this program. Applicants to the Specialization or Minor in Computation Arts require no background in mathematics. **The Minor in Computation Arts and the Minor in Game Design are available to a limited number of high-ranking students. Applicants must submit a full portfolio by the March 1 deadline and may contact the Department of Design and Computation Arts for specific application procedures. For more information concerning these additional requirements and submission deadline dates, please visit concordia.ca/ finearts/design.

Rationale:
The program name change was proposed by the Department of Computer Science and Software Engineering and approved by their Chair and Curriculum Committee. A dossier # COMP-101 has been submitted stating that enrollment figures show a steady decline of interest in all their options and an increase in the General Option therefore, removal of all options will increase flexibility in choosing electives. This change does not affect our BFA program and the new terminology "joint major" clarifies this program offering.

Resource Implications:
None

UNIVERSITÉ Concordia UNIVERSITY

FACULTY OF FINE ARTS

US-2020-3-D16

INTERNAL MEMORANDUM

TO: Dr. Sandra Gabriele, Chair, Academic Programs Committee

FROM: Dr. Rebecca Duclos, Dean, Faculty of Fine Arts

CC: Dr. Elaine Paterson, Associate Dean Academic, Faculty of Fine Arts

DATE: January 23, 2020

RE: Curriculum Dossier for the Department of Music, MUSI-21

As Dean of the Faculty of Fine Arts, I fully support the curriculum changes proposed in MUSI-21. The dossier was reviewed and approved unanimously by the Fine Arts Faculty Council at its meeting on January 17, 2020.

There are no resource implications.

Rebecca Duclos
Dean, Faculty of Fine Arts
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UNIVERSITÉ Concordia UNIVERSITY

FACULTY OF FINE ARTS

Internal Memorandum

To: Rebecca Duclos, Dean, Faculty of Fine Arts

From: Elaine Paterson, Associate Dean, Academic

Date: November 29, 2019

Re: Curriculum dossier for the Department of Music, MUSI-21

The Faculty of Fine Arts Curriculum Committee has reviewed and approved the MUSI-21 curriculum dossier from the Department of Music on November 27, 2019. We hereby submit this dossier for review by the Faculty Council on January 17, 2020.

This document proposes three curriculum changes affecting the Department of Music's undergraduate program offerings.

- Six MUSI courses offered in the Specialization in Music Compositions are deleted and replaced by six new MUSI courses. This change will replace a formerly linear series of courses with a modular structure in which the content of the courses will be more specifically defined.
- Prerequisites for three MUSI courses in the BFA Major in Music are updated to ensure that students complete the basic 200-level courses before attending 300-level courses and higher.
- The reference to the Program Guide and course groups concerning music electives is removed from the BFA Major in Music requirements.

There are no resource implications.

With thanks for your consideration.

Elaine Paterson, PhD
Associate Dean, Academic
Faculty of Fine Arts
elaine.paterson@concordia.ca

To: Faculty Curriculum Committee, Fine Arts
From: Mark Corwin, Chair, Department of Music
Date: October 25, 2019
Subject: Curriculum Proposal MUSI-21

The curriculum proposal below was approved by the Department Curriculum Committee on April 15, 2019, and by the Departmental Council on August 26, 2019.

The Department of Music proposes a number of changes to its Undergraduate program offerings.

1) Major changes to the Specialization in Music Composition
2) Clarification of Music Major course pre-requisites
3) Removal of the Program Guide references in the Music Major

1) Major changes to the Specialization in Music Composition

The first change is a major revision of the core curriculum structure of the composition courses in the Specialization in Music Composition. Currently, the students have the option to follow an incremental series of six courses (MUSI 261, 262, 361, 362, 461, 462), simply named *Music Composition I* to *Music Composition VI*. Also, historically, composition courses were cross-listed to ensure sufficient enrollment levels. With the growth of the Specialization in Composition program, along with the increased attraction of jazz, electroacoustic studies and external students, the number of registered students in those courses has grown.

This revision aims to address two important issues with the current curriculum structure of the Specialization:

- The first issue is the imprecision of the curriculum. The current course descriptions do not specify any particular material to be taught, just "music composition" in general. This was done by design in order to allow maximum flexibility for both professors and students to adapt and build each course in a personalized way, tailored to the skills and strengths of all participants. However, while this can work for an individual course or with a small number of students, it does not in practice work well for an entire program with increasing numbers. A professor teaching Music Composition V for example, can not currently count on students having seen any specific material previously and construct their course on that basis. This leads to a difficulty in building a coherent curriculum across the entire specialization, and to a danger of repetition of material across different courses and/or professors.
- The second issue concerns the cross-listing of various levels of Composition courses. Because students registered in levels 5-6 (MUSI 461, 462) share the class lectures with students registered in levels 3-4 (MUSI 361, 362), they are often exposed to material already seen, and for the professor, it means trying to balance teaching addressing both intermediate and advanced students at the same time.

CLARIFYING THE CURRICULUM
To address these issues, this revision proposes to delete the six current courses arranged in a linear structure, and replace them with a modular approach. Levels 1-2 (MUSI 261, 262) will be replaced by two new courses, "Music Composition Essentials" I and II (MUSI 366, 367), which will provide foundation for four new advanced courses, each focusing on a particular aspect of musical composition. Instead of being sequential, those new courses are concurrent and will be offered on a cycled basis, so that a student registered in a 3-year program will have the chance to take all of them

if they wish. The students will also now tailor their learning to their interests by taking the modules that are most pertinent to their artistic practice, as not all are mandatory: the students will be required to take 12 credits of courses between the offerings of the new four advanced composition courses (MUSI 463, 464, 465, 466), and the existing two orchestration (MUSI 364, 365) and two songwriting courses (MUSI 263, 363), allowing flexibility.

Note that levels 3-4 (MUSI 361 and 362) are being replaced by MUSI 463 and 464, and levels 5-6 (MUSI 461 and 462) are being replaced by MUSI 465 and 466. Please see the comparative chart in Appendix 1 for a listing of course equivalents which will allow current students to transition to the new program requirements.

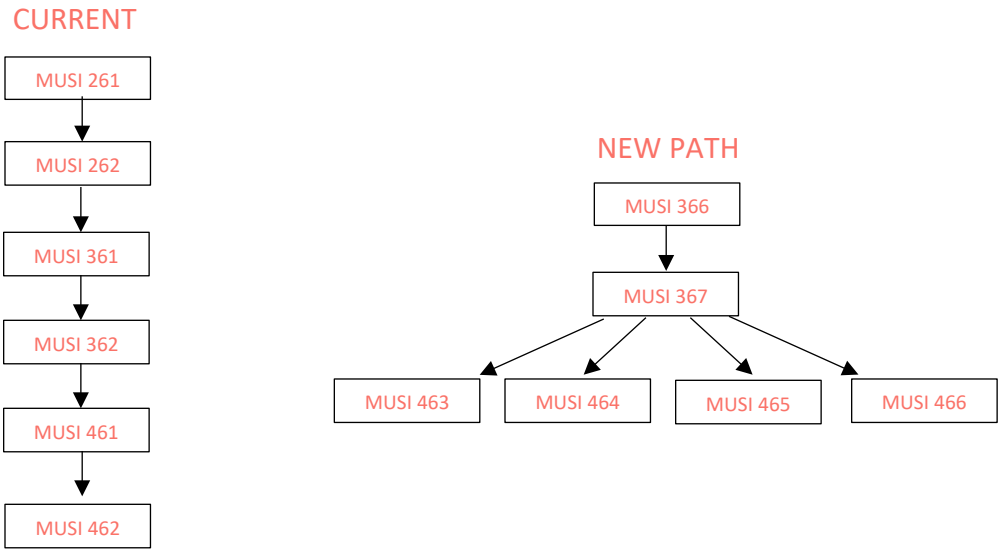
The change of 200-level courses (MUSI 261 and 262) to 300-level (MUSI 366, 367) reflects that they require prerequisite training that is attained through 200-level courses, those being MUSI 211, 251 and 252. Additionally, it was decided that students in the Specialization should be taking more composition directed courses at an advanced level, i.e.: 400-level, in addition to the 400-level Capstone course (MUSI 402).

ELIMINATION OF CROSS-LISTINGS

This solves the issue of the curriculum, as the material taught in each module is clearly defined. Also, because cross-listing is entirely eliminated, there is no more danger of repetition, and the professors will be able to structure their material with confidence. In addition, this structure retains the ability to be flexible: in a given year, any of the regular advanced composition courses could be replaced by a special topic, to accommodate a visiting artist or professor or to focus on a different aspect of musical creation.

The topics chosen for the four new courses are balanced between more traditional aspects of music composition involving harmony (MUSI 463) and form (MUSI 464), and new practices involving performance, randomness, interactivity and digital technologies (MUSI 465), as well as composition for film, video games and media (MUSI 466).

Here is a figure comparing the current sequential and the new modular paths:



2) Clarifying pre-requisites

This curriculum revision also updates the prerequisites for theory/composition courses, to ensure that students attending 300-level courses and higher have all completed the basic MUSI 211, MUSI 251 and MUSI 252 first-year sequence.

MUSI 351 Analysis
Prerequisites: MUSI 211, 251, 252.
MUSI 352 Harmony II
Prerequisites: MUSI 211, 251, 252.
MUSI 363 Songwriting II
Prerequisites: MUSI 252, 263.
(note: MUSI 211 and 251 are prerequisites for MUSI 263, which is why it is not necessary to include them in the prerequisite for MUSI 363.)

3) Removal of the Program Guide references in the Music Major

The Program Guide was utilized to assure that students diversified their 21 credit elective selection from a field of 7 groups of courses across the Department of Music courses. A minimum of two course groups was required. This has been found to be, on the one hand, rather confusing to students who, on the other hand, already are selecting a diversified collection of courses. We are removing the reference and requirement.

Respectfully submitted,

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PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **MUSI-21** VERSION: 5

PROGRAM CHANGE: Composition Reorientation

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Music
Program: Specialization in Music Composition
Degree: BFA
Calendar Section/Graduate Page Number: 81.100

Type of Change:

[ ] Editorial [X] Requirements [ ] Regulations [ ] Program Deletion [ ] New Program

Present Text (from 2019/2020) calendar		**Proposed Text**	
66	**BFA Specialization in Music Composition**	**66**	**BFA Specialization in Music Composition**
24	MUSI 211^3, 212^3, 251^3, 252^3, 311^3, 351^3, 352^3, 353^3	24	MUSI 211^3, 212^3, 251^3, 252^3, 311^3, 351^3, 352^3, 353^3
3	Chosen from JPER 225^3; MPER 201^3, 223^3, 233^3, 234^3	3	Chosen from JPER 225^3; MPER 201^3, 223^3, 233^3, 234^3
6	MPER 251^3, 252^3	6	MPER 251^3, 252^3
3	Chosen from MPER 361^3; MUSI 322^3, 421^3	3	Chosen from MPER 361^3; MUSI 322^3, 421^3
6	MHIS 203^3, 204^3 or, if exempt, MHIS electives	6	MHIS 203^3, 204^3 or, if exempt, MHIS electives
3	Chosen from MHIS courses at the 300 and 400 level	3	Chosen from MHIS courses at the 300 and 400 level
~~12~~	~~MUSI 261^3, 262^3, 361^3, 362^3~~	6	MUSI 366^3, 367^3
~~6~~	Chosen from MUSI 263^3, 363^3, 364^3, 365^3, ~~461^3, 462^3~~	12	Chosen from MUSI 263^3, 363^3, 364^3, 365^3, 463^3, 464^3, 465^3, 466^3 including a minimum of 6 credits at the 400 level
3	MUSI 402^3	3	MUSI 402^3

Rationale:
Provides clarification of the sequence of the composition curriculum including the necessity of students to take a minimum of 9 credits of 400-level composition courses. It also provides breadth of course selection at the 400 level.

Resource Implications:
None

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **MUSI-21** VERSION: 5

PROGRAM CHANGE: Music Major - Group Editorial

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Music
Program: Major in Music
Degree: BFA
Calendar Section/Graduate Page Number: 81.100

Type of Change:

[ ] Editorial [X] Requirements [ ] Regulations [ ] Program Deletion [ ] New Program

Present Text (from 2019/2020) calendar	**Proposed Text**
54 BFA Major in Music	**54 BFA Major in Music**
15 MUSI 211^3, 212^3, 251^3, 252^3, 351^3	15 MUSI 211^3, 212^3, 251^3, 252^3, 351^3
3 Chosen from JPER 225^3; MPER 201^3, 223^3, 233^3, 234^3	3 Chosen from JPER 225^3; MPER 201^3, 223^3, 233^3, 234^3
3 Chosen from MPER 361^3; MUSI 322^3, MUSI 421^3	3 Chosen from MPER 361^3; MUSI 322^3, MUSI 421^3
6 MHIS 203^3, 204^3 or, if exempt, MHIS electives	6 MHIS 203^3, 204^3 or, if exempt, MHIS electives
3 Chosen from MHIS courses at the 300 and 400 level	3 Chosen from MHIS courses at the 300 and 400 level
3 MUSI 402^3	3 MUSI 402^3
21 Department of Music electives ~~to be chosen from a minimum of two course groups*~~	21 Department of Music electives.
~~*Department of Music electives are organized into seven groups. The distribution is capped at a number of credits (3 to 12 depending upon the group) so that course selection must be drawn from at least two groups. See Fine Arts online program guides, Music, Group Listings.~~	

Rationale:
With many years' of advising experience, it is observed that students do naturally diversify, and that imposing those artificial limits is not necessary and leads to unnecessary complexity.

Resource Implications:
None

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **MUSI-21** VERSION: 5

COURSE CHANGE: MUSI 261 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Music
Program: Specialization in Music Composition
Degree: BFA
Calendar Section/Graduate Page Number: 81.100

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[ ] New Course	
[X] Course Deletion	[ ] Other - Specify:		

Present Text (from 2019/2020) calendar	**Proposed Text**
~~**MUSI 261 — *Music Composition I*** (3 credits)~~ ~~Prerequisite: Enrolment in the Major or Minor in Music, or the Specialization in Composition, or written permission of the Department. A seminar and workshop in composition, introducing students to compositional techniques from the classical and contemporary eras. Emphasis is placed on the development of the individual's composition skills through the realization of short compositional exercises for solo instruments or small ensembles.~~	

Rationale:
This course is part of a sequence of courses without topic other than Composition I-VI. The current course descriptions do not specify any particular material to be taught, just "music composition" in general. This was done by design in order to allow maximum flexibility for both professors and students to adapt and build each course in a personalized way, tailored to the skills and strengths of all participants. With increasing numbers of students, our wish is to focus on a particular aspect of musical composition in a sequential and broad fashion. The new courses are more focused and modular. They are also well defined, providing instructors with the ability to count on specific skill sets from the previous prerequisite courses. This course will be replaced by the new course MUSI 366.

Resource Implications:
None.

Other Programs within which course is listed:

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **MUSI-21** VERSION: 5

COURSE CHANGE: MUSI 262 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Music
Program: Specialization in Music Composition
Degree: BFA
Calendar Section/Graduate Page Number: 81.100

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[ ] New Course	
[X] Course Deletion	[ ] Other - Specify:		

Present Text (from 2019/2020) calendar	**Proposed Text**
~~**MUSI 262 — *Music Composition II*** (3 credits)~~ ~~Prerequisite: MUSI 261. A seminar and workshop in composition, completing the introduction to compositional techniques from the classical and contemporary eras. Emphasis is placed on the development of the individual's composition skills through the writing of short musical pieces for solo instruments or small ensembles.~~ ~~*NOTE: Students who have received credit for INMS 360 may not take this course for credit.*~~	

Rationale:
This course is part of a sequence of courses without topic other than Composition I-VI. The current course descriptions do not specify any particular material to be taught, just "music composition" in general. This was done by design in order to allow maximum flexibility for both professors and students to adapt and build each course in a personalized way, tailored to the skills and strengths of all participants. With increasing numbers of students, our wish is to focus on a particular aspect of musical composition in a sequential and broad fashion. The new courses are more focused and modular. They are also well defined, providing instructors with the ability to count on specific skill sets from the previous prerequisite courses. This course will be replaced by a new course, MUSI 367.

Resource Implications:
None.

Other Programs within which course is listed:

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **MUSI-21** VERSION: 5

COURSE CHANGE: MUSI 351 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Music
Program: Major in Music, Specialization in Music Composition
Degree: BFA
Calendar Section/Graduate Page Number: 81.100

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[X] Prerequisite
[ ] Course Description	[X] Editorial	[ ] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 2019/2010) calendar	**Proposed Text**
MUSI 351 ***Analysis*** (3 credits) Prerequisite: MUSI 251, 252. ~~An~~ introduction to analytical techniques relating to form, motivic development, and texture, with reference to a variety of styles and genres. This course also aims to develop critical thinking through the introduction to contemporary analytical approaches that may include disciplines such as semiology or hermeneutics.	**MUSI 351** ***Analysis*** (3 credits) Prerequisite: MUSI 211, 251 and 252. This course offers an introduction to analytical techniques relating to form, motivic development, and texture, with reference to a variety of styles and genres. It also aims to develop critical thinking through the introduction to contemporary analytical approaches that may include disciplines such as semiology or hermeneutics.

Rationale:
This curriculum revision ensures that students attending 300-level courses and higher have all completed the basic MUSI 211, MUSI 251 and MUSI 252 first-year sequence.

Resource Implications:
None

Other Programs within which course is listed:

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **MUSI-21** VERSION: 5

COURSE CHANGE: MUSI 352 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Music
Program: Major in Music, Specialization in Music Composition
Degree: BFA
Calendar Section/Graduate Page Number: 81.100

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[X] Prerequisite
[ ] Course Description	[X] Editorial	[ ] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 2019/2020) calendar	**Proposed Text**
MUSI 352 ***Harmony II*** (3 credits) Prerequisite: MUSI 251. ~~A~~ continuation of the study of harmonic progressions and voice-leading within the expanded tonal system, with reference to a variety of styles and genres, studied through analysis and composition.	**MUSI 352** ***Harmony II*** (3 credits) Prerequisites: MUSI 211, 251 and 252. This course is a continuation of the study of harmonic progressions and voice-leading within the expanded tonal system, with reference to a variety of styles and genres, studied through analysis and composition.
Rationale: This curriculum revision ensures that students attending 300-level courses and higher have all completed the basic MUSI 211, MUSI 251 and MUSI 252 first-year sequence.	
Resource Implications: None	
Other Programs within which course is listed:	

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **MUSI-21** VERSION: 5

COURSE CHANGE: MUSI 361 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Music
Program: Specialization in Music Composition
Degree: BFA
Calendar Section/Graduate Page Number: 81.100

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[ ] New Course	
[X] Course Deletion	[ ] Other - Specify:		

Present Text (from 2019/2020) calendar	**Proposed Text**
~~**MUSI 361 — *Music Composition III*** (3 credits)~~ ~~Prerequisite: MUSI 262. A seminar and workshop in composition, furthering the development of the individual's composition skills and beginning to cultivate a personal musical language and style through the writing of larger musical pieces.~~ ~~*NOTE: Students who have received credit for INMS 460 may not take this course for credit.*~~	

Rationale:
This course is part of a sequence of courses without topic other than Composition I-VI. The current course descriptions do not specify any particular material to be taught, just "music composition" in general. This was done by design in order to allow maximum flexibility for both professors and students to adapt and build each course in a personalized way, tailored to the skills and strengths of all participants. With increasing numbers of students, our wish is to focus on a particular aspect of musical composition in a sequential and broad fashion. The new courses are more focused and modular. They are also well defined, providing instructors with the ability to count on specific skill sets from the previous prerequisite courses. This course will be replaced by a new course, MUSI 463.

Resource Implications:
None.

Other Programs within which course is listed:

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **MUSI-21** VERSION: 5

COURSE CHANGE: MUSI 362 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Music
Program: Specialization in Music Composition
Degree: BFA
Calendar Section/Graduate Page Number: 81.100

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[ ] New Course	
[X] Course Deletion	[ ] Other - Specify:		

Present Text (from 2019/2020) calendar	**Proposed Text**
~~**MUSI 362 — *Music Composition IV*** (3 credits) Prerequisite: MUSI 361. A seminar and workshop in composition, furthering the development of the individual's composition skills and beginning to cultivate a personal musical language and style through the writing of larger musical pieces. *NOTE: Students who have received credit for INMS 460 may not take this course for credit.*~~	

Rationale:
This course is part of a sequence of courses without topic other than Composition I-VI. The current course descriptions do not specify any particular material to be taught, just "music composition" in general. This was done by design in order to allow maximum flexibility for both professors and students to adapt and build each course in a personalized way, tailored to the skills and strengths of all participants. With increasing numbers of students, our wish is to focus on a particular aspect of musical composition in a sequential and broad fashion. The new courses are more focused and modular. They are also well defined, providing instructors with the ability to count on specific skill sets from the previous prerequisite courses.This course will be replaced by a new course, MUSI 464.

Resource Implications:
None.

Other Programs within which course is listed:

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **MUSI-21** VERSION: 5

COURSE CHANGE: MUSI 363 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Music
Program: Major in Music, Specialization in Music Composition
Degree: BFA
Calendar Section/Graduate Page Number: 81.100

Type of Change:

[ ] Course Number [ ] Course Title [ ] Credit Value [X] Prerequisite
[ ] Course Description [ ] Editorial [ ] New Course
[ ] Course Deletion [ ] Other - Specify:

Present Text (from 2019/2020) calendar	**Proposed Text**
MUSI 363 ***Songwriting II*** (3 credits) Prerequisite: MUSI 263. ~~A~~ continuation of MUSI 263. This course allows students to further explore the development of a personal approach to songwriting and to prepare and present a portfolio of their work.	**MUSI 363** ***Songwriting II*** (3 credits) Prerequisites: MUSI 252 and 263. This course is a continuation of MUSI 263. It allows students to further explore the development of a personal approach to songwriting and to prepare and present a portfolio of their work.

Rationale:
This curriculum revision ensures that students attending 300-level courses and higher have all completed the basic MUSI 211, MUSI 251 and MUSI 252 first-year sequence. MUSI 211 and MUSI 251 are prerequisites for MUSI 263, which is why it is not necessary to list them in the prerequisites for MUSI 363.

Resource Implications:
None

Other Programs within which course is listed:

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **MUSI-21** VERSION: 5

COURSE CHANGE: MUSI 366 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Music
Program: Specialization in Music Composition
Degree: BFA
Calendar Section/Graduate Page Number: 81.100

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[X] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 2020/2021) calendar	**Proposed Text**
	MUSI 366 ***Music Composition Essentials I*** (3 credits) Prerequisite: MUSI 211, 251 and 252 previously or concurrently, or written permission from the Department of Music. This seminar/workshop introduces the essential concepts of musical composition, structure and form. Emphasis is placed on the study of compositional techniques from the classical and modern eras through the analysis of concert, film, video game and popular music, and the subsequent creation of small musical pieces. *NOTE: Students who have received credit for MUSI 261 may not take this course for credit.*

Rationale:
This new course, MUSI 366, and its successor, MUSI 367, will provide foundation for four new advanced courses, each focusing on a particular aspect of musical composition. They are replacing MUSI 261 and 262, the first two components of a series of 6 single semester courses that are inadequately described and lacking in any organized system of diversity. The new courses are more focused and modular. They are also well defined, providing instructors with the ability to count on specific skill sets from the previous prerequisite courses.

Resource Implications:
None

Other Programs within which course is listed:

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **MUSI-21** VERSION: 5

COURSE CHANGE: MUSI 367 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Music
Program: Specialization in Music Composition
Degree: BFA
Calendar Section/Graduate Page Number: 81.100

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[X] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 2020/2021) calendar	**Proposed Text**
	MUSI 367 ***Music Composition Essentials II*** (3 credits) Prerequisite: MUSI 366, 251 and 252 previously or concurrently, or written permission from the Department of Music. This seminar/workshop explores more advanced concepts of musical composition, structure and form. Emphasis is placed on the study of compositional techniques from the classical and modern eras through the analysis of concert, film, video game and popular music, and the subsequent creation of small musical pieces. *NOTE: Students who have received credit for MUSI 262 may not take this course for credit.*

Rationale:
This new course, MUSI 367, and its predecessor, MUSI 366, will provide a foundation for four new advanced courses, each focusing on a particular aspect of musical composition. They are replacing MUSI 261 and 262, the first two components of a series of 6 single semester courses that are inadequately described and lacking in any organized system of diversity. The new courses are more focused and modular. They are also well defined, providing instructors with the ability to count on specific skill sets from the previous prerequisite courses.

Resource Implications:
None

Other Programs within which course is listed:

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **MUSI-21** VERSION: 5

COURSE CHANGE: MUSI 461 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Music
Program: Specialization in Music Composition
Degree: BFA
Calendar Section/Graduate Page Number: 81.100

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[ ] New Course	
[X] Course Deletion	[ ] Other - Specify:		

Present Text (from 2019/2020) calendar	**Proposed Text**
~~**MUSI 461 — *Music Composition V*** (3 credits)~~ ~~Prerequisite: MUSI 362 and enrolment in the Specialization in Music Composition. A seminar and workshop in composition, furthering the development of the individual's composition skills and personal musical language and style through the writing of large musical pieces and/or conception of large-scale musical projects. Workshops may include individual tutoring.~~ ~~*NOTE: Students who have received credit for this topic under an INMS 499 number may not take this course for credit.*~~	

Rationale:
This course is part of a sequence of courses without topic other than Composition I-VI. The current course descriptions do not specify any particular material to be taught, just “music composition” in general. This was done by design in order to allow maximum flexibility for both professors and students to adapt and build each course in a personalized way, tailored to the skills and strengths of all participants. With increasing numbers of students, our wish is to focus on a particular aspect of musical composition in a sequential and broad fashion. The new courses are more focused and modular. They are also well defined, providing instructors with the ability to count on specific skill sets from the previous prerequisite courses. This course will be replaced by a new course, MUSI 465.

Resource Implications:
None.

Other Programs within which course is listed:

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **MUSI-21** VERSION: 5

COURSE CHANGE: MUSI 462 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Music
Program: Specialization in Music Composition
Degree: BFA
Calendar Section/Graduate Page Number: 81.100

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[ ] New Course	
[X] Course Deletion	[ ] Other - Specify:		

Present Text (from 2019/2020) calendar	**Proposed Text**
~~**MUSI 462 — *Music Composition VI*** (3 credits)~~ ~~Prerequisite: MUSI 461 and enrolment in the Specialization in Music Composition. A final seminar and workshop in composition, furthering the development of the individual's composition skills and personal musical language and style through the writing of large musical pieces and/or conception of large-scale musical projects. Workshops may include individual tutoring.~~ ~~*NOTE: Students who have received credit for this topic under an INMS 499 number may not take this course for credit.*~~	

Rationale:
This course is part of a sequence of courses without topic other than Composition I-VI. The current course descriptions do not specify any particular material to be taught, just “music composition” in general. This was done by design in order to allow maximum flexibility for both professors and students to adapt and build each course in a personalized way, tailored to the skills and strengths of all participants. With increasing numbers of students, our wish is to focus on a particular aspect of musical composition in a sequential and broad fashion. The new courses are more focused and modular. They are also well defined, providing instructors with the ability to count on specific skill sets from the previous prerequisite courses. This course will be replaced by a new course, MUSI 466.

Resource Implications:
None.

Other Programs within which course is listed:

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **MUSI-21** VERSION: 5

COURSE CHANGE: MUSI 463 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Music
Program: Specialization in Music Composition
Degree: BFA
Calendar Section/Graduate Page Number: 81.100

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[X] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 2019/2020) calendar	**Proposed Text**
	MUSI 463 ***Composing with Sound and Pitch*** (3 credits) Prerequisite: MUSI 367. This seminar/workshop focuses on advanced harmonic materials and sound objects available to the contemporary composer in order to organize pitch-based or non pitch-based musical compositions. Topics of study may include, but are not limited to: complex scales, modal and atonal harmony, polytonality and polyharmony, pitch-class sets, clusters, spectral music, noise, and microtonality. Emphasis is placed on the development of an individual style through musical creation of longer and more complex projects in the domains of concert, film, video game or popular music.

Rationale:
This is one of four new modular courses that are replacing a series of single semester courses that are not specifically described and lacking in any organized system of diversity. The new courses are more focused on specific compositional topics. They are also well defined, providing instructors with the ability to count on specific skill sets from the previous prerequisite courses. This new course replaces the deleted course MUSI 361.

Resource Implications:
None.

Other Programs within which course is listed:

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **MUSI-21** VERSION: 5

COURSE CHANGE: MUSI 464 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Music
Program: Specialization in Music Composition
Degree: BFA
Calendar Section/Graduate Page Number: 81.100

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[X] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 2019/2020) calendar	**Proposed Text**
	MUSI 464 ***Composing with Time and Space*** (3 credits) Prerequisite: MUSI 367. This seminar/workshop focuses on advanced concepts of time, space and form available to the contemporary composer in order to organize pitch- or non-pitch-based musical compositions. Topics of study may include, but are not limited to: complex time signatures, polymeters, polyrhythms, hypermeters, unmetered music, linear and non-linear time, moment form and spatialization. Emphasis is placed on the development of an individual style through musical creation of longer and more complex projects in the domains of concert, film, video game or popular music.

Rationale:
This is one of four new modular courses that are replacing a series of single semester courses that are not specifically described and lacking in any organized system of diversity. The new courses are more focused on specific compositional topics. They are also well defined, providing instructors with the ability to count on specific skill sets from the previous prerequisite courses. This new course replaces the deleted course MUSI 362.

Resource Implications:
None.

Other Programs within which course is listed:

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **MUSI-21** VERSION: 5

COURSE CHANGE: MUSI 465 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Music
Program: Specialization in Music Composition
Degree: BFA
Calendar Section/Graduate Page Number: 81.100

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[X] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 2019/2020) calendar	**Proposed Text**
	MUSI 465 ***Composing with Rule and Choice*** (3 credits) Prerequisite: MUSI 367. This seminar/workshop focuses on advanced conceptual processes available to the contemporary composer in order to organize pitch- or non-pitch-based musical compositions in non-traditional and performative ways. Topics of study may include, but are not limited to: randomness, procedural and algorithmic composition, open works, improvisation, graphical scores, scenic performances, interactive music, virtual/augmented reality and artificial intelligence. Emphasis is placed on the development of an individual style through musical creation of longer and more complex projects in the domains of concert, film, video game or popular music.

Rationale:
This is one of four new modular courses that are replacing a series of single semester courses that are not specifically described and lacking in any organized system of diversity. The new courses are more focused on specific compositional topics. They are also well defined, providing instructors with the ability to count on specific skill sets from the previous prerequisite courses. This new course replaces the deleted course MUSI 461.

Resource Implications:
None.

Other Programs within which course is listed:

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **MUSI-21** VERSION: 5

COURSE CHANGE: MUSI 466 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: Fine Arts
Department: Music
Program: Specialization in Music Composition
Degree: BFA
Calendar Section/Graduate Page Number: 81.100

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[X] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 2020/2021) calendar	**Proposed Text**
	MUSI 466 ***Composing for Image and Media*** (3 credits) Prerequisite: MUSI 367. This seminar/workshop focuses on advanced techniques available to the contemporary composer in order to score pitch- or non-pitch-based music to accompany interactive or non-interactive media. Topics of study may include, but are not limited to: film music, video game music, scenic music, sound, art and multimedia installations. Emphasis is placed on the development of an individual style through musical creation of longer and more complex projects for media and their realization using modern software and technology.

Rationale:
This is one of four new modular courses that are replacing a series of single semester courses that are not specifically described and lacking in any organized system of diversity. The new courses are more focused on specific compositional topics. They are also well defined, providing instructors with the ability to count on specific skill sets from the previous prerequisite courses. This new course replaces the deleted course MUSI 462.

Resource Implications:
None.

Other Programs within which course is listed:

Appendix 1. Composition course change evolution for students

Old course sequence	Old Title	Required	Equivalencies	New course collection	Title	Required
MUSI 261	Composition I	Yes	-	MUSI 366	Music Composition Essentials I	Yes
MUSI 262	Composition II	Yes	-	MUSI 367	Music Composition Essentials II	Yes
MUSI 361	Composition III	Yes	any	MUSI 463	Composing with Sound and Pitch	Minimum of 6 credits required
MUSI 362	Composition IV	Yes		MUSI 464	Composing with Time and Space	
MUSI 461	Composition V	Optional		MUSI 465	Composing with Rule and Choice	
MUSI 462	Composition VI	Optional		MUSI 466	Composing for Image and Media	

Any current student in the Specialization in Music Composition who has received credit for MUSI 261 (Composition I) and MUSI 262 (Composition II) will be deemed to have fulfilled the MUSI 366 and MUSI 367 degree requirements respectively. Any student who has received credit for MUSI 261 may not take MUSI 366 for credit. The same applies for MUSI 262 and the new MUSI 367.

Any current student in the Specialization in Music Composition may take any of the new 400-level courses to fulfill their degree requirements for the old sequence of Composition III through VI. Thus, a current student who has completed MUSI 261 (Composition I) and 262 (Composition II) may take any of the new 400-level composition courses (MUSI 463, 464, 465, 466). Students requiring Composition III and IV will automatically be given a substitution for these new courses should they wish to take them.

Additionally, the new 400-level courses will be cycled, 2 each year. This means we encourage all compositions students, who have already taken upper level composition courses such as 361, 362, 461 and 462, to also take any of the 463, 464, 465, 466 courses as they are all new courses with specialized compositional foci for which students have not had overt and direct instruction.

There are currently 22 students enrolled in the Specialization in Music Composition (academic year 2019-20). Students who have already completed MUSI 261, 262, 361, and 362 will not be required to make any course substitutions and may graduate according to the program requirements in place at the time of their admission to the program.

Appendix 2. MUSI-21 Abridged Syllabi

MUSI 366: Music Composition Essentials I (3 credits)

Prerequisite: MUSI 211, 251 & 252 previously or concurrently, or written permission from the Department of Music. This seminar/workshop introduces the essential concepts of musical composition, structure and form. Emphasis is placed on the study of compositional techniques from the classical and modern eras through the analysis of concert, film, video game and popular music, and the subsequent creation of small musical pieces.

Course Objectives:

- Learn to form musical ideas and concepts into small to medium musical compositions.
- Integrate music theory learned in harmony, counterpoint and aural perception courses in actual creative practice.
- Expand musical techniques and vocabulary with modern 20th- and 21st-century approaches.
- Learn to use a musical notation software and engrave a score to professional standards.
- Create audio recordings of compositions, either through musical performance or computer-based audio production.
- Get familiar with 20th- and 21st-century musical practices through analysis of selected works.
- Learn fundamental theories about music perception and cognition to understand how we hear music and musical form, and how it generates emotion.
- Get familiar with applications of composition techniques to various fields, including composition for media or popular music.
- Develop critical thinking through discussion of student pieces in tutorial/workshop sessions.

Assessment:

- A portfolio of 5 small 1-2 minutes musical compositions and one larger 5-8 minutes project. For each composition, students must submit a score and an audio recording (a musical performance or an electronic production, depending on the nature of the composition).
- An end-of-year concert (after MUSI 366 and MUSI 367) where students may present their music in a live performance.

MUSI 367: Music Composition Essentials II (3 credits)

Prerequisite: MUSI 366, 251 & 252 previously or concurrently, or written permission from the Department of Music. This seminar/workshop introduces the essential concepts of musical composition, structure and form. Emphasis is placed on the study of compositional techniques from the classical and modern eras through the analysis of concert, film, video game and popular music, and the subsequent creation of small musical pieces.

Course Objectives:

- Learn to form musical ideas and concepts into small to medium musical compositions.
- Integrate music theory learned in harmony, counterpoint and aural perception courses in actual creative practice.
- Expand musical techniques and vocabulary with modern 20th- and 21st-century approaches.
- Learn to use a musical notation software and engrave a score to professional standards.
- Create audio recordings of compositions, either through musical performance or computer-based audio production.
- Get familiar with 20th- and 21st-century musical practices through analysis of selected works.
- Learn fundamental theories about music perception and cognition to understand how we hear music and musical form, and how it generates emotion.
- Get familiar with applications of composition techniques to various fields, including composition for media or popular music.
- Develop critical thinking through discussion of student pieces in tutorial/workshop sessions.

Assessment:

- A portfolio of 5 small 1-2 minutes musical compositions and one larger 5-8 minutes project. For each composition, students must submit a score and an audio recording (a musical performance or an electronic production, depending on the nature of the composition).
- An end-of-year concert (after MUSI 366 and MUSI 367) where students may present their music in a live performance.

MUSI 463: Composing with Sound & Pitch (3 credits)

Prerequisite: MUSI 367. This seminar/workshop focuses on advanced harmonic materials and sound objects available to the contemporary composer in order to organize pitch or non-pitch based musical compositions. Topics of study may include, but are not limited to: complex scales, modal and atonal harmony, polytonality and polyharmony, pitch-class sets, clusters, spectral music, noise, and microtonality. Emphasis is placed on the development of an individual style through musical creation of longer and more complex projects in the domains of concert, film, video game or popular music.

Course Objectives:

- Form advanced musical ideas and concepts into medium to large musical compositions.
- Integrate music theory learned in advanced harmony, counterpoint and aural perception courses in actual creative practice.
- Expand harmonic vocabulary with advanced modern 20th- and 21st-century approaches.
- Create audio recordings of compositions, either through musical performance or computer-based audio production.
- Deepen knowledge of 20th- and 21st-century musical practices through analysis of selected works.
- Demonstrate understanding of applications of composition techniques to various fields, including composition for media or popular music.
- Reinforce capacity to think critically through discussion of student pieces in tutorial/workshop sessions.

Assessment:

- A portfolio of 4 medium 2-3 minutes musical compositions and one larger 6-10 minutes project. For each composition, students must submit a score and an audio recording (a musical performance or an electronic production, depending on the nature of the composition).
- An end-of-year concert where students may present their music in a live performance.

MUSI 464: Composing with Time & Space (3 credits)

Prerequisite: MUSI 367. This seminar/workshop focuses on advanced concepts of time, space and form available to the contemporary composer in order to organize pitch- or non-pitch-based musical compositions. Topics of study may include, but are not limited to: complex time signatures, polymeters, polyrhythms, hypermeters, unmetered music, linear and non-linear time, moment form and spatialization. Emphasis is placed on the development of an individual style through musical creation of longer and more complex projects in the domains of concert, film, video game or popular music.

Course Objectives:

- Form advanced musical ideas and concepts into medium to large musical compositions.
- Integrate music theory learned in advanced harmony, counterpoint and aural perception courses in actual creative practice.
- Expand concepts of rhythm, meter and time with advanced modern 20th- and 21st-century approaches.
- Create audio recordings of compositions, either through musical performance or computer-based audio production.
- Deepen knowledge of 20th- and 21st-century musical practices through analysis of selected works.
- Demonstrate understanding of applications of composition techniques to various fields, including composition for media or popular music.
- Reinforce capacity to think critically through discussion of student pieces in tutorial/workshop sessions.

Assessment:

- A portfolio of 4 medium 2-3 minutes musical compositions and one larger 6-10 minutes project. For each composition, students must submit a score and an audio recording (a musical performance or an electronic production, depending on the nature of the composition).
- An end-of-year concert where students may present their music in a live performance.

MUSI 465: Composing with Rule & Choice (3 credits)

Prerequisite: MUSI 367. This seminar/workshop focuses on advanced conceptual processes available to the contemporary composer in order to organize pitch- or non-pitch-based musical compositions in non-traditional and performative ways. Topics of study may include, but are not limited to: randomness, procedural and algorithmic composition, open works, improvisation, graphical scores, scenic performances, interactive music, virtual/augmented reality and artificial intelligence. Emphasis is placed on the development of an individual style through musical creation of longer and more complex projects in the domains of concert, film, video game or popular music.

Course Objectives:

- Form advanced musical ideas and concepts into medium to large musical compositions.
- Integrate music theory learned in advanced harmony, counterpoint and aural perception courses in actual creative practice.
- Expand musical thinking to include advanced modern 20th- and 21st-century approaches to experimental and avant-garde creation.
- Create audio recordings of compositions, either through musical performance or computer-based audio production.
- Create performance-based experimental musical works.
- Deepen knowledge of 20th- and 21st-century musical practices through analysis of selected works.
- Demonstrate understanding of applications of composition techniques to various fields, including composition for media or popular music.
- Reinforce capacity to think critically through discussion of student pieces in tutorial/workshop sessions.

Assessment:

- A portfolio of 4 medium 2-3 minutes musical compositions and one larger 6-10 minutes project. For each composition, students must submit a score and possibly an audio recording (a musical performance or an electronic production, depending on the nature of the composition).
- Due to the experimental nature of the musical creative processes studied in MUSI 465, that rely on performance practice rather than classical composition, assessment may replace some of the composition assignments with performance-based projects.
- An end-of-year concert where students may present their music in a live performance.

MUSI 466: Composing for Image & Media (3 credits)

Prerequisite: MUSI 367. A seminar/workshop focusing on advanced techniques available to the contemporary composer in order to score pitch- or non-pitch-based music to accompany interactive or non-interactive media. Topics of study may include, but are not limited to: film music, video game music, scenic music, sound, art and multimedia installations. Emphasis is placed on the development of an individual style through musical creation of longer and more complex projects for media and their realization using modern software and technology.

Course Objectives:

- Learn to adapt advanced musical ideas to media requirements.
- Learn to use the standard industry workflows and tools for film and video-game composition.
- Integrate music theory learned in advanced harmony, counterpoint and aural perception courses in actual creative practice.
- Expand musical thinking to include advanced modern 20th- and 21st-century approaches to experimental and avant-garde creation.
- If compositions employ traditional instruments, reinforce ability to use a musical notation software and engrave a score to professional standards.
- Use computer-based production environments (DAWs) to create audio recordings of compositions, either through musical performance or computer-based audio production, and sync them to picture as required.
- Get familiar with film and video-game music history through analysis of selected works.
- Reinforce capacity to think critically through discussion of student pieces in tutorial/workshop sessions.
- Learn to collaborate with filmmakers, video-game engineers, performers, conductors, recording engineers, mixing engineers & editors in the creation of media projects.

Assessment:

- A portfolio of 2 smaller composition projects (one in film music, and one in video-game music) and one final project (that can be for film, video-game, or any form of mixed media). Depending on the nature of each project, students must submit either a final recorded/produced musical piece, properly synced to picture (film music), modular recorded/produced audio integrated in a game engine (video-game music), or a performance/art-installation.
- Screenings (in the case of collaboration with filmmakers/animators outside the department) or performances (in the case of collaboration with theater/dance/media arts outside the department).

UNIVERSITÉ Concordia UNIVERSITY

JOHN MOLSON SCHOOL OF BUSINESS

To: Sandra Gabriele, Vice-Provost, Innovation in Teaching and Learning

Cc: Julie Johnston, University Curriculum Advisor

From: Anne-Marie Croteau, Dean, John Molson School of Business

Date: March 2nd, 2020

Subject: Proposed changes to MANA 477, Real Estate Law course description

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Please find attached the proposed changes to the course description of MANA 477, Real Estate Law. Even though this course has not been offered, it will covered by the operational departmental budget.

The document was unanimously approved at the JMSB Faculty Council meeting on February 14th, 2020.

I respectfully request that the proposed changes be presented to the next Academic Programs Committee meeting for consideration.

Thank you.

INTERNAL MEMORANDUM

To: Anne-Marie Croteau, Dean, John Molson School of Business

From: Sandra Betton, Associate Dean, Professional Graduate Programs,
Chair of the Faculty Academic Programs Committee, JMSB

Date: February 4th, 2020

Subject: Proposed Course Description Changes to MANA 477, Real Estate Law.

Please find attached the course description changes to MANA 477, Real Estate Law (COMM 56).

The JMSB Faculty Academic Programs Committee unanimously approved these changes on January 31st, 2020.

I kindly request you to submit this dossier during the next meeting of the JMSB Faculty Council.

Thank you.

INTERNAL MEMORANDUM
CONCORDIA UNIVERSITY
JOHN MOLSON SCHOOL OF BUSINESS

TO: Dr. Sandra Betton, Associate Dean, Professional Graduate Programs and External Relations
Chair, Faculty Academic Programs Committee

FROM: Dr. Jooseop Lim, Associate Dean, Academic and Student Affairs, Undergraduate Programs

DATE: January 17th, 2020

SUBJECT: **Course Description Changes to MANA 477, Real Estate Law**

Please find attached proposed changes to the course description of MANA 477, Real Estate Law.

The Department of Management approved this changes on December 13th, 2019 and the Undergraduate Curriculum Committee ratified these changes on January 17th, 2020.

I respectively request that the proposed changes be submitted to the next Faculty Academic Programs Committee meeting.

Thank you.

1455 De Maisonneuve Blvd. W., Montreal, Quebec, Canada H3G 1M8
Tel. 514-848-2424 johnmolson.concordia.ca

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **COMM-56** VERSION: 3

COURSE CHANGE: MANA 477 New Course Number:

Proposed [X] Undergraduate or [ ] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: September 2021

Faculty/School: John Molson School of Business
Department: Management
Program: Honours in Management, Major in Management, Minor in Management
Degree: Bachelor of/Baccalaureate in Commerce
Calendar Section/Graduate Page Number: 61.90

Type of Change:

[ ] Course Number [ ] Course Title [ ] Credit Value [ ] Prerequisite
[X] Course Description [ ] Editorial [ ] New Course
[ ] Course Deletion [ ] Other - Specify:

Present Text (from 2019/2020) calendar	**Proposed Text**
MANA 477 ***Real Estate Law*** (3 credits) Prerequisite: COMM 315. This course introduces students to the basics of Canada's legal system ~~and~~ the real estate industry. It covers major areas of real estate law including real property rights, property ownership, real estate transactions, contracts, ~~tax aspects and financing of real estate~~. This course may include topics such as land ~~regulation~~, urban planning ~~and~~ environmental issues associated with real estate development and management.	**MANA 477** ***Real Estate Law*** (3 credits) Prerequisite: COMM 315. This course introduces students to the basics of Canada's legal system as it pertains to the real estate industry. It covers major areas of real estate law including real property rights, property ownership, real estate transactions, contracts, leases, mortgages and the regulation of real estate brokerage. This course may include topics such as land zoning, urban planning, environmental issues, and other issues associated with real estate development and management.

Rationale:
This course has been listed in the Calendar, but has never been offered. The course outline is now created, and thus the description is refined. The new description deletes the mention of financing and tax aspects, as these would be covered in other courses.

Resource Implications:
Offer one course section (Real Estate Minor) for approximately 50-60 students.

Other Programs within which course is listed:

Minor in Real Estate

SCHOOL OF GRADUATE STUDIES

MEMO TO: Sandra Gabriele, Vice-Provost, Innovation Teaching and Learning

FROM: Brad Nelson, Associate Dean, Academic Programs and Development
School of Graduate Studies

DATE: April 3, 2020

SUBJECT: **GRADUATE CURRICULUM CHANGES (CHEM-65)**
(CALENDAR – 2020/2021)
DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY
FACULTY OF ARTS AND SCIENCE

The Graduate Curriculum Committee (GCC) reviewed the curriculum changes approved by the Arts and Science Faculty Council.

The Department of Chemistry and Biochemistry is proposing to modify the minimum number of credits for BSc students to gain direct entry to the PhD, add the new course CHEM 628 *Medicinal Chemistry,* change the course number for CHEM 624 *Organic Synthesis,* and add a number of exclusion note changes.

The GCC approved the proposed curriculum changes as is. I therefore recommend that the Academic Programs Committee approve and recommend to Senate the above-mentioned curriculum changes in their final form.

cc: R. Courtemanche, Associate Dean, Academic Programs, Faculty of Arts and Science
J. Johnston, University Curriculum Administrator, Office of the Provost and Vice-President, Academic Affairs

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INTERNAL MEMORANDUM

TO: Dr Bradley Nelson
Associate Dean, School of Graduate Studies
Chair, Graduate Curriculum Committee

FROM: Dr André Roy, Dean, Faculty of Arts and Science
Chair, Arts and Science Faculty Council

DATE: March 9, 2020

SUBJECT: Graduate Calendar Curriculum Changes
Department of Chemistry and Biochemistry
CHEM-65
PhD in Chemistry, CHEM 623/624, new course CHEM 628, various exclusion note changes

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The following proposal was reviewed and approved at the Arts and Science Faculty Council meeting of March 6, 2020. We request that this proposal be considered at the next Graduate Curriculum Committee meeting.

Further to a directive from the School of Graduate Studies, the **Department of Chemistry and Biochemistry** is modifying the minimum number of credits for BSc students to gain direct entry to the PhD from a fast-track condition. This is to better mirror a typical MSc student's trajectory for select students. A new organic chemistry course, CHEM 628 *Medicinal Chemistry,* which focuses on design and synthesis of drugs, is proposed as it is pertinent to students wishing to pursue careers in research and development. Further, the course number of Organic Synthesis is changed from CHEM 623 to 624 to better align with the undergraduate course numbering (CHEM 424). Finally, the exclusion notes under the *Selected Topics* courses are modified to reflect current calendar terminology.

Thank you for your consideration of this proposal for which there are no additional resource implications.

Reference documents:
FCC 2019.4_CHEM-65
ASFC-2020-2M-F

Department of Chemistry and Biochemistry

CHEM-65

Memo from Chair

Program Requirements Change

PhD in Chemistry

Course note change

CHEM 610	Selected Topics in Analytical Chemistry
CHEM 620	Selected Topics in Organic Chemistry
CHEM 630	Selected Topics in Physical Chemistry
CHEM 640	Selected Topics in Inorganic Chemistry
CHEM 650	Selected Topics in Multidisciplinary Chemistry
CHEM 670	Selected Topics in Biochemistry and Biophysics
CHEM 690	Selected Topics in Instrumentation

Course number change and exclusion note added

CHEM 624	Organic Synthesis

New course

CHEM 628	Medicinal Chemistry

Course description change (editorial)

CHEM 645	Bioinorganic Chemistry
CHEM 646	Industrial Catalysis

TO: Richard Courtemanche, Associate Dean, Academic Programs, Faculty of Arts and Science
FROM: Christine DeWolf, Chair, Department of Chemistry and Biochemistry
DATE: January 9, 2020
SUBJECT: 2021-2022 Graduate Course/Program Changes (CHEM-65)

Dear Richard,

The following are changes required for the 2021-2022 Graduate Calendar:

- **Update of PhD course credit requirements - Changes to Graduate Calendar**. These are changes meant to harmonize our Graduate Calendar entry with recent changes in SGS policy regarding fast-tracking to the PhD program. Approved by the Graduate Faculty at its meeting of November 26, 2018 and the Department Curriculum Committee by email following its meeting of March 5, 2019. Approved by the Department of Chemistry and Biochemistry by consent email on 6 January 2020.

- **CHEM 620I/CHEM 628.** The *Medicinal Chemistry* course has been successfully offered three times in the last seven years (2013/14, 2017/18 and 2019/20) as a slot course (CHEM 620I) and should be given the permanent course numbers of CHEM 628. This organic chemistry course focuses on the rational design and synthesis of drugs and is of particular relevance for graduate students wishing to pursue a pharmaceutical R&D career. Approved in principle by the Department Curriculum Committee at its meeting of March 5, 2019. Approved by the Department of Chemistry and Biochemistry by consent email on 6 January 2020.

- **CHEM 623/CHEM 624**. The *Organic Synthesis* graduate-level course is offered as cross-listed with CHEM 424 at the undergraduate level, and the course number change from CHEM 623 (current) to CHEM 624 (proposed) will make the graduate/undergraduate course numbering consistent. Approved by the Department of Chemistry and Biochemistry by consent email on 6 January 2020.

Also note that the **Topics in** headers have been slightly edited ("and" instead of "&") and the statements about topics courses being distinguished by separate letters have been removed as the latter denomination is no longer used on SIS.

Regards,

Christine DeWolf
Chair, Department of Chemistry and Biochemistry

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **CHEM-65** VERSION: 7

PROGRAM CHANGE: Chemistry PhD

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: Winter 2021

Faculty/School: Arts and Science
Department: Chemistry and Biochemistry
Program: PhD in Chemistry
Degree: PhD
Calendar Section/Graduate Page Number: Winter 2020

Type of Change:
[ ] Editorial [ ] Requirements [X] Regulations [ ] Program Deletion [ ] New Program

Present Text (from 2019/2020) calendar	**Proposed Text**
# Chemistry PhD ## Admission Requirements • MSc degree in Chemistry with high standing from a recognized university. • Comparable qualifications in biology or biochemistry are also acceptable for applicants wishing to do graduate studies in biochemistry. **Proficiency in English.** Applicants whose primary language is not English must demonstrate that their knowledge of English is sufficient to pursue graduate studies in their chosen field. Please refer to the Graduate Admission page for further information on the Language Proficiency requirements and exemptions. Upon recommendation by full-time members of the faculty of the Department of Chemistry and Biochemistry, students enrolled in the MSc Chemistry program at Concordia University who have completed a minimum of 6 credits of graduate level course work and who have shown themselves to be outstanding through performance in research may apply for permission to proceed directly to doctoral studies without submitting a master's thesis (fast-tracking). ~~O~~utstanding students who have maintained a grade point average of greater than 3.50 in their last two years of study ~~and~~ those with external scholarships (NSERC, CIHR, FQRNT) may also apply to the PhD program directly ~~(fast-tracking)~~ from their BSc program.	# Chemistry PhD ## Admission Requirements • MSc degree in Chemistry with high standing from a recognized university. • Comparable qualifications in biology or biochemistry are also acceptable for applicants wishing to do graduate studies in biochemistry. **Proficiency in English.** Applicants whose primary language is not English must demonstrate that their knowledge of English is sufficient to pursue graduate studies in their chosen field. Please refer to the Graduate Admission page for further information on the Language Proficiency requirements and exemptions. **Fast-tracking and Direct Entry.** Upon recommendation by full-time faculty members of the Department of Chemistry and Biochemistry, students enrolled in the MSc Chemistry program at Concordia University who have completed a minimum of 6 credits of graduate level course work and who have shown themselves to be outstanding through performance in research may apply for permission to proceed directly to doctoral studies without submitting a master's thesis (fast-tracking). Exceptionally, outstanding students who have completed a BSc in Chemistry or Biochemistry and who have maintained a grade point average of greater than 3.50 in their last two years of study, as well as those with external scholarships (NSERC, CIHR, FRQNT), may also apply to the PhD program

It is also possible to carry out PhD studies on a Co-op basis with the collaboration of an employer. A Co-op graduate student conducts research of interest to the employer, normally in the employer's laboratory, but directs the project toward a thesis topic acceptable to the department at Concordia and under the guidance of an academic supervisor in the department. The student will spend one term, normally with the support of an employer, gaining experience teaching in undergraduate laboratories and participating actively in the departmental seminars. This program will be available in areas of chemistry and biochemistry where the Department has the resources to provide a suitable academic co-supervisor. It is a condition of the program that the employers agree to the publication of thesis results. Prospective applicants should contact the Department for further details.

Degree Requirements

Fully-qualified candidates are required to complete a minimum of 90 credits.

6 credits – Courses listed under *Topics,* in the general field of the student's research project

Topics in Analytical and Bioanalytical Chemistry

CHEM 610 - Selected Topics in Analytical Chemistry (3 credits)
CHEM 612 - Analytical Separations (3 credits)
CHEM 614 - Modern Aspects of Practical Mass Spectrometry (3 credits)

Topics in Bioorganic and Organic Chemistry

CHEM 620 - Selected Topics in Organic Chemistry (3 credits)
CHEM 621 - Physical Organic Chemistry (3 credits)
CHEM 623 - Organic Synthesis (3 credits)
CHEM 625 - Nucleic Acid Chemistry (3 credits)
CHEM 626 - Reactive Intermediates (3 credits)
CHEM 627 - Supramolecular Chemistry (3 credits)

Topics in Physical Chemistry

CHEM 630 - Selected Topics in Physical Chemistry (3 credits)
CHEM 631 - Computational Chemistry (3 credits)
CHEM 632 - Non-equilibrium Thermodynamics (3 credits)
CHEM 633 - Quantum Mechanics in Chemistry (3 credits)
CHEM 635 - Interfacial Phenomena (3 credits)
CHEM 638 - Physics and Chemistry of Solid State Electronic Materials (3 credits)

directly from their BSc program (direct entry). A candidate entering the PhD program under direct entry is required to complete a minimum of 6 credits from graduate courses listed under Topics in addition to the regular 90 credits. Courses taken before students are accepted into the fast-track or direct entry are not transferable to the PhD program.

It is also possible to carry out PhD studies on a Co-op basis with the collaboration of an employer. A Co-op graduate student conducts research of interest to the employer, normally in the employer's laboratory, but directs the project toward a thesis topic acceptable to the department at Concordia and under the guidance of an academic supervisor in the department. The student will spend one term, normally with the support of an employer, gaining experience teaching in undergraduate laboratories and participating actively in the departmental seminars. This program will be available in areas of chemistry and biochemistry where the Department has the resources to provide a suitable academic co-supervisor. It is a condition of the program that the employers agree to the publication of thesis results. Prospective applicants should contact the Department for further details.

Degree Requirements

Fully-qualified candidates are required to complete a minimum of 90 credits.

6 credits – Courses listed under *Topics,* in the general field of the student's research project

Topics in Analytical and Bioanalytical Chemistry

CHEM 610 - Selected Topics in Analytical Chemistry (3 credits)
CHEM 612 - Analytical Separations (3 credits)
CHEM 614 - Modern Aspects of Practical Mass Spectrometry (3 credits)

Topics in Bioorganic and Organic Chemistry

CHEM 620 - Selected Topics in Organic Chemistry (3 credits)
CHEM 621 - Physical Organic Chemistry (3 credits)
CHEM 623 - Organic Synthesis (3 credits)
CHEM 625 - Nucleic Acid Chemistry (3 credits)
CHEM 626 - Reactive Intermediates (3 credits)
CHEM 627 - Supramolecular Chemistry (3 credits)

Topics in Physical Chemistry

CHEM 630 - Selected Topics in Physical Chemistry (3 credits)
CHEM 631 - Computational Chemistry (3 credits)
CHEM 632 - Non-equilibrium Thermodynamics (3 credits)
CHEM 633 - Quantum Mechanics in Chemistry (3 credits)
CHEM 635 - Interfacial Phenomena (3 credits)
CHEM 638 - Physics and Chemistry of Solid State Electronic Materials (3 credits)

Topics in Bioinorganic and Inorganic Chemistry CHEM 640 - Selected Topics in Inorganic Chemistry (3 credits) CHEM 643 - Organometallic Chemistry (3 credits) CHEM 644 - Physical Methods in Chemistry (3 credits) CHEM 645 - Bioinorganic Chemistry (3 credits) CHEM 646 - Industrial Catalysis (3 credits) Topics in Multidisciplinary Chemistry CHEM 650 - Selected Topics in Multidisciplinary Chemistry (3 credits) CHEM 651 - Nanochemistry (3 credits) CHEM 658 - Aquatic Biogeochemistry (3 credits) Topics in Biochemistry CHEM 670 - Selected Topics in Biochemistry and Biophysics (3 credits) CHEM 676 - Structure and Function of Biomembranes (3 credits) CHEM 677 - Enzyme Kinetics and Mechanism (3 credits) CHEM 678 - Protein Engineering and Design (3 credits) Topics in Instrumentation CHEM 690 - Selected Topics in Instrumentation (3 credits) CHEM 691 - Magnetic Resonance Spectroscopy (3 credits) CHEM 692 - Experimental Protein Chemistry (3 credits) **9 credits – Research Proposal and Comprehensive Examination** CHEM 896 - Research Proposal and Comprehensive Examination (9 credits) **72 credits – Doctoral Research and Thesis** CHEM 856 - Doctoral Research and Thesis (72 credits) **3 credits – Seminar** CHEM 668 - PhD Research Seminar (3 credits) With permission from their supervisory committee students are allowed to substitute graduate level courses from other departments relevant to their research problems, or professional development (e.g., selected MBA courses) as partial fulfillment towards their degree requirements. ~~**Fast-tracking.** A candidate entering the doctoral program under accelerated admission (fast-tracking) from the BSc program is required to complete a minimum of 9 credits from graduate courses listed under *Topics* in addition to the regular 90 credits; a candidate entering the doctoral program under accelerated admission (fast-tracking) from the MSc program is required to complete a minimum of 3 credits listed under *Topics* in addition to the regular 90 credits.~~	Topics in Bioinorganic and Inorganic Chemistry CHEM 640 - Selected Topics in Inorganic Chemistry (3 credits) CHEM 643 - Organometallic Chemistry (3 credits) CHEM 644 - Physical Methods in Chemistry (3 credits) CHEM 645 - Bioinorganic Chemistry (3 credits) CHEM 646 - Industrial Catalysis (3 credits) Topics in Multidisciplinary Chemistry CHEM 650 - Selected Topics in Multidisciplinary Chemistry (3 credits) CHEM 651 - Nanochemistry (3 credits) CHEM 658 - Aquatic Biogeochemistry (3 credits) Topics in Biochemistry CHEM 670 - Selected Topics in Biochemistry and Biophysics (3 credits) CHEM 676 - Structure and Function of Biomembranes (3 credits) CHEM 677 - Enzyme Kinetics and Mechanism (3 credits) CHEM 678 - Protein Engineering and Design (3 credits) Topics in Instrumentation CHEM 690 - Selected Topics in Instrumentation (3 credits) CHEM 691 - Magnetic Resonance Spectroscopy (3 credits) CHEM 692 - Experimental Protein Chemistry (3 credits) **9 credits – Research Proposal and Comprehensive Examination** CHEM 896 - Research Proposal and Comprehensive Examination (9 credits) **72 credits – Doctoral Research and Thesis** CHEM 856 - Doctoral Research and Thesis (72 credits) **3 credits – Seminar** CHEM 668 - PhD Research Seminar (3 credits) With permission from their supervisory committee students are allowed to substitute graduate level courses from other departments relevant to their research problems, or professional development (e.g., selected MBA courses) as partial fulfillment towards their degree requirements.

CHEM 896: Research Proposal and Comprehensive Examination. A student in the doctoral program is required to present a progress report on his/her research and on future research plans. The presentation should reflect the student's awareness of current research in his/her field and demonstrate an ability to carry out a significant research problem and provide a rational approach to its solution. The student's knowledge and understanding of fundamental chemical and biochemical principles will also be examined.

The student is expected to complete CHEM 896 within 18 months of admission directly into the PhD program, or within 28 months of admission via the MSc stream. In exceptional circumstances the department may permit an extension of time for completion of this course. The CHEM 896 Examining Committee assigns one of the following two grades: (a) PASS - the student is admitted to candidacy for a PhD degree in Chemistry; (b) FAIL - the student must withdraw from the program.

CHEM 668: PhD Research Seminar. The course is designed to give students practice at communicating and defending their thesis research topic in a professional forum, and should successfully inform an audience of chemists and biochemists.

Thesis. Students will work on a research topic under the direction of a faculty member and present an acceptable thesis at the conclusion (CHEM 856 - Doctoral Research and Thesis). Students may submit a manuscript-based thesis following the guidelines outlined in the section on Thesis Regulations in this calendar. In addition, a public oral examination will be conducted to test the student's ability to defend the thesis.

Seminars. Each student is **required** to attend and participate in departmental seminars.

Cross-Registration. Students may, with the permission of their supervisory committee, cross-register for courses falling in the *Topics* categories in other Quebec institutions.

Academic Regulations

1. **Academic Standing.** Please refer to the Academic Standing section of the Calendar for a detailed review of the Academic Regulations.
   Program Specific Requirements. Students must obtain an assessment grade point average (AGPA) of 3.00 based on a minimum of 6 credits.
2. **Residence.** The minimum period of residence is two years (6 terms) of full-time graduate study beyond the master’s degree or three years (9 terms) of full-time graduate study (or the equivalent in part-time study) beyond the bachelor’s degree for those students who are permitted to enrol for doctoral studies without completing a master’s degree. It should be understood that this is a minimum requirement, and that a longer period may be necessary in order to complete all of the work that is required for the degree.
3. **Time Limit.** Please refer to the Academic Regulation page for further details regarding the Time Limit requirements.
4. **Graduation Requirement.** In order to graduate, students must have a

CHEM 896: Research Proposal and Comprehensive Examination. A student in the doctoral program is required to present a progress report on his/her research and on future research plans. The presentation should reflect the student's awareness of current research in his/her field and demonstrate an ability to carry out a significant research problem and provide a rational approach to its solution. The student's knowledge and understanding of fundamental chemical and biochemical principles will also be examined.

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3. **Time Limit.** Please refer to the Academic Regulation page for further details regarding the Time Limit requirements.
4. **Graduation Requirement.** In order to graduate, students must have a

cumulative GPA of at least 3.00.

Courses

Specific course offerings in subject areas listed under *Topics* will generally vary from year to year, depending on the availability of faculty and the requirements of graduate students in the program.

Courses are worth 3 credits unless otherwise indicated. Over the next few years the department will offer a selection of courses from those listed below. Additional *Selected Topics* courses may be offered in a given year, and these will be identified by different subtitles. Further information on *Selected Topics* courses will be available from the department at the beginning of each academic year.

Topics in Analytical & Bioanalytical Chemistry

CHEM 610 Selected Topics in Analytical Chemistry
This course explores themes within the area of Analytical Chemistry.
Note: ~~The content will vary from term to term and from year to year. Students may re-register for this course, provided the course content has changed. Changes in content will be indicated by a letter following the course number, e.g. CHEM 610A, CHEM 610B, etc.~~

CHEM 612 Analytical Separations
Prerequisite: CHEM 218, 312, or equivalent.
High performance liquid separations on an analytical (non-preparative) scale are surveyed. Fundamental separation mechanisms and application of the techniques are discussed. Emphasis is placed on separations of biologically relevant analytes which include peptides, proteins and nucleic acids. Lectures only.

CHEM 614 Modern Aspects of Practical Mass Spectrometry
Prerequisite: CHEM 494 or equivalent, previously or concurrently.
Theoretical and operational aspects of modern mass spectrometry are discussed in a number of formal lectures and training sessions. All students must carry out an independent mass spectrometry project on their molecules of choice. Projects can be selected from all areas of chemistry, biochemistry or biology including the “omics” sciences (e.g., proteomics, metabolomics).
Note: Students who have received credit for this topic under a CHEM 630 number may not take this course for credit.

Topics in Bioorganic & Organic Chemistry

CHEM 620 Selected Topics in Organic Chemistry
This course explores themes within the area of Organic Chemistry.
Note: ~~The content will vary from term to term and from year to year. Students may re-~~

cumulative GPA of at least 3.00.

Courses

Specific course offerings in subject areas listed under *Topics* will generally vary from year to year, depending on the availability of faculty and the requirements of graduate students in the program.

Courses are worth 3 credits unless otherwise indicated. Over the next few years the department will offer a selection of courses from those listed below. Additional *Selected Topics* courses may be offered in a given year, and these will be identified by different subtitles. Further information on *Selected Topics* courses will be available from the department at the beginning of each academic year.

Topics in Analytical and Bioanalytical Chemistry

CHEM 610 Selected Topics in Analytical Chemistry
This course explores themes within the area of Analytical Chemistry.
Note: This course may be repeated for credit, provided that the subject matter is different each time.

CHEM 612 Analytical Separations
Prerequisite: CHEM 218, 312, or equivalent.
High performance liquid separations on an analytical (non-preparative) scale are surveyed. Fundamental separation mechanisms and application of the techniques are discussed. Emphasis is placed on separations of biologically relevant analytes which include peptides, proteins and nucleic acids. Lectures only.

CHEM 614 Modern Aspects of Practical Mass Spectrometry
Prerequisite: CHEM 494 or equivalent, previously or concurrently.
Theoretical and operational aspects of modern mass spectrometry are discussed in a number of formal lectures and training sessions. All students must carry out an independent mass spectrometry project on their molecules of choice. Projects can be selected from all areas of chemistry, biochemistry or biology including the “omics” sciences (e.g., proteomics, metabolomics).
Note: Students who have received credit for this topic under a CHEM 630 number may not take this course for credit.

Topics in Bioorganic and Organic Chemistry

CHEM 620 Selected Topics in Organic Chemistry
This course explores themes within the area of Organic Chemistry.
Note: This course may be repeated for credit, provided that the subject matter is different

~~register for this course, provided the course content has changed. Changes in content will be indicated by a letter following the course number, e.g. CHEM 620A, CHEM 620B, etc.~~	each time.
CHEM 621 Physical Organic Chemistry *Prerequisite*: CHEM 222, 235; CHEM 324 or 325; or equivalent. Determination of organic reaction mechanisms using kinetics, activation parameters, acid-base catalysis, Bronsted catalysis law, solvent effects, medium effects, isotope effects, substitutent effects, and linear free energy relationships. Lectures only.	**CHEM 621 Physical Organic Chemistry** *Prerequisite*: CHEM 222, 235; CHEM 324 or 325; or equivalent. Determination of organic reaction mechanisms using kinetics, activation parameters, acid-base catalysis, Bronsted catalysis law, solvent effects, medium effects, isotope effects, substitutent effects, and linear free energy relationships. Lectures only.
CHEM ~~623~~ Organic Synthesis *Prerequisite:* CHEM 222, 235, 324, or equivalent. This course is concerned with synthetic strategy and design. It provides an introduction to advanced synthetic methods and reagents, involving heteroatoms such as sulphur, phosphorus, tin and selenium, as well as an overview of the uses of protecting groups in organic chemistry. The concept of retrosynthesis and a few asymmetric reactions are discussed using syntheses of natural products from the literature as examples. Lectures only.	**CHEM 624 Organic Synthesis** *Prerequisite:* CHEM 222, 235, 324, or equivalent. This course is concerned with synthetic strategy and design. It provides an introduction to advanced synthetic methods and reagents, involving heteroatoms such as sulphur, phosphorus, tin and selenium, as well as an overview of the uses of protecting groups in organic chemistry. The concept of retrosynthesis and a few asymmetric reactions are discussed using syntheses of natural products from the literature as examples. Lectures only. **Note:** Students who have received credit for CHEM 623 may not take this course for credit.
CHEM 625 Nucleic Acid Chemistry *Prerequisite:* CHEM 221, 222, 271, or equivalent. This course introduces students to various topics in nucleic acid chemistry. The topics include nomenclature, structure and function of RNA and DNA; techniques and methods to investigate nucleic acid structure; DNA damage and repair; interaction of small molecules and proteins with nucleic acid; oligonucleotide-based therapeutics (antisense, antigene, RNAi); synthesis of purines, pyrimidines and nucleosides; and solid-phase oligonucleotide synthesis. Lectures only. **Note:** Students who have received credit for this topic under a CHEM 620 number may not take this course for credit.	**CHEM 625 Nucleic Acid Chemistry** *Prerequisite:* CHEM 221, 222, 271, or equivalent. This course introduces students to various topics in nucleic acid chemistry. The topics include nomenclature, structure and function of RNA and DNA; techniques and methods to investigate nucleic acid structure; DNA damage and repair; interaction of small molecules and proteins with nucleic acid; oligonucleotide-based therapeutics (antisense, antigene, RNAi); synthesis of purines, pyrimidines and nucleosides; and solid-phase oligonucleotide synthesis. Lectures only. **Note:** Students who have received credit for this topic under a CHEM 620 number may not take this course for credit.
CHEM 626 Reactive Intermediates *Prerequisite:* CHEM 324, 325, or equivalent. This course offers an introduction to reactive intermediates with an emphasis on structure and stability as found in modern (physical) organic chemistry. While the focus is on radicals and carbenes, carbocations are discussed near the end of the term. The material covered is relevant to chemistry and biochemistry. Lectures only. **Note:** Students who have received credit for this topic under a CHEM 621 number may not take this course for credit.	**CHEM 626 Reactive Intermediates** *Prerequisite:* CHEM 324, 325, or equivalent. This course offers an introduction to reactive intermediates with an emphasis on structure and stability as found in modern (physical) organic chemistry. While the focus is on radicals and carbenes, carbocations are discussed near the end of the term. The material covered is relevant to chemistry and biochemistry. Lectures only. **Note:** Students who have received credit for this topic under a CHEM 621 number may not take this course for credit.
CHEM 627 Supramolecular Chemistry *Prerequisite:* CHEM 324 or 325; CHEM 335; or equivalent; or permission of the Department. This course reviews some fundamental aspects of synthetic and biological supramolecular chemistry and nanotechnology. Topics covered may include supramolecular forces, ion binding and ion channels, molecular recognition, self-assembly (meso-scale and molecular-scale), organometallic supramolecular chemistry, dynamic combinatorial chemistry (DCC), and foldamers. Lectures only. **Note:** Students who have received credit for this topic under a CHEM 620 number may not take this course for credit.	**CHEM 627 Supramolecular Chemistry** *Prerequisite:* CHEM 324 or 325; CHEM 335; or equivalent; or permission of the Department. This course reviews some fundamental aspects of synthetic and biological supramolecular chemistry and nanotechnology. Topics covered may include supramolecular forces, ion binding and ion channels, molecular recognition, self-assembly (meso-scale and molecular-scale), organometallic supramolecular chemistry, dynamic combinatorial chemistry (DCC), and foldamers. Lectures only. **Note:** Students who have received credit for this topic under a CHEM 620 number may not take this course for credit.

	CHEM 628 Medicinal Chemistry *Prerequisite: CHEM 293, CHEM 324.* This course provides an introduction to the small molecule drug discovery process, addressing early target identification, hit discovery, lead optimization and preclinical considerations. The course focuses primarily on the rational design and synthesis of drugs that employ multidisciplinary approaches to satisfy a multitude of specificity and safety requirements. The emphasis is on organic synthesis within the special context of medicinal chemistry that illustrates the challenges involved in leveraging the opportunities presented by high throughput, parallel and/or combinatorial synthesis in light of physical limitations imposed by processing large numbers of compounds. Case studies from the current literature are used to highlight how new technologies and strategies have overcome some of those limitations and are used to highlight recent innovations in the field. The course also charts the evolution of powerful techniques from structural research (NMR, X-ray crystallography, and computational modeling) as fully integrated medicinal chemistry tools for modern drug-discovery to highlight key advances.
Topics in Physical Chemistry	**Topics in Physical Chemistry**
CHEM 630 Selected Topics in Physical Chemistry This course explores themes within the area of Physical Chemistry. **Note:** ~~The content will vary from term to term and from year to year. Students may re-register for this course, provided the course content has changed. Changes in content will be indicated by a letter following the course number, e.g. CHEM 630A, CHEM 630B, etc.~~	**CHEM 630 Selected Topics in Physical Chemistry** This course explores themes within the area of Physical Chemistry. **Note:** This course may be repeated for credit, provided that the subject matter is different each time.
CHEM 631 Computational Chemistry *Prerequisite:* CHEM 234, 241, 333, or equivalent; or permission of the Department. This course presents the concepts, tools, and techniques of modern computational chemistry, and provides a very broad overview of the various fields of application across chemistry and biochemistry. The course is divided into two parts: 1) *Molecular structure*, which covers molecular mechanics and elementary electronic structure theory of atoms and molecules; and 2) *Chemical reactivity*, which covers applications of quantum chemistry and molecular dynamics techniques to studies of chemical reactions. The applications discussed include organic molecules and their reactions, peptides and proteins, drug design, DNA, polymers, inorganics, and materials. The course includes a practical component where students acquire hands-on experience with commonly used computational chemistry computer software. Lectures and laboratory.	**CHEM 631 Computational Chemistry** *Prerequisite:* CHEM 234, 241, 333, or equivalent; or permission of the Department. This course presents the concepts, tools, and techniques of modern computational chemistry, and provides a very broad overview of the various fields of application across chemistry and biochemistry. The course is divided into two parts: 1) *Molecular structure*, which covers molecular mechanics and elementary electronic structure theory of atoms and molecules; and 2) *Chemical reactivity*, which covers applications of quantum chemistry and molecular dynamics techniques to studies of chemical reactions. The applications discussed include organic molecules and their reactions, peptides and proteins, drug design, DNA, polymers, inorganics, and materials. The course includes a practical component where students acquire hands-on experience with commonly used computational chemistry computer software. Lectures and laboratory.
CHEM 632 Non-equilibrium Thermodynamics *Prerequisite:* CHEM 234 or equivalent. In this course, the basic concepts of classical (equilibrium) thermodynamics are first reviewed, followed by an introduction to statistical thermodynamics which gives a unified method of treating transport processes. At this point, the Boltzmann distribution function is derived, which leads to the statistical interpretation of entropy. Other important thermodynamic functions such as the partition function, the partition function for large ensembles and the Sackur-Tetrode equation are examined. The course also addresses non-equilibrium thermodynamics in the linear domain. The relations describing the production of entropy in irreversible processes due to heat transfer, charge transfer, change of volume, and chemical reactions are examined. The establishment of flux equations and the use of the Onsager reciprocal relations are then applied to the description of a variety of open systems. Lectures only.	**CHEM 632 Non-equilibrium Thermodynamics** *Prerequisite:* CHEM 234 or equivalent. In this course, the basic concepts of classical (equilibrium) thermodynamics are first reviewed, followed by an introduction to statistical thermodynamics which gives a unified method of treating transport processes. At this point, the Boltzmann distribution function is derived, which leads to the statistical interpretation of entropy. Other important thermodynamic functions such as the partition function, the partition function for large ensembles and the Sackur-Tetrode equation are examined. The course also addresses non-equilibrium thermodynamics in the linear domain. The relations describing the production of entropy in irreversible processes due to heat transfer, charge transfer, change of volume, and chemical reactions are examined. The establishment of flux equations and the use of the Onsager reciprocal relations are then applied to the description of a variety of open systems. Lectures only.

CHEM 633 Quantum Mechanics in Chemistry *Prerequisite:* CHEM 333, 431/631, or equivalent. This course includes a thorough review of basic quantum mechanics in both the Schroedinger and Heisenberg representations, electronic structure theory, symmetry and group theory, interaction of matter with light, quantum scattering, the path integral formalism, quantum theories of chemical reaction rates, time-dependent approaches to spectroscopy, wave packet propagation, correlation functions and dynamics processes, and density matrices. Lectures only.	**CHEM 633 Quantum Mechanics in Chemistry** *Prerequisite:* CHEM 333, 431/631, or equivalent. This course includes a thorough review of basic quantum mechanics in both the Schroedinger and Heisenberg representations, electronic structure theory, symmetry and group theory, interaction of matter with light, quantum scattering, the path integral formalism, quantum theories of chemical reaction rates, time-dependent approaches to spectroscopy, wave packet propagation, correlation functions and dynamics processes, and density matrices. Lectures only.
CHEM 635 Interfacial Phenomena *Prerequisite:* CHEM 234, 235, or equivalent. This course examines the physical chemistry of interfaces including surface and interfacial tensions, the absorption of surface active substances/surface excess properties, and surfactant self-assembly. Topics covered may include Gibbs and Langmuir monolayers, micelle formation, emulsions, foams, surfactant liquid crystals, layer-by-layer polymer self-assembly, and biological membranes. Techniques for characterization and applications (biological and industrial) of these systems are addressed. Lectures only. **Note:** Students who have received credit for this topic under a CHEM 630 number may not take this course for credit.	**CHEM 635 Interfacial Phenomena** *Prerequisite:* CHEM 234, 235, or equivalent. This course examines the physical chemistry of interfaces including surface and interfacial tensions, the absorption of surface active substances/surface excess properties, and surfactant self-assembly. Topics covered may include Gibbs and Langmuir monolayers, micelle formation, emulsions, foams, surfactant liquid crystals, layer-by-layer polymer self-assembly, and biological membranes. Techniques for characterization and applications (biological and industrial) of these systems are addressed. Lectures only. **Note:** Students who have received credit for this topic under a CHEM 630 number may not take this course for credit.
CHEM 638 Physics and Chemistry of Solid State Electronic Materials *Prerequisite:* CHEM 234, 333, or equivalent. This course essentially explores how electrical conductivity is influenced by the nature of the chemical bonding in these solid-state materials. The course provides an introduction to solid-state structures and then goes on to explore band theory, the central model used to describe electrical conductivity in the following three categories of electronic materials: conductors, semiconductors, and insulators. Finally the course explores the extension of the band model to interpret electrical conductivity in molecular semiconductors and charge-transfer complexes. Lectures only.	**CHEM 638 Physics and Chemistry of Solid State Electronic Materials** *Prerequisite:* CHEM 234, 333, or equivalent. This course essentially explores how electrical conductivity is influenced by the nature of the chemical bonding in these solid-state materials. The course provides an introduction to solid-state structures and then goes on to explore band theory, the central model used to describe electrical conductivity in the following three categories of electronic materials: conductors, semiconductors, and insulators. Finally the course explores the extension of the band model to interpret electrical conductivity in molecular semiconductors and charge-transfer complexes. Lectures only.
Topics in Bioinorganic ~~&~~ Inorganic Chemistry	**Topics in Bioinorganic and Inorganic Chemistry**
CHEM 640 Selected Topics in Inorganic Chemistry This course explores themes within the area of Inorganic Chemistry. **Note:** ~~The content will vary from term to term and from year to year. Students may re-register for this course, provided the course content has changed. Changes in content will be indicated by a letter following the course number, e.g. CHEM 640A, CHEM 640B, etc.~~	**CHEM 640 Selected Topics in Inorganic Chemistry** This course explores themes within the area of Inorganic Chemistry. **Note:** This course may be repeated for credit, provided that the subject matter is different each time.
CHEM 643 Organometallic Chemistry *Prerequisite:* CHEM 324, 341, or equivalent. This course covers the structure and properties of organometallic compounds, their main reactions and their application in catalysis and organic chemistry. Lectures only.	**CHEM 643 Organometallic Chemistry** *Prerequisite:* CHEM 324, 341, or equivalent. This course covers the structure and properties of organometallic compounds, their main reactions and their application in catalysis and organic chemistry. Lectures only.
CHEM 644 Physical Methods in Chemistry This course provides an in-depth evaluation of the different methods used in modern physical chemistry such as laser, microwave, FT-IR, electron spin resonance, nuclear magnetic resonance, x-ray photoelectron, x-ray diffraction and fluorescence, Auger eletron, Mössbauer, and gamma-ray spectroscopic analysis, as well as scanning probe microscopy and mass spectrometry. Lectures only.	**CHEM 644 Physical Methods in Chemistry** This course provides an in-depth evaluation of the different methods used in modern physical chemistry such as laser, microwave, FT-IR, electron spin resonance, nuclear magnetic resonance, x-ray photoelectron, x-ray diffraction and fluorescence, Auger eletron, Mössbauer, and gamma-ray spectroscopic analysis, as well as scanning probe microscopy and mass spectrometry. Lectures only.
CHEM 645 Bioinorganic Chemistry	**CHEM 645 Bioinorganic Chemistry** *Prerequisite:* CHEM 241, 271, or equivalent.

Prerequisite: CHEM 241, 271, or equivalent. ~~R~~ole of metals in biochemical systems. ~~E~~ssential trace elements, zinc enzymes, oxygen transport and storage, metalloproteins and biological electron transfer, structure-function relationships in heme enzymes, nitrogen fixation; model compounds for metalloproteins and metalloenzymes. Lectures only.	This course covers the role of metals in biochemical systems. Specifically, it focuses on essential trace elements, zinc enzymes, oxygen transport and storage, metalloproteins and biological electron transfer, structure-function relationships in heme enzymes, nitrogen fixation; model compounds for metalloproteins and metalloenzymes. Lectures only.
CHEM 646 Industrial Catalysis *Prerequisite:* CHEM 234, 235, or equivalent. ~~B~~asic and recent concepts in catalysis are described with particular emphasis on heterogenous catalysis. The technical, economic and environmental aspects of industrial catalysis are covered. The processes to be studied are chosen from the petroleum industry, the natural gas and coal processing industry, and the production of thermoplastics and synthetic fibres. The course ends with a rapid survey of problems associated with the treatment of industrial pollutants and with catalytic converters. Lectures only.	**CHEM 646 Industrial Catalysis** *Prerequisite:* CHEM 234, 235, or equivalent. This course covers basic and recent concepts in catalysis are described with particular emphasis on heterogenous catalysis. The technical, economic and environmental aspects of industrial catalysis are covered. The processes to be studied are chosen from the petroleum industry, the natural gas and coal processing industry, and the production of thermoplastics and synthetic fibres. The course ends with a rapid survey of problems associated with the treatment of industrial pollutants and with catalytic converters. Lectures only.
Topics in Multidisciplinary Chemistry	**Topics in Multidisciplinary Chemistry**
CHEM 650 Selected Topics in Multidisciplinary Chemistry This course explores themes within the area of Multidisciplinary Chemistry. **Note:** ~~The content will vary from term to term and from year to year. Students may re-register for this course, provided the course content has changed. Changes in content will be indicated by a letter following the course number, e.g. CHEM 650A, CHEM 650B, etc.~~	**CHEM 650 Selected Topics in Multidisciplinary Chemistry** This course explores themes within the area of Multidisciplinary Chemistry. **Note:** This course may be repeated for credit, provided that the subject matter is different each time.
CHEM 651 Nanochemistry *Prerequisites:* CHEM 217, 218, 221, 222, 234, 235, 241, or equivalent. This modular course covers the areas of production, characterization and applications of nanoscale structures and materials. Each module is taught by a different professor as well as guest lecturers. Topics may include (but are not limited to): size dependent properties, synthesis of organic and inorganic nanostructures, self-assembled structures, chemical patterning and functional nanopatterns, biomaterials. Nanometer scale fabrication techniques such as lithographic methods, nano-stamping and patterned self-assembly are discussed. Modern analysis techniques such as atomic force microscopy and electron microscopy, which are used to map and measure at the single molecule level are introduced. Applications such as photonics, optical properties, biodetection and biosensors, micro- and nano-fluidics, nanoelectronics and nanomachines are presented. The course includes a term project carried out using the nanoscience facilities held in the department research labs.	**CHEM 651 Nanochemistry** *Prerequisites:* CHEM 217, 218, 221, 222, 234, 235, 241, or equivalent. This modular course covers the areas of production, characterization and applications of nanoscale structures and materials. Each module is taught by a different professor as well as guest lecturers. Topics may include (but are not limited to): size dependent properties, synthesis of organic and inorganic nanostructures, self-assembled structures, chemical patterning and functional nanopatterns, biomaterials. Nanometer scale fabrication techniques such as lithographic methods, nano-stamping and patterned self-assembly are discussed. Modern analysis techniques such as atomic force microscopy and electron microscopy, which are used to map and measure at the single molecule level are introduced. Applications such as photonics, optical properties, biodetection and biosensors, micro- and nano-fluidics, nanoelectronics and nanomachines are presented. The course includes a term project carried out using the nanoscience facilities held in the department research labs.
CHEM 658 Aquatic Biogeochemistry *Prerequisite:* CHEM 217, 218, 312, or equivalent. The major aim of this course is to present a quantitative treatment of the variables that determine the composition of natural waters. Chemical equilibrium is the central theme of the course, but consideration is also given to kinetics, steady-state and dynamic models. Related themes include global chemical cycles, air and water pollution, as well as current research topics in water chemistry and chemical oceanography. Lectures only. **Note:** Students who have received credit for CHEM 618 or for this topic under a CHEM 610 number may not take this course for credit.	**CHEM 658 Aquatic Biogeochemistry** *Prerequisite:* CHEM 217, 218, 312, or equivalent. The major aim of this course is to present a quantitative treatment of the variables that determine the composition of natural waters. Chemical equilibrium is the central theme of the course, but consideration is also given to kinetics, steady-state and dynamic models. Related themes include global chemical cycles, air and water pollution, as well as current research topics in water chemistry and chemical oceanography. Lectures only. **Note:** Students who have received credit for CHEM 618 or for this topic under a CHEM 610 number may not take this course for credit.
Topics in Biochemistry	**Topics in Biochemistry**

CHEM 670 Selected Topics in Biochemistry and Biophysics This course explores themes within the area of Biochemistry and Biophysics. **Note:** ~~The content will vary from term to term and from year to year. Students may re-register for this course, provided the course content has changed. Changes in content will be indicated by a letter following the course number, e.g. CHEM 670A, CHEM 670B, etc.~~	**CHEM 670 Selected Topics in Biochemistry and Biophysics** This course explores themes within the area of Biochemistry and Biophysics. **Note:** This course may be repeated for credit, provided that the subject matter is different each time.
CHEM 676 Structure and Function of Biomembranes *Prerequisite:* BIOL 266, CHEM 375, or equivalent. Examples from the current literature are used to discuss what is known about how the membranes of biological organisms are assembled and the roles that these membranes play in a number of important processes. Emphasis is placed on the transport of proteins to and through biomembranes and the roles that membranes play in metabolite and ion transport. Where applicable, the significance of these processes is illustrated by examining the roles of membranes in health and disease. Lectures only. **Note:** Students who have received credit for CHEM 671 may not take this course for credit.	**CHEM 676 Structure and Function of Biomembranes** *Prerequisite:* BIOL 266, CHEM 375, or equivalent. Examples from the current literature are used to discuss what is known about how the membranes of biological organisms are assembled and the roles that these membranes play in a number of important processes. Emphasis is placed on the transport of proteins to and through biomembranes and the roles that membranes play in metabolite and ion transport. Where applicable, the significance of these processes is illustrated by examining the roles of membranes in health and disease. Lectures only. **Note:** Students who have received credit for CHEM 671 may not take this course for credit.
CHEM 677 Enzyme Kinetics and Mechanism *Prerequisite:* CHEM 271, 375, or equivalent. This course explores steady-state kinetics, including such topics as the use of initial velocity studies and product inhibition to establish a kinetic mechanism; nonsteady-state kinetics, isotope effects, energy of activation, and the detailed mechanisms of selected enzymes. Lectures only.	**CHEM 677 Enzyme Kinetics and Mechanism** *Prerequisite:* CHEM 271, 375, or equivalent. This course explores steady-state kinetics, including such topics as the use of initial velocity studies and product inhibition to establish a kinetic mechanism; nonsteady-state kinetics, isotope effects, energy of activation, and the detailed mechanisms of selected enzymes. Lectures only.
CHEM 678 Protein Engineering and Design *Prerequisite:* CHEM 271, 375, or equivalent. This course examines the principles behind protein design, how techniques of protein engineering are used, and the methods used to assess protein properties. Examples include studies of protein stability, structure-function relationships, and applications to drug design. Lectures only.	**CHEM 678 Protein Engineering and Design** *Prerequisite:* CHEM 271, 375, or equivalent. This course examines the principles behind protein design, how techniques of protein engineering are used, and the methods used to assess protein properties. Examples include studies of protein stability, structure-function relationships, and applications to drug design. Lectures only.
Topics in Instrumentation	**Topics in Instrumentation**
CHEM 690 Selected Topics in Instrumentation This course explores themes within the area of Instrumentation. **Note:** ~~The content will vary from term to term and from year to year. Students may re-register for this course, provided the course content has changed~~. ~~Changes in content will be indicated by a letter following the course number, e.g. CHEM 690A, CHEM 690B, etc.~~	**CHEM 690 Selected Topics in Instrumentation** This course explores themes within the area of Instrumentation. **Note:** This course may be repeated for credit, provided that the subject matter is different each time.
CHEM 691 Magnetic Resonance Spectroscopy *Prerequisite:* CHEM 222, 393, or equivalent. This course is designed to provide the background in magnetic resonance theory necessary to understand modern high-resolution NMR experiments and instrumentation. The basic theory in the introductory section also applies to electron spin resonance (ESR). Relaxation and through-bond and through-space interactions, and experiments to investigate them are considered. Spin manipulations and behaviour in multiple-pulse, Fourier transform NMR techniques used for common spectral editing and two-dimensional experiments are discussed. Lectures only.	**CHEM 691 Magnetic Resonance Spectroscopy** *Prerequisite:* CHEM 222, 393, or equivalent. This course is designed to provide the background in magnetic resonance theory necessary to understand modern high-resolution NMR experiments and instrumentation. The basic theory in the introductory section also applies to electron spin resonance (ESR). Relaxation and through-bond and through-space interactions, and experiments to investigate them are considered. Spin manipulations and behaviour in multiple-pulse, Fourier transform NMR techniques used for common spectral editing and two-dimensional experiments are discussed. Lectures only.
CHEM 692 Experimental Protein Chemistry *Prerequisite:* CHEM 477 or equivalent or permission of the Department.	**CHEM 692 Experimental Protein Chemistry** *Prerequisite:* CHEM 477 or equivalent or permission of the Department. This “hands on” course introduces students to the common techniques used to study the

This “hands on” course introduces students to the common techniques used to study the structure and function of proteins and other macromolecules. Techniques covered include circular dichroism spectroscopy, fluorescence, UV/Vis spectroscopy, Fourier transform infrared spectroscopy, isothermal titration microcalorimetry, analytical ultracentrifugation, and protein crystallization/X-ray crystallography. The course includes theory, applications of the technique to the study of protein structure and function, and basic practice experiments to become familiar with the instrument and data analysis. For some of the techniques covered hands-on use will be limited. Each student is required to carry out a project on his/her own protein of interest. Each participant asks a specific question about a protein and then uses the techniques covered in the course to address the question. Lectures and laboratory. **Note:** Students who have received credit for this topic under a CHEM 690 number may not take this course for credit. **Theses, Seminars, Comprehensive Exam and Special Courses** **CHEM 667 PhD Literature/Topic Seminar** **CHEM 668 PhD Research Seminar** **CHEM 856 Doctoral Research and Thesis** (72 credits) **CHEM 896 Research Proposal and Comprehensive Examination** (9 credits)	structure and function of proteins and other macromolecules. Techniques covered include circular dichroism spectroscopy, fluorescence, UV/Vis spectroscopy, Fourier transform infrared spectroscopy, isothermal titration microcalorimetry, analytical ultracentrifugation, and protein crystallization/X-ray crystallography. The course includes theory, applications of the technique to the study of protein structure and function, and basic practice experiments to become familiar with the instrument and data analysis. For some of the techniques covered hands-on use will be limited. Each student is required to carry out a project on his/her own protein of interest. Each participant asks a specific question about a protein and then uses the techniques covered in the course to address the question. Lectures and laboratory. **Note:** Students who have received credit for this topic under a CHEM 690 number may not take this course for credit. **Theses, Seminars, Comprehensive Exam and Special Courses** **CHEM 667 PhD Literature/Topic Seminar** **CHEM 668 PhD Research Seminar** **CHEM 856 Doctoral Research and Thesis** (72 credits) **CHEM 896 Research Proposal and Comprehensive Examination** (9 credits)

Rationale:

These changes are meant to harmonize our Calendar entry with recent changes in SGS policy regarding fast-tracking. Per the new SGS regulations, an MSc fast-tracked into the PhD program would only need to take the 6 course credits required for the PhD program and no more. Courses taken before the fast-track would not be transferable, though, so there would be an incentive to fast-track after the first year of study (typically after 6 MSc course credits taken). The direct entry from BSc fast-track condition has been changed accordingly to mirror a typical MSc student’s trajectory.

The reason for not transferring the additional 3 credits for students who completed three courses before fast-tracking is two-fold: (1) it only very rarely happens that a student completes 9 credits at the MSc level before fast-tracking: supervisors very quickly encourage their better MSc students to fast-track after one year into the program. Since we (GPA & GPD) strongly discourage grad students to take two courses per term, and because we don't offer grad summer courses, most MSc students have only taken two courses when they fast-track; and (2) in a spirit of fairness for the other PhD students: we don't want to have a regular PhD (2 courses, 1 seminar and 1 predoc exam), and a lighter one (1 course only, 1 seminar and 1 predoc) running in parallel. Taking 3 courses at the MSc level before fast-tracking is the decision of the student.

Of note, when signing MSc student Supervisory Committee reports after 12 months into the program, the GPD informs students with a very good or an excellent evaluation the possibility of fast-tracking, to be discussed with their supervisor.

Medicinal Chemistry has been offered three times in the last five years (2015/16, 2017/18 and 2019/20) as a slot course (CHEM 620I). It should be given a permanent course number of CHEM 628.

CHEM 623 is changed to CHEM 624 for consistency with CHEM 424 (Undergraduate level course) with which it is often cross-listed.

The **Topics in** headers have been slightly edited ("and" instead of "&") and the statements about topics courses being distinguished by separate letters have been removed as the latter denomination is no longer used on SIS.

Resource Implications:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **CHEM-65** VERSION: 7

COURSE CHANGE: CHEM 610 New Course Number:

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: Winter 2021

Faculty/School: Arts and Science
Department: Chemistry and Biochemistry
Program: PhD in Chemistry
Degree: PhD
Calendar Section/Graduate Page Number: Winter 2020

Type of Change:

[ ] Course Number [ ] Course Title [ ] Credit Value [ ] Prerequisite
[ ] Course Description [ ] Editorial [ ] New Course
[ ] Course Deletion [X] Other - Specify: note change

Present Text (from 2019/2020) calendar	**Proposed Text**
CHEM 610 Selected Topics in Analytical Chemistry This course explores themes within the area of Analytical Chemistry. **Note:** ~~The content will vary from term to term and from year to year. Students may re-register for this course, provided the course content has changed. Changes in content will be indicated by a letter following the course number, e.g. CHEM 610A, CHEM 610B, etc.~~	**CHEM 610 Selected Topics in Analytical Chemistry** This course explores themes within the area of Analytical Chemistry. **Note:** This course may be repeated for credit, provided that the subject matter is different each time.

Rationale:
The course note is updated for calendar consistency.

Resource Implications:
None.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **CHEM-65** VERSION: 7

COURSE CHANGE: CHEM 620 New Course Number:

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: Winter 2021

Faculty/School: Arts and Science
Department: Chemistry and Biochemistry
Program: PhD in Chemistry
Degree: PhD
Calendar Section/Graduate Page Number: Winter 2020

Type of Change:

[ ] Course Number [ ] Course Title [ ] Credit Value [ ] Prerequisite
[ ] Course Description [ ] Editorial [ ] New Course
[ ] Course Deletion [X] Other - Specify: note change

Present Text (from 2019/2020) calendar	**Proposed Text**
CHEM 620 Selected Topics in Organic Chemistry This course explores themes within the area of Organic Chemistry. **Note:** ~~The content will vary from term to term and from year to year. Students may re-register for this course, provided the course content has changed. Changes in content will be indicated by a letter following the course number, e.g. CHEM 620A, CHEM 620B, etc.~~	**CHEM 620 Selected Topics in Organic Chemistry** This course explores themes within the area of Organic Chemistry. **Note:** This course may be repeated for credit, provided that the subject matter is different each time.

Rationale:
The course note is updated for calendar consistency.

Resource Implications:
None.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **CHEM-65** VERSION: 7

COURSE CHANGE: CHEM 623 New Course Number: CHEM 624

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: May 2021

Faculty/School: Arts and Science
Department: Chemistry and Biochemistry
Program:
Degree:
Calendar Section/Graduate Page Number:

Type of Change:

[X] Course Number [ ] Course Title [ ] Credit Value [ ] Prerequisite
[ ] Course Description [ ] Editorial [ ] New Course
[ ] Course Deletion [X] Other - Specify: exclusion note added

Present Text (from 2019/2020) calendar	**Proposed Text**
CHEM ~~623~~ Organic Synthesis (3 credits) *Prerequisite:* CHEM 222, 235, 324, or equivalent. This course is concerned with synthetic strategy and design. It provides an introduction to advanced synthetic methods and reagents, involving heteroatoms such as sulphur, phosphorus, tin and selenium, as well as an overview of the uses of protecting groups in organic chemistry. The concept of retrosynthesis and a few asymmetric reactions are discussed using syntheses of natural products from the literature as examples. Lectures only.	**CHEM 624 Organic Synthesis** (3 credits) *Prerequisite:* CHEM 222, 235, 324, or equivalent. This course is concerned with synthetic strategy and design. It provides an introduction to advanced synthetic methods and reagents, involving heteroatoms such as sulphur, phosphorus, tin and selenium, as well as an overview of the uses of protecting groups in organic chemistry. The concept of retrosynthesis and a few asymmetric reactions are discussed using syntheses of natural products from the literature as examples. Lectures only. **Note:** Students who have received credit for CHEM 623 may not take this course for credit.

Rationale:
The new course number is consistent with that of CHEM 424 (Undergraduate level course) with which it is often cross-listed.

Resource Implications:
None.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **CHEM-65** VERSION: 7

COURSE CHANGE: CHEM 628 New Course Number:

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: Winter 2021

Faculty/School: Arts and Science
Department: Chemistry and Biochemistry
Program: PhD in Chemistry
Degree: PhD
Calendar Section/Graduate Page Number: Winter 2020

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[X] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 20xx/20xx) calendar	**Proposed Text**
	CHEM 628 Medicinal Chemistry *Prerequisite: CHEM 293, CHEM 324.* This course provides an introduction to the small molecule drug discovery process, addressing early target identification, hit discovery, lead optimization and preclinical considerations. The course focuses primarily on the rational design and synthesis of drugs that employ multidisciplinary approaches to satisfy a multitude of specificity and safety requirements. The emphasis is on organic synthesis within the special context of medicinal chemistry that illustrates the challenges involved in leveraging the opportunities presented by high throughput, parallel and/or combinatorial synthesis in light of physical limitations imposed by processing large numbers of compounds. Case studies from the current literature are used to highlight how new technologies and strategies have overcome some of those limitations and are used to highlight recent innovations in the field. The course also charts the evolution of powerful techniques from structural research (NMR, X-ray crystallography, and computational modeling) as fully integrated medicinal chemistry tools for modern drug-discovery to highlight key advances.

Rationale:
Medicinal Chemistry has been offered three times in the last five years (2015/16, 2017/18 and 2019/20) as a slot course (CHEM 620I). It should be given a permanent course number of CHEM 628.

Resource Implications:
None.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **CHEM-65** VERSION: 7

COURSE CHANGE: CHEM 630 New Course Number:

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: Winter 2021

Faculty/School: Arts and Science
Department: Chemistry and Biochemistry
Program: PhD in Chemistry
Degree: PhD
Calendar Section/Graduate Page Number: Winter 2020

Type of Change:

[ ] Course Number [ ] Course Title [ ] Credit Value [ ] Prerequisite
[ ] Course Description [ ] Editorial [ ] New Course
[ ] Course Deletion [X] Other - Specify: note change

Present Text (from 2019/2020) calendar	**Proposed Text**
CHEM 630 Selected Topics in Physical Chemistry This course explores themes within the area of Physical Chemistry. **Note:** ~~The content will vary from term to term and from year to year. Students may re-register for this course, provided the course content has changed. Changes in content will be indicated by a letter following the course number, e.g. CHEM 630A, CHEM 630B, etc.~~	**CHEM 630 Selected Topics in Physical Chemistry** This course explores themes within the area of Physical Chemistry. **Note:** This course may be repeated for credit, provided that the subject matter is different each time.

Rationale:
The course note is updated for calendar consistency.

Resource Implications:
None.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **CHEM-65** VERSION: 7

COURSE CHANGE: CHEM 640 New Course Number:

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: Winter 2021

Faculty/School: Arts and Science
Department: Chemistry and Biochemistry
Program: PhD in Chemistry
Degree: PhD
Calendar Section/Graduate Page Number: Winter 2020

Type of Change:

[ ] Course Number [ ] Course Title [ ] Credit Value [ ] Prerequisite
[ ] Course Description [ ] Editorial [ ] New Course
[ ] Course Deletion [X] Other - Specify: note change

Present Text (from 2019/2020) calendar	**Proposed Text**
CHEM 640 Selected Topics in Inorganic Chemistry This course explores themes within the area of Inorganic Chemistry. **Note:** ~~The content will vary from term to term and from year to year. Students may re-register for this course, provided the course content has changed. Changes in content will be indicated by a letter following the course number, e.g. CHEM 640A, CHEM 640B, etc.~~	**CHEM 640 Selected Topics in Inorganic Chemistry** This course explores themes within the area of Inorganic Chemistry. **Note:** This course may be repeated for credit, provided that the subject matter is different each time.

Rationale:
The course note is updated for calendar consistency.

Resource Implications:
None.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **CHEM-65** VERSION: 7

COURSE CHANGE: CHEM 645 New Course Number:

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: Winter 2021

Faculty/School: Arts and Science
Department: Chemistry and Biochemistry
Program: PhD in Chemistry
Degree: PhD
Calendar Section/Graduate Page Number: Winter 2020

Type of Change:

[ ] Course Number [ ] Course Title [ ] Credit Value [ ] Prerequisite
[X] Course Description [ ] Editorial [ ] New Course
[ ] Course Deletion [ ] Other - Specify:

Present Text (from 2019/2020) calendar	**Proposed Text**
CHEM 645 Bioinorganic Chemistry *Prerequisite:* CHEM 241, 271, or equivalent. ~~R~~ole of metals in biochemical systems. ~~E~~ssential trace elements, zinc enzymes, oxygen transport and storage, metalloproteins and biological electron transfer, structure-function relationships in heme enzymes, nitrogen fixation; model compounds for metalloproteins and metalloenzymes. Lectures only.	**CHEM 645 Bioinorganic Chemistry** *Prerequisite:* CHEM 241, 271, or equivalent. This course covers the role of metals in biochemical systems. Specifically, it focuses on essential trace elements, zinc enzymes, oxygen transport and storage, metalloproteins and biological electron transfer, structure-function relationships in heme enzymes, nitrogen fixation; model compounds for metalloproteins and metalloenzymes. Lectures only.

Rationale:
The wording is modified to read in full sentences for calendar consistency.

Resource Implications:
None.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **CHEM-65** VERSION: 7

COURSE CHANGE: CHEM 646 New Course Number:

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: Winter 2021

Faculty/School: Arts and Science
Department: Chemistry and Biochemistry
Program: PhD in Chemistry
Degree: PhD
Calendar Section/Graduate Page Number: Winter 2020

Type of Change:

[ ] Course Number [ ] Course Title [ ] Credit Value [ ] Prerequisite
[X] Course Description [ ] Editorial [ ] New Course
[ ] Course Deletion [ ] Other - Specify:

Present Text (from 2019/2020) calendar	**Proposed Text**
CHEM 646 Industrial Catalysis *Prerequisite:* CHEM 234, 235, or equivalent. ~~B~~asic and recent concepts in catalysis are described with particular emphasis on heterogenous catalysis. The technical, economic and environmental aspects of industrial catalysis are covered. The processes to be studied are chosen from the petroleum industry, the natural gas and coal processing industry, and the production of thermoplastics and synthetic fibres. The course ends with a rapid survey of problems associated with the treatment of industrial pollutants and with catalytic converters. Lectures only.	**CHEM 646 Industrial Catalysis** *Prerequisite:* CHEM 234, 235, or equivalent. This course covers basic and recent concepts in catalysis are described with particular emphasis on heterogenous catalysis. The technical, economic and environmental aspects of industrial catalysis are covered. The processes to be studied are chosen from the petroleum industry, the natural gas and coal processing industry, and the production of thermoplastics and synthetic fibres. The course ends with a rapid survey of problems associated with the treatment of industrial pollutants and with catalytic converters. Lectures only.

Rationale:
The wording is modified to read in full sentences for calendar consistency.

Resource Implications:
None.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **CHEM-65** VERSION: 7

COURSE CHANGE: CHEM 650 New Course Number:

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: Winter 2021

Faculty/School: Arts and Science
Department: Chemistry and Biochemistry
Program: PhD in Chemistry
Degree: PhD
Calendar Section/Graduate Page Number: Winter 2020

Type of Change:

[ ] Course Number [ ] Course Title [ ] Credit Value [ ] Prerequisite
[ ] Course Description [ ] Editorial [ ] New Course
[ ] Course Deletion [X] Other - Specify: note change

Present Text (from 2019/2020) calendar	**Proposed Text**
CHEM 650 Selected Topics in Multidisciplinary Chemistry This course explores themes within the area of Multidisciplinary Chemistry. **Note:** ~~The content will vary from term to term and from year to year. Students may re-register for this course, provided the course content has changed. Changes in content will be indicated by a letter following the course number, e.g. CHEM 650A, CHEM 650B, etc.~~	**CHEM 650 Selected Topics in Multidisciplinary Chemistry** This course explores themes within the area of Multidisciplinary Chemistry. **Note:** This course may be repeated for credit, provided that the subject matter is different each time.

Rationale:
The course note is updated for calendar consistency.

Resource Implications:
None.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **CHEM-65** VERSION: 7

COURSE CHANGE: CHEM 670 New Course Number:

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: Winter 2021

Faculty/School: Arts and Science
Department: Chemistry and Biochemistry
Program: PhD in Chemistry
Degree: PhD
Calendar Section/Graduate Page Number: Winter 2020

Type of Change:

[ ] Course Number [ ] Course Title [ ] Credit Value [ ] Prerequisite
[ ] Course Description [ ] Editorial [ ] New Course
[ ] Course Deletion [X] Other - Specify: note change

Present Text (from 2019/2020) calendar	**Proposed Text**
CHEM 670 Selected Topics in Biochemistry and Biophysics This course explores themes within the area of Biochemistry and Biophysics. **Note:** ~~The content will vary from term to term and from year to year. Students may re-register for this course, provided the course content has changed. Changes in content will be indicated by a letter following the course number, e.g. CHEM 670A, CHEM 670B, etc.~~	**CHEM 670 Selected Topics in Biochemistry and Biophysics** This course explores themes within the area of Biochemistry and Biophysics. **Note:** This course may be repeated for credit, provided that the subject matter is different each time.

Rationale:
The course note is updated for calendar consistency.

Resource Implications:
None.

Other Programs within which course is listed:

None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **CHEM-65** VERSION: 7

COURSE CHANGE: CHEM 690 New Course Number:

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: Winter 2021

Faculty/School: Arts and Science
Department: Chemistry and Biochemistry
Program: PhD in Chemistry
Degree: PhD
Calendar Section/Graduate Page Number: Winter 2020

Type of Change:

[ ] Course Number [ ] Course Title [ ] Credit Value [ ] Prerequisite
[ ] Course Description [ ] Editorial [ ] New Course
[ ] Course Deletion [X] Other - Specify: note change

Present Text (from 2019/2020) calendar	**Proposed Text**
CHEM 690 Selected Topics in Instrumentation This course explores themes within the area of Instrumentation. **Note:** ~~The content will vary from term to term and from year to year. Students may re-register for this course, provided the course content has changed~~. ~~Changes in content will be indicated by a letter following the course number, e.g. CHEM 690A, CHEM 690B, etc.~~	**CHEM 690 Selected Topics in Instrumentation** This course explores themes within the area of Instrumentation. **Note:** This course may be repeated for credit, provided that the subject matter is different each time.

Rationale:
The course note is updated for calendar consistency.

Resource Implications:
None.

Other Programs within which course is listed:

None.

CHEM 498-05 / 620-05 – An Introduction to Medicinal Chemistry – W2020

GENERAL INFORMATION

This course will develop an understanding of drug design and the molecular mechanisms by which drugs act on the body. It will envelop areas of overlapping disciplines such as chemistry, physiology, biochemistry, microbiology, cell biology and pharmacology. The course is presented in a "reading" format supported by some lectures, discussions and presentations by students. Class discussions and lectures will not necessarily "cover" the textbook material. We will focus on key points, but also examine issues that arise from the material in the course textbook and from recent literature. In the event of extraordinary circumstances beyond the university's control, the content and/or evaluation scheme in this course is subject to change.

Instructor **Dr. Pat Forgione**
Office hours: appointment by email as required.
Telephone: (514) 848-2424, ext 5802
Email: pat.forgione@concordia.ca

Course Format Lectures: 2.5 h / week, 13 sessions; W/Fr 11:45-1:00

Required Materials 1) An Introduction to Medicinal Chemistry, G.L. Patrick, Oxford University Press, 2013, paperback ISBN 978-0-19-969739-7

Interesting Read Molecules that Changed the World, Nicolaou, K.C. Montagnon, T. Wiley-VCH, 2008 ISBN 978-3-527-30983-2

Molecular models: Using models helps considerably with many aspects of organic chemistry – many concepts require you to picture, rotate and draw 3D objects. Models **are** permitted in exams. You are strongly advised to buy a model kit.

GRADING SCHEME, DEADLINES & ABSENCES

To pass the course, you must earn a cumulative ≥ 50% on the in-class tests and final exams. The final grade will be weighted as follows:

Oral Presentations:	20 % (**March 18th, 25th, 27th, April 3rd**)
Term Paper:	20 %
In-Class Tests:	20-30 % (2 tests, one on each of Part A and B of the text book each weighted equally).
Take Home Test:	0-10 % (up to four depending on the number of guest lectures)
Final Exam:	30% (Covers only Part C of the course text book plus Heterocyclic Synthesis)

Oral Presentations: Undergraduate students will each make a presentation on an approved drug from the FDA over the past 20 years (from 1999 onwards) that includes at least one heterocycle. The presentation will be short (10 minutes each, maximum of 10 slides). You should specifically relate the topics covered in your presentation to specific sub-sections of the course textbook (ie you should relate it to 12.4.1 not just 12.4 because this would be too broad.) The better the interconnection of your presentation with the course text book, the better your grade! This will also help you best prepare for the final exam. In order to ensure the highest quality presentations, I will aid you in preparing the final version. In order for you to obtain feedback, you must send a preliminary copy to me 1 week before your presentation. The presentations should include the disease area, the drug target and the synthesis or modification of a heterocycle (either the final product and/or intermediate) with the mechanism. This does not have to be a final version, but a rough draft to discuss what important aspects you should include, ensure you are not including too much material etc. Students who seek my help in advance have always been among the best presentations. However, if you come to me at the last-minute for help, I will not be able to do so, so please prepare accordingly! In order to ensure everyone has an appropriate drug choice, **please inform me of your choice and bring the relevant literature references by January 24th 2020.** An evaluation form will be handed out before the presentations. The presentation evaluation will be weighted in the following way: 60% instructor and 40% classmates. If a student misses the day of their presentation, with a suitable note justifying the absence, they will be allowed to present in a subsequent class. If no note is provided within 1 week, the student will receive a grade of 0. To prepare chemical structures for the presentation, an excellent free tool is available here: http://accelrys.com/products/informatics/cheminformatics/draw/

Presentation Participation: Each student is required to ask (at least) 3 questions over the entire presentation periods. Question will be evaluated on quality and questions that engage the class in learning. You may not obtain more points by asking more than three questions but you are certainly welcome to ask more but please limit yourself to one question per

lecture during the presentations. If a student misses more than 25% of the presentations without a suitable note provided within 1 week of the missed class(es), they will obtain a score of 0 for the participation grade.

Term Paper: Each student is required to provide a 5-page term paper on the drug that they presented for their oral presentation. The topic should fit into many of the topics that will be covered in Section C (particularly Ch. 12, 13 and 14) of the course textbook and should be based on the primary science literature (eg J. Med. Chem., Med. Chem. Lett., etc, see me if you are unsure). You should specifically relate the topics covered in your paper to specific sub-sections of the course text book (ie you should relate it to 12.4.1 not just 12.4 because this would be too broad.) The better the interconnection of your term paper with the course text book, the better your grade! This will also help you prepare for your final exam. Feel free to see me in advance of this due date to discuss your topic choices. Late submissions will result in a penalty of -10% / day! I will evaluate this and constructive comments will be provided to help you with potential pitfalls that may be present in your disconnections. Grading will be based on the originality of the topic, the legibility and quality of the writing/chemical structures, proper referencing (ACS style) and formatting. Please see me if you need additional information for the expectations. Final paper is **due April 1st, in-class (late submissions – 10% / day!)**. Additional information for the final paper:

1. In the past, many abstracts were too *medical* in nature, and not *medicinal chemistry* enough. Some abstracts go too far in the other direction and are too "chemical" in nature. The topics should encompass concepts we will discuss throughout the course. Particular emphasis should be on Part C (particularly Ch. 12, 13 and 14) of the course textbook, but likely will cover aspects of Parts A and B as well. As I suggest above, the Journal of Medicinal Chemistry is ideal for this exercise, but you can use journals beyond this one, however if you do so you run the risk of moving too far away from *medicinal chemistry*.

2. It is very important to write this paper in your own words. Practicing this is a good exercise in science writing that will be useful in many different career paths. Try to write "formally" and do not include terms that would be considered “slang”. Try to write in the third person, past passive tense, this is the typical style in science writing (i.e. avoid "I" "we" "they", these are active styles, not passive).

3. When you have chosen a suitable paper, invariably there will be excellent background to that paper in the introduction that will be very useful. Read over these papers, as it may provide additional understanding of the paper you are using and allow you to write a better final product.

4. Paper Formatting: Font Size = 12, Font Style = Times New Roman, Full Justification, Margins 2.0 cm in all directions, line spacing = 1.5. Additionally, the term-paper is 5-pages of text, but you can include up to 5 schemes/figures. If a scheme takes up a half a page, then your final paper should be 5.5 pages. If you have two schemes at half a page each, then your final paper should be six pages etc. Schemes and Figures can be extremely powerful to make your paper as clear as possible (a picture is worth a thousand words!), however in order for them to be effective, they should be referenced in the text as often as possible (ie see Fig. 1 or see Compound 1, Scheme 2). I would strongly encourage you to use five figures in your paper. References are separate from the 5-page limit. For the five-page limit (plus schemes and references), if you are beyond or below this limit by more than 10%, your grade will be increasingly reduced.

In-Class Tests: This will be based Part A and B of the course textbook. Each test date will be announced in class and each test will be weighted equally.

Take-Home Tests: There may be up to four guest lectures in this course. If so, take-home tests related to these lectures may be given that will be worth 10% total, each worth an equal amount (if four guest lectures, 2.5% each, if two, 5 % each etc.) and are due the week after the lecture was given.

Final Exam: This will be based on Part C of the course textbook and cover heterocyclic synthesis only (ie Parts A and B will not be explicitly examined, however this material may be helpful in answering questions since Part C builds on these previous sections)

SCHOOL OF GRADUATE STUDIES

MEMO TO: Sandra Gabriele, Vice-Provost, Innovation in Teaching and Learning

FROM: Brad Nelson, Associate Dean, Academic Programs and Development
School of Graduate Studies

DATE: April 3, 2019

SUBJECT: **GRADUATE CURRICULUM CHANGES (CATS-31)**
(CALENDAR – 2020/2021)
DEPARTMENT OF CREATIVE ARTS THERAPIES
FACULTY OF FINE ARTS

The Graduate Curriculum Committee (GCC) reviewed the curriculum changes approved by the Fine Arts Faculty Council.

The Department of Creative Arts Therapies is proposing to change the grading method of three courses to pass/fail: CATS 639 *Interdisciplinary Topics: Cross Cultural Competence in Creative Arts Therapies*, CATS 641 *Interdisciplinary Topics: Ethics in Clinical Practice*, CATS 643 *Interdisciplinary Topics: Ethics in Research in the Creative Arts Therapies*.

The GCC approved the curriculum changes with minor modifications. I therefore recommend that the Academic Programs Committee approve and recommend to Senate the above-mentioned curriculum changes in their final form.

cc: E. C. Paterson, Associate Dean, Academic Affairs, Faculty of Fine Arts
J. Johnston, University Curriculum Administrator, Office of the Provost and Vice-President, Academic Affairs

UNIVERSITÉ Concordia UNIVERSITY

FACULTY OF FINE ARTS

INTERNAL MEMORANDUM

TO: Dr. Brad Nelson, Chair, Graduate Curriculum Committee

FROM: Dr. Rebecca Duclos, Dean, Faculty of Fine Arts

CC: Dr. Elaine Paterson, Associate Dean Academic, Faculty of Fine Arts

DATE: February 17, 2020

RE: Curriculum Dossier for the Department of Creative Arts Therapies, CATS-31

As Dean of the Faculty of Fine Arts, I fully support the curriculum changes proposed in CATS-31. The dossier was reviewed and approved unanimously by the Fine Arts Faculty Council at its meeting on February 14, 2020.

There are no resource implications.

Rebecca Duclos

Rebecca Duclos
Dean, Faculty of Fine Arts
Rebecca.Duclos@concordia.ca
848-2424 ext. 4602

FACULTY OF FINE ARTS

Internal Memorandum

To: Rebecca Duclos, Dean, Faculty of Fine Arts

From: Elaine Paterson, Associate Dean, Academic

Date: December 19, 2019

Re: Curriculum dossier for the Department of Creative Arts Therapies, CATS-31

The Faculty of Fine Arts Curriculum Committee has reviewed and approved the CATS-31 curriculum dossier from the Department of Creative Arts Therapies on December 18, 2019. We hereby submit this dossier for review by the Faculty Council on February 14, 2020.

This document proposes to replace the letter grading system by a pass/fail indication for Creative Arts Therapies Ethics courses. This change will impact three one-credit courses (CATS 639, 641, 643) offered in the three MA in Creative Arts Therapies programs (Art Therapy, Drama Therapy, Music Therapy).

There are no resource implications.

With thanks for your consideration.

Elaine Paterson, PhD
Associate Dean, Academic
Faculty of Fine Arts
elaine.paterson@concordia.ca

UNIVERSITÉ Concordia UNIVERSITY

INTERNAL MEMORANDUM

TO: Dr. Elaine Cheasley Paterson, Associate Dean, Academic and Student Affairs

FROM: Guylaine Vaillancourt, Chair, Department of Creative Arts Therapies

DATE: December 5, 2019

SUBJECT: **Course Change** Grading from Letter grades to Pass/Fail for Master of Creative Arts Therapies (Art Therapy, Drama Therapy, Music Therapy) Dossier CATS-31

Dear Associate Dean Cheasley Paterson,

The Creative Arts Therapies Department Council met on March 19, 2019 and approved unanimously that the 3 Creative Arts Therapies Ethics courses (1 credit each) will be graded on a Pass/Fail basis. Those courses are:

- CATS 639 – Section A: INTERDISCIPLINARY TOPICS: Cross Cultural Competence in Creative Arts Therapies (1 credit)
- CATS 641 – Section A: INTERDISCIPLINARY TOPICS: Ethics in Clinical Practice (1 credit)
- CATS 643 – Section A: INTERDISCIPLINARY TOPICS: Ethics in Research in the Creative Arts Therapies (1 credit)

These 3 Ethics courses are offered in these 3 programs:

- MA in Creative Arts Therapies - Art Therapy
- MA in Creative Arts Therapies - Drama Therapy
- MA in Creative Arts Therapies - Music Therapy

This change reflects an emerging practice in universities to assess ethics competencies in professional graduate training programs on a Pass/Fail basis. SGS and the OPVPAA have already approved the implementation of this change. There are no financial implications or impact on faculty workload.

Sincerely,

Guylaine Vaillancourt, PhD, MTA
Department Chair Creative Arts Therapies
Concordia University, Montreal, Quebec
(514) 848-2424 ext 5670

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **CATS-31** VERSION: 2

COURSE CHANGE: CATS 639 New Course Number:

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2021/2022
Implementation Month/Year: May 2020

Faculty/School: Fine Arts
Department: Creative Arts Therapies
Program: Art Therapy Option
Degree: MA Creative Arts Therapies
Calendar Section/Graduate Page Number:

Type of Change:

[ ] Course Number [ ] Course Title [ ] Credit Value [ ] Prerequisite
[ ] Course Description [ ] Editorial [ ] New Course
[ ] Course Deletion [X] Other - Specify: Note

Present Text (from 2019/2020) calendar	**Proposed Text**
CATS 639 Interdisciplinary Topics: Cross-cultural Competence in the Creative Arts Therapies (1 credit) This course presents cross-cultural competence as an ethical obligation, providing an overview of multi-cultural counselling theory. Students explore challenges and opportunities arising in creative arts therapies clinical practice within an environment of cultural diversity as it relates to both the therapist and the client.	**CATS 639 Interdisciplinary Topics: Cross-cultural Competence in the Creative Arts Therapies** (1 credit) This course presents cross-cultural competence as an ethical obligation, providing an overview of multi-cultural counselling theory. Students explore challenges and opportunities arising in creative arts therapies clinical practice within an environment of cultural diversity as it relates to both the therapist and the client. *Note: This course is marked on a pass/fail basis.*

Rationale:
This change reflects an emerging practice in universities to assess ethics competencies in professional graduate training programs on a Pass/Fail basis. SGS and the OPVPAA have already approved the implementation of this change.

Resource Implications:
None.

Other Programs within which course is listed:

MA in Creative Arts Therapies - Drama Therapy Option
MA in Creative Arts Therapies - Music Therapy Option

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **CATS-31** VERSION: 2

COURSE CHANGE: CATS 641 New Course Number:

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2020/2021
Implementation Month/Year: May 2020

Faculty/School: Fine Arts
Department: Creative Arts Therapies
Program: Art Therapy Option
Degree: MA Creative Arts Therapies
Calendar Section/Graduate Page Number:

Type of Change:

[ ] Course Number [ ] Course Title [ ] Credit Value [ ] Prerequisite
[ ] Course Description [ ] Editorial [ ] New Course
[ ] Course Deletion [X] Other - Specify: Note

Present Text (from 2019/2020) calendar	**Proposed Text**
CATS 641 Interdisciplinary Topics: Ethics in Clinical Practice in the Creative Arts Therapies (1 credit) This course covers ethical standards and requirements for clinical practice as established by both professional mental health and creative arts therapies associations. Students become familiar with expectations of professional and personal conduct as well as models for ethical decision-making. Students also gain an understanding of their personal value systems in relation to their work as creative arts therapists and how those values may inform ethical decision-making within their clinical practice.	**CATS 641 Interdisciplinary Topics: Ethics in Clinical Practice in the Creative Arts Therapies** (1 credit) This course covers ethical standards and requirements for clinical practice as established by both professional mental health and creative arts therapies associations. Students become familiar with expectations of professional and personal conduct as well as models for ethical decision-making. Students also gain an understanding of their personal value systems in relation to their work as creative arts therapists and how those values may inform ethical decision-making within their clinical practice. *Note: This course is marked on a pass/fail basis.*

Rationale:
This change reflects an emerging practice in universities to assess ethics competencies in professional graduate training programs on a Pass/Fail basis. SGS and the OPVPAA have already approved the implementation of this change.

Resource Implications:
None.

Other Programs within which course is listed:

MA in Creative Arts Therapies - Drama Therapy Option
MA in Creative Arts Therapies - Music Therapy Option

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **CATS-31** VERSION: 2

COURSE CHANGE: CATS 643 New Course Number:

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2020/2021
Implementation Month/Year: May 2020

Faculty/School: Fine Arts
Department: Creative Arts Therapies
Program: Art Therapy Option
Degree: MA Creative Arts Therapies
Calendar Section/Graduate Page Number:

Type of Change:

[ ] Course Number [ ] Course Title [ ] Credit Value [ ] Prerequisite
[ ] Course Description [ ] Editorial [ ] New Course
[ ] Course Deletion [X] Other - Specify: Note

Present Text (from 2019/2020) calendar	**Proposed Text**
CATS 643 Interdisciplinary Topics: Ethics in Research in the Creative Arts Therapies (1 credit) This course covers ethical standards and requirements for research as established by both professional mental health and creative arts therapies associations. Students become familiar with expectations of professional and personal conduct with respect to research in the field, including research protocols for both the Department of Creative Arts Therapies and Concordia University.	**CATS 643 Interdisciplinary Topics: Ethics in Research in the Creative Arts Therapies** (1 credit) This course covers ethical standards and requirements for research as established by both professional mental health and creative arts therapies associations. Students become familiar with expectations of professional and personal conduct with respect to research in the field, including research protocols for both the Department of Creative Arts Therapies and Concordia University. *Note: This course is marked on a pass/fail basis.*

Rationale:
This change reflects an emerging practice in universities to assess ethics competencies in professional graduate training programs on a Pass/Fail basis. SGS and the OPVPAA have already approved the implementation of this change.

Resource Implications:
None.

Other Programs within which course is listed:

MA in Creative Arts Therapies - Drama Therapy Option
MA in Creative Arts Therapies - Music Therapy Option

SCHOOL OF GRADUATE STUDIES

MEMO TO: Sandra Gabriele, Vice-Provost, Innovation in Teaching and Learning

FROM: Brad Nelson, Associate Dean, Academic Programs and Development
School of Graduate Studies

DATE: April 3, 2020

SUBJECT: **GRADUATE CURRICULUM CHANGES (ENCS-99)**
(CALENDAR – 2020/2021)
GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

The Graduate Curriculum Committee (GCC) reviewed the curriculum changes approved by the Gina Cody School of Engineering and Computer Science.

The Gina Cody School is proposing to replace and rename the current *Graduate Industrial Experience* option with a *Graduate Co-op* option, to be available only to MACompSc and MEng students at this time. In light of this change, the course description of ENCS 6931 *Industrial Stage and Training* is also updated.

The GCC approved the curriculum changes with minor modifications. I therefore recommend that the Academic Programs Committee approve and recommend to Senate the above-mentioned curriculum changes in their final form.

cc: M. Debbabi, Associate Dean, Graduate Programs and Research, Gina Cody School of Engineering and Computer Science
J. Johnston, University Curriculum Administrator, Office of the Provost and Vice-President, Academic Affairs

UNIVERSITÉ Concordia UNIVERSITY

GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

INTERNAL MEMORANDUM

TO: Dr. Bradley Nelson
Chair, Graduate Curriculum Committee
School of Graduate Studies

FROM: Dr. M. Debbabi
Associate Dean, Graduate Programs and Research
Gina Cody School of Engineering & Computer Science

CC: Kristy Clarke
Academic Programs and Development
School of Graduate Studies

DATE: March 9, 2020

RE: **Graduate Curriculum Proposal for the 2020-21 Academic Year (ENCS-99)**
Gina Cody Council of Engineering and Computer Science

At its meeting on March 6, 2020, the Council of the Gina Cody School of Engineering and Computer Science reviewed and approved, with minor changes, the replacement of the Industrial Experience Option with the Graduate Co-op Option in course-based Master's programs in engineering and computer science. Students in the Co-op Program will continue to be able to earn academic credits by using the 9-credit internship course (ENCS 6931 Industrial Stage and Training). The management of this course will remain with the departments.

Details of this proposal are indicated and explained in the internal memoranda and in the ENCS-99 dossier.

We kindly request that this dossier be placed on the next agenda of the Graduate Curriculum Committee.

Thank you for your consideration of this proposal.

INTERNAL MEMORANDUM

Université Concordia University
GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE
Office of the Dean

TO: Dr. Amir Asif
Chair of the Faculty Council
Gina Cody School of Engineering and Computer Science

FROM: Dr. M. Debbabi
Associate Dean, Graduate Programs and Research
Gina Cody School of Engineering and Computer Science

DATE: February 20, 2020

RE: **Graduate Curriculum Proposal for the 2020-21 Academic Year (ENCS-99)**
All GCS Departments

At its meeting on February 18, 2020, the Engineering and Computer Science Graduate Studies Committee (ECSGSC) reviewed and approved, with modifications, the replacement of the Industrial Experience Option with the Graduate Co-op Option in course-based Master's programs.

Details of the graduate curriculum proposal are indicated and explained in the Department's internal memorandum and in the ENCS-99 dossier.

We kindly request that this proposal be placed on the next agenda of the GCS Council for approval.

Thank you for your consideration of this proposal.

UNIVERSITÉ Concordia UNIVERSITY

INTERNAL MEMORANDUM

TO: GCS Graduate Curriculum Review Committee

FROM: Claude Martel, Director, Institute for Co-operative Education

Cc: Amir Asif, Dean, GCS
Mourad Debbabi, Associate Dean, Research & Graduate Studies, GCS
Tristan Khaner, Associate Director, Institute for Co-operative Education

DATE: September 9, 2019

SUBJECT: **Graduate Calendar changes – simplifying graduate Co-op options**

As the Institute for Co-operative Education continues to grow, there is a pressing need to clarify our program offerings. The program growth at the graduate level is currently hampered by a complex and sometimes hard to understand structure, which we are now in a position to clarify. To support the access to work-integrated learning opportunities to graduate students, enable more strategic marketing and promotion, and re-situate all decisions regarding degree-credits back to the departments, we are proposing the following changes:

I. **For course-based students, replace/rename the current Graduate Industrial Experience plan with a Graduate Co-op program**
   - Co-op has much stronger brand recognition than 'industrial experience', and with these proposals there is now no meaningful difference between one-term Industrial Experience structure and one-term Co-op at the graduate level

II. **All responsibility for degree-credits for internships will be re-situated with the departments**
   - The management of granting credits for an internship should remain with the department (e.g. for existing Grad INEX students, the Institute enrolls and tracks course requirements for ENCS 6931 - which is the 9-credit internship course for course-based students)
   - De-coupling the participation in a formal internship program through the Institute from the eligibility for credits creates a more agile, responsibility-aligned program structure which expands access to work-integrated learning opportunities, creates consistency with other programs at the Institute, and still gives the department control over qualifying an internship for credit or not

In conjunction with administrative process improvements at the Institute (including upgrading our system, standardizing admission timeframes, improving our reflective learning exercises, instituting an online admission form, streamlining business development efforts), we are able to retain the bulk

of the administrative load required to run these programs. Our process also allows, in conjunction with individual departments, to control growth as is appropriate to meet the University's needs.

Attached to this memo are the proposed Calendar changes for your review. We are excited about these program enhancements, and look forward to using your feedback in developing an effective implementation plan.

Thank you very much,

Claude Martel
Director / Directeur
Concordia University/Université Concordia
Institute for Co-operative Education/Institut d'enseignement coopératif
Office/Bureau: 1550, Boul. De Maisonneuve ouest, suite 430
Montréal (Québec), H3G 1M8
T: (514) 848-2424 x 3950 **F:** (514) 848-2811

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **ENCS-99** VERSION: 7

PROGRAM CHANGE: Changes to the industrial experience in the MApCompSc

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2020/2021
Implementation Month/Year: May 2020

Faculty/School: Gina Cody School of Engineering and Computer Science
Department: Gina Cody School of Engineering and Computer Science
Program: Masters programs
Degree: MApCompSc
Calendar Section/Graduate Page Number: Computer Science program

Type of Change:
[ ] Editorial [X] Requirements [ ] Regulations [ ] Program Deletion [ ] New Program

Present Text (from 2019/2020) calendar	**Proposed Text**
# Applied Computer Science MApCompSc .... ~~**Industrial Experience**~~ **Option in the Master of Applied Computer Science** ~~Applicants to the Master of Applied Computer Science may apply to the Industrial Experience option in the industrial milieu through the Institute for Co-operative Education. Students should indicate their choice on the application form. The Institute for Co-operative Education will help them with resumes, cover letters and interview techniques. The suggested schedule is as follows: fall and winter terms will be dedicated to course work followed by one term in industry, culminating with two terms in University for the remaining course work. The industrial experience term will be noted on the student transcript/record.~~ ~~Students apply to the Industrial Experience option as early as possible, preferably when they enter the program. It is preferable to be bilingual in French and English if they wish to work in Quebec. Students who lack good language skills and still want to be part of the program should improve their language skills prior to final acceptance.~~ **Admission Criteria** ~~Students need to be enrolled in the Industrial Experience option at least the semester before going on a work term. They begin applying for jobs the semester prior to the work term. Previous work experience cannot be used toward credit for the ENCS 6931. Students should have good grades (greater than a CGPA of 3.40) for the master's~~	# Applied Computer Science MApCompSc # Graduate Co-op Option in the Master of Applied Computer Science The Graduate Co-op Option is a structured Internship program offered through the Institute for Co-operative Education. Students registered in the Master of Applied Computer Science (MApCompSc) program with the Gina Cody School (GCS) are eligible to apply to the Co-op Option. For the general guidelines, please refer to the Institute of Co-operative Education. **Admission Criteria** In addition to the general requirements for entrance into the Institute for Co-operative Education, the GCS has these additional requirements: • Students apply to the Graduate Co-op Option in the first year of their academic program. • Students must maintain a cumulative GPA of 3.00 or better throughout their studies. • This academic program may have a higher GPA requirement and/or additional admission requirements.

~~program, be full-time and have good communication skills. A Canadian work permit is required. The Departmental Co-op Program Director will recommend final acceptance to the Industrial Experience option.~~ ~~**ENCS 6931 Industrial Stage and Training (9 credits)**~~ ~~*Prerequisite:* Completion of at least twenty credits in the program and permission of the Departmental Co-op Program Director.~~ ~~This is an integral component of the Industrial Experience option that is to be completed under the supervision of an experienced engineer/computer scientist in the facilities of a participating company (a Canadian work permit is required).~~ ~~Each student receives an assessment from the Departmental Co-op Program Director in consultation with the industry supervisor and the faculty advisor. Grading is on a pass/fail basis based on a proposal, monthly progress reports, a final report and a presentation.~~	**Internship Credits** To earn academic credits for their Co-op work term, students must be registered in ENCS 6931-Industrial Stage and Training, and successfully complete all the academic requirements for this course.

Rationale:

This modification will enhance the calendar entry of the ENCS 6931 course. Including this section in the GCS programs calendar entries, will minimize duplications of material. It will refer to the Institute's section for the general requirements/admissions process, and still allows individual departments to provide their specific requirements if necessary. This possibility to participate in a formal work-integrated learning program is a major strategic recruitment initiative.

The GC School would like to lower the Cum GPA from 3.4 to 3:00 as the University minimum GPA has been recently decreased from 3:00 to 2.70. Depending on its quota, each program might set up its own cut-off GPA requirement and/or additional requirements.

Resource Implications:

- The growth & workload will be carefully monitored. The Institute and School will collaborate in setting quotas per year for entry.
- Each department will appoint a faculty member as a Co-op Academic Director to work with the Institute on admission criteria, work term sequencing, and grading the WorkTerm reports. Existing structure of GCS Co-op Academic Directors may possibly be leveraged.
- The Institute will also be required to hire resources to facilitate the business development, student work-term coaching, administration (including admission to the Institute, changing program/plan information, enrolling in the appropriate work-term course) and professional development resources. This structure currently exists within the Institute, and will be adjusted as program growth requires.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **ENCS-99** VERSION: 7

PROGRAM CHANGE: Changes to the industrial experience in the MENG

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2020/2021
Implementation Month/Year: May 2020

Faculty/School: Gina Cody School of Engineering and Computer Science
Department: Gina Cody School of Engineering and Computer Science
Program: All course-based Masters programs
Degree: MEng
Calendar Section/Graduate Page Number: Engineering programs

Type of Change:
[ ] Editorial [X] Requirements [ ] Regulations [ ] Program Deletion [ ] New Program

Present Text (from 2019/2020) calendar	**Proposed Text**
# Master of/Magisteriate in Engineering ## ~~Industrial Experience~~ Option in the Master of Engineering ~~Applicants to the Master of Engineering may apply to the Industrial Experience option in the industrial milieu through the Institute for Co-operative Education. Students should indicate their choice on the application form. The Institute for Co-operative Education will help them with resumes, cover letters and interview techniques. The suggested schedule is as follows: fall and winter terms will be dedicated to course work followed by one term in industry, culminating with two terms in University for the remaining course work. The industrial experience term will be noted on the student transcript/record.~~ ~~Students apply to the Industrial Experience option as early as possible, preferably when they enter the program. It is preferable to be bilingual in French and English if they wish to work in Quebec. Students who lack good language skills and still want to be part of the program should improve their language skills prior to final acceptance.~~ **Admission Criteria** ~~Students need to be enrolled in the Industrial Experience option at least the semester before going on a work term. They begin applying for jobs the semester prior to the work term. Previous work experience cannot be used toward credit for the ENCS 6931.~~	# Master of/Magisteriate in Engineering ## Graduate Co-op Option in the Master of Engineering The Graduate Co-op Option is a structured Internship program offered through the Institute for Co-operative Education. Students registered in the Master of Engineering (MEng) program with the Gina Cody School (GCS) are eligible to apply to the Co-op Option. For the general guidelines, please refer to the Institute of Co-operative Education. **Admission Criteria** In addition to the general requirements for entrance into the Institute for Co-operative Education, the GCS has these additional requirements: • Students apply to the Graduate Co-op Option in the first year of their academic program. • Students must maintain a cumulative GPA of 3.00 or better throughout their studies. • Some academic programs may have a higher GPA requirement and/or additional admission requirements.

~~Students should have good grades (greater than a CGPA of 3.40) for the master's program, be full-time and have good communication skills. A Canadian work permit is required. The Departmental Co-op Program Director will recommend final acceptance to the Industrial Experience option.~~ ~~**ENCS 6931 Industrial Stage and Training** (9 credits)~~ ~~*Prerequisite:* Completion of at least twenty credits in the program and permission of the Departmental Co-op Program Director.~~ ~~This is an integral component of the Industrial Experience option that is to be completed under the supervision of an experienced engineer/computer scientist in the facilities of a participating company (a Canadian work permit is required).~~ ~~Each student receives an assessment from the Departmental Co-op Program Director in consultation with the industry supervisor and the faculty advisor. Grading is on a pass/fail basis based on a proposal, monthly progress reports, a final report and a presentation.~~	**Internship Credits** To earn academic credits for their Co-op work term, students must be registered in ENCS 6931-Industrial Stage and Training, and successfully complete all the academic requirements for this course.

Rationale:
This modification will enhance the calendar entry of the ENCS 6931 course. Including this section in the GCS programs calendar entries, will minimize duplications of material. It will refer to the Institute's section for the general requirements/admissions process, and still allows individual departments to provide their specific requirements if necessary. This possibility to participate in a formal work-integrated learning program is a major strategic recruitment initiative.

The GC School would like to lower the Cum GPA from 3.4 to 3:00 as the University minimum GPA has been recently decreased from 3:00 to 2.70. Depending on its quota, each program might set up its own cut-off GPA requirement and/or additional requirements.

Resource Implications:

- The growth & workload will be carefully monitored. The Institute and School will collaborate in setting quotas per year for entry.
- Each department will appoint a faculty member as a Co-op Academic Director to work with the Institute on admission criteria, work term sequencing, and grading the WorkTerm reports. Existing structure of GCS Co-op Academic Directors may possibly be leveraged.
- The Institute will also be required to hire resources to facilitate the business development, student work-term coaching, administration (including admission to the Institute, changing program/plan information, enrolling in the appropriate work-term course) and professional development resources. This structure currently exists within the Institute, and will be adjusted as program growth requires.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **ENCS-99** VERSION: 7

COURSE CHANGE: ENCS 6931 New Course Number:

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2020/2021
Implementation Month/Year: May 2020

Faculty/School: Gina Cody School of Engineering and Computer Science
Department: Gina Cody School of Engineering and Computer Science Departments
Program: All GCS Programs
Degree: MEng and MApCompSc
Calendar Section/Graduate Page Number: Engineering & Computer Science Programs

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[X] Prerequisite
[X] Course Description	[ ] Editorial	[ ] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 2019/2020) calendar	**Proposed Text**
ENCS 6931 Industrial Stage and Training (9 credits) Prerequisite: Completion of at least twenty credits in the program and permission of the Departmental Co-op Program Director. ~~This is an integral component of the Industrial Experience option that is to~~ be completed under the supervision of an experienced engineer/computer scientist in the facilities of a participating company (a Canadian work permit is required). Each student receives an assessment from the Departmental Co-op Program Director in consultation with the industry supervisor and the faculty advisor~~. Grading is~~ on a pass/fail basis ~~based on a proposal, monthly progress reports, a final report and a presentation~~.	**ENCS 6931 Industrial Stage and Training** (9 credits) Prerequisite: Completion of at least twenty credits in the program and permission of the Departmental Co-op Program Academic Director, and an internship placement offer. The ENCS 6931 course must be completed under the supervision of an experienced engineer/computer scientist in the facilities of a participating company (a Canadian work permit is required). Each student receives an assessment from the Departmental Co-op Program Academic Director in consultation with the industry supervisor and the faculty advisor. The ENCS 6931 course is graded on a Pass /Fail basis.The student obtains 9 credits once all academic requirements are completed satisfactorily in compliance with the program requirements.

Rationale:
This modification will enhance the calendar entry of the ENCS 6931 course. Including this section in the GCS programs calendar entries, will minimize duplications of material. It will refer to the Institute's section for the general requirements/admissions process, and still allows individual departments to provide their specific requirements if necessary. This possibility to participate in a formal work-integrated learning program is a major strategic recruitment initiative.

Resource Implications:

- The growth and workload will be carefully monitored. The Institute and School will collaborate in setting quotas per year for entry.
- Each department will appoint a faculty member as a Co-op Academic Director to work with the Institute on admission criteria, work term sequencing, and grading the WorkTerm reports. Existing structure of GCS Co-op Academic Directors may possibly be leveraged.
- The Institute will also be required to hire resources to facilitate the business development, student work-term coaching, administration (including admission to the Institute, changing program/plan information, enrolling in the appropriate work-term course) and professional development resources. This structure currently exists within the

Institute, and will be adjusted as program growth requires.

Other Programs within which course is listed:

None.

SCHOOL OF GRADUATE STUDIES

MEMO TO: Sandra Gabriele, Vice-Provost, Innovation in Teaching and Learning

FROM: Brad Nelson, Associate Dean, Academic Programs and Development
School of Graduate Studies

DATE: April 3, 2020

SUBJECT: **GRADUATE CURRICULUM CHANGES (CIISE-64)**
(CALENDAR – 2020/2021)
CONCORDIA INSTITUTE FOR INFORMATION SYSTEMS ENGINEERING
GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

The Graduate Curriculum Committee (GCC) reviewed the curriculum changes approved by the Gina Cody School of Engineering and Computer Science.

The Concordia Institute for Information Systems Engineering is proposing a new permanent course: INSE 6710 *Fundamentals and Applications of Cyber-Physical Systems*.

The GCC approved the curriculum changes with minor modifications. I therefore recommend that the Academic Programs Committee approve and recommend to Senate the above-mentioned curriculum changes in their final form.

cc: M. Debbabi, Associate Dean, Graduate Programs and Research, Gina Cody School of Engineering and Computer Science
J. Johnston, University Curriculum Administrator, Office of the Provost and Vice-President, Academic Affairs

UNIVERSITÉ Concordia UNIVERSITY

GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

INTERNAL MEMORANDUM

TO: Dr. Bradley Nelson
Chair, Graduate Curriculum Committee
School of Graduate Studies

FROM: Dr. M. Debbabi
Associate Dean, Graduate Programs and Research
Faculty of Engineering and Computer Science

CC: Kristy Clarke
Academic Programs and Development
School of Graduate Studies

DATE: February 26, 2020

RE: **Graduate Curriculum Proposal for the 2020-21 Academic Year (CIISE-64)**
Gina Cody Council of Engineering and Computer Science

At its meeting on February 21, 2020, the Council of the Gina Cody School of Engineering and Computer Science reviewed and approved, with some corrections, the creation of a new course ***INSE 6710 Fundamentals and Applications of Cyber-Physical Systems*** proposed by the Concordia Institute for Information Systems Engineering (CIISE).

Details of the course proposal are indicated and explained in the internal memorandums and in the CIISE-64 dossier.

We kindly request that this dossier be placed on the next agenda of the Graduate Curriculum Committee.

Thank you for your consideration of this proposal.

INTERNAL MEMORANDUM

Université Concordia University
GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE
Office of the Dean

TO: Dr. Amir Asif
Chair of the Faculty Council
Gina Cody School of Engineering and Computer Science

FROM: Dr. M. Debbabi
Associate Dean, Graduate Programs and Research
Gina Cody School of Engineering and Computer Science

DATE: January 23, 2020

RE: **Graduate Curriculum Proposal for the 2020-21 Academic Year (CIISE-64)**
Concordia Institute for Information Systems Engineering (CIISE)

At its meeting on December 10, 2019, the Engineering and Computer Science Graduate Studies Committee (ECSGSC) reviewed and approved, the creation of a new course entitled ***INSE 6710 Fundamentals of Cyber-Physical Systems***.

Details of the graduate curriculum proposal are indicated and explained in the Department's internal memorandum and in the CIISE-64 dossier.

We kindly request that this proposal be placed on the next agenda of the GCS Council for approval.

Thank you for your consideration of this proposal.

Université Concordia University
GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE
Concordia Institute for Information Systems Engineering

INTERNAL MEMORANDUM

DATE: April 3, 2019

TO: Dr. Mourad Debbabi, Associate Dean, Research and Graduate Studies
Gina Cody School of Engineering and Computer Science

FROM: Dr. Abdessamad Ben Hamza, Director
Concordia Institute for Information Systems Engineering

SUBJECT: New Course Proposal – INSE 6710 Fundamentals and Applications of Cyber-Physical Systems

Please find Dossier #64 submitted by the Concordia Institute for Information Systems Engineering.

We are proposing a new course, INSE 6710 Fundamentals and Applications of Cyber-Physical Systems. This course was previously included in our Dossier #63 that was submitted to ECSGSC on December 12, 2018. We are now proposing to submit this course separately in order to teach our students the fundamental scientific and engineering principles that underpin the integration of cyber and physical elements across the application domains of systems engineering, including smart grid and security.

We plan to list this course under a newly created topic area #E65 – Cyber-Physical Systems Security Engineering. This new topic area will be introduced in dossier #64, which is still under preparation.

INSE 6710 will be an elective course for students in the following programs:

* Information and Systems Engineering PhD
* Information Systems Security MASc
* Information Systems Security MEng
*Quality Systems Engineering MASc
* Quality Systems Engineering MEng

These curriculum changes have been approved at the Department Curriculum Committee meeting held October 18, 2018 and at the CIISE Department Council meeting held October 24, 2018.

I would be grateful if you could put this on the agenda of the next ENCS Graduate Studies Committee meeting.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **CIISE-64** VERSION: 3

COURSE CHANGE: INSE 6710 New Course Number:

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2020/2021
Implementation Month/Year: September 2020

Faculty/School: Gina Cody School of Engineering and Computer Science
Department: Concordia Institute for Information Systems Engr.
Program: Information Systems Engg, Quality Systems Engg, Information and Systems Engg
Degree: MEng, MASc, PhD

Calendar Section/Graduate Page Number: Engineering Courses: Information Systems Engineering

Type of Change:

[ ] Course Number [ ] Course Title [ ] Credit Value [ ] Prerequisite
[ ] Course Description [ ] Editorial [X] New Course
[ ] Course Deletion [ ] Other - Specify:

Present Text (from 20xx/20xx) calendar	**Proposed Text**
	INSE 6710 Fundamentals and Applications of Cyber-Physical Systems (4 credits) This course provides a comprehensive overview of cyber-physical systems (CPS), including characterization, evolution, basics and fundamental concepts. The application domains of CPS include manufacturing, healthcare, smart grid, transportation and smart cities. The course also covers modelling, control issues in CPS, machine-type communications, research trends for supporting CPS applications, data reliability challenge of CPS, localization in CPS, application of game theory to CPS, and ethical issues in CPS. A project is required.

Rationale:
The objective of this course is to introduce students to design and analysis of CPS, a new frontier in information systems engineering that is transforming the way people interact with engineered systems.

Resource Implications:
This course will be part of the faculty member's regular teaching load.

Other Programs within which course is listed:

None.

INSE 6710 Foundations of Cyber-Physical Systems

1. General Information

- INSE 6710: Foundations of Cyber-Physical Systems
- Instructor,
- Office:
- Office hours:
- Course website:

2. Course Description

This course provides an overview of cyber-physical systems (CPS), their evolution, basics, and fundamental concepts. Representative domains such as CPS in manufacturing, CPS in healthcare, CPS in the smart grid, CPS in transportation, and CPS in smart cities are presented. Principles of modelling of CPS including communications and control issues are considered. Ethical aspects in CPS are also discussed. A project is required.

Prerequisites: See the Graduate Calendar

3. Introduction

A cyber-physical system (CPS) is a system of collaborating computational elements controlling physical entities. Examples of CPSs include new generation automotive systems, high confidence medical devices, avionics, smart power infrastructure, process control, distributed robotics, and others. These systems exhibit stringent real-time and safety requirements and system disruption can lead to catastrophic consequences. Compared to traditional embedded systems, the vision for CPS calls for open, interconnected systems rather than closed, "black box" devices. The goal of this course is to introduce the students to the key challenges, design methodologies and research directions in the field of cyber-physical systems. Timely technological solutions based on state-of-the-art research papers will also be presented and explained.

4. Tentative Lecture Schedule

- **Lecture 1:** Overview of Cyber-Physical Systems (CPS): Characterization, Evolution, Basics and Fundamental Concepts.
- **Lecture 2-3:** Representative domains (CPS in manufacturing, CPS in Healthcare, CPS and Smart Grid, CPS in Transportation, CPS and Smart Cities)
- **Lecture 4-5:** Introduction to Modelling of CPS
- **Lecture 6-7:** Control issues in Cyber-Physical Systems
- **Lecture 8:** Machine-Type Communications: Challenges and Research Trends for Supporting CPS Applications.
- **Lecture 9-10:** Data Reliability Challenge of Cyber-Physical Systems

- **Lecture 11:** Localization in Cyber-Physical Systems
- **Lecture 12:** Applying Game Theory to Cyber-Physical Systems
- **Lecture 13:** Ethical Issues in CPS

Final Exam: will be scheduled by the examination office. Exam will take place during the examination period at the end of the semester. Students should not make any specific arrangements to leave the city until the final exam date is posted.

5. Course Materials

Recommended Text books

[1] Lee and Seshia, "Introduction to Embedded Systems - A Cyber-Physical Systems Approach" Second Edition, available online.

[2] Cyber-Physical Systems: Foundations, Principles and Applications (Intelligent Data-Centric Systems: Sensor Collected Intelligence), Houbing Song, Danda B Rawat, Sabina Jeschke, Christian Brecher, Editors, 1st Edition, 2016.

[3] Walid Taha. Lecture notes on Cyber Physical Systems. Available online http://bit.ly/LNCPS-2018, Last checked, January 23, 2020.

[4] Research papers provided by the instructor.

6. Marks Distribution and Grading

1. Midterm Exam: 25%
2. Final Exam: 50%
3. Project: 25%

- **Midterm Makeup**

There will be NO makeup for the midterm. In the case of a serious illness or emergency, the weight of the midterm will be moved towards the final exam. Be prepared to provide written documentation (e.g., a medical excuse from your doctor) to verify the emergency and its seriousness.

7. Academic Code of Conduct

Academic Integrity

Any form of cheating, plagiarism, personation, falsification of a document as well as any other form of dishonest behaviour related to the obtention of academic gain or the avoidance of evaluative exercises committed by a student is an academic offence under the Academic Code of Conduct and **may lead to severe penalties up to and including suspension and expulsion.** As examples only, you are not permitted to:

- Copy from anywhere without indicating where it came from

- Let another student copy your work and then submit it as his/her own
- Hand in the same assignment in more than one class
- Have unauthorized material or devices in an exam. Note that you do not have to be caught using them – just having them is an offence
- Copy from someone's else exam
- Communicate with another student during an exam
- Add or remove pages from an examination booklet or take the booklet out of an exam room
- Acquire exam or assignment answers or questions
- Write an exam for someone else or have someone write an exam for you
- Submit false documents such as medical notes or student records
- Falsify data or research results

You are subject to the Academic Code of Conduct. Take the time to learn more at http://provost.concordia.ca/academicintegrity/

8. Student's Responsibilities

- Students are expected to attend every class. Some material may only be covered in class and not made available on the course website. Students are expected to read the assigned material and to actively participate in class discussions.
- Students are expected to be respectful of other people's opinions and to express their own views in a calm and reasonable way. Disruptive behaviour will not be tolerated.
- Students are expected to be familiar with the Code of Rights and Responsibilities: http://rights.concordia.ca

9. Student Services

- **Concordia Counselling and Development** offers career services, psychological services, student learning services, etc.
  http://cdev.concordia.ca
- **The Concordia Library Citation and Cycle Guides:**
  http://library.concordia.ca/help/howto/citations.html
- **Advocacy and Support Services:**
  http://supportservices.concordia.ca
- **Student Transition Centre:**
  http://stc.concordia.ca
- **New Student Program:**
  http://newstudent.concordia.ca
- **Office for Students with Disabilities:**
  http://supportservices.concordia.ca/disabilities/
- **The Academic Integrity Website:**
  http://provost.concordia.ca/academicintegrity/

10. Disclaimer

- In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change.

SCHOOL OF GRADUATE STUDIES

MEMO TO: Sandra Gabriele, Vice-Provost, Innovation in Teaching and Learning

FROM: Brad Nelson, Associate Dean, Academic Programs and Development
School of Graduate Studies

DATE: April 3, 2020

SUBJECT: **GRADUATE CURRICULUM CHANGES (ELEC-111)**
(CALENDAR – 2020/2021)
DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

The Graduate Curriculum Committee (GCC) reviewed the curriculum changes approved by the Gina Cody School of Engineering and Computer Science.

The Department of Electrical and Computer Engineering is proposing a new permanent course: COEN 6561 *Cyber-Physical Systems*.

The GCC approved the curriculum changes with minor modifications. I therefore recommend that the Academic Programs Committee approve and recommend to Senate the above-mentioned curriculum changes in their final form.

cc: M. Debbabi, Associate Dean, Graduate Programs and Research, Gina Cody School of Engineering and Computer Science
J. Johnston, University Curriculum Administrator, Office of the Provost and Vice-President, Academic Affairs

UNIVERSITÉ Concordia UNIVERSITY

GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

INTERNAL MEMORANDUM

TO: Dr. Bradley Nelson
Chair, Graduate Curriculum Committee
School of Graduate Studies

FROM: Dr. M. Debbabi
Associate Dean, Graduate Programs and Research
Faculty of Engineering and Computer Science

CC: Kristy Clarke
Academic Programs and Development
School of Graduate Studies

DATE: February 26, 2020

RE: **Graduate Curriculum Proposal for the 2020-21 Academic Year (ELEC-111)**
Gina Cody Council of Engineering and Computer Science

At its meeting on February 21, 2020, the Council of the Gina Cody School of Engineering and Computer Science reviewed and approved, as presented, the new course COEN 6561 Cyber-Physical Systems proposed by the Department of Electrical and Computer Engineering (ECE). This course will focus more on the discrete and continuous dynamics of cyber-physical systems. It will be cross-listed with the undergraduate course COEN 422. Graduate students will have more advanced and different questions in assignments and examinations than the undergraduate students.

Details of the curriculum items are indicated and explained in the internal memorandums and in the ELEC-111 dossier.

We kindly request that this dossier be placed on the next agenda of the Graduate Curriculum Committee.

Thank you for your consideration of this proposal.

INTERNAL MEMORANDUM

Université Concordia University

GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

Office of the Dean

TO: Dr. Amir Asif
Chair of the Faculty Council
Gina Cody School of Engineering and Computer Science

FROM: Dr. M. Debbabi
Associate Dean, Graduate Programs and Research
Gina Cody School of Engineering and Computer Science

DATE: January 15, 2020

RE: **Graduate Curriculum Proposal for the 2020-21 Academic Year (ELEC-111)**
Department of Electrical and Computer Engineering (ECE)

At its meeting on December 10, 2019, the Engineering and Computer Science Graduate Studies Committee (ECSGSC) reviewed and approved, the creation of a new course entitled ***COEN 6561 Cyber-Physical Systems***. This course will be cross-listed with the existing undergraduate course COEN 422 Cyber-Physical Systems. Students in the graduate course will be assigned different questions in assignments and examinations than the undergraduate students.

Details of the graduate curriculum proposal are indicated and explained in the Department's internal memorandum and in the ELEC-111 dossier.

We kindly request that this proposal be placed on the next agenda of the GCS Council for approval.

Thank you for your consideration of this proposal.

Université Concordia University
GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE
Department of Electrical and Computer Engineering

INTERNAL MEMORANDUM

DATE: March 25, 2019

TO: Dr. M. Debbabi, Associate Dean, Research and Graduate Studies
Faculty of Engineering and Computer Science

FROM: Dr. W.E. Lynch, Chair
Department of Electrical and Computer Engineering

SUBJECT: **Graduate Curriculum – May 2020**

Please find enclosed Dossier #111 submitted by the Department of Electrical and Computer Engineering.

COEN 6561 Cyber-Physical Systems
This course will be cross-listed with the undergraduate course COEN 422 entitled, "Cyber-Physical Systems" that was offered in winter 2019. Therefore, COEN 6561 is proposed to be included in the calendar. The new course will be listed in the topic area of E48 Computer Engineering.

This course has been approved at the Department Curriculum Committee meeting held on December 12, 2018 and February 4, 2019 and at the Department Council meeting held on January 11, 2019.

I would be grateful if you could put this on the agenda of the next ENCS Graduate Studies Committee

1455 De Maisonneuve Blvd. W., EV-5.139, Montreal, Quebec, Canada H3G 1M8
Tel. 514-848-2424 ext. 3100 concordia.ca/ginacody

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **ELEC-111** VERSION: 4

PROGRAM CHANGE: Topic Area E48

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2020/2021
Implementation Month/Year: September 2020

Faculty/School: Gina Cody School of Engineering and Computer Science
Department: Department of Electrical and Computer Engineering
Program: Electrical and Computer Engineering
Degree: MEng, MASc, PhD
Calendar Section/Graduate Page Number: Engineering courses: Computer Eng.

Type of Change:

[ ] Editorial [X] Requirements [ ] Regulations [ ] Program Deletion [ ] New Program

Present Text (from 2019/2020) calendar	**Proposed Text**
List of Courses by Topic Areas **E48 - COMPUTER ENGINEERING** COEN 6211 Biological Computing and Synthetic Biology (*) COEN 6311 Software Engineering COEN 6312 Model-Driven Software Engineering COEN 6313 Programming on the Cloud (*) COEN 6321 Applied Evolutionary and Learning Algorithms (*) COEN 6331 Neural Networks COEN 6341 Embedded System Modelling COEN 6611 Real-time Systems COEN 6711 Microprocessors and Their Applications COEN 6721 Fault-Tolerant Distributed Systems COEN 6741 Computer Architecture and Design COEN 7311 Protocol Design and Validation COEN 7741 Advanced Computer Architecture ENGR 6231 Microfluidic Devices for Synthetic Biology (*)	List of Courses by Topic Areas **E48 - COMPUTER ENGINEERING** COEN 6211 Biological Computing and Synthetic Biology (*) COEN 6311 Software Engineering COEN 6312 Model-Driven Software Engineering COEN 6313 Programming on the Cloud (*) COEN 6321 Applied Evolutionary and Learning Algorithms (*) COEN 6331 Neural Networks COEN 6341 Embedded System Modelling COEN 6561 Cyber-Physical Systems (*) COEN 6611 Real-time Systems COEN 6711 Microprocessors and Their Applications COEN 6721 Fault-Tolerant Distributed Systems COEN 6741 Computer Architecture and Design COEN 7311 Protocol Design and Validation COEN 7741 Advanced Computer Architecture ENGR 6231 Microfluidic Devices for Synthetic Biology (*)

Rationale:
The change reflects the addition of a new course (COEN 6561).

Resource Implications:
None.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **ELEC-111** VERSION: 4

COURSE CHANGE: COEN 6561 New Course Number:

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2020/2021
Implementation Month/Year: September 2020

Faculty/School: Gina Cody School of Engineering and Computer Science
Department: Department of Electrical and Computer Engineering
Program: Electrical and Computer Engineering
Degree: MEng, MASc, PhD
Calendar Section/Graduate Page Number: Engineering courses: Computer Eng.

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[ ] Prerequisite
[ ] Course Description	[ ] Editorial	[X] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 20xx/20xx) calendar	**Proposed Text**
	COEN 6561 Cyber-Physical Systems (*) (4 credits) Cyber-Physical Systems (CPS) consist of interacting networks of physical and computational elements. This course covers the fundamentals of modeling, specification, analysis and design of CPS. Models for computation and physical systems including discrete event dynamic models, finite-state machines, extended FSMs, statecharts, Petri nets and continuous variable models are studied. Scheduling and optimization of process networks and hybrid models are covered. Specification, simulation and performance analysis of CPS and the relationship of program execution with physical time constants are discussed. A project is required.

Rationale:
This course will be cross-listed with COEN 422 Cyber Physical Systems that was offered in winter 2019. Therefore, COEN 6561 is proposed to be included in the calendar and listed in the topic area of E48 Computer Engineering. Assignments and projects will include some advanced questions that would be mandatory for COEN 6561 students and optional for COEN 422 students. Also, some of the final exam questions of COEN 6561 and COEN 422 will be different.

Resource Implications:
The course will be part of a faculty member's teaching load and drawn from our current course allotment.

Other Programs within which course is listed:

None.

Concordia University
Department of Electrical and Computer Engineering
COEN 6561/422: Cyber-Physical Systems

General Information

Course Objectives:
Cyber-Physical Systems (CPS) consist of interacting networks of physical and computational elements. They typically include sensors, communication networks, computers and actuators. CPS are highly integrated systems that are engineered to enhance performance and bring in new functionalities to various domains such as transportation, energy management, healthcare, manufacturing and agriculture. This course covers the fundamentals of modeling, specification, analysis and design of CPS.

Course Description:
- Introduction to cyber-physical systems
- Synchronous models
- Safety requirements
- Asynchronous models
- Dynamical systems
- Timed models
- Hybrid systems

Resources and References

Textbook: - R. Alur, *Principles of Cyber-Physical Systems*, MIT Press, 2015.
[Available from Concordia library]

References: - E.A. Lee and S.A. Seshia, *Introduction to Embedded Systems: A Cyber-Physical Approach*, MIT Press, 2017.
-Selected papers from the literature.

Assignments/Projects

Assignments: Will be posted on the course site on Moodle. Late assignments will not be accepted.

Projects: - The course has two projects on design and simulation of cyber-physical systems.
- Project statements will be distributed later.

MATLAB/Simulink/Stateflow:
MATLAB and Simulink are software packages for numerical computation and data visualization. They offer programming features and graphical user interface tools, and come with many useful toolboxes including Control System Toolbox and Stateflow. MATLAB and Simulink are available on our computer network. Some of the assignments and projects require the use of MATLAB and Simulink. Details of the latest version of MATLAB and Simulink can be found from the online help desk: http://www.mathworks.com/help/index.html

Expectations of Originality:
All assignments and project reports must comply with the requirements of the "Expectations of Originality" form. This form concerns the issue of academic integrity. The students must read and fill out **one** copy of the form, and submit it to the instructor by Jan. 22, 2019.
Furthermore, the students are strongly encouraged to visit the following web page:
http://www.concordia.ca/students/academic-integrity.html.

Exams and Grading

Grading scheme:	Assignments	10%
	Projects	15%
	Midterm Exam	25%
	Final Exam	50%

Remarks: - The assignment with the lowest grade will not be counted towards the overall assignment grade.
- Obtaining at least 7.5/15.0 in **projects** is required for a passing grade in the course.
- Obtaining at least 37.5/75.0 for **midterm + final** is required for a passing grade in the course.
- This course has only one grading scheme.
- Assignments and projects will include some advanced questions that are mandatory for COEN6561 students and optional for COEN422 students. Some of the final exam questions of COEN422 and COEN6561 will be different.

UNIVERSITÉ Concordia UNIVERSITY

SCHOOL OF GRADUATE STUDIES

US-2020-3-D23

MEMO TO: Sandra Gabriele, Vice-Provost, Innovation in Teaching and Learning

FROM: Brad Nelson, Associate Dean, Academic Programs and Development
School of Graduate Studies

DATE: April 3, 2020

SUBJECT: **GRADUATE CURRICULUM CHANGES (ELEC-115)**
(CALENDAR – 2020/2021)
DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

The Graduate Curriculum Committee (GCC) reviewed the curriculum changes approved by the Gina Cody School of Engineering and Computer Science.

The Department of Electrical and Computer Engineering is proposing to add a prerequisite to the existing course ELEC 6891 *Broadcast Signal Transmission*.

The GCC approved the curriculum changes with minor modifications. I therefore recommend that the Academic Programs Committee approve and recommend to Senate the above-mentioned curriculum changes in their final form.

cc: M. Debbabi, Associate Dean, Graduate Programs and Research, Gina Cody School of Engineering and Computer Science
J. Johnston, University Curriculum Administrator, Office of the Provost and Vice-President, Academic Affairs

UNIVERSITÉ Concordia UNIVERSITY

GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

INTERNAL MEMORANDUM

TO: Dr. Bradley Nelson
Chair, Graduate Curriculum Committee
School of Graduate Studies

FROM: Dr. M. Debbabi
Associate Dean, Graduate Programs and Research
Faculty of Engineering and Computer Science

CC: Kristy Clarke
Academic Programs and Development
School of Graduate Studies

DATE: February 26, 2020

RE: **Graduate Curriculum Proposal for the 2020-21 Academic Year (ELEC-115)**
Gina Cody Council of Engineering and Computer Science

At its meeting on February 21, 2020, the Council of the Gina Cody School of Engineering and Computer Science reviewed and approved, as presented, the addition of the prerequisite course ***ELEC 6831*** *Digital Communication to* ***ELEC 6891 Broadcast Signal Transmission*** as students are required to have sufficient background in the area of digital communications.

Details of the curriculum items are indicated and explained in the internal memorandums and in the ELEC-115 dossier.

We kindly request that this dossier be placed on the next agenda of the Graduate Curriculum Committee.

Thank you for your consideration of this proposal.

INTERNAL MEMORANDUM

Université Concordia University

GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

Office of the Dean

TO: Dr. Amir Asif
Chair of the Faculty Council
Gina Cody School of Engineering and Computer Science

FROM: Dr. M. Debbabi
Associate Dean, Graduate Programs and Research
Gina Cody School of Engineering and Computer Science

DATE: January 23, 2020

RE: **Graduate Curriculum Proposal for the 2020-21 Academic Year (ELEC-115)**
Department of Electrical and Computer Engineering (ECE)

At its meeting on January 21, 2020, the Engineering and Computer Science Graduate Studies Committee (ECSGSC) reviewed and approved, as is, the graduated curriculum item from the ECE Department. Namely, the addition of the prerequisite *ELEC 6831 Digital Communications* to *ELEC 6891 Broadcast Signal Transmission* to ensure that students have sufficient background in digital communications.

Details of the graduate curriculum change are indicated and explained in the Department's internal memorandum and in the ELEC-115 dossier.

We kindly request that this proposal be placed on the next agenda of the GCS Council for approval.

Thank you for your consideration of this proposal.

Université Concordia University
GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE
Department of Electrical and Computer Engineering

INTERNAL MEMORANDUM

DATE: November 28, 2019

TO: Dr. M. Debbabi, Associate Dean Research & Graduate Studies & CIISE Professor

FROM: Dr. R. Selmic, Associate Chair Graduate Studies, ECE Department

SUBJECT: **Course Change – November 2020**

Please find enclosed dossier 115 submitted by the department of Electrical and Computer Engineering.

The course ELEC 6831 is included as a prerequisite for the course ELEC 6891. Rationale: the students experience difficulties as they do not have sufficient background in Digital Communications. Therefore, ELEC 6831 is to be included as a prerequisite for ELEC 6891.

The changes to the course have been approved at the Graduate Studies Committee meeting held on October 25th, 2019 and at the ECE Department Council Meeting held on November 15th, 2019.

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **ELEC-115** VERSION: 4

COURSE CHANGE: ELEC6891 New Course Number:

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2020/2021
Implementation Month/Year: September 2020

Faculty/School: Gina Cody School of Engineering and Computer Science
Department: Department of Electrical and Computer Engineering
Program: Electrical and Computer Engineering
Degree: MEng, MASc, PhD
Calendar Section/Graduate Page Number: Winter 2020

Type of Change:

[ ] Course Number	[ ] Course Title	[ ] Credit Value	[X] Prerequisite
[ ] Course Description	[ ] Editorial	[ ] New Course	
[ ] Course Deletion	[ ] Other - Specify:		

Present Text (from 2019/2020) calendar	**Proposed Text**
ELEC 6891 Broadcast Signal Transmission (*) (4 credits) This course covers signal definition, human eye limitations, pixel representation schemes, serial digital interface (SDI); image formats (1080i, 720i, 4k, 8k); compression schemes: H.264/265; modulation and coding techniques used in broadcasting. Terrestrial transmission standards such as DVB-T2, ATSC-3; satellite broadcasting standards such as DVB/S2; MPEG transport stream (MPEG-TS), program specific information (PSI), program ID (PID), program association tables (PAT), program map table (PMT), conditional access, ~~program,~~ program clock reference (PCR); multiplexing and IP encapsulation, single program transport stream (SPTS) and multiple program transport stream (MPTS); video storage and retrieval. A project is required. **Note:** Students who have received credit for ELEC 691DD (Transmission in Broadcast Signal) may not take this course for credit.	**ELEC 6891 Broadcast Signal Transmission (*)** (4 credits) *Prerequisite:* ELEC 6831 This course covers signal definition, human eye limitations, pixel representation schemes, serial digital interface (SDI); image formats (1080i, 720i, 4k, 8k); compression schemes: H.264/265; modulation and coding techniques used in broadcasting. The course also covers terrestrial transmission standards such as DVB-T2, ATSC-3; satellite broadcasting standards such as DVB/S2; MPEG transport stream (MPEG-TS), program specific information (PSI), program ID (PID), program association tables (PAT), program map table (PMT), conditional access, program clock reference (PCR); multiplexing and IP encapsulation, single program transport stream (SPTS) and multiple program transport stream (MPTS); video storage and retrieval. A project is required. **Note:** Students who have received credit for ELEC 691DD (Transmission in Broadcast Signal) may not take this course for credit.

Rationale:
In order to follow the material in the course prior to Digital Communication is required.

Resource Implications:
None.

Other Programs within which course is listed:

None.

UNIVERSITÉ Concordia UNIVERSITY

SCHOOL OF GRADUATE STUDIES

US-2020-3-D24

MEMO TO: Sandra Gabriele, Vice-Provost, Innovation in Teaching and Learning

FROM: Brad Nelson, Associate Dean, Academic Programs and Development
School of Graduate Studies

DATE: April 3, 2020

SUBJECT: **GRADUATE CURRICULUM CHANGES (MECH-117)**
(CALENDAR – 2020/2021)
DEPARTMENT OF MECHANICAL, INDUSTRIAL AND AEROSPACE ENGINEERING
GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

The Graduate Curriculum Committee (GCC) reviewed the curriculum changes approved by the Gina Cody School of Engineering and Computer Science.

The Department of Mechanical, Industrial and Aerospace Engineering is proposing a new permanent course ENCS 6171 *Principles and Statistical/Computational Tools for Reproducible Research*.

The GCC approved the curriculum changes with minor modifications. I therefore recommend that the Academic Programs Committee approve and recommend to Senate the above-mentioned curriculum changes in their final form.

cc: M. Debbabi, Associate Dean, Graduate Programs and Research, Gina Cody School of Engineering and Computer Science
J. Johnston, University Curriculum Administrator, Office of the Provost and Vice-President, Academic Affairs

UNIVERSITÉ Concordia UNIVERSITY

GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

INTERNAL MEMORANDUM

TO: Dr. Bradley Nelson
Chair, Graduate Curriculum Committee
School of Graduate Studies

FROM: Dr. M. Debbabi
Associate Dean, Graduate Programs and Research
Faculty of Engineering and Computer Science

CC: Kristy Clarke
Academic Programs and Development
School of Graduate Studies

DATE: March 9, 2020

RE: **Graduate Curriculum Proposal for the 2020-21 Academic Year (MECH-117)**
Gina Cody Council of Engineering and Computer Science

At its meeting on March 6, 2020, the Council of the Gina Cody School of Engineering and Computer Science reviewed and approved, as presented, the new course ***ENCS 6171 Principles and Statistical/Computational Tools for Reproducible Research*** proposed by the Department of Mechanical, Industrial and Aerospace Engineering (MIAE). This course will be especially useful to those students doing experimental research.

Details of the curriculum items are indicated and explained in the internal memorandums and in the MECH-117 dossier.

We kindly request that this dossier be placed on the next agenda of the Graduate Curriculum Committee.

Thank you for your consideration of this proposal.

INTERNAL MEMORANDUM

Université Concordia University

GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

Office of the Dean

TO: Dr. Amir Asif
Chair of the Faculty Council
Gina Cody School of Engineering and Computer Science

FROM: Dr. M. Debbabi
Associate Dean, Graduate Programs and Research
Gina Cody School of Engineering and Computer Science

DATE: February 20, 2020

RE: **Graduate Curriculum Proposal for the 2020-21 Academic Year (MECH-117)**
Department of Mechanical, Industrial and Aerospace Engineering (MIAE)

At its meeting on February 18, 2020, the Engineering and Computer Science Graduate Studies Committee (ECSGSC) reviewed and approved, with minor modifications, the creation of a new permanent course ***ENCS 6171 Principles and Statistical/Computational Tools for Reproducible Research***. This course is essential for teaching our students the concepts of design of experiments and data analysis aimed at achieving reproducible experimental research.

Details of the graduate curriculum proposal are indicated and explained in the Department's internal memorandum and in the MECH-117 dossier.

We kindly request that this proposal be placed on the next agenda of the GCS Council for approval.

Thank you for your consideration of this proposal.

Université Concordia University
GINA CODY SCHOOL OF ENGINEERING AND COMPUTER SCIENCE
Department of Mechanical, Industrial & Aerospace Engineering

INTERNAL MEMORANDUM

TO: Dr. Mourad Debbabi, Associate Dean, Research and Graduate Studies

FROM: Dr. Ivan Contreras, Graduate Program Director, MIAE

DATE: January 17h, 2020

SUBJECT: New Course ENCS 6171 – Principles and Statistical/Computational Tools for Reproducible Research

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I am pleased to submit the proposal for a new permanent graduate course titled *ENCS 6171 Principles and Statistical/Computational Tools for Reproducible Research*, in the Mechanical, Industrial and Aerospace Engineering Department. This course will be offered by Dr. Mamoun Medraj in the academic year 2020-2021.

The term research "reproducibility crisis" attracted extremely high attention from the scientific community over the past few years, as disappointing results emerged from large-scale reproducibility projects in various research fields (e.g., Open Science Collaboration, OSC 2015). In 2016, a poll conducted by the journal *Nature* reported that more than half (52%) of the surveyed researchers in various fields including engineering believed science was facing a "reproducibility crisis" and around 90% of them agreed there is a crisis ranging from slight to significant (Baker, *Nature* 2016). Teaching our students the concepts of design of experiments and data analysis will help in achieving reproducible experimental research. For other students doing modeling research, special tools and programs developed for reproducible computational research will be covered.

Attached are the Calendar Update From and the course description, formatted as per the university's guidelines. Should you require additional information regarding this course, please do not hesitate to contact me.

1455 De Maisonneuve Blvd. W., EV-4.139, Montreal, Quebec, Canada H3G 1M8
Tel. 514-848-2424 ext. 3175 concordia.ca/ginacody

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **MECH-117** VERSION: 4

PROGRAM CHANGE: Topic Areas

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2020/2021
Implementation Month/Year: September 2020

Faculty/School: Gina Cody School of Engineering and Computer Science
Department: Mechanical, Industrial and Aerospace Engineering
Program: All graduate programs
Degree: MASc, MEng, PhD
Calendar Section/Graduate Page Number: Engineering List of Courses by Topic Ar

Type of Change:

[ ] Editorial [X] Requirements [ ] Regulations [ ] Program Deletion [ ] New Program

Present Text (from 2020/2021) calendar	**Proposed Text**
E01 - MATHEMATICAL METHODS **ENCS 6021 Engineering Analysis** **ENCS 6111 Numerical Methods** **ENCS 6141 Probabilistic Methods in Design** **ENCS 6161 Probability and Stochastic Processes** **ENCS 6181 Optimization Techniques I (*)** **ENCS 6191 Fuzzy Sets and Fuzzy Logic**	**E01 - MATHEMATICAL METHODS** **ENCS 6021 Engineering Analysis** **ENCS 6111 Numerical Methods** **ENCS 6141 Probabilistic Methods in Design** **ENCS 6161 Probability and Stochastic Processes** **ENCS 6171 Principles and Statistical/Computational Tools for Reproducible Research** **ENCS 6181 Optimization Techniques I (*)** **ENCS 6191 Fuzzy Sets and Fuzzy Logic**

Rationale:
The change reflects the addition of a new course.

Resource Implications:
None

PROGRAM AND COURSES CHANGE FORMS FOR DOCUMENT: **MECH-117** VERSION: 4

COURSE CHANGE: ENCS 6171 New Course Number:

Proposed [ ] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2020/2021
Implementation Month/Year: September 2020

Faculty/School: Gina Cody School of Engineering and Computer Science
Department: Mechanical, Industrial and Aerospace Engineering
Program: All graduate programs
Degree: MASc, MEng, PhD
Calendar Section/Graduate Page Number: Engineering List of Courses by Topic Ar

Type of Change:

[ ] Course Number [ ] Course Title [ ] Credit Value [ ] Prerequisite
[ ] Course Description [ ] Editorial [X] New Course
[ ] Course Deletion [ ] Other - Specify:

Present Text (from 20xx/20xx) calendar	**Proposed Text**
	ENCS 6171 Principles and Statistical/Computational Tools for Reproducible Research (4 credits) This course presents design of experiments, data analysis, and reproducibility in both experimental and computational research. It discusses fundamentals of design and analysis of experiments including randomization, replication, blocking and analysis of covariance. Different types of experiments such as evaluation experiments or comparison experiments are discussed. Fundamentals of reproducible research are covered primarily through case study analysis. Also, computational and statistical methods for reproducible computational research are discussed. Throughout the course, robust estimation and results evaluation are addressed specifically for cases when experimental data (or analytical solutions in case of computational research) are not available or scarce. A project is required.

Rationale:
The term research “reproducibility crisis” attracted extremely high attention from the scientific community over the past few years, as disappointing results emerged from large-scale reproducibility projects in various research fields (e.g., Open Science Collaboration, OSC 2015). In 2016, a poll conducted by the journal *Nature* reported that more than half (52%) of the surveyed researchers in various fields including engineering believed science was facing a “reproducibility crisis” and around 90% of them agreed there is a crisis ranging from slight to significant (Baker, *Nature* 2016). Teaching our students the concepts of design of experiments and data analysis will help in achieving reproducible experimental research. For other students doing modeling research, special tools and programs developed for reproducible computational research will be covered.

Resource Implications:
None.The course will be part of a faculty member's teaching load and drawn from our current course allotment.

Other Programs within which course is listed:

None.