

SENATE

NOTICE OF MEETING

January 14, 2022

The Agenda and documents for the Open Session meeting of Senate of Concordia University held on Friday, January 21, 2022, 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 the recording and broadcasting of Senate meetings* (US-2).

Shelina Houssenaly Secretary of Senate



AGENDA OF THE OPEN SESSION OF THE MEETING OF SENATE

Friday, January 21, 2022, at 2 p.m. via Zoom video conferencing

Item		Presenter(s)	Action	
1. 1.1 1.2	Call to order Approval of the Agenda Adoption of December 10, 2021 Minutes	G. Carr G. Carr G. Carr	Approval Approval	
2.	Business arising from the Minutes not included on the Agenda	G. Carr		
CONSENT AGENDA				
3.	Academic Programs Committee - Report and recommendations (Document US-2022-1-D1)		Approval	
REGULAR AGENDA				
4.	Campus update	G. Carr	Information	
5.	Question period (maximum 15 minutes)			
6.	Other business			
7.	Adjournment	G. Carr		



US-2021-8

MINUTES OF THE OPEN SESSION OF THE MEETING OF SENATE

Friday, December 10, 2021, at 2:00 p.m. via Zoom video conferencing

PRESENT

<u>Voting Members:</u> Graham Carr (Chair), Shimon Amir, Leslie Barker, Matthew Barker, Guylaine Beaudry, Elizabeth Bloodgood, Catherine Bolton, Lovina Angela Brown, Boutaina Chafi, Queenie Hui Jing Chen, Demetre Christopoulos, Sally Cooke, Anne-Marie Croteau, Alexandra Dawson, Selvadurai Dayanandan, Alex De Visscher, Mourad Debbabi, Larry Deck, Effrosyni Diamantoudi, Riya Dutta, Linda Dyer, Mary Esteve, Mehdi Farashahi, Ariela Freedman, Annie Gérin, Marina Ghali, Nicolka Gorel, Abdelwahab Hamou-Lhadj, Hannah Jamet-Lange, Moshe Lander, Eduardo Malorni, Peter Morden, Catherine Mulligan, Satinder Pal Singh, Gilles Peslherbe, Duraichelvan Raju, Jasmine Ramcharitar-Brown, Lourdu Reddy Allam, Rosemary Reilly, Pascale Sicotte, Reza Soleymani, Robert Soroka, Craig Townsend, Guylaine Vaillancourt, Jean-Philippe Warren, Deeva Wazir, Anne Whitelaw, Shaina Willison, Paula Wood-Adams, Radu Grigore Zmeureanu

<u>Non-voting members</u>: Philippe Beauregard, Denis Cossette, Stéphanie de Celles, Michael Di Grappa, Isabel Dunnigan, Nadia Hardy, Tom Hughes, Candace Jacobs, Frederica Jacobs, Émilie Martel

<u>Also attending:</u> Richard Courtemanche, Cody Hyndman, Karan Singh, Melodie Sullivan, Celeste Trianon, Lisa White

ABSENT

Voting members: Joanna Berzowska, Prady Cassandra Ngouma Wa, Kelly Thompson

Non-voting members: Paul Chesser

1. Call to order

The meeting was called to order at 2:09 p.m.

Dr. Carr requested Senators to not use the public chat feature on Zoom, unless they needed to communicate with the Secretary of Senate, S. Houssenaly, which they could do so directly using the private chat feature.

1.1 Approval of the Agenda

R-2021-8-1 Upon motion duly moved and seconded, it was unanimously resolved that the Agenda of the Open Session be approved.

1.2 Adoption of October 8, 2021 Minutes

R-2021-8-2 Upon motion duly moved and seconded, it was unanimously resolved that the Minutes of the Open Session meeting of October 8, 2021, be adopted.

1.3 Adoption of November 12, 2021 Minutes

R-2021-8-3 Upon motion duly moved and seconded, it was unanimously resolved that the Minutes of the Open Session meeting of November 12, 2021, be adopted.

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

In relation to a question asked at the last Senate meeting regarding the issuance of Concordia's food services contract, M. Di Grappa informed Senate that the current contract was going to expire on May 31, 2022 and that the University would be going through the process of selecting a new provider. M. Di Grappa outlined that, with a contract worth \$20 million in gross sales over the next four years, the University needs to ensure that the selection process is fair, competitive and transparent, and open to qualified food services providers capable of meeting the requirements set by the University. M. Di Grappa mentioned a few key requirements, such as the provider's capacity to offer high quality nutritious food and daily meal plans for up to 1000 students in residence that are affordable as well as its capacity to incorporate the principals of sustainability in their daily operations. Additionally, he mentioned that the provider would also have to demonstrate experience and expertise in the delivery of these services as well as the financial capacity to undertake a contract of this magnitude.

M. Di Grappa further informed Senate that given the changed landscape since the pandemic, there was a smaller pool of providers. He apprised Senators that the University will be inviting several qualified companies, including two that are Québec based, one fully Canadian owned as well as the three largest in Canada in the food services industry. He reported that the CSU and the Concordia Food Coalition asked the University to consider a Manitoba based company, and the University had reduced the annual sales threshold requirement to allow for the company to participate; however, the company ultimately decided not to submit a bid, as they didn't have the capacity for such a contract. M. Di Grappa further elaborated that other important considerations would be that the provider source local food, have in place a waste management program, be committed to customer service and demonstrate a commitment to sustainability and corporate social

responsibility in their practises. He also noted that regardless of the company selected, the University would be able to meet its sustainability goals.

3. President's remarks

The President's remarks are summarized as follows:

- Dr. Carr began with an update on the COVID situation: as of December 7, four new cases had been recorded from the previous week; these were individuals who had developed symptoms while on campus or tested positive within 48 hours of having been on campus, however none of these cases were attributable to contact or activities while on campus.
- Dr. Carr shared news with Senate of a new Rhodes Scholarship awardee, Sabine Plummer, a first Concordia student in a decade and the 11th Concordian to be awarded this great honor. He apprised Senate that S. Plummer, an undergraduate student in chemistry, with a minor in multidisciplinary sciences and art history, is one of two from Québec who has been awarded the scholarship for this year and is going to Oxford University in the fall. He mentioned that S. Plummer was also a recipient of an NSERC Undergraduate Student Research Award and played a key role in establishing Concordia's Stronger Than Stigma chapter, which aims to destigmatize mental health and offers resources.
- Dr. Carr also shared the news of Aiden Cyr, an undergraduate student in the School of Community and Public Affairs who is doing work in First People's Studies, becoming the first Concordian to win the prestigious Schwarzman Scholar Award, which is about cultivating global leaders for the 21st century. He noted that this award will allow A. Cyr to pursue masters-level research at Tshingua University in Beijing, the top university in Asia and ranked by Times Higher Education in the top 20 world-wide.
- Dr. Carr congratulated other graduate awardees:
 - Zhengchen Cai, a 2021 PhD graduate in Physics, earned a Student Research Excellence Award from the Society for Functional Near-Infrared Spectroscopy for their research on blood flow activities of the human brain.
 - Paola Marino, a master's student in the Department of Chemistry and Biochemistry, won the People's Choice Award from Science Exposed, the annual competition from NSERC to celebrate the best student science photography in the country.
- President Carr informed Senate that Concordia Stinger Ambre Mah-Fifi was named to the women's rugby first all-Canadian team at the U SPORTS Gala in Kingston, Ontario. He mentioned that A. Mah-Fifi is a third-year Film Animation student and has served as a team captain of the Stingers this year.

- He also extended congratulations to the men's rugby team who won the consolation title at the National Championships held at Queen University two weeks ago, and who finished 5th overall in Canada.
- Dr. Carr informed Senate that November 17 marked the launch of the University's first Indigenous research centre, the Indigenous Futures Research Centre, which is co-directed by Heather Igloliorte and Jason Edward Lewis and supports the University's Indigenous Directions Action Plan by serving as a destination for those committed to research on Indigenous communities, scholarship and practice worldwide.
- President Carr informed Senate that Concordia's Next-Generation Cities Institute celebrated its one-year anniversary on November 26 and has a new space on the 14th floor of the ER Building. He noted that the Institute is also home to the Canada Excellence Research Chair in Smart, Sustainable and Resilient Communities and Cities.
- Dr. Carr informed Senate that the renovations to all of University's space in the ER building were now complete, offering brand new facilities to the Departments of Computer Science and Software Engineering; Geography, Planning and Environment; Simone de Beauvoir Institute; Creative Arts Therapies, as well as several university research units, including EngAGE the center on aging. The President noted that as more and more students, faculty and staff have been returning to campus this fall or will do so in the beginning of January, they will discover the impressive transformations that have taken place in the ER and Hall buildings downtown and in the new Applied Science Hub at Loyola. Dr. Carr thanked Facilities Management for their incredible work during the pandemic to complete these repairs.
- President Carr shared with Senate that, for the second year in a row, Concordia was ranked in the Top 50 Graduate Schools for Entrepreneurship Studies (ranked 45th) by the Princeton Review and that Concordia was the only Canadian university included on the list.
- Dr. Carr shared news about the President's Media Outreach Awards and Newsmaker Virtual Celebration, which took place on December 1. He reported that these awards honoured newsmakers from 2020-2021 and 2019-2020 for promoting both their work and Concordia in the media, and that Rémi Quirion, Québec's Chief Scientist, joined the event.
- Dr. Carr informed Senate that in-person convocation ceremonies will be starting on January 18, 2022, with additional events scheduled in February, where the University will be welcoming graduates from spring 2020, fall 2020 and spring 2021 as their ceremonies were suspended due to the pandemic.
- Dr. Carr informed Senate of the \$1 million dollar gift from the Calgary based Flanagan Foundation on December 1: the donation is aimed to support the

operations of Concordia's Social Justice Centre. He explained that the Centre was launched in 2019 with seed funding of \$200,000 from the Flanagan Foundation and the goal of the Centre is to investigate the systemic causes and effects of inequity and the ways that institutions and practices can better deliver economic, cultural, political, racial, gender and environmental justice.

- As part of the University's commitment to addressing the UN Sustainable Development Goals, Dr. Carr reported on the University hosting the SDG Voluntary University Review launch event on November 29. He reported that an outstanding panel of internationally recognized experts, featuring: Éliane Ubalijoro (Executive Director of Sustainability in the Digital Age and Global Hub Director in Canada for Future Earth); John McArthur (Senior Fellow and Director of the Center for Sustainable Development at the Brookings Institution); Margaret Biggs (Chairperson of the International Development Research Centre); and Sarah Mendelson (Distinguished Service Professor of Public Policy and Head of Carnegie Mellon University's Heinz College) participated in the event.
- Dr. Carr thanked members of the community who contributed to the annual successful Centraide Campaign which raised \$218,000, surpassing the goal of \$200,000. When factoring in matching gifts, he informed Senate that the total will exceed \$225,000. Dr. Carr reminded Senators that it was possible to donate to the campaign until December 31. He also made an appeal to Senators to consider giving to the Student Emergency and Food Fund.
- Dr. Carr concluded by thanking the community for the collective effort in observing the public health protocols, wished students the best for their exams and final assignments, and thanked faculty and staff for their outstanding efforts in the past months. He noted that the January semester would see close to 75-80% courses delivered in-person and more non-class-based activities. He wished everyone a good, healthy and relaxing holiday season.

4. Academic Update (Document US-2021-8-D1)

Dr. Whitelaw took the opportunity to echo the President's thoughts on the work community members had done. She also wanted to draw attention to the Teaching and Learning consultation mentioned in the academic report, informing Senators that the consultation had been launched and will continue in the new year. Dr. Whitelaw noted that this consultation was an opportunity for faculty and students to talk about teaching and learning, including specific approaches to teaching and learning. She encouraged everyone to visit the Teaching and Learning website for more information.

CONSENT

5. Committee appointments (Document US-2021-8-D2)

R-2021-8-4 *That the committee appointments be approved.*

6. Academic Programs Committee – Report and recommendations (Document US-2021-8-D3)

R-2021-8-5 That the Academic Programs Committee - Report and recommendations (Document US-2021-8-D3) be approved.

7. Library Committee Report (Document US-2021-8-D4)

This report was submitted for information purposes.

REGULAR

8. Undergraduate curriculum proposal – New Minor in Quantitative Finance and Insurance (Document US-2021-8-D5)

Dr. Sicotte introduced the item, noting that the new minor in Quantitative Finance and Insurance was aimed at students pursuing an undergraduate degree outside of the Department of Mathematics and Statistics. Dr. Courtemache noted that the program is meant to help improve quantitative skills and could be interesting to students in Economics, Political Sciences and other areas. Dr. Hyndman underlined that this minor builds on strengths of the department's actuarial science and financial mathematics programs and provides avenues for students to explore these disciplines, which are currently in high demand.

R-2021-8-6 Upon motion duly moved and seconded, it was unanimously resolved that the curriculum proposal for the New Minor in Quantitative Finance and Insurance (Document US-2021-8-D5) be approved.

9. Progress report of the working group on Pass/DISC (Pass/Fail) (Document US-2021-8-D6)

Dr. Carr informed Senate that after the CSU's presentation on the Pass/DISC earlier in the fall, a working group was struck to provide a report to Senate and more information to be able to vote on the motion that was before the Senate. He noted that, as agreed by the working group, the joint presentation aims to provide the different points of view that were considered and is not meant to provide Senate with any recommendation.

H. Jamet-Lange and E. Malorni presented first and conveyed to Senators that given the continued effects of the pandemic, the students still felt that the continuation of the Pass/DISC option would provide them with the support they need. They informed Senate of the by-election that was held and the results demonstrating the undergraduate student community's support for this option.

Dr. Whitelaw followed by presenting why there was reluctance to continue the option for a 3rd year. One of the reasons she mentioned was the lack of a GPA calculation for two full years, which resulted in the absence of an AGPA. She also pointed out the decline in numbers seeking assistance under the Skills for Success program, which showed that

students who needed the support were not getting the help they need. She apprised Senate of requests received from external universities and employers seeking to convert the Pass/DISC to a letter grade. Given the foregoing, she conveyed that the working group had proposed that the late DISC option be extended to all faculties and that this recommendation had been accepted by all faculties for immediate application; the option to withdraw would not impact the GPA and that there would be no impact on the full-time status of international students in case of such withdrawal.

A long discussion ensued during which some Senators spoke in favour of maintaining the Pass/DISC option, given the continued affect of the pandemic on students and the community at large, while many other Senators supported the return to the regular grading format, and making available other requisite support services from what had emerged as proposals by the working group.

R-2021-8-7 Upon motion moved and seconded, the motion did not pass.

Whereas the Covid-19 pandemic is still ongoing;

Whereas the mental health of students is still negatively affected despite the return to campus;

Whereas student's ability to succeed is still heavily affected by the impacts of the pandemic;

Whereas Concordia announced recently that students are able to discontinue their course up until the last day before the exam period for this current academic year which is a first step in supporting students who are struggling under high workload;

Whereas some students may not be able to use the late discontinue option as it might affect subsequent immigration processes or loans, as well as having financial impacts;

Whereas in a survey conducted by the CSU, a majority of student respondents asked for the return of Pass/DISC (also often referred to as Pass/Fail) as a means to alleviate stress and anxiety;

Whereas in the recent CSU Byelections, 93.8% of voters voted yes to the question "Do you believe Concordia University should implement the pass/fail option for this academic year and until the end of the pandemic?";

Whereas Concordia has stated its commitment to accessibility, addressing the diverse needs of students, and to listening to and working with students, as presented at the October Senate meeting; and

Whereas the mental health of our students has been consistently deemed an important topic to be addressed and prioritized by the administration;

That a Pass/DISC ("Pass/Fail") option be implemented for the 2021-22 academic year.

29 Senators voted against the motion and 15 in favor of the motion.

10. Presentations and motion regarding proposed Bill 2 (Document US-2021-8-D7)

C. Trianon, a trans rights advocate with the Centre for Gender Advocacy, made a presentation on the impacts of the new Bill 2 (*An Act respecting family law reform with regard to filiation and amending the Civil Code in relation to personality rights and civil status*) being brought by the Québec government and how the proposed family law reform would impact trans rights. C. Trianon explained the implications of Bill 2 and how it was going to impact rights of trans people, as the Bill required people to undergo surgery if they wish to change their sex on the birth certificate.

H. Jamet-Lange also spoke to the impact this would have on the students at the University, and that it was important for the University to be a safe and supportive space. H. Jamet-Lange informed Senate that in a by-election held by the CSU, students voted in favor of opposing Bill 2.

L. White, Executive Director of the Equity Office, made a presentation on the work and the role of the Equity Office and the University's continued commitment to removing barriers, and implementation of anti-discrimination practices and policies. L. White shared some initiatives that had been underway to support trans and non-binary community members, including: work towards an Equity policy, a new Equity Advisor to support student experience at the University, creating a resource package for LGBTQ+ community members, which would include on-campus resources to bring forward concerns and complaints, inclusive language project in collaboration with the Innovation Lab and equity in the classroom sessions, aimed at addressing inclusion practises with respect to gender identity and expression.

Following the presentations, a Senator requested clarification if the Senate was the appropriate forum to bring this item for discussion, as this was not related to an academic matter. Dr. Carr informed Senators that Senate had previously voted on a motion against Bill 21 and that the Senate Steering Committee had approved that this motion be brought before Senate. He also noted that the motion, if passed, spoke to the position of the Senate and not the University.

R-2021-8-8 Upon motion duly moved and seconded, it was unanimously resolved:

Whereas Concordia University's Mission, Vision and Values statement expressly refers to:

- Valuing the openness and respect necessary to provide opportunities to a highly diverse student and faculty population;
- Diversity at Concordia being interpreted broadly and embracing diversity in ethnicity, gender, language and accessibility; and
- Enabling faculty, staff and students to make a progressive impact on their world in ways that respect and engage the uniqueness of each individual;

Whereas Concordia University is committed to promoting a healthy, secure, respectful and sustainable learning environment and workplace;

Whereas Concordia has often shown support for trans students and the Centre for Gender Advocacy, a Concordia student fee-levy group, has played a leading role in fighting for trans rights in Montreal and Quebec for many years;

Whereas Quebec Justice Minister Simon Jolin-Barrette has introduced Bill 2, An Act respecting family law reform with regard to filiation and amending the Civil Code in relation to personality rights and civil status ("Bill 2");

Whereas members of the Concordia community have expressed concerns that as drafted, certain provisions contained in Bill 2 could have the effect of:

- Violating principles of self-determination, bodily autonomy, privacy, liberty and equality;
- Discriminating against and harming trans individuals; and
- Creating additional obstacles for trans individuals.

It was unanimously resolved that Senate reaffirms the unifying values of Concordia University as an open, inclusive, highly diverse, respectful, secure, sustainable, accessible, and progressive university which is profoundly dedicated to these values as well as to recognizing the intersectionality of our community members;

Concordia University further commits to supporting its trans students, faculty, and staff; and

Senate objects to any actions that infringe upon those values or that commitment.

11. Question period

There were no questions asked during question period.

12. Other business

There was no other business to bring before the Open Session.

13. Adjournment

The meeting was adjourned at 4:32 p.m.

Shelina Houssenaly

Shelina Houssenaly Secretary of Senate



ACADEMIC PROGRAMS COMMITTEE REPORT TO SENATE Sandra Gabriele, PhD January 10, 2021

The Academic Programs Committee requests that Senate consider the following changes for the Undergraduate and Graduate Calendars.

Following approval of the Faculty Councils, APC members reviewed the undergraduate and graduate curriculum submissions listed below. As a result of discussions, APC resolved that the following curriculum proposals be forwarded to Senate for approval:

Undergraduate proposals for the 2022-23 Calendar

Office of the Registrar

OOR-OOR-2742 v4 APC-2021-8-D1 (For Summer 2022 Implementation)

[The proposal involves changes that reflect the transition to online application processes and updates to requirements for Deferred "DEF" and Medical "MED" Notations, as well as for Supplemental Examinations.]

• Regulations

OOTR-OOTR-702 APC-2021-8-D2 (For Summer 2022 Implementation)

[The proposal involves updates to reflect that the sealed envelope method from any schools outside North America is accepted in the University's admissions process.

• Regulations

OOP-OOP-2861 APC-2021-8-D3 (For Summer 2022 Implementation)

[The proposal involves the addition of Section 27 Academic Advising in the Academic Calendar to house the Academic Advising Mission and Academic Advising Outcomes, approved by Concordia's Central Advising Working Group (CAWG).]

• Information and Services

2. Graduate Curriculum Proposals (Changes for the Fall 2022-23 Calendar)

Faculty of Arts and Science

Department of Chemistry and Biochemistry

CHEM-71 v3; APC-2021-8-D4 (For Fall 2022 Implementation)

[The proposal involves the conversion of five special topics courses into permanent courses.]

- Requirements
- Courses

Faculty of Fine Arts

FA-FFAR-1 v6; **APC-2021-8-D5** (For Fall 2022 Implementation) [*The proposal involves the creation of a new graduate course to accommodate the Fine Arts Field Schools offered as electives across the nine departments in the Faculty of Fine Arts.*]

- Courses
- Requirements

Inmile

Sandra Gabriele, PhD Vice-Provost, Innovation in Teaching and Learning November 22, 2021

Undergraduate Program Regular Curriculum Change - OOR-OOR-2742 - VERSION : 4

Summary of Committee Discussion: Faculty

For Submission to:

Dr. Sandra Gabriele, Vice-Provost, Innovation in Teaching and Learning, Academic Programs Committee (APC), 17 Dec 2021

Approved by:

Stéphanie de Celles, University Registrar, Enrolment Services, 25 Nov 2021

I approve the enclosed changes to Section 16.3.7 Examinations, and to Section 16.3.8 Deferred "DEF," Medical "MED" Notations and Supplemental Examinations — Procedures and Regulations, prepared by Associate Registrar Ilze Kraulis. These changes reflect a transition to online application processes, as well as updates to the requirements for submitting applications for "DEF" notations.

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

Stéphanie de Celles, University Registrar

Undergraduate Program Regular Curriculum Change - OOR-OOR-2742 - VERSION : 4

Summary of Committee Discussion: Faculty

For Submission to:

Stéphanie de Celles, University Registrar, Enrolment Services, 25 Nov 2021

Approved by:

Ilze Kraulis, Associate Registrar, Enrolment Services, 18 Nov 2021

I approve the enclosed changes to Section 16.3.7 Examinations, and to Section 16.3.8 Deferred "DEF," Medical "MED" Notations and Supplemental Examinations — Procedures and Regulations. These changes reflect a transition to online application processes, as well as updates to the requirements for submitting applications for "DEF" notations.

With thanks, Ilze Kraulis, Associate Registrar

Summary and Rationale for Changes

The dossier includes changes to Section 16.3.7 Examinations, and to Section 16.3.8 Deferred "DEF," Medical "MED" Notations and Supplemental Examinations — Procedures and Regulations. The changes reflect a transition to online application processes, as well as updates to the requirements for submitting applications for "DEF" notations.

Section 16.3.7 Examinations

Section 16.3.7 Examinations is updated to indicate that examination schedules are now available to students through the Concordia website on the Student Hub, rather than being posted at physical locations at the SGW and Loyola campuses. The requirement for students to report to a physician/counsellor in order to submit a subsequent application for a deferred examination has also been removed to align with updates to the application process.

Section 16.3.8 Deferred "DEF," Medical "MED" Notations and Supplemental Examinations — Procedures and Regulations

Information about Deferred "DEF" and "MED" notations and Supplemental Examinations is updated in Section 16.3.8 to inform students that applications may now be submitted online, in addition to paper applications available at the Birks Student Centre.

The requirement for students to submit a medical certificate along with their application for a "DEF" notation has been removed, to align with updates to the application process. Students must instead submit a statement explaining the situation and the reasons for the request. A member of the Exams Office may nonetheless contact the student to request a medical certificate, or if the reasons are not medical, other appropriate documents.

The requirement for the application for the "DEF" and "MED" notations and for supplemental examinations to be accompanied by a per-course processing fee is removed as a processing fee will now be applied to the students' account for each application.

Summary of Changes (Undergraduate Program Regular Curriculum Change)

Regulation Changes:

- I. Final Examinations Change
- I. Deferred "DEF" Notations Change
- II. Medical "MED" Notations Change
- III. Supplemental Examinations Regulations Change

REGULATIONS CHANGE FORM

 Dossier Type: Undergraduate Program Regular Curriculum Change

 Dossier Title: Section 16 updates: Examinations, DEF, MED notations and Supplemental Examinations

 Calendar Section Name: I. Final Examinations

 Calendar Section Type: Regulation

 Description of Change: I. Final Examinations Change

 Proposed: Undergraduate Curriculum Changes

 Faculty/School: Enrolment Services/Office of the Registrar (Sections 11 & 16)

 Department: Enrolment Services/Office of the Registrar (Sections 11

 & 16)
 Type of change: Regulation Change

Path: Undergraduate > Undergraduate Calendar 2022-2023 > The University > Section 16 Academic Information: Definitions and Regulations > Academic Information: Definitions and Regulations > Section 16.3 Evaluation, Administrative Notations, Examinations, and Performance Requirements > Section 16.3.7 Examinations

Present Text (from 2021) calendar	Proposed Text
Final Examinations	I. Final Examinations
Academic Calendar §11 lists the official examination periods.	1. Academic Calendar §11 lists the official examination periods.

2. Examination schedules are posted in the Mezzanine of the Hall Building and in the second floor of the John Molson School of Business (SGW Campus) and CC 214 (LOY Campus); on kiosks throughout the campuses; or through the Concordia website at myconcordia.ca.

I. 1.

3. Because special arrangements cannot be made in the event of personal time conflicts (including personal travel plans), students should not make commitments for the examination periods until after the final schedule is posted. Nonetheless, in certain documented circumstances, a student who will not be in the Montreal area during the official final examination period can request to write his/her examination at another university or college.

A student who needs to write at an external institution must submit a "Request to Write a Concordia University Exam at an External Institution" available from the Birks Student Service Centre. The completed request should be submitted to the Birks Student Service Centre within the following deadlines:

November 15: for December final examination period

April 1: for April - May final examination period

June 1: for June final examination period

August 1: for August final and replacement/supplemental examination period.

2. Examination schedules are available to students through the Concordia website on the Student Hub.

3. Because special arrangements cannot be made in the event of personal time conflicts (including personal travel plans), students should not make commitments for the examination periods until after the final schedule is posted. Nonetheless, in certain documented circumstances, a student who will not be in the Montreal area during the official final examination period can request to write his/her examination at another university or college.

A student who needs to write at an external institution must submit a "Request to Write a Concordia University Exam at an External Institution" available from the Birks Student Service Centre. The completed request should be submitted to the Birks Student Service Centre within the following deadlines:

November 15: for December final examination period

April 1: for April - May final examination period

June 1: for June final examination period

August 1: for August final and replacement/supplemental examination period.

The request must be accompanied by a per-course processing fee. (See the Tuition and Fees website at concordia.ca/admissions/tuition-fees/how-fees-are-billed/undergraduate/fees for the current fee.)

Among the factors considered in the review of the request is the suitability of

Present Text (from 2021) calendar

The request must be accompanied by a per-course processing fee. (See the Tuition and Fees website at concordia.ca/admissions/tuition-fees/how-fees-arebilled/undergraduate/fees for the current fee.)

suitability of the testing location, testing conditions, and time constraints. The institution chosen must be an accredited university or college and the proctor/invigilator must be an employee of that institution and must agree to administer the exam(s) at the exact same date and time as scheduled at Concordia University and time differences must be taken into account.

The student is responsible for any fees that may be charged by the external institution.

4. An examination "conflict" is defined as two examinations scheduled at the exact same day and time or three examinations scheduled in consecutive time blocks (9:00-12:00, 14:00-17:00, 19:00-22:00; 14:00-17:00, 19:00-22:00, 9:00-12:00; 19:00-22:00, 9:00 - 12:00, 14:00 - 17:00). Two examinations in one day or three examinations in 24 hours are not considered a "conflict." When a "conflict" exists, students are informed on the My Student Centre (View My Exam Schedule page) and are provided with a resolve the "conflict." If a course has an "alternate" examination, there will be an "Alternate Available" date(s) displayed. Please be aware that the "Alternate Available" date(s) shown is intended for students who have a "conflict" in their examination schedule. Students who do not have an examination "conflict," as appear on the roster of students assigned to write in that room. defined above, are obliged to write their examination on the date that is indicated in the "Exam Date" column.

Students who cannot write an examination due to work commitments or religious observations may also request permission to write an "alternate" by reporting their conflict and first 60 minutes has elapsed providing the appropriate documentation in support of their request. Further information is available by contacting the Registration and Examinations Office. Also see §16.3.7 III.3.

does not appear on the roster of students assigned to write in that first 40 minutes has elapsed room.

6. No candidate will be permitted to enter an examination room after the first third of the examination has elapsed, or to leave before the first third of the examination has elapsed:

3 hour examination: no entry after first 60 minutes has elapsed;

Proposed Text

the testing location, testing conditions, and time constraints. The institution chosen must be an accredited university or college and the proctor/invigilator must be an employee of that institution and must agree to administer the exam(s) at the exact same date and time as scheduled at Concordia University and time differences must be taken into account.

Among the factors considered in the review of the request is the The student is responsible for any fees that may be charged by the external institution.

> 4. An examination "conflict" is defined as two examinations scheduled at the exact same day and time or three examinations scheduled in consecutive time blocks (9:00-12:00, 14:00-17:00, 19:00-22:00; 14:00-17:00, 19:00-22:00, 9:00-12:00; 19:00-22:00, 9:00 - 12:00, 14:00 - 17:00). Two examinations in one day or three examinations in 24 hours are not considered a "conflict." When a "conflict" exists, students are informed on the My Student Centre (View My Exam Schedule page) and are provided with a deadline by which they must advise how they intend to resolve the "conflict." If a course has an "alternate" examination, there will be an "Alternate Available" date(s) displayed. Please be aware that the "Alternate Available" date(s) shown is intended for students who have a "conflict" in their examination schedule. Students who do not have an examination "conflict," as defined above, are obliged to write their examination on the date that is indicated in the "Exam Date" column

Students who cannot write an examination due to work commitments or deadline by which they must advise how they intend to religious observations may also request permission to write an "alternate" by reporting their conflict and providing the appropriate documentation in support of their request. Further information is available by contacting the Registration and Examinations Office. Also see §16.3.7 III.3.

5. No student will be admitted to the exam room if his/her name does not

6. No candidate will be permitted to enter an examination room after the first third of the examination has elapsed, or to leave before the first third of the examination has elapsed:

3 hour examination: no entry after first 60 minutes has elapsed; no exit before

2.5 hour examination: no entry after first 50 minutes has elapsed; no exit before first 50 minutes has elapsed

5. No student will be admitted to the exam room if his/her name 2 hour examination: no entry after first 40 minutes has elapsed; no exit before

1.5 hour examination: no entry after first 30 minutes has elapsed; no exit before first 30 minutes has elapsed

1 hour examination: no entry after first 20 minutes has elapsed; no exit before first 20 minutes has elapsed

Present Text (from 2021) calendar

no exit before first 60 minutes has elapsed

2.5 hour examination: no entry after first 50 minutes has elapsed; no exit before first 50 minutes has elapsed

2 hour examination: no entry after first 40 minutes has elapsed; no exit before first 40 minutes has elapsed

1.5 hour examination: no entry after first 30 minutes has elapsed; no exit before first 30 minutes has elapsed

1 hour examination: no entry after first 20 minutes has elapsed; no exit before first 20 minutes has elapsed

7. Students will be assigned to a specific desk/seat location.

8. Student ID cards will be collected at the time of "signing-in" and will be returned when "signing-out."

9. Students may not leave the exam room during the last 15 minutes.

10. If during the course of an examination a student becomes Council. ill, the student should report at once to the invigilator, hand in the unfinished paper and request that the examination be cancelled. Before leaving the University, the student must also visit the Temporary Examinations Office location in order that a report of the situation may be filed. If physical and/or emotional ill - health is the cause, the student must then report at once to a physician/counsellor so that subsequent application for a deferred examination is supported by medical documentation.

11. If a student completes an examination, even though he/she is ill or faced with other personal problems or situations, the subsequent grade obtained in the course must stand. Petitions on the grounds of illness **will not be considered**.

12. In the fall and winter terms, no tests or examinations are permitted in the final week of classes. Any exceptions must be approved in advance by the appropriate Faculty Council.

Rationale: Resource Implications:

Proposed Text

7. Students will be assigned to a specific desk/seat location.

8. Student ID cards will be collected at the time of "signing-in" and will be returned when "signing-out."

9. Students may not leave the exam room during the last 15 minutes.

10. If during the course of an examination a student becomes ill, the student should report at once to the invigilator, hand in the unfinished paper and request that the examination be cancelled. Before leaving the University, the student must also visit the Temporary Examinations Office location in order that a report of the situation may be filed.

11. If a student completes an examination, even though he/she is ill or faced with other personal problems or situations, the subsequent grade obtained in the course must stand. Petitions on the grounds of illness **will not be considered**.

12. In the fall and winter terms, no tests or examinations are permitted in the final week of classes. Any exceptions must be approved in advance by the appropriate Faculty Council.

Undergraduate Program Regular Curriculum Change - OOR-OOR-2742 - VERSION: 4

REGULATIONS CHANGE FORM

Dossier Type: Undergraduate Program Regular Curriculum Change Dossier Title: Section 16 updates: Examinations, DEF, MED notations and Supplemental Examinations Calendar Section Name: I. Deferred "DEF" Notations Calendar Section Type: Regulation Description of Change: I. Deferred "DEF" Notations Change Proposed: Undergraduate Curriculum Changes Faculty/School: Enrolment Services/Office of the Registrar (Sections 11 & 16) Department: Enrolment Services/Office of the Registrar (Sections 11 Calendar publication date: 2022/2023/Fall & 16) Type of change: Regulation Change

Path: Undergraduate > Undergraduate Calendar 2022-2023 > The University > Section 16 Academic Information: Definitions and Regulations > Academic Information: Definitions and Regulations > Section 16.3 Evaluation, Administrative Notations, Examinations, and Performance Requirements > Section 16.3.8 Deferred "DEF," Medical "MED" Notations and Supplemental Examinations - Procedures and Regulations

Present Text (from 2021) calendar

I. Deferred "DEF" Notations

- A student who has missed a final examination due to to have his or her original grade replaced by a temporary "DEF" notation. The original grade assigned must include a "DNW" notation.

Note: Unforeseeable and/or extraordinary circumstances may include, but are not limited to, a serious illness or severe injury; a recent death in one's immediate family; unexpectedly assuming responsibility of an immediate family member due to serious illness; severe emotional stress; fire. Personal travel is not an acceptable reason to be granted a "DEF" notation. In the case of work commitments or religious observations, see §16.3.7 notation. I.4.

- A "DEF" notation cannot be assigned in a course with an "R" or "NR" notation.

- Application forms for "DEF" notations are available from the Birks Student Service Centre. A completed application must be submitted to the Birks Student Service Centre, not to the instructor, department, or Faculty, by January 15 for fall courses (term ending in 2), May 10 for fall/winter and winter courses (terms ending in 3 and 4) or August 31 for summer courses (session ending in 1). The application must be accompanied by a Concordia medical certificate or, if the reasons are not medical, by other appropriate documents indicating that the student was unable to write an examination on the day or days in question. If the required documentation is not available before the application deadline, the student should submit the request form and provide the supporting material as soon as possible.

Please note that in the case of absence due to short term medical for the current fee. situations, the student must visit his or her medical practitioner

Proposed Text

I. Deferred "DEF" Notations

- A student who has missed a final examination due to unforeseeable unforeseeable circumstances beyond his or her control can apply circumstances beyond his or her control can apply to have his or her original grade replaced by a temporary "DEF" notation. The original grade assigned must include a "DNW" notation.

> Note: Unforeseeable and/or extraordinary circumstances may include, but are not limited to, a serious illness or severe injury; a recent death in one's immediate family; unexpectedly assuming responsibility of an immediate family member due to serious illness; severe emotional stress; fire. Personal travel is not an acceptable reason to be granted a "DEF" notation. In the case of work commitments or religious observations, see §16.3.7 I.4. - A "DEF" notation cannot be assigned in a course with an "R" or "NR"

> - Applications for a "DEF" notation can be submitted online using the online application form that is accessible from the Exams Office website. Paperbased application forms are also available at the Birks Student Service Centre and must be submitted to the Birks Student Service Centre, not to the instructor, department or faculty, by January 15 for fall courses (term ending in 2), May 10 for fall/winter and winter courses (terms ending in 3 and 4) or August 31 for summer courses (session ending in 1). All applications must be submitted along with a statement explaining the situation and the reasons for the request. Should additional information be required, a member of the Exams Office may be in contact with a student and may request a medical certificate, or if the reasons are not medical, other appropriate documents. By submitting any documents and explanations regarding the application, the student authorizes the University to verify the legitimacy of the information provided.

> - A per-course processing fee will be applied to the students' account for each DEF" notation application. (See the Tuition and Fees website at concordia.ca/admissions/tuition-fees/how-fees-are-billed/undergraduate/fees

- The Registration and Examinations Office is entitled to ask the student to

Present Text (from 2021) calendar

on or before the date of the missed exam. Additionally, by submitting the Concordia medical certificate, the student authorizes the University to verify its legitimacy. Tampering, altering, or modifying the Concordia medical certificate in any way could lead to charges under the Code of Rights and Responsibilities and/or the Academic Code of Conduct.

- The application for a "DEF" notation must be accompanied by a per course processing fee. (See the Tuition and Fees website at grade will replace the "DEF" notation. concordia.ca/admissions/tuition-fees/how-fees-are-

billed/undergraduate/fees for the current fee.)-

student to provide additional information.

- When the Registration and Examinations Office approves the awarding of the "DEF" notation, it will temporarily replace the student is then entitled to write a deferred examination. For information about deferred examinations, see §16.3.7 II.

- When the deferred examination has been completed and evaluated, a new grade will replace the "DEF" notation.

- When a student receiving the privilege of writing a deferred examination does not write the examination during the specified period, the privilege will be withdrawn and a final grade in the course will be recorded by the Office of the Registrar according to the grade achieved by the student before the "DEF" notation was granted.

- Requests for deferred examinations can be made in a maximum of three (3) exam sessions during a student's undergraduate or Independent studies at Concordia. Requests that exceed this number will be submitted to the University Examinations Committee for consideration. Refer to numbers 3, 4, and 5 of this section for information on the application process and deadlines.

Rationale: Resource Implications:

Proposed Text

provide additional information.

- When the Registration and Examinations Office approves the awarding of the "DEF" notation, it will temporarily replace the student's original grade for the course or courses concerned. The student is then entitled to write a deferred examination. For information about deferred examinations, see §16.3.7 II.

- When the deferred examination has been completed and evaluated, a new

- When a student receiving the privilege of writing a deferred examination does not write the examination during the specified period, the privilege will - The Registration and Examinations Office is entitled to ask the be withdrawn and a final grade in the course will be recorded by the Office of the Registrar according to the grade achieved by the student before the "DEF" notation was granted.

- Requests for deferred examinations can be made in a maximum of student's original grade for the course or courses concerned. The three (3) exam sessions during a student's undergraduate or Independent studies at Concordia. Requests that exceed this number will be submitted to the University Examinations Committee for consideration. Refer to numbers 3, 4, and 5 of this section for information on the application process and deadlines.

Undergraduate Program Regular Curriculum Change - OOR-OOR-2742 - VERSION: 4

REGULATIONS CHANGE FORM

Dossier Type: Undergraduate Program Regular Curriculum Change Dossier Title: Section 16 updates: Examinations, DEF, MED notations and Supplemental Examinations Calendar Section Name: II. Medical "MED" Notations Calendar Section Type: Regulation Description of Change: II. Medical "MED" Notations Change Proposed: Undergraduate Curriculum Changes Faculty/School: Enrolment Services/Office of the Registrar (Sections 11 & 16) Department: Enrolment Services/Office of the Registrar (Sections 11 Calendar publication date: 2022/2023/Fall & 16) Type of change: Regulation Change

Path: Undergraduate > Undergraduate Calendar 2022-2023 > The University > Section 16 Academic Information: Definitions and Regulations > Academic Information: Definitions and Regulations > Section 16.3 Evaluation, Administrative Notations, Examinations, and Performance Requirements > Section 16.3.8 Deferred "DEF," Medical "MED" Notations and Supplemental Examinations - Procedures and Regulations

Present Text (from 2021) calendar	Proposed Text
II. Medical "MED" Notations	II. Medical "MED" Notations
-	-
A student who has missed a final examination and/or been unable to complete course assignments due to a long - term medical situation can apply to have his or her original grade replaced by a "MED" notation. The original grade must include the "DNW" notation for a missed final examination; "INC" for course assignments not	A student who has missed a final examination and/or been unable to complete course assignments due to a long - term medical situation can apply to have his or her original grade replaced by a "MED" notation. The original grade must include the "DNW" notation for a missed final examination; "INC" for course assignments not completed; "DNW/INC" when both elements are missing.
completed; "DNW/INC" when both elements are	- A "MED" notation cannot be assigned in a course with an "D" grade or "ND"
-	notation.
A "MED" notation cannot be assigned in a course with an "R"	-
grade or "NR" notation.	Application forms for a "MED" notation can be submitted online using the online application form that is accessible from the Exams Office website.

Application forms for "MED" notations-are available from the Birks Student Service Centre. A completed application should be submitted to the Birks Student Service Centre, not to the instructor, department, or Faculty, by January 15 for fall courses (term ending in 2), May 10 for fall/winter and winter courses (terms ending in 3 and 4), or August 31 for summer courses (session ending in 1). The application should be accompanied by a medical certificate on a physician's original letterhead indicating that a long - term medical situation prohibited the student from being able to complete the final examination on the day or days in question. If the required documentation is not available before the possible. application deadline, the student should submit the request form and provide the supporting material as soon as possible.

Paper-based application forms are also available at the Birks Student Service Centre and must be submitted to the Birks Student Service Centre, not to the instructor, department, or Faculty, by January 15 for fall courses (term ending in 2), May 10 for fall/winter and winter courses (terms ending in 3 and 4) or August 31 for summer courses (session ending in 1). The application should be accompanied by a medical certificate on a physician's original letterhead indicating that a long - term medical situation prohibited the student from being able to complete the final examination on the day or days in question. If the required documentation is not available before the application deadline, the student should submit the request form and provide the supporting material as soon as

A per-course processing fee will be applied to the student's account for each "MED" notation application (See the Tuition and Fees website at concordia.ca/admissions/tuition-fees/how-fees-are-billed/undergraduate/fees for the current fee.)

The application for a "MED" notation must be accompanied by a-per-course processing fee.-(See the Tuition and Fees website at -

Present Text (from 2021) calendar

concordia.ca/admissions/tuition-fees/how-fees-arebilled/undergraduate/fees for the current fee.)

The Registration and Examinations Office is entitled to ask the student to provide additional medical information.

When the Registration and Examinations Office approves the acceptance of a medical certificate, the notation "MED" will replace the student's original grade for the course or courses concerned. For information about "MED" replacement examinations, see §16.3.7 II.

When the replacement examination or missing work has been completed and evaluated, a new grade will replace the "MED" notation. If the student does not write a replacement examination or complete the missing work, the "MED" notation will appear permanently on his or her student record and official transcript (e.g. "MED/DNW" or "MED/INC"). "MED" notations carry no grade point value. Courses with "MED" notations are not included in assessments of academic standing.

The University reserves the right to refer a student to a physician appointed by the University for a recommendation when the student repeatedly submits medical certificates.

Rationale:

Resource Implications:

Proposed Text

The Registration and Examinations Office is entitled to ask the student to provide additional medical information.

When the Registration and Examinations Office approves the acceptance of a medical certificate, the notation "MED" will replace the student's original grade for the course or courses concerned. For information about "MED" replacement examinations, see §16.3.7 II.

When the replacement examination or missing work has been completed and evaluated, a new grade will replace the "MED" notation. If the student does not write a replacement examination or complete the missing work, the "MED" notation will appear permanently on his or her student record and official transcript (e.g. "MED/DNW" or "MED/INC"). "MED" notations carry no grade point value. Courses with "MED" notations are not included in assessments of academic standing.

The University reserves the right to refer a student to a physician appointed by the University for a recommendation when the student repeatedly submits medical certificates.

Undergraduate Program Regular Curriculum Change - OOR-OOR-2742 - VERSION: 4

REGULATIONS CHANGE FORM

Dossier Type: Undergraduate Program Regular Curriculum Change Dossier Title: Section 16 updates: Examinations, DEF, MED notations and Supplemental Examinations Calendar Section Name: III. Supplemental Examinations -Regulations Calendar Section Type: Regulation Description of Change: III. Supplemental Examinations ----**Regulations Change** Proposed: Undergraduate Curriculum Changes Faculty/School: Enrolment Services/Office of the Registrar (Sections 11 & 16) Department: Enrolment Services/Office of the Registrar (Sections 11 Calendar publication date: 2022/2023/Fall & 16) Type of change: Regulation Change

Path: Undergraduate > Undergraduate Calendar 2022-2023 > The University > Section 16 Academic Information: Definitions and Regulations > Academic Information: Definitions and Regulations > Section 16.3 Evaluation, Administrative Notations, Examinations, and Performance Requirements > Section 16.3.8 Deferred "DEF," Medical "MED" Notations and Supplemental Examinations - Procedures and Regulations

Present Text (from 2021) calendar

- This section applies to Faculties with the exception of the Gina - This section applies to Faculties with the exception of the Gina Cody School Cody School of Engineering and Computer Science. For the refer to §71.10.3 Academic Regulations - Supplemental Examinations.

- Each Faculty determines the courses it offers where a supplemental examination is available.

III. Supplemental Examinations - Regulations

- A student must be in acceptable standing in order to write a supplemental examination.

- A student is permitted to write only one supplemental examination for a course, whether or not the course is being repeated.

- A student who has received a passing grade for a course may not write a supplemental examination for that course.

- A student who has received an "NR" or "R" grade may not write a supplemental examination for that course.

- Applications to write supplemental examinations are available from the Birks Student Service Centre. A completed

Centre, not to the instructor, department, or Faculty, by June 15 for fall/winter courses (terms ending in 2, 3 and 4), September 16 for summer courses (session ending in 1) or February 1 for graduating students (fall-term courses [term ending in 2] only).

- The application for a supplemental examination must be accompanied by a per-course processing fee. (See the Tuition and Fees website at concordia.ca/admissions/tuition-fees/howfees-are-billed/undergraduate/fees for the current fee.) The supplemental fee is refundable only if the student is denied

Proposed Text

III. Supplemental Examinations - Regulations

of Engineering and Computer Science. For the Gina Cody School of Gina Cody School of Engineering and Computer Science, please Engineering and Computer Science, please refer to §71.10.3 Academic Regulations - Supplemental Examinations.

> - Each Faculty determines the courses it offers where a supplemental examination is available.

- A student must be in acceptable standing in order to write a supplemental examination.

- A student is permitted to write only one supplemental examination for a course, whether or not the course is being repeated.

- A student who has received a passing grade for a course may not write a supplemental examination for that course.

- A student who has received an "NR" or "R" grade may not write a supplemental examination for that course.

- Applications to write supplemental examinations can be submitted online using the online application form that is accessible from the Exams Office website. Paper-based application forms are also available at the Birks Student Service Centre and must be submitted to the Birks Student Service Centre, application should be submitted to the Birks Student Service not to the instructor, department, or Faculty, by June 15 for fall/winter courses (terms ending in 2, 3 and 4), September 16 for summer courses (session ending in 1) or February 1 for graduating students (fall-term courses [term ending in 2] only).

> - A per-course processing fee will be applied to the student's account for supplemental examination application (See the Tuition and Fees website at concordia.ca/admissions/tuition-fees/how-fees-are-billed/undergraduate/fees for the current fee.) The supplemental fee is refundable only if the student is denied permission to write the supplemental examination.

Present Text (from 2021) calendar

permission to write the supplemental.

Rationale:

Resource Implications:

Undergraduate Program Regular Curriculum Change - OOTR-OOTR-702 - VERSION : 5

Summary of Committee Discussion

For Submission to:

Dr. Sandra Gabriele, Vice-Provost, Innovation in Teaching and Learning, Academic Programs Committee (APC), 17 Dec 2021

Approved by:

Stéphanie de Celles, University Registrar, Enrolment Services, 04 Nov 2021

I approve the enclosed changes to Section 13.7.1, which include updates to reflect that the sealed envelope method from any schools outside North America is accepted in the University's admissions process.

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

Stéphanie de Celles, University Registrar

Undergraduate Program Regular Curriculum Change - OOTR-OOTR-702 - VERSION : 5

Summary of Committee Discussion:

For Submission to:

Stéphanie de Celles, University Registrar, Enrolment Services, 04 Nov 2021

Approved by:

Sophie Fontaine, Director of Admissions, Enrolment Services, 20 Oct 2021

I approve the enclosed changes to Section 13.7.1, prepared by Amanda Wood, which include updates to reflect that the sealed envelope method from any schools outside North America is accepted in the University's admissions process.

With thanks,

Sophie Fontaine, Director of Admissions

Summary of Committee Discussion:

For Submission to:

Sophie Fontaine, Director of Admissions, Enrolment Services, 27 Oct 2021

Approved by:

Amanda Wood, Assistant to the Director of Admissions, Enrolment Services, 20 Oct 2021

Summary and Rationale for Changes

Section 13.7.1 of the calendar indicated that the sealed envelope method can be for institutions in North America only; however, we accept the sealed envelope method from any schools outside North America. The text has now been updated to reflect this.

Undergraduate Program Regular Curriculum Change - OOTR-OOTR-702 - VERSION : 5

Summary of Changes (Undergraduate Program Regular Curriculum Change)

Regulation Changes:

• Section 13.7.1 All Applicants Change

REGULATIONS CHANGE FORM

Dossier Type: Undergraduate Program Regular Curriculum Change **Dossier Title: Section Academic Documents 13.7.1**

Calendar Section Name: Section 13.7.1 All Applicants Calendar Section Type: Regulation

Description of Change: Section 13.7.1 All Applicants Change

Proposed: Undergraduate Curriculum Changes

Faculty/School: Enrolment Services/Office of the Registrar (Sections 13 & 14)

Department: Enrolment Services/Office of the Registrar (Sections 13 Calendar publication date: 2022/2023/Fall & 14) Type of change: Regulation Change

Path: Undergraduate > Undergraduate Calendar 2022-2023 > The University > Section 13 Admission Regulations > Admission Regulations > Section 13.7 Required Documents

Present Text (from 2021) calendar	Proposed Text
Section 13.7.1 All Applicants	Section 13.7.1 All Applicants
Academic Documents	Academic Documents

Applicants must submit all secondary and post - secondary academic records. In order for their admission to be finalized, they must ensure that an official transcript is forwarded directly to the Admissions Application Centre by all of the institutions which they have attended.

With their application, students currently enrolled at an institution must include results from all previous terms together with a list of courses in progress. They must arrange for an official transcript with the results of the final semester to be documents must be originals or appropriately certified copies. Uncertified copies are not acceptable; neither are records transmitted by fax. Transcripts in a language other than English or French must be accompanied by a certified translation. If the transcript does not detail the subjects and the grades, a certified statement of these from an authorized official of the institution should also be included.

The above procedure whereby institutions send official transcripts directly to Concordia University is the normal method for receipt of official transcripts. However, in order to accelerate the review of their file, students may submit official transcripts in sealed envelopes along with their application, subject to the following procedures: applicants are to request each previous educational institution to provide them with a copy of their official transcript, sealed in an envelope which bears the name and address of the school, the institutional logo (if applicable), a notice on the envelope stating that it contains official transcripts, and a signature/signature stamp/explanatory label placed across the seal of the envelope. The sealed-

Applicants must submit all secondary and post - secondary academic records. In order for their admission to be finalized, they must ensure that an official transcript is forwarded directly to the Admissions Application Centre by all of the institutions which they have attended.

With their application, students currently enrolled at an institution must include results from all previous terms together with a list of courses in progress. They must arrange for an official transcript with the results of the final semester to be forwarded as soon as possible once they have been admitted. All documents must be originals or appropriately certified copies. forwarded as soon as possible once they have been admitted. All Uncertified copies are not acceptable; neither are records transmitted by fax. Transcripts in a language other than English or French must be accompanied by a certified translation. If the transcript does not detail the subjects and the grades, a certified statement of these from an authorized official of the institution should also be included.

> The above procedure whereby institutions send official transcripts directly to Concordia University is the normal method for receipt of official transcripts. However, in order to accelerate the review of their file, students may submit official transcripts in sealed envelopes along with their application, subject to the following procedures: applicants are to request each previous educational institution to provide them with a copy of their official transcript, sealed in an envelope which bears the name and address of the school, the institutional logo (if applicable), a notice on the envelope stating that it contains official transcripts, and a signature/signature stamp/explanatory label placed across the seal of the envelope.

NOTE: All required documents received by Concordia University become the property of the University. Official documents and/or transcripts will not be returned to the applicant and will be destroyed after three years.

Present Text (from 2021) calendar

envelope transcript method may be used only for transcripts issued by institutions in North America.

NOTE: All required documents received by Concordia University become the property of the University. Official documents and/or transcripts will not be returned to the applicant and will be destroyed after three years.

Rationale: Resource Implications: Information/Service or Mastheads - OOP-OOP-2861 - VERSION :

2 Summary of Committee Discussion:

For Submission to:

Dr. Sandra Gabriele, Vice-Provost, Innovation in Teaching and Learning, Academic Programs Committee (APC), 17 Dec 2021

Approved by:

Stéphanie de Celles, University Registrar, Enrolment Services, 25 Nov 2021

I approve the enclosed addition of Section 27 Academic Advising in the Academic Calendar. This new section will serve to house the Academic Advising Mission and Academic Advising Outcomes, approved by Concordia's Central Advising Working Group (CAWG).

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

Stéphanie de Celles, University Registrar

Summary of Committee Discussion:

For Submission to:

Stéphanie de Celles, University Registrar, Enrolment Services, 25 Nov 2021

Approved by:

Margaret Colton, Facilitator, Academic Advising Support Student Services, 18 Nov 2021

I approve the enclosed addition of Section 27 Academic Advising in the Academic Calendar. This new section will serve to house the Academic Advising Mission and Academic Advising Outcomes, approved by Concordia's Central Advising Working Group (CAWG). The formal recognition of the mission and outcomes in the Academic Calendar will provide greater visibility to students of Concordia's commitment to academic advising.

With thanks,

Margaret Colton, Facilitator, Academic Advising Support

Summary and Rationale for Changes

Established in Fall 2018, Concordia's Central Advising Working Group (CAWG) is comprised of professional academic advisors and managers from the Student Academic Services units in all four faculties, as well as representatives from Enrolment Services and the Student Success Centre.

The group's mission is to champion effective academic advising services to students through sharing best practices, increasing engagement of staff who support students across academic and non-academic areas, providing support to all academic advisors and addressing areas for improvement.

The CAWG recently approved Concordia's Academic Advising Mission and Academic Advising Outcomes. Following consultation with the Calendar Editor and University Curriculum Administrator, the CAWG is requesting the creation of Section 27 Academic Advising in the calendar to house the mission and outcomes and provide greater visibility to students.
Information/Service or Mastheads - OOP-OOP-2861 - VERSION : 2

INFORMATION/SERVICES CHANGE FORM

Dossier Type: Information/Service or MastheadsDossier Title: Addition of Section 27 AdvisingCalendar Section Name: Concordia Advising MissionCalendar Section Type: Service InfoDescription of Change: Concordia Advising Mission NewProposed: Undergraduate Curriculum ChangesFaculty/School: Office of the ProvostDepartment: Office of the ProvostCalendar publication date: 2022/2023/Fall
Type of change: \$D02_CHANGE_TYPE_DESCR\$

Path: Undergraduate > Undergraduate Calendar 2022-2023 > The University > Section 27 Advising > Advising

Present Text (from 2021) calendar

Proposed Text

Concordia's Academic Advising Mission

Academic advising at Concordia University is a collaborative effort between students, staff and faculty that empowers students to meet their academic goals and achieve their vision of success.

Rationale:

Resource Implications:

INFORMATION/SERVICES CHANGE FORM

Dossier Type: Information/Service or MastheadsDossier Title: Addition of Section 27 AdvisingCalendar Section Name: Concordia Advising OutcomesCalendar Section Type: Service InfoDescription of Change: Concordia Advising Outcomes NewProposed: Undergraduate Curriculum ChangesFaculty/School: Office of the ProvostDepartment: Office of the ProvostCalendar publication date: 2022/2023/Fall
Type of change: \$D02_CHANGE_TYPE_DESCR\$

Path: Undergraduate > Undergraduate Calendar 2022-2023 > The University > Section 27 Advising > Advising

Present Text (from 2021) calendar

Proposed Text

Concordia Academic Advising Outcomes

Advisor Outcomes

- Uphold ethical, knowledgeable and informed advising practices that communicate care and respect

Provide accurate, accessible and updated information about educational opportunities, academic requirements, policies and procedures
Collaborate with students on the development and implementation of academic plans and educational experiences congruent with the student's interests and strengths, so that students can make informed decisions

- Foster relationships with, and refer students to, campus programs, offices, and personnel that facilitate educational and personal growth

- Support students in their pursuit of meaningful university experiences and progress toward achievement of individual academic goals

- Use current available technology to support and enhance their work with students

- Participate in ongoing professional development

Student Learning Outcomes

- As a result of actively participating in academic advising, students can expect to:

- Assume responsibility for informing themselves of, and meeting, their academic program requirements

- Understand the university's academic policies and procedures in the Undergraduate Calendar

- Use university information, resources and services to assist them in setting academic goals

- Identify, articulate and implement their academic goals

Section 27 Academic Advising

Academic Advising

Concordia Academic Advising Mission

Academic advising at Concordia University is a collaborative effort between students, staff and faculty that empowers students to meet their academic goals and achieve their vision of success.

Concordia Academic Advising Outcomes

Academic Advisor Outcomes

- Uphold ethical, knowledgeable and informed advising practices that communicate care and respect
- · Provide accurate, accessible and updated information about educational opportunities, academic requirements, policies and procedures
- Collaborate with students on the development and implementation of academic plans and educational experiences congruent with the student's interests and strengths, so that students can make informed decisions
- Foster relationships with, and refer students to, campus programs, offices, and personnel that facilitate educational and personal growth
- Support students in their pursuit of meaningful university experiences and progress toward achievement of individual academic goals
- Use current available technology to support and enhance their work with students
- Participate in ongoing professional development

Student Learning Outcomes

As a result of actively participating in academic advising, students can expect to:

- Assume responsibility for informing themselves of, and meeting, their academic program requirements
- Understand the university's academic policies and procedures in the Undergraduate Calendar
- · Use university information, resources and services to assist them in setting academic goals
- · Identify, articulate and implement their academic goals



SCHOOL OF GRADUATE STUDIES

- MEMO TO: Sandra Gabriele, Vice-Provost, Innovation in Teaching and Learning
- **FROM:** Rachel Berger, Associate Dean, Academic Programs and Development School of Graduate Studies
- DATE: November 8, 2021

SUBJECT: GRADUATE CURRICULUM CHANGES (CHEM-71) (CALENDAR – 2022/2023) 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 the conversion of five special topics courses into permanent courses (CHEM 611 *Advanced Bioanalytical Chemistry*, CHEM 629 *Polymer Chemistry and Nanotechnology*, CHEM 636 *Molecular Modelling of Proteins*, CHEM 647 *Solar Energy Conversion*, and CHEM 674 *Chemical Biology of Natural Products*), the deletion of two courses not offered in over 10 years, and three course description modifications.

The GCC approved the proposed curriculum changes with minor adjustments to the rationale. 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



INTERNAL MEMORANDUM

то:	Dr. Rachel Berger Associate Dean, School of Graduate Studies Chair, Graduate Curriculum Committee
FROM:	Dr. Pascale Sicotte, Dean, Faculty of Arts and Science Chair, Arts and Science Faculty Council
CC:	Dr. Richard Courtemanche, Associate Dean, Academic Programs Faculty of Arts and Science
DATE:	September 20, 2021
SUBJECT:	Graduate Calendar Curriculum Changes Department of Chemistry and Biochemistry (CHEM-71)

The following proposal was presented under ASFC-2021-5M-G and approved at the Arts and Science Faculty Council meeting of September 17, 2021. We request that this proposal be reviewed at the next Graduate Curriculum Committee meeting.

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



INTERNAL MEMORANDUM

то:	Dr. Pascale Sicotte, Dean, Faculty of Arts and Science Chair, Arts and Science Faculty Council
FROM:	Dr. Richard Courtemanche, Associate Dean, Academic Programs Faculty of Arts and Science
DATE:	September 2 nd , 2021
SUBJECT:	Graduate Calendar Curriculum Changes Department of Chemistry and Biochemistry CHEM-71 New courses CHEM 611, 629, 636, 647, 674; changes to CHEM 614, 666, 668; deletion of CHEM 632 and 644

The Faculty Curriculum Committee has reviewed and approved the following proposal and requests that it be considered at the next Arts and Science Faculty Council.

The **Department of Chemistry and Biochemistry** is proposing the conversion of five special topics courses given over the years into permanent courses within the Graduate Calendar; each course has been successfully offered at least twice and for each, there is growing interest in the respective discipline. Graduate training will thus be formalized for the courses CHEM 611 *Advanced Bioanalytical Chemistry*, CHEM 629 *Polymer Chemistry and Nanotechnology*, CHEM 636 *Molecular Modelling of Proteins*, CHEM 647 *Solar Energy Conversion*, and CHEM 674 *Chemical Biology of Natural Products*. The themes in these courses have taken a stronger hold within the department priorities, and these courses are also likely to attract students from other programs within Physics, Biology, Environmental and Sustainability Sciences, and Nanoscience and Nanotechnology.

The department is also removing two courses from their curriculum that have not been offered since 2001, CHEM 632 *Non-equilibrium Thermodynamics* and CHEM 644 *Physical Methods in Chemistry*.

Finally, course description changes to CHEM 614 *Modern Aspects of Mass Spectrometry: Metabolomics and Proteomics*, CHEM 666 *MSc Seminar*, and CHEM 668 *PhD Research Seminar* are presented to reflect more accurately what is taught in the respective courses.

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

Department of Chemistry and Biochemistry

CHEM-71

Memo from Chair

Placement of new courses in topics listing

PhD in Chemistry

MSc in Chemistry

New courses

CHEM 611	Advanced Bioanalytical Chemistry
CHEM 629	Polymer Chemistry and Nanotechnology
CHEM 636	Molecular Modelling of Proteins
CHEM 647	Solar Energy Conversion
CHEM 674	Chemical Biology of Natural Products

Course title, prerequisite, and description change

CHEM 614	Modern Aspects o	f Mass Spectrometr	y: Metabolomics and	Proteomics
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Course deletion

- CHEM 632 Non-equilibrium Thermodynamics
- CHEM 644 Physical Methods in Chemistry

Course description change

- CHEM 666 MSc Seminar
- CHEM 668 PhD Research Seminar



INTERNAL MEMORANDUM

To:	Richard Courtemanche, Associate Dean Academic Programs
From:	Christine DeWolf, Chair, Department of Chemistry and Biochemistry
Date:	February 21, 2021 (revised 20 May 2021, revised 27 Aug, 26 Oct 2021 PJ)
Subject:	Graduate Calendar Changes

The Department Council for the Department of Chemistry and Biochemistry met on 18 January 2021 and approved the following calendar changes proposed by the Department Curriculum Committee.

1) Assigning permanent course numbers to slot courses that have been taught successfully at least twice. With permanent course numbers, these courses can be added to the list of program electives.

CHEM 611: Advanced Bioanalytical Chemistry;
CHEM 629: Polymer Chemistry and Nanotechnology;
CHEM 636: Molecular Modelling of Proteins;
CHEM 674: Chemical Biology of Natural Products;
CHEM 647: Solar Energy Conversion;

2) The deletion of two courses, **CHEM 632** Non-equilibrium Thermodynamics and **CHEM 644** Physical Methods in Chemistry. CHEM 632 and 644 have not been offered since 2001 and will be replaced as program electives by the five courses listed above which reflect new directions in the department and in chemical research.

3) A course calendar description change for our two seminar courses (**CHEM 666** and **CHEM 668**) as well as their addition under the list of courses. (Previously, these courses were listed under the degree requirements section but had not been listed under the list of courses, an omission which was noted in the recent University-level graduate calendar review for the introduction of the new curriculum software). The minor change in the wording was introduced to better reflect the goals of the course. Similarly, editing the course calendar description and title of **CHEM 614:** Modern Aspects of Mass Spectrometry: Metabolomics and Proteomics reflects recent changes in the field and keeps this course current.

All graduate courses are offered on rotation within our normal course allotment and hence there are no resource implications. The graduate courses also are cross-listed with undergraduate courses which are concomitantly receiving permanent course numbers in an associated dossier.

C. Dullay

PROGRAM CHANGE: PhD in Chemistry

Proposed [] Undergraduate or [X] Graduate Curriculum Changes

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

Faculty/School:	Arts and Science
Department:	Chemistry and Biochemistry
Program:	PhD in Chemistry
Degree:	PhD
Calendar Section/Graduate Pa	age Number: Fall 2021

Type of Change:

[] Editoria	1 [X] Requirements	[X] Regulations	[] Program Deletion [] New Program	
Present Text (from 2021/2022) calendar			Proposed Text	
Chemistry PhD (90 credits)			Chemistry PhD (90 credits)	
6 credit the st	ts of courses listed under Chemistry PhD Top tudent's research project	ic Courses , in the general field of	6 credits of courses listed under Chemistry PhD Topic Courses , in the general field of the student's research project	
9 credi	ts:		9 credits:	
• CHI	EM 896 Research Proposal and Comprehens	ive Examination (9.00)	• CHEM 896 Research Proposal and Comprehensive Examination (9.00)	
72 credit	IS:		72 credits:	
• CHI 3 credit	EM 856 Doctoral Research and Thesis (72.00 ts:))	• CHEM 856 Doctoral Research and Thesis (72.00) 3 credits:	
• CHI	EM 668 PhD Research Seminar (3.00)		• CHEM 668 PhD Research Seminar (3.00)	
Chem	istry PhD Topic Courses		Chemistry PhD Topic Courses	
Topics i • CHEM • CHEM • CHEN	n Analytical and Bioanalytical Chemistry l 610 Selected Topics in Analytical Chemistry l 612 Analytical Separations (3.00) l 614 Modern Aspects of Practical Mass Spec	(3.00) trometry (3.00)	 Topics in Analytical and Bioanalytical Chemistry CHEM 610 Selected Topics in Analytical Chemistry (3.00) <u>CHEM 611 Advanced Bioanalytical Chemistry (3.00)</u> CHEM 612 Analytical Separations (3.00) CHEM 614 Modern Aspects of Mass Spectrometry: <u>Metabolomics and Proteomics</u> 	

(3.00)Topics in Bioorganic and Organic Chemistry Topics in Bioorganic and Organic Chemistry • CHEM 620 Selected Topics in Organic Chemistry (3.00) CHEM 621 Physical Organic Chemistry (3.00) • CHEM 620 Selected Topics in Organic Chemistry (3.00) CHEM 624 Organic Synthesis (3.00) • CHEM 621 Physical Organic Chemistry (3.00) • CHEM 625 Nucleic Acid Chemistry (3.00) • CHEM 624 Organic Synthesis (3.00) CHEM 626 Reactive Intermediates (3.00) • CHEM 625 Nucleic Acid Chemistry (3.00) • CHEM 627 Supramolecular Chemistry (3.00) • CHEM 626 Reactive Intermediates (3.00) • CHEM 627 Supramolecular Chemistry (3.00) • CHEM 629 Polymer Chemistry and Nanotechnology (3.00) **Topics in Physical Chemistry Topics in Physical Chemistry** • CHEM 630 Selected Topics in Physical Chemistry (3.00) • CHEM 631 Computational Chemistry (3.00) • CHEM 630 Selected Topics in Physical Chemistry (3.00) CHEM 632 Non-equilibrium Thermodynamics (3.00) • CHEM 631 Computational Chemistry (3.00) • CHEM 633 Quantum Mechanics in Chemistry (3.00) CHEM 635 Interfacial Phenomena (3.00) • CHEM 633 Quantum Mechanics in Chemistry (3.00) • CHEM 638 Physics and Chemistry of Solid State Electronic Materials (3.00) • CHEM 635 Interfacial Phenomena (3.00) • CHEM 636 Molecular Modelling of Proteins (3.00) • CHEM 638 Physics and Chemistry of Solid State Electronic Materials (3.00) Topics in Bioinorganic and Inorganic Chemistry • CHEM 640 Selected Topics in Inorganic Chemistry (3.00) Topics in Bioinorganic and Inorganic Chemistry CHEM 643 Organometallic Chemistry (3.00) CHEM 644 Physical Methods in Chemistry (3.00) • CHEM 640 Selected Topics in Inorganic Chemistry (3.00) CHEM 645 Bioinorganic Chemistry (3.00) • CHEM 643 Organometallic Chemistry (3.00) CHEM 646 Industrial Catalysis (3.00) • CHEM 645 Bioinorganic Chemistry (3.00) • CHEM 646 Industrial Catalysis (3.00) **Topics in Multidisciplinary Chemistry** • CHEM 647 Solar Energy Conversion (3.00) • CHEM 650 Selected Topics in Multidisciplinary Chemistry (3.00) **Topics in Multidisciplinary Chemistry** • CHEM 651 Nanochemistry (3.00) • CHEM 658 Aquatic Biogeochemistry (3.00) • CHEM 650 Selected Topics in Multidisciplinary Chemistry (3.00) • CHEM 651 Nanochemistry (3.00) • CHEM 658 Aquatic Biogeochemistry (3.00) **Topics in Biochemistry** • CHEM 666 MSc Seminar (3.00) • CHEM 670 Selected Topics in Biochemistry and Biophysics (3.00) **Topics in Biochemistry** • CHEM 676 Structure and Function of Biomembranes (3.00) • CHEM 677 Enzyme Kinetics and Mechanism (3.00) • CHEM 678 Protein Engineering and Design (3.00) • CHEM 670 Selected Topics in Biochemistry and Biophysics (3.00) • CHEM 674 Chemical Biology of Natural Products (3.00) • CHEM 676 Structure and Function of Biomembranes (3.00) • CHEM 677 Enzyme Kinetics and Mechanism (3.00) **Topics in Instrumentation** • CHEM 678 Protein Engineering and Design (3.00) CHEM 690 Selected Topics in Instrumentation (3.00) **Topics in Instrumentation** • CHEM 691 Magnetic Resonance Spectroscopy (3.00) • CHEM 692 Experimental Protein Chemistry (3.00) • CHEM 690 Selected Topics in Instrumentation (3.00)

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 691 Magnetic Resonance Spectroscopy (3.00) CHEM 692 Experimental Protein Chemistry (3.00) 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.
Rationale: New and deleted courses are reflected in the elective course listings per topic.	
Resource Implications: None.	

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PROGRAM CHANGE: MSc in Chemistry

Proposed [] Undergraduate or [X] Graduate Curriculum Changes

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

Faculty/School:	Arts and Science
Department:	Chemistry and Biochemistry
Program:	MSc in Chemistry
Degree:	MSc
Calendar Section/Graduate Page	Number: Fall 2021

Type of Change:

[] Editorial	[X] Requirements	[X] Regulations	[] Program Deletion [] New Program
Present Text (from 2021/2022) calendar			Proposed Text
Chemistry	MSc (45 credits)		Chemistry MSc (45 credits)
6 credits of co general field	urses listed under the Chemistry MSc of the student's research project	Topics Courses List, in the	6 credits of courses listed under the Chemistry MSc Topics Courses List, in the general field of the student's research project
3 credits of co field of the s	urses listed from the Chemistry MSc ⁻ tudent's research project (acceptable	Topics Courses List, outside the to the supervisory committee)	3 credits of courses listed from the Chemistry MSc Topics Courses List, outside the field of the student's research project (acceptable to the supervisory committee)
 33 credits: • CHEM 655 	Master's Research and Thesis (33.0	0)	33 credits:
3 credits:		5)	• CHEM 655 Master's Research and Thesis (33.00) 3 credits:
 CHEM 666 Note: With p take gradua problems, as 	MSc Seminar (3.00) ermission from their supervisory com e level courses from other departmer s partial fulfillment towards their degree	mittee, students are allowed to nts relevant to their research ee requirements.	• CHEM 666 MSc Seminar (3.00) Note: With permission from their supervisory committee, students are allowed to take graduate level courses from other departments relevant to their research problems, as partial fulfillment towards their degree requirements.
Chemistry	MSc Topics Courses I	List	Chemistry MSc Topics Courses List
Topics in Analy Topics in Bioor Topics in Phys Topics in Bioin Topics in Multi	tical and Bioanalytical Chemistry ganic and Organic Chemistry ical Chemistry organic and Inorganic Chemistry disciplinary Chemistry		Topics in Analytical and Bioanalytical Chemistry Topics in Bioorganic and Organic Chemistry Topics in Physical Chemistry Topics in Bioinorganic and Inorganic Chemistry

Topics in Biochemistry Topics in Instrumentation

Topics in Analytical and Bioanalytical Chemistry

- CHEM 610 Selected Topics in Analytical Chemistry (3.00)
- CHEM 612 Analytical Separations (3.00)
- CHEM 614 Modern Aspects of Practical Mass Spectrometry (3.00)

Topics in Bioorganic and Organic Chemistry

- CHEM 620 Selected Topics in Organic Chemistry (3.00)
- CHEM 621 Physical Organic Chemistry (3.00)
- CHEM 623 Modern Aspects of Practical Mass Spectrometry (3.00)
- CHEM 625 Nucleic Acid Chemistry (3.00)
- CHEM 626 Reactive Intermediates (3.00)
- CHEM 627 Supramolecular Chemistry (3.00)

Topics in Physical Chemistry

- CHEM 630 Selected Topics in Physical Chemistry (3.00)
- CHEM 631 Computational Chemistry (3.00)
- CHEM 632 Non-equilibrium Thermodynamics (3.00)
- CHEM 633 Quantum Mechanics in Chemistry (3.00)
- CHEM 635 Interfacial Phenomena (3.00)
- CHEM 638 Physics and Chemistry of Solid State Electronic Materials (3.00)

Topics in Bioinorganic and Inorganic Chemistry

- CHEM 640 Selected Topics in Inorganic Chemistry (3.00)
- CHEM 643 Organometallic Chemistry (3.00)
- CHEM 644 Physical Methods in Chemistry (3.00)
- CHEM 645 Bioinorganic Chemistry (3.00)
- CHEM 646 Industrial Catalysis (3.00)

Topics in Multidisciplinary Chemistry Topics in Biochemistry Topics in Instrumentation

Topics in Analytical and Bioanalytical Chemistry

- CHEM 610 Selected Topics in Analytical Chemistry (3.00)
- <u>CHEM 611 Advanced Bioanalytical Chemistry (3.00)</u>
- CHEM 612 Analytical Separations (3.00)
- CHEM 614 Modern Aspects of Mass Spectrometry: <u>Metabolomics and Proteomics</u> (3.00)

Topics in Bioorganic and Organic Chemistry

- CHEM 620 Selected Topics in Organic Chemistry (3.00)
- CHEM 621 Physical Organic Chemistry (3.00)
- CHEM 623 Modern Aspects of Practical Mass Spectrometry (3.00)
- CHEM 625 Nucleic Acid Chemistry (3.00)
- CHEM 626 Reactive Intermediates (3.00)
- CHEM 627 Supramolecular Chemistry (3.00)
- CHEM 629 Polymer Chemistry and Nanotechnology (3.00)

Topics in Physical Chemistry

- CHEM 630 Selected Topics in Physical Chemistry (3.00)
- CHEM 631 Computational Chemistry (3.00)
- CHEM 633 Quantum Mechanics in Chemistry (3.00)
- CHEM 635 Interfacial Phenomena (3.00)
- <u>CHEM 636 Molecular Modelling of Proteins (3.00)</u>
- CHEM 638 Physics and Chemistry of Solid State Electronic Materials (3.00)

Topics in Bioinorganic and Inorganic Chemistry

• CHEM 640 Selected Topics in Inorganic Chemistry (3.00)

 CHEM 650 Selected Topics in Multidisciplinary Chemistry (3.00) CHEM 651 Nanochemistry (3.00) CHEM 652 Nanomaterials Characterization (3.00) CHEM 658 Aquatic Biogeochemistry (3.00) 	 CHEM 643 Organometallic Chemistry (3.00) CHEM 645 Bioinorganic Chemistry (3.00) CHEM 646 Industrial Catalysis (3.00) CHEM 647 Solar Energy Conversion (3.00) Topics in Multidisciplinary Chemistry
 CHEM 670 Selected Topics in Biochemistry and Biophysics (3.00) CHEM 676 Structure and Function of Biomembranes (3.00) CHEM 677 Enzyme Kinetics and Mechanism (3.00) CHEM 678 Protein Engineering and Design (3.00) 	 CHEM 650 Selected Topics in Multidisciplinary Chemistry (3.00) CHEM 651 Nanochemistry (3.00) CHEM 652 Nanomaterials Characterization (3.00) CHEM 658 Aquatic Biogeochemistry (3.00) CHEM 666 MSc Seminar (3.00)
	Topics in Biochemistry
 CHEM 690 Selected Topics in Instrumentation (3.00) CHEM 691 Magnetic Resonance Spectroscopy (3.00) CHEM 692 Experimental Protein Chemistry (3.00) 	 CHEM 670 Selected Topics in Biochemistry and Biophysics (3.00) <u>CHEM 674 Chemical Biology of Natural Products (3.00)</u> CHEM 676 Structure and Function of Biomembranes (3.00) CHEM 677 Enzyme Kinetics and Mechanism (3.00) CHEM 678 Protein Engineering and Design (3.00)
	Topics in Instrumentation
	 CHEM 690 Selected Topics in Instrumentation (3.00) CHEM 691 Magnetic Resonance Spectroscopy (3.00) CHEM 692 Experimental Protein Chemistry (3.00)
Rationale: New and deleted courses are reflected in the elective course listings per topic.	

Resource Implications: None.

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COURSE CHANGE: CHEM 611 New Course Number:

Proposed [] Undergraduate or [X] Graduate Curriculum Changes

		Calendar for academic year: 2022/2023
Faculty/School: Department: Program: Degree:	Arts and Science Chemistry and Biochemistry MSc and PhD in Chemistry MSc and PhD	Implementation Month/Year: Fall 202.
Calendar Section/Graduate Page No	umber: Summer 2021	
Type of Change: [] Course Number [] Course Description	[] Course Title [] Editorial	[] Credit Value [] Prerequisite [X] New Course
[] Course Deletion	[] Other - Specify:	
Present Text (from 20xx/20xx) cale	endar	Proposed Text
		CHEM 611 Advanced Bioanalytical Chemistry (3.00) Description: This course presents the concepts, tools and common instrumental techniques employed in modern bioanalytical chemistry for the quantitative analysis of drugs, metabolites, toxins, environmental contaminants, biomarkers, proteins, biotherapeutics and/or DNA in biological samples. The main topics covered may include sample preparation; mass spectrometry; immunoassays; biosensors; microfluidics; bioanalytical method validation and discussion of emerging bioanalytical techniques and trends. The applications discussed encompass toxicology, forensics, pharmacokinetics, metabolism, clinical chemistry, environmental analysis and biotechnology. Component(s): Lecture. Note(s): • Students who have received credit for this topic under a CHEM 610 number may not take this course for credit.

Rationale:

This course is an advanced course in analytical chemistry. It has been offered 4 times as a cross-listed slot course (CHEM 498G/610G) and a permanent course number is proposed. Having a wider selection of courses will allow for some students to explore their area of interest more deeply and will allow others to sample a wider array of topics.

Past enrolments: Based on class capacity of 30 students (20 undergraduate, 10 graduate):

Fall 2014: 6U/7G= 13/30 Fall 2016: 8U/4G= 12/30 Fall 2017: 2U/5G= 7/30 Fall 2019:10U/9G= 19/30

Resource Implications: There are no resource implications as the course will be offered as part of the department's regular allotment.

Other Programs within which course is listed:

This course will also be cross-listed as CHEM 411 (see dossier CHEM-72).

COURSE CHANGE: CHEM 614 New Course Number:

Proposed [] Undergraduate or [X] Graduate Curriculum Changes

Calendar for academic year: 2022/2023
Implementation Month/Year: Fall 2022

Department:	Chemistry and Biochemistry		
Program:	MSc and PhD in Chemistry		
Degree:	MSc and PhD		
Calendar Section/Graduate Page Number	er: Summer 2021		
Type of Change:			
[] Course Number	[X] Course Title	[] Credit Value	[X] Prerequisite
[X] Course Description	[] Editorial	[] New Course	
[] Course Deletion	[] Other - Specify:		
Present Text (from 2021/2022) calendar		Proposed Text	
CHEM 614 Modern Aspects of Practic Prorequisite: The following course must be 494 or equivalent. Description: Theoretical and operational a discussed in a number of formal lectures a an independent mass spectrometry project selected from all areas of chemistry, bioch sciences (e.g., proteomics, metabolomics) Component(s): Lecture.	A Mass Spectrometry (3.00) Completed previously or concurrently: CHEM Spects of modern mass spectrometry are and training sessions. All students must carry out t on their molecules of choice. Projects can be emistry or biology including the "omics" T	CHEM 614 Modern A (3.00) Description: This course spectrometry-based ap for applications such as modifications, top-down structural biology and m Component(s): Lecture Note(s):	Aspects of Mass Spectrometry: <u>Metabolomics and Proteomics</u> e surveys and critically discusses the state-of the-art_mass proaches that are driving metabolomics and proteomics revolution a shotgun proteomics, quantitative proteomics, post-translational proteomics, <u>untargeted_metabolomics, lipidomics, metallomics,</u> nolecular structure characterization.
Note(s): • Students who have received creating may not take this course for creating to the state of the sta	dit for this topic under a CHEM 630 number dit.	Students who may not take	o have received credit for this topic under a CHEM 630 number this course for credit.

Rationale:

The life sciences are currently undergoing a change in approach such that concentrations concentrations and interactions of hundreds or thousands of biomolecules are systematically interrogated in parallel. Mass spectrometry is one of the major analytical tools contributing to the power and growth of metabolomics and proteomics. Due to aging instrumentation and increasing numbers of students interested in mass spectrometry, it is no longer possible to accommodate student-driven independent projects. The last 2 editions of the course were changed to lectures only, and the number of topics in omics was expanded accordingly. The CHEM 494 prerequisite was problematic for international graduate students (needed an undergraduate study permit to register for CHEM 494) so it was recommended to drop this prerequisite and cover the most important introductory material (electrospray ionization and main instrument designs) in the first 2 lectures of current course. This way all students receive the background needed to follow the rest of the material.

Resource Implications:

There are no resource implications as the course will be offered as part of the department's regular allotment.

Other Programs within which course is listed:

This course will also be cross-listed as CHEM 414 (see dossier CHEM-72).

COURSE CHANGE: CHEM 629 New Course Number:

Proposed [] Undergraduate or [X] Graduate Curriculum Changes

			Calendar for academic year: 2022/2023 Implementation Month/Vear: Fall 2022
Faculty/School: Department: Program: Degree: Calendar Section/Graduate Page Number	Arts and Science Chemistry and Biochemistry MSc and PhD in Chemistry MSc and PhD er: Summer 2021		
Type of Change:			
[] Course Number [] Course Description [] Course Deletion	[] Course Title [] Editorial [] Other - Specify:	[] Credit Value [X] New Course	[] Prerequisite
Present Text (from 20xx/20xx) calendar	r	Proposed Text	
		 CHEM 629 Polymer Chemi Description: This course intro an emphasis on polymer synt step growth, free radical, and such as living anionic, living c Additionally, the design and d develop nanomaterials for bic are presented. Other topics m micellar nanocarriers, cellular nanogels/hydrogels, materials Component(s): Lecture. Note(s):	istry and Nanotechnology (3.00) oduces some basic aspects of polymer chemistry with thesis. Various methods are discussed, including classical ring opening polymerization; and other more recent methods cationic, and living controlled/radical polymerization. development of functional polymers as building blocks to p-related applications, particularly drug delivery applications, nay include amphiphilic block copolymers, self-assembly, r imaging, multifunctional drug delivery, cross-linked s science, and biomedical engineering.

Rationale:

This course was introduced at around the same time that preparations began for the graduate program in Nanoscience and Nanotechnology. Now that this course has a permanent course number it can be added to the available nanoscience course list such that graduate enrolments should greatly increase. This course fits very well within one of the current research directions of the department.

The course has been offered three times as a cross-listed slot course (CHEM 498D/427/620D).

Past enrolments based on class capacity of 30 students (20 undergraduate, 10 graduate):

Fall 2016: 22U/9G = 31/30 Fall 2017: 15U/5G = 20/30 Fall 2019: 20U/9G = 29/30 Winter 2022: 20U/5G = 25/30 (enrolment still in progress)

Resource Implications:

There are no resource implications as the course will be offered as part of the department's regular allotment.

Other Programs within which course is listed:

None.

COURSE CHANGE: CHEM 632 New Course Number:

Proposed [] Undergraduate or [X] Graduate Curriculum Changes

			Calendar for academic year: 2022/2023 Implementation Month/Year: Fall 2022
Faculty/School: Department: Program: Degree:	Arts and Science Chemistry and Biochemistry MSc and PhD in Chemistry MSc and PhD		
Calendar Section/Graduate Pa	age Number: Summer 2021		
Type of Change: [] Course Number [] Course Description [X] Course Deletion	[] Course Title [] Editorial [] Other - Specify:	[] Credit Value [] New Course	[] Prerequisite
Present Text (from 2021/2022	2) calendar	Proposed Text	
CHEM 632 Non-equilibrium 1	Thermodynamics (3.00)		
 Prerequisite: The following course must be completed previously: CHEM 234 or equivalent. Description: 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. 			
Rationale: This course is being removed a courses as needed. This course	is the research focus in the department has shifted to other e has not been offered since at least 2001.	areas of physical chemistry.	Some of this course material is also taught in specialty slot
Resource Implications: None.			
Other Programs within which c	course is listed:		
None.			

COURSE CHANGE: CHEM 636 New Course Number:

Proposed [] Undergraduate or [X] Graduate Curriculum Changes

			Calendar for academic year: 2022/2023 Implementation Month/Vear: Fall 2022
Faculty/School:	Arts and Science		Implementation Month/ Tear. Tail 2022
Department:	Chemistry and Biochemistry		
Program:	MSc and PhD in Chemistry		
Degree:	MSc and PhD		
Calendar Section/Graduate Page Numbe	r: Summer 2021		
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 636 Molecular	r Modelling of Proteins (3.00)
		<i>Description:</i> This course predict the structure of a function. Students learn modelling, computer visu laboratory with pre-lab le	offers a hands-on introduction to the computer tools used to protein from its amino acid sequence, and to gain insight into its modelling techniques such as sequence alignment, homology ualization, molecular dynamics, and molecular docking. Computer actures.
		Component(s): Lecture,	laboratory.
		Note(s):	
		Students who may not take to	have received credit for this topic under a CHEM 630 number this course for credit.

Rationale:

This course has been offered as a slot course (CHEM 498Q/630Q) and under CHEM 436 and will continue to be offered in our regular rotation of courses. A permanent course number is thus proposed at the graduate level.

This course may be of interest to both computational scientists and biochemists. More importantly it also will attract students from the new Systems and Information Biology programs at the undergraduate level and from synthetic biology graduate programs as they are developed.

Fall 2015: 6U/5G = 11/25 Winter 2018: 4U/4G = 8/30 Fall 2021: 17/20U/3G = 20/26

Resource Implications: There are no resource implications as the courses will be offered as part of the department's regular allotment. Other Programs within which course is listed:

None.

COURSE CHANGE: CHEM 644 New Course Number:

Proposed [] Undergraduate or [X] Graduate Curriculum Changes

	-		Calendar for academic year: 2022/2023
Faculty/School.	Arts and Science		Implementation Wonth/ Year: Fall 2022
Department:	Chemistry and Biochemistry		
Program:	MSc and PhD in Chemistry		
Degree:	MSc and PhD		
Calendar Section/Graduate Page N	umber: Summer 2021		
Type of Change:			
[] Course Number	[] Course Title	[] Credit Value	[] Prerequisite
[] Course Description	[] Editorial	[] New Course	
[X] Course Deletion	[] Other - Specify:		
Present Text (from 2021/2022) cal	endar	Proposed Text	
Description: This course provides a modern physical chemistry such as l nuclear magnetic resonance, x-ray p Auger eletron, Mössbauer, and gam probe microscopy and mass spectro <i>Component(s):</i> Lecture. Rationale:	n in-depth evaluation of the different methods used in aser, microwave, FT-IR, electron spin resonance, hotoelectron, x-ray diffraction and fluorescence, ma-ray spectroscopic analysis, as well as scanning metry.		
This course is being removed as the courses as needed. This course has	research focus in the department has shifted to other not been offered since at least 2001.	areas of physical chemistry. So	ome of this course material is also taught in specialty slot
Resource Implications: None.			
Other Programs within which course	e is listed:		
None.			

COURSE CHANGE: CHEM 647 New Course Number:

Proposed [] Undergraduate or [X] Graduate Curriculum Changes

			Calendar for academic year: 2022/2023 Implementation Month/Vear: Fall 2022
Faculty/School:	Arts and Science		implementation Monthly real rail 2022
Department:	Chemistry and Biochemistry		
Program:	MSc and PhD in Chemistry		
Degree:	MSc and PhD		
Calendar Section/Graduate Page Number	Summer 2021		
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 647 Solar Energy	Conversion (3.00)
		Description: This course exp source of alternative energy (solar cells). In the first subje photosynthesis, solar fuels of the second subject area, the conversion, efficiency of solar organic, hybrid) and charge the design, synthesis and sp materials for solar fuels cata	blores how chemistry enables solar energy conversion (as a) through photochemistry/photobiology and photovoltaics ect area, solar energy conversion through artificial catalysis, and photobiological fuel production is examined. In e fundamental principles governing solar energy to electricity ar cells, different photovoltaic implementations (inorganic, separation/transport are explored. Special focus topics include bectroscopic tools needed to study inorganic molecules and alysis.
		Component(s). Lecture.	
		Note(s): • Students who have	re received credit for this topic under a CHEM 630 number
		may not take this	course for creait.

Rationale:

This course is unlike any other offered in the Department of Chemistry and Biochemistry, draws material primarily from inorganic chemistry but also physical and materials chemistry, has held high enrollment (consistently increasing from the first offering in 2018), and routinely attracts students from multiple disciplines (e.g., Biochemistry, Physics) underscoring the interest in this subject matter. It has been offered as a slot course (CHEM 498/630) and a permanent course number is proposed.

Winter 2018: 8U/2G =10/30 Winter 2019: 15U/5G = 20/30 Winter 2020: 20U/6G = 26/30 Winter 2021: 20U/11G = 31/30

Resource Implications:

There are no resource implications as the course will be offered as part of the department's regular allotment.

Other Programs within which course is listed:

This course will also be cross-listed as CHEM 447 (see dossier CHEM-72).

COURSE CHANGE: CHEM 666 New Course Number:

Proposed [] Undergraduate or [X] Graduate Curriculum Changes

Faculty/School: Department:	Arts and Science Chemistry and Biochemistry		Calendar for academic year: 2022/2023 Implementation Month/Year: Fall 2022
Program:	MSc and PhD in Chemistry		
Calendar Section/Graduate Page 1	Number: Summer 2021		
Type of Change:			
[] Course Number	[] Course Title	[] Credit Value	[] Prerequisite
[X] Course Description	[] Editorial	[] New Course	
[] Course Deletion	[] Other - Specify:	1	
Present Text (from 2021/2022) ca	llendar	Proposed Text	
CHEM 666 MSc Seminar (3 credits) Description: This course provides an opportunity for the student to prepare and present materials concerning their current research problem in an area of chemistry or		CHEM 666 MSc Seminar (3 Description: This course is de professional forum via presen the cominant of their poors.	signed to develop scientific communication skills in a ting a seminar on their MSc research topic. Students critique
communicating and defending their should successfully inform a broad	ideas on a research topic in a professional forum, and audience of chemists and biochemists.	seminar and defend their rese biochemistry faculty and peers	earch to a broad and critical audience of chemistry and <u>S.</u>
Component(s): Seminar.		Component(s): Seminar.	
Rationale: The slightly revised course descript	ion better reflects the purpose and current format of the	course.	
Resource Implications: None.			
Other Programs within which cours	se is listed:		
None.			

COURSE CHANGE: CHEM 668 New Course Number:

Proposed [] Undergraduate or [X] Graduate Curriculum Changes

			Calendar for academic year: 2021/2022 Implementation Month/Year: Fall 2022
Faculty/School:	Arts and Science		
Department:	Chemistry and Biochemistry		
Program:	MSc and PhD in Chemistry		
Degree:	MSc and PhD		
Calendar Section/Graduate Pag	e Number: Summer 2021		
Type of Change:			
[] Course Number	[] Course Title	[] Credit Value	[] Prerequisite
[X] Course Description	[] Editorial	[] New Course	
[] Course Deletion	[] Other - Specify:		
Present Text (from 2021/2022)	calendar	Proposed Text	
CHEM 668 PhD Research Seminar (3 credits) Description: 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. Component(s): Seminar.		CHEM 668 PhD Research S Description: This course is de professional forum by present research. Emphasis is placed with strong emphasis on critic critique the seminars of their p prepare presentation material critical audience of chemistry Component(s): Seminar.	Seminar (3 credits) esigned to <u>develop scientific</u> communication skills in a ting a seminar on a current project/problem in their PhD on pedagogical approaches to broad-audience seminars eal analysis of data and clarity of interpretation. Students beers, write an abstract/advertisement for their seminar, s, give a seminar and defend their research to a broad and and biochemistry faculty members and peers.
Rationale: The revised course description be	etter reflects the purpose and current format of the cours	se.	
Resource Implications: None.			
Other Programs within which co	urse is listed:		
None.			

COURSE CHANGE: CHEM 674 New Course Number:

Proposed [] Undergraduate or [X] Graduate Curriculum Changes

		Calendar for academic year: 2022/2 Implementation Month/Vear: Fall 2
Faculty/School: Department: Program: Degree: Calendar Section/Graduate Page N	Arts and Science Chemistry and Biochemistry MSc and PhD in Chemistry MSc and PhD umber: Summer 2021	
Type of Change: [] Course Number [] Course Description [] Course Deletion	[] Course Title [] Editorial [] Other - Specify:	[] Credit Value [] Prerequisite [X] New Course
Present Text (from 20xx/20xx) cal	endar	Proposed Text
		 CHEM 674 Chemical Biology of Natural Products (3.00) Prerequisite: The following course must be completed previously: CHEM 375 or equivalent. If prerequisites are not satisfied, permission of the Department is required. Description: This course examines how natural products interact with their cellular targets with a special emphasis on the role of antibiotics and anticancer drugs. It also explores the role of these compounds in their natural environment, with a focus on intra-species competition and symbiosis. Component(s): Lecture. Note(s): Students who have received credit for this topic under a CHEM 670 number may not take this course for credit.

Rationale:

This course has been offered as a topics course under CHEM 498/670 which already has good enrolments, also should be of interest to upper level undergraduate students in the new BSc Honours and BSc Specialization in Environmental and Sustainability Science. It also is of interest to our graduate students studying natural products and their roles in medicine and the environment.

Fall 2017: 19U/2G =21/30 Fall 2019: 27U/2G = 29/40

Resource Implications: This course will continue to be offered in our regular rotation of courses. Other Programs within which course is listed:

This course will also be cross-listed as CHEM 474 (see dossier CHEM-72).

ADVANCED BIOANALYTICAL CHEMISTRY (CHEM498U) (proposed CHEM 411/611)

(proposed CHEIM 411/61)

General	information
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Office hours:	Thursdays 1-2 pm or by appointment
E-mail:	Dajana.vuckovic@concordia.ca
Phone:	(514) 848-2424 ext. 3981
Office:	SP 275.31
Department:	Chemistry and Biochemistry
Instructor:	Prof. Dajana Vuckovic
Time:	Tues 18:00-20:30
Location:	CC 425
Credits:	3.0
Term:	Fall 2017
Section:	51
Course:	CHEM 498U

Course Description

Calendar course description: Prerequisite: CHEM 271 AND 312 or permission from the instructor. This course presents the concepts, tools and common instrumental techniques employed in modern bioanalytical chemistry for the quantitative analysis of drugs, metabolites, toxins, environmental contaminants, biomarkers, proteins, biotherapeutics and/or DNA in biological samples. The main topics covered will include sample preparation; mass spectrometry; immunoassays; biosensors; microfluidics; bioanalytical method validation and discussion of emerging bioanalytical techniques and trends. The applications discussed will encompass toxicology, forensics, pharmacokinetics, metabolism, clinical chemistry, environmental analysis and biotechnology. Lectures and discussion-style tutorials.

Expanded course description: The main objective of this course is to teach students how to select or develop an analytical method for a given analyte in a given biological matrix. The students will be expected to understand the main principles of the stated techniques, and subsequently be able to compare/contrast different instrumental and non-instrumental approaches to select the most appropriate choice for a given analysis. To guide such critical interpretation, this course will heavily emphasize critical thinking and problem-solving skills through class discussions, problem-solving assignments and detailed exploration of case studies encompassing bioanalytical problems of current relevance such as newborn screening, clinical analysis of vitamin D, quality control of biotherapeutics and biosimilars and glucose monitoring.

Overall course goal: Select or design the analytical method to measure an analyte in biological fluid or tissue

Key learning objectives:

- Distinguish terminology of method validation and calibration
- Identify and explain the main principles of key techniques in bioanalysis
- Interpret data across different validation studies
- Design a validation study for a bioanalytical method in compliance with regulatory requirements
- Summarize and critique different analytical approaches to perform a selected analysis
- Propose a method for an analyte of interest in a given matrix

Grading scheme

Assignment 1	October 17, 2017	10%
Assignment 2	November 21, 2017	10%
Participation	Throughout the course	15%
5-page critical evaluation term paper	Monday, December 4, 2017	25%
Final oxam	TPD during even period Dec 6 20, 2017	40%
Fillal exam	TBD, during exam period Dec 6-20, 2017	(comprehensive)

Due dates and late policy:

 \rightarrow <u>Assignment due dates</u>: Assignments are due by <u>17:55 before the beginning of the class</u> on the stated dates.

 \rightarrow <u>Late policy on assignments and critical paper</u>: **No late assignments will be accepted** <u>unless</u> medical note is provided. Any assignments that are not handed in by due date and time will be assigned a mark of <u>zero</u>. Assignments will <u>not</u> be accepted by email. Only printed or hand-written solutions to the assignment will be accepted. Please hand in complete solution to the assigned problems, not just the final answers.

Textbook and materials:

- Bioanalytical Chemistry, Mikkelsen and Corton, 2nd edition, Wiley, 2016 (required textbook for the course)
 - \rightarrow Course notes and references described in weekly schedule for deeper information
 - \rightarrow Discussion papers see page 4
 - \rightarrow FDA Bioanalytical Method Validation Guidelines:

http://www.fda.gov/downloads/drugs/guidancecomplianceregulatoryinformation/guidances/ucm368107.p df

 $\frac{\text{http://www.fda.gov/downloads/drugs/guidancecomplianceregulatoryinformation/guidance/ucm070107.pdf}{\rightarrow} EMA Bioanalytical Method Validation Guidelines:}$

http://www.ema.europa.eu/docs/en_GB/document_library/Scientific_guideline/2011/08/WC50010 9686.pdf

 \rightarrow scientific calculator

Textbooks (optional):

- Handbook of LC-MS Analysis, Li, Zhang and Tse, Wiley, 2013 (suggested textbook to complement some of LC-MS lectures)
- Bioanalysis of Pharmaceuticals, Hansen and Pedersen-Bjergaard, 2015 (suggested introductory textbook if you are struggling with basic background material)

COURSE OUTLINE - CHEM 498D/620D (proposed CHEM 629)

1. General Information

- Advanced Topic in Chemistry/polymer chemistry & Nanotechnology (CHEM 498D/620D), 3 credits, Fall 2017
- Thursday, 18:00-20:30, Loyola campus, CC 425.
- Dr. John Oh, Faculty of Arts & Science, Chemistry & Biochemistry. Office: SP 275.09
- Course email: john.oh@concordia.ca
- Office hours: Wednesday (3-5 pm) or by appointment (e-mail in advance)
- Course web page available on Moodle (www.myconcordia.ca)

2. Course Description

This course will deal with advanced knowledge in polymer chemistry, materials science, and biomedical engineering. *CHEM222 is a prerequisite.*

The course will offer the introductory polymer chemistry with an emphasis on polymer synthesis. Various methods to synthesize polymers will be discussed; they include classical step growth, free radical, ring opening polymerization, and other polymerizations; and modern living anionic, cationic, and living controlled/radical polymerization. Further, this course will discuss the design and development of functional polymers as building blocks to develop nanomaterials for bio-related applications, particularly drug delivery applications. Topics include amphiphilic block copolymers, self-assembly, micellar nanocarriers, cellular imaging, multifunctional drug delivery, and crosslinked nanogels/hydrogels. Lectures only

Polymer synthesis:

Polymer basic- nomenclature, properties, molecular weight Classical step-growth & chain-growth polymerization Anionic & cationic polymerization Living/controlled radical polymerization- ATRP, RAFT, NMP Other polymerization methods: ROP, ROMP, etc Post-modification methods - click chemistry (thiol-ene reactions) Block copolymer general and self-assembly

Polymers for bio-related applications:

Polymer-based drug delivery general Amphiphilic block copolymer nanostructures Stimuli-responsive degradation platforms/controlled release Polylactide-based nanoassemblies/drug delivery Crosslinked nanomaterials-drug delivery & tissue engineering

3. Textbooks and Materials

1) Recommended:

- Introduction to Polymers, 3rd Edition, R.J. Young and P.A. Lovell; CRC Press
- Introduction to polymer chemistry, 2nd Edition, C.E, Carraher, Jr.
- Block copolymers: synthetic strategies, physical properties, and applications, N. Hadjichristidis, S. Pispas, and G.A. Floudas

2) Course website (Moodle on your Myconcordia Portal): Lecture slides and handouts

4. Grading Undergraduate (CHEM 498)

Mid-term Exam:	15%	(during class time on November 16, 2017)
Final Exam:	50%	(in December for 3 hrs, scheduled by Exams Office)
Presentation:	35%	

Presentation would be <u>15 min</u> long including questions/answers. Topics will be chosen by students and the presentation should describe the synthesis and applications of polymers and polymeric materials. Ideally, students will read 2-3 research papers on one topic of their interests. Evaluation criteria: Organization, presentation, art works, and questions/answers.

Graduate & Independent (CHEM620)

Final Exam:45%(in December for 3 hrs, scheduled by Exams Office)Presentation/term report:55% (35% presentation/20% term report)

Midterm exam will be optional. If the mid-term exam will be taken, the final grade will be leveraged with 15% Midterm exam and 30% Final exam

Presentation would be <u>20 min</u> long including questions/answers. Topics will be chosen by students, but should not overlap with graduate thesis research. The presentation should describe the synthesis and applications of polymers and polymeric materials. Evaluation criteria: Organization, presentation, art works, and questions/answers.

Term report: 3 page long except for a cover page (single space, 11 pt/Arial, 1 inch margin for all four sides, no more than 3 figures) – electronic submission as a pdf file, due on one day (by 5 pm) before final exam

Note: **For all students**, when your final exam is better than midterm exam, the grading will be followed with 5%/60% midterm/final exam.

Grading scale: 0 F; 50.0 D-; 53 D; 57 D+; 60 C-; 63 C; 67 C+; 70 B-; 73 B; 77 B+; 80 A-; 85 A; 90 A+.

In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change.

5. Detailed lecture schedule (subjected to change)

Lecture 1-6	Polymer synthesis
Lecture 7-10	Bio-related applications
Lecture 11	Mid-term exam (November 16 class for 1.5 hrs)
Lecture 12-13	Presentations

MANDATORY QUIZ AND SEMINAR

As part of this course, you are *required* to i) attend a Chemistry and Biochemistry Departmental Seminar on the academic conduct code and the appropriate use of information sources and ii) pass the online quiz associated with this seminar (the passing grade for the quiz is 100%). (Note: This is not the University's quiz you may have been asked to take when you first registered and logged into the myConcordia portal; the one you must take is similar, but graded by the Department of Chemistry and Biochemistry, and you cannot take it until after you have attended the seminar.) The aim of this seminar is to clarify the academic conduct code in terms of what practices will be considered unacceptable with regards to work submitted for grading in Chemistry and Biochemistry courses. You are only exempt from repeating the seminar and the quiz if you have done both in Fall 2011 or more recently,* otherwise you are required to repeat both this term.

As space for each of the seminars is limited by the room size, please sign up to your preferred time. Sign-up sheets are available outside SP 201.01 (Departmental office).

If you do not complete this course requirement, your final grade for the course may be lowered by one full letter grade with an incomplete (INC) notation until such time as this requirement is completed. Please refer to the undergraduate calendar (section 16.3.6) for details on removal of an incomplete notation.

* You are exempt if you can locate your ID in the pdf file located on the CHEM 101 Moodle site (for guest login, go to: http://moodle.concordia.ca/moodle, Arts and Science, Chemistry and Biochemistry, Specialized Chemistry Sites, CHEM 101, look under FAQ).

PLAGIARISM AND OTHER FORMS OF ACADEMIC DISHONESTY:

The academic code of conduct can be found in section 17.10 of the academic calendar (http://www.concordia.ca/academics/undergraduate/calendar/current/17-10.html). Any form of unauthorized collaboration, cheating, copying or plagiarism found in this course will be reported and the appropriate sanctions applied. The mandatory seminar is a clear and fair opportunity to learn what our faculty regards as academic misconduct. Failure to take part in this learning opportunity and thus ignorance of these regulations is no excuse and will not result in a reduced sanction in any case where academic misconduct is observed.

CHEM 436 / CHEM 630 / CHME 6911: Molecular Modelling of Proteins (proposed CHEM 636) Fall 2021

Instructor:	Dr. Deniz Erol		
	Assistant Professor, Department of Chemical and Materials Engineering,		
	Gina Cody School of Engineering		
	Office: L-HU 206-00		
	Email: deniz.erol@concordia.ca		
Time/Location:	Lectures : Tuesdays, 11.45 am – 1 pm, CC 405, Loyola Campus		
	Labs : Thursdays, $11.45 \text{ am} - 1 \text{ pm}$, CC 203, Loyola Campus Note that some lectures might be scheduled to Thursdays. Please check the schedule below.		
Office hours:	Tuesdays $1 - 2$ pm, Thursdays $1 - 2$ pm, or by appointment.		

I will strive to make learning experience as accessible and inclusive as possible. If you have accessibility needs that require academic accommodations, please meet with an advisor from the Access Centre for Students with Disabilities (ACSD) as soon as possible to set up an accommodation plan. I welcome meeting with all students to discuss their accessibility needs.

Concordia University is located on unceded Indigenous lands. The Kanien'kehá:ka Nation is recognized as the custodians of the lands and waters on which we gather today. Tiohtià:ke/Montréal is historically known as a gathering place for many First Nations. Today, it is home to a diverse population of Indigenous and other peoples. We respect the continued connections with the past, present and future in our ongoing relationships with Indigenous and other peoples within the Montreal community.

Course Description:

This course offers a hands-on introduction to the computer tools used to predict the structure of a protein from its amino acid sequence, and to gain insight into its function. Students learn modelling techniques such as sequence alignment, homology modelling, computer visualization, molecular dynamics, and molecular docking. Computer laboratory with pre-lab lectures.

Prerequisites: CHEM 234: Physical Chemistry I: Thermodynamics, CHEM 271: Biochemistry I

Course Objectives: By the end of the course, students will be able to:

- Classify different molecular modelling techniques available given a scientific problem pertaining to proteins.
- Utilize a variety of tools and software to investigate protein structure, dynamics and function.
- Identify a knowledge gap and design a project to address it using one or more of the molecular modelling tools taught in the course.

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- Critically analyze the quantitative and qualitative data obtained from modelling software and discuss the results to address the scientific problem.

Schedule:

Please note that this schedule may change during the semester.

	Tuesday	September 7	Introduction to the course: Overview of molecular modelling tools and applications.			
WEEK I	Thursday	September 9	Biological Foundations: Review of central dogma, protein structure.			
	Tuesday	September 14	Biological Foundations: Intermolecular interactions.			
WEEK 2	Thursday	September 16	Lab 1: Linux command line tools, molecular visualization.			
	Monday	September 20	Deadline for withdrawal with tuition refund (DNE)			
	Tuesday	September 21	Biological Databases: Primary secondary and			
WEEK 3	Tuesday	September 21	molecular structure databases.			
	Thursday	September 23	Lab 2a: Biological databases. Lab 1 report due			
		1				
	Tuesday	September 28	Sequence Comparisons: Sequence-based database			
WEEK 4			searches and sequence alignments.			
	Thursday	September 30	Lab 2b: Protein sequence alignment.			
			l erm project proposal due			
	Tuesday	October 5	Protein folding and globular proteins			
WEEK 5	Thursday	October 7	Lab 2c: Protein sequence alignment – Comparison			
	5		and validation.			
WEEK 6	Tuesday	October 12	Protein misfolding and non-folding.			
	Thursday	October 14	Lab 3a: Protein folding. Lab 2 report due			
	Tuandary	October 10	Homology modelling			
WEEK 7	Thursday	October 21	I ah 3h: Homology modelling			
	Thursday		Lab 50. Homology moderning.			
WEEK 0	Tuesday	October 26	Molecular force fields.			
WEEK 8	Thursday	October 28	Lab 4a: Force fields. Lab 3 report due			
	Tuesday	November 2	Molecular dynamics (MD) simulations: Part I.			
WEEK 9	Thursday	November 4	Lab 4b: MD simulations: Setup.			
			I erm project first draft due			
	Mondav	November 8	Last day for academic withdrawal (DISC)			

	Tuesday	November 9	MD simulations: Part II.				
WEEK 10	Thursday	November 11	Lab 4c: MD simulations: Analysis.				
			Lab 4 Part I (4a, 4b) report due				
WEEV 11	Tuesday	November 16	EXAM: 11.45 am – 1 pm at CC 405				
WEEK II	Thursday	November 18	Lab 4d: MD simulations: Analysis continued.				
	Tuesday	November 23	Molecular docking and structure-based rational				
WEEV 12			drug design.				
WEEK 12	Thursday	November 25	Lab 5: Molecular docking.				
			Lab 4 Part II (4c, 4d) report due				
	Tuesday	November 30	Term project final draft due				
WEEK 13			Term project presentations				
	Thursday	December 2	Term project presentations Lab 5 report due				

Expected Behavior:

All individuals participating in courses are expected to be professional and constructive throughout the course, including in their communications.

Concordia students are subject to the Code of Rights and Responsibilities which applies both when students are physically and virtually engaged in any University activity, including classes, seminars, meetings, etc. Students engaged in University activities must respect this Code when engaging with any members of the Concordia community, including faculty, staff, and students, whether such interactions are verbal or in writing, face to face or online/virtual. Failing to comply with the Code may result in charges and sanctions, as outlined in the Code.

Plagiarism:

The most common offense under the Academic Code of Conduct is plagiarism, which the Code defines as "the presentation of the work of another person as one's own or without proper acknowledgement."

This includes material copied word for word from books, journals, Internet sites, professor's course notes, etc. It refers to material that is paraphrased but closely resembles the original source. It also includes for example the work of a fellow student, an answer on a quiz, data for a lab report, a paper or assignment completed by another student. It might be a paper purchased from any source. Plagiarism does not refer to words alone –it can refer to copying images, graphs, tables and ideas. "Presentation" is not limited to written work. It includes oral presentations, computer assignments and artistic works. Finally, if you translate the work of another person into any other language and do not cite the source, this is also plagiarism.

In Simple Words: Do not copy, paraphrase or translate anything from anywhere without saying where you obtained it.

(Source: <u>The Academic Integrity Website</u>)

For students in the Department of Chemistry and Biochemistry: "CHEM 101": The Academic Code of Conduct: Ethical Use of Information Sources

MANDATORY QUIZ AND SEMINAR

As part of your CHEM course, you are *required* to i) attend a Chemistry and Biochemistry Departmental Seminar on the academic conduct code and the appropriate use of information sources and ii) pass the online quiz associated with this seminar (the passing grade for the quiz is 100%). (Note: this quiz is graded by the Department of Chemistry and Biochemistry, and you do not have access to it until after you have attended the seminar. Therefore, any other quiz you may have taken on the academic code of conduct does not count toward the CHEM 101 requirement.) The aim of this seminar and quiz is to clarify the academic conduct code in terms of which practices will be considered unacceptable with regards to work submitted for grading in your CHEM course. You are only exempt from repeating the seminar and the quiz if you have done both in Fall 2016 or more recently,* otherwise you are required to repeat both this term. This short seminar (1 hour) will be held at the following times (note that you will not be given credit if you join too late and/or leave too early):

Date (Fall 2021)	Time	Mode	Registration link
Sept. 22 (Wednesday)	21:00-22:00	Zoom	https://concordia-
			ca.zoom.us/meeting/register/tZIucumr
			qTouHdDujCve8eeyjRsM_6XiQUD
Sept. 23 (Thursday)	21:00-22:00	Zoom	https://concordia-
			ca.zoom.us/meeting/register/tZEsdeyu
			pjIuGNdupvk7KE33YXJ6MyAak0An
Sept. 27 (Monday)	19:00-20:00	Zoom	https://concordia-
			ca.zoom.us/meeting/register/tZIud-
			urqTMiH91iodapd5geAi05rQtcR_y6

As space for each of the Zoom seminars is limited, please **register early** for your preferred slot (copy the corresponding link above into your browser, and make sure you do not introduce a space: it is "concordia-ca"). Then do not forget to **attend** that seminar slot on the date above!

We will take attendance at the Zoom seminar.

If you do not complete this course requirement, your final grade for the course may be lowered by one full letter grade with an incomplete (INC) notation until such time as this requirement is completed. Please refer to the undergraduate calendar (section 16.3.5) for details on removal of an incomplete notation.

* You are exempt if you can locate your ID in the pdf file located on the Departmental web site (http://www.concordia.ca/content/dam/artsci/chemistry/docs/Compliance-list.pdf) and if there is no entry in the "quiz" column for you.

PLAGIARISM AND OTHER FORMS OF ACADEMIC DISHONESTY

The Academic Code of Conduct can be found in section 17.10 of the academic calendar (http://www.concordia.ca/academics/undergraduate/calendar/current/17-10.html). Any form of unauthorized collaboration, cheating, copying or plagiarism found in this course will be reported and the appropriate sanctions applied. The mandatory seminar is a clear and fair opportunity to

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learn what our faculty regards as academic misconduct. Failure to take part in this learning opportunity and thus ignorance of these regulations is no excuse and will not result in a reduced sanction in any case where academic misconduct is observed.

Intellectual Property:

Content belonging to instructors shared in online courses, including, but not limited to, online lectures, course notes, and video recordings of classes remain the intellectual property of the faculty member. It may not be distributed, published or broadcast, in whole or in part, without the express permission of the faculty member. Students are also forbidden to use their own means of recording any elements of an online class or lecture without express permission of the instructor. Any unauthorized sharing of course content may constitute a breach of the Academic Code of Conduct and/or the Code of Rights and Responsibilities. As specified in the Policy on Intellectual Property, the University does not claim any ownership of or interest in any student IP. All university members retain copyright over their work.

Extraordinary Circumstances:

In the event of extraordinary circumstances and pursuant to the Academic Regulations, the University may modify the delivery, content, structure, forum, location and/or evaluation scheme. In the event of such extraordinary circumstances, students will be informed of the changes.

Use of Third-Party Software & Websites:

Students are advised that external software, website and/or tool ("Third Party Technology") will be used in the course and students may be asked to submit or consent to the submission of personal information (for example, name and email) to register for an online service. Students are responsible for reading and deciding whether or not to agree with the Third Party Technology's terms of use. Use of any Third Party Technology is voluntary. Students who do not consent to the use the Third Party Technology should identify themselves to the course instructor as soon as possible, and in all cases before the DNE deadline, to discuss alternate and mutually acceptable modes of participation.

Course Materials:

There is no required textbook for this course; instructor's lecture slides with references to the following books will be provided. The following books are put on course reserves.

- 1. Daan Frenkel and Berend Smit, Understanding Molecular Simulation: From Algorithms to Applications, Academic Press.
- 2. Tamar Schlick, *Molecular Modeling and Simulation: An Interdisciplinary Guide*, Springer Science & Business Media.
- 3. Andrew Leach, Molecular Modelling: Principles and Applications, Prentice Hall.
- 4. Paul M. Selzer, Richard J. Marhöfer, Oliver Koch, *Applied Bioinformatics: An Introduction*, 2nd Edition, Springer.

Important Dates and Assessment:

				Due date	%
IS	Lab 1	Linux command line tools & Mo visualization	September 23	5	
OR	Lab 2	Biological databases & sequence	alignment	October 14	10
REP	Lab 3	Protein folding & homology mod	lelling	October 28	10
AB F	Lab 4	Force fields & MD simulations	Part I (a, b)	November 11	10
LA	Force fields & MD simula		Part II (c, d)	November 25	10
	Lab 5	Molecular docking	December 2	10	
EXAM		Written exam	November 16	20	
		Proposal		September 30	5
CT		First draft	November 4	5	
ERI		Final draft	November 30	10	
PR		Prosontations	November 30		5
				December 2	
TOTAL					100

Table 1. Important dates and contribution of each assessment to the overall grade.

Note: There will not be a final exam.

The contribution of different assessments to the final grade is as follows: 55% for the lab reports, 20% for the written exam, and 25% for the term project. The minimum passing grade for the course is 50%. Out of these 50 points, at least 30 points should come from the lab reports; at least 10 points should come from the written exam; and at least 10 points should come from the term project.

The lectures and labs will be the same for both CHEM 436, CHEM 630 and CHME 6911 course codes. Students registered in CHEM 630 and CHEM 6911 will be held to higher standards in both the lab reports and term project (e.g., a more challenging term project topic, more advanced analysis) and will be expected to answer more questions in the written exam.

Laboratory Reports

The lab reports should follow a scientific paper format, with proper cross references to all the figures and tables, and proper citations. They should be organized as follows:

- Introduction (background and motivation)
- Methods
- Results and Discussion
- References
- Appendix (supporting information if necessary)

The lab reports should be submitted by **11.59 pm on Moodle on the due date specified in Table 1.** Students are responsible to store and back up the data they obtained during the computer labs. Students are encouraged to keep a copy of their lab work in the form of an archive file at the end of each lab either utilizing their email or an online storage service.

Term Project

Students will carry out a project in groups of three. Teams will be formed after the DNE deadline. Please refer to the Term Project Guidelines for more information.

List of Student Services

- 1. Access Centre for Students with Disabilities
- 2. <u>Student Success Centre</u>
- 3. Counselling and Psychological Services
- 4. Concordia Library Citation and Style Guides
- 5. <u>Health Services</u>
- 6. Financial Aid and Awards
- 7. <u>Academic Integrity</u>
- 8. Dean of Students Office
- 9. International Students Office
- 10. Student Hub
- 11. Sexual Assault Resource Centre
- 12. As a Concordia student, you are a member of the Concordia Student Union and have many resources available to you including:
 - 1. <u>HOJO</u> (Of Campus Housing and Job Bank)
 - 2. <u>CSU Advocacy Centre</u>
- 13. Otsenhákta Student Centre
- 14. Birks Student Service Centre

CONCORDIA UNIVERSITY DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

CHEM 498/630 (section 53/54) (proposed CHEM 447/647) SOLAR ENERGY CONVERSION SYLLABUS – Winter 2018

GENERAL INFORMATION

Solar Energy Conversion (CHEM 498/630) is a one-term course open to all degree programs. This course requires CHEM 234 (Physical Chemistry I: Thermodynamics) and CHEM 241 (Inorganic Chemistry II: The Chemistry of the Main Group Elements). This course will explore how inorganic chemistry enables solar energy conversion (as a source of alternative energy) through photochemistry/photobiology and photovoltaics (solar cells).

Professor Marek Majewski
Office L-SP 201-12
marek.majewski@concordia.ca
Ph. 848-2424 ext. 3343
Lectures
Mo 18:00 - 20:30
LOY CC-314
Robert H. Crabtree (Ed.), Energy Production and Storage: Inorganic
Chemical Strategies for a Warming World, Wiley 2010.
TBD
Tu 13:00 – 14:00; drop-in anytime

COURSE WITHDRAWAL Monday, Monch 10, 2018 is the last day for academic withdrawal from Winter, term

Monday, March 19, 2018 is the last day for academic withdrawal from Winter-term courses.

LECTURES and READING

Classroom time is divided between lectures and an overview of relevant recent literature. The lectures are designed to reinforce and clarify fundamental and practical material. This is an advanced topic course which, while built on a foundation of important fundamental chemistry principles, aims to provide an expansive and integrated tour of solar energy conversion technologies that are enabled through chemistry. The course is divided into roughly two thematic fields: In the first subject area, solar energy conversion through artificial photosynthesis, solar fuels catalysis, and photobiological fuel production will be examined. In the second subject area, the fundamental principles governing solar energy to electricity conversion, efficiency of solar cells, different photovoltaic implementations (inorganic, organic, hybrid) and charge separation/transport will be explored. Special focus topics include the design, synthesis and spectroscopic tools needed to study inorganic molecules and materials for solar fuels catalysis.

Topics discussed in each subject area will be reinforced through periodic study and discussions of recently published literature, providing relevant and topical examples on the ongoing development of solar energy conversion.

COURSE OBJECTIVES

- Evaluate and understand the chemistry principles behind energy conversion in solar cells and solar fuels systems
- Evaluate the different methods for solar fuel production
- Explain the different kinds of solar cells and their mechanisms for charge generation and separation
- Describe and evaluate the research challenges in the field of photochemical energy conversion

40

COURSE OUTLINE

- 1 Photobiochemistry, photobiology and solar fuels production
 - Artificial photosynthesis, catalysts for solar fuels production, photobiological fuel production
- 2 Photovoltaic cells (solar energy to electricity)
 - Fundamentals of solar energy to electricity, efficiency of solar cells, different photovoltaic technologies (inorganic, hybrid, organic), charge separation/transport

EXAMINATIONS

There will be one (1) formal examination:

1. Midterm Exam (in class) on February 12th, 2018.

In addition to the Midterm Exam, there will be two projects associated with this course.

- 1. Midterm oral presentation where students will explain a recent advance in the chemistry of solar energy conversion. Students will select a recent scientific advance (typically a paper, or small collection of papers) and present a 'highlight' style oral presentation to the class, leaving time for questions from the audience. (Approx. 15 min presentation + 5 mins for questions: Begin March 5, 2018)
- 2. The final paper will comprise a short review of recent scientific contributions from a pre-assigned leading researcher in the field of solar energy conversion. In other words, students will write a short 'mini-review' style article commenting on a small body of recently published work from a well-known contributor to the solar energy conversion field. (Due **April 16, 2018**)

ACADEMIC INTEGRITY (Source: http://www.concordia.ca/students/academic-integrity.html)

Plagiarism: The most common offense under the Academic Code of Conduct is plagiarism, which the Code defines as "the presentation of the work of another person as one's own or without proper acknowledgement." This includes material copied word for word from books, journals, Internet sites, professor's course notes, etc. It refers to material that is paraphrased but closely resembles the original source. It also includes for example the work of a fellow student, an answer on a quiz, data for a lab report, a paper or assignment completed by another student. It might be a paper purchased from any source. Plagiarism does not refer to words alone –it can refer to copying images, graphs, tables and ideas. "Presentation" is not limited to written work. It includes oral presentations, computer assignment and artistic works. Finally, if you translate the work of another person into any other language and do not cite the source, this is also plagiarism.

In Simple Words: Do not copy, paraphrase or translate anything from anywhere without saying where you obtained it!

MANDATORY QUIZ AND SEMINAR

As part of this course, you are *required* to i) attend a Chemistry and Biochemistry Departmental Seminar on the academic conduct code and the appropriate use of information sources and ii) pass the online quiz associated with this seminar (the passing grade for the quiz is 100%). (Note: This is not the University's quiz you may have been asked to take when you first registered and logged into the myConcordia portal; the one you must take is similar, but graded by the Department of Chemistry and Biochemistry, and you cannot take it until after you have attended the seminar.) The aim of this seminar is to clarify the academic conduct code in terms of what practices will be considered unacceptable with regards to work submitted for grading in Chemistry and Biochemistry courses. You are only exempt from repeating the seminar and the quiz if you have done both in Winter 2013 or more recently,* otherwise you are required to repeat both this term. This short seminar (1 hour) will be held at the following times (note that late-comers will not be admitted):

CONCORDIA UNIVERSITY DEPARTMENT OF CHEMISTRY & BIOCHEMISTRY CHEMISTRY 498/670 (proposed CHEM 474/674) CHEMICAL BIOLOGY OF NATURAL PRODUCTS COURSE INFORMATION

COURSE FORMAT:	Lectures ONLY.
INSTRUCTOR:	Brandon Findlay
	Office: SP-265.22
	Tel.: 848-2424 ext.5315
	e-mail: Brandon.Findlay@concordia.ca
OFFICE HOURS:	By appointment only.

OUTLINE: This course will examine how small molecule natural products interact with their cellular targets, with a special emphasis on the role of therapeutics like antibiotics and anticancer drugs. We will also cover the role of these compounds in their natural environment, with a focus on intra-species competition and symbiosis.

PREREQUISITES: CHEM 375. Students may not take both this course and CHEM 498/670 – Secondary metabolism for credit.

GRADING:

Class participation	5%
Presentation	20%
Midterm Exam	25%
Final Exam	50%

PRESENTATIONS: Each student will give a 20-25 minute presentation on a key advance touching on course material, either in pairs (undergraduates) or alone (graduate students). Students will be evaluated on the quality of their talk and their response to questions from the audience. Asking questions and providing constructive feedback on student presentations will contribute to a student's participation grade.

COURSE OUTLINE:

Lecture	Торіс
1	Introduction
2	Getting Into the Cell
3	Introduction to Chemical Ecology
4	Signals Between Bacteria

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- 5 Bacterial Communities
- 6 Cheaters, Cues, and Threats
- 7 The Multicellular Lifestyle
- 8 Plant and Mushroom Natural Products
- 9 Insects and Pheromones
- 10 The Rhizobia and Mycorrhizal Fungi
- 11 The Limits of Symbiosis
- 12 Mammalian Natural Products
- 13 Midterm
- 14 A Brief History of Antibiotics
- 15 Antibiotics and the Cell Envelope
- 16 Antibiotics That Target Primary Metabolism
- 17 The Ecological Role of Antibiotics
- 18 Antibiotics as Defences
- 19 Detoxifying Antibiotics
- 20 Interactions Between Bacteria and Eukaryotes
- 21 Natural Products with Anticancer Activities
- 22 Biocides: Natural Products Vs Nucleic Acids
- 23 Other Therapeutically-relevant Natural Products
- 24 Probing Natural Product Function
- 25 The Microbiome
- 26 Wrap-up

Graduate Program Regular Curriculum Change - FA-FFAR-1 - VERSION : 6

Summary of Committee Discussion: GCC

For Submission to:

Sandra Gabriele, Vice-Provost, Innovation in Teaching and Learning Academic Programs Committee, 17 Dec 2021

Approved by:

Rachel Berger, Associate Dean, Academic Program & Development, SGS, Graduate Curriculum Committee, 08 Nov 2021

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

The Faculty of Fine Arts proposes to create three new course codes, one at the undergraduate and two at the graduate level, to accommodate Fine Arts Field Schools offered as electives across our nine departments.

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

Summary of Committee Discussion: Faculty

For Submission to:

Rachel Berger, Associate Dean, Academic Program & Development, SGS, Graduate Curriculum Committee, 08 Nov 2021

Approved by:

Annie Gérin, Dean, Faculty of Fine Arts, Fine Arts Faculty Council, 08 Oct 2021

As Dean of the Faculty of Fine Arts, I fully support the curriculum changes proposed in FFAR-1. The dossier was reviewed and approved unanimously by the Fine Arts Faculty Council at its virtual meeting on October 8, 2021.

Summary of Committee Discussion: Faculty

For Submission to:

Annie Gérin, Dean, Faculty of Fine Arts, Faculty Council, 08 Oct 2021

Approved by:

Elaine Cheasley Paterson, Associate Dean, Academic Programs and Pedagogy, Faculty Curriculum Committee, 03 Sep 2021

The Faculty of Fine Arts Curriculum Committee has reviewed the FFAR-41 and FFAR1 curriculum dossiers from the Interdisciplinary Studies in Fine Arts cluster on September 3, 2021. The Committee members approved the dossier with no revisions. We hereby submit this dossier for review by the Faculty Council on October 8, 2021.

The Faculty proposes to create three new course codes, one at the undergraduate and two at the graduate level, to accommodate Fine Arts Field Schools offered across our nine departments.

There are no resource implications.

Summary and Rationale for Changes

The Faculty of Fine Arts proposes to create three new course codes, one at the undergraduate and two at the graduate level, to accommodate Fine Arts Field Schools offered as electives across our nine departments.

In previous years, Fine Arts Field Schools have been offered through department's special topics or INDI course codes. INDI course codes have been used to allow graduate students to enroll when no graduate course codes were available in a department. The lack of specific course codes has created several issues, including properly showcasing the interdisciplinarity of our Field Schools, the ability to teach across cycles, and registration difficulties.

The creation of the new course codes, FAFS 398, FAFS 660, and FAFS 860, will provide students with a more accurate reflection of their academic accomplishments on their transcripts while solving internal administrative issues pertaining to registration. It will also offer a useful recruitment tool for students interested in this kind of experiential, international experience as part of their degree.

The new course codes should be implemented for the fall 2022 semester.

This curriculum proposal has no resource implications. Fine Arts Field Schools are offered through the department's standard credit envelope or through a credit allocation granted by the Dean's Office.

Summary of Changes (Graduate Program Regular Curriculum Change)

Course Changes:

	Subject Code Change	Catalo- gue Number Change	Title Change	Descrip- tion Code Change	Prerequi- site Change	Note Change (any change to any of the items under "Notes")	Credit Value Change	Compon- ent Change	Mode of Instruct- ion Change	Cross- listed Course Change
FAFS 660 New	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
FAFS 860 New	Х	х	Х	Х	Х	Х	Х	Х	Х	Х

COURSE CHANGE FORM

Dossier Type: Graduate Program Regular Curriculum ChangeDossier Title: Field School grad course codeCalendar Section Name: FAFS 660Calendar Section Type: CourseDescription of Change: FAFS 660 NewProposed: Graduate Curriculum ChangesFaculty/School: Faculty of Fine ArtsDepartment: Interdisciplinary Studies in Fine ArtsCalendar publication date: 2022/2023/Fall
Planning and Promotion: 21 Jan 2022
Effective/Push to SIS date: 21 Jan 2022

Path: Graduate > See Winter 2022 Graduate Calendar > Courses > Fine Arts Courses > Interdisciplinary Courses in Fine Arts **Type of Change:** New Course

Implementation/Start date: 01 Aug 2022

Present Text (from 2021) calendar	Proposed Text
	FAFS 660 Master's Fine Arts Field School 3
Prerequisites:	Prerequisites:
	9 credits completed at the Master's level and permission of the Field School instructor.
Description :	Description :
	This course offers hands-on, experiential learning in one or more disciplines of the Fine Arts via faculty-led travel to and residency at a festival, conference, exhibition or partner institution either locally, nationally, or internationally.
Component(s):	Component(s):
	Field Studies
Notes :	Notes :
	Students may be considered to repeat this course for credit, provided the subject matter is different each time.
	Students enrolled in this course are required to defray the costs of the field school.
	Students who have received credit for a field school under another course code may be considered to repeat this course for credit provided the subject matter is different.
	Students will have to apply for this course by submitting required documentation.

Rationale:

The creation of a new course code will provide students with a more accurate reflection of their academic accomplishments on their transcripts while solving internal administrative issues pertaining to registration.

Students will find information on how to apply to a Field School, as well as the application form on the Concordia International website.

Note that an undergraduate course code is being created as well. This change is introduced in the FA-FFAR-41 dossier, which has been

submitted to APC in November, 2021.

The interdisciplinary courses offered under the FAFS 660 course code are open to all programs, but not specific to any particular program. Accordingly, the new course code should not be published under the program pages in the calendar.

Resource Implications :

There are no resource implications.

Summary of Changes (Graduate Program Regular Curriculum Change)

Course Changes:

	Subject Code Change	Catalo- gue Number Change	Title Change	Descrip- tion Code Change	Prerequi- site Change	Note Change (any change to any of the items under "Notes")	Credit Value Change	Compon- ent Change	Mode of Instruct- ion Change	Cross- listed Course Change
FAFS 660 New	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
FAFS 860 New	Х	х	Х	Х	Х	Х	Х	Х	Х	Х

COURSE CHANGE FORM

Dossier Type: Graduate Program Regular Curriculum ChangeDossier Title: Field School grad course codeCalendar Section Name: FAFS 660Calendar Section Type: CourseDescription of Change: FAFS 660 NewProposed: Graduate Curriculum ChangesFaculty/School: Faculty of Fine ArtsDepartment: Interdisciplinary Studies in Fine ArtsCalendar publication date: 2022/2023/Fall
Planning and Promotion: 21 Jan 2022
Effective/Push to SIS date: 21 Jan 2022

Path: Graduate > See Winter 2022 Graduate Calendar > Courses > Fine Arts Courses > Interdisciplinary Courses in Fine Arts **Type of Change:** New Course

Implementation/Start date: 01 Aug 2022

Present Text (from 2021) calendar	Proposed Text
	FAFS 660 Master's Fine Arts Field School 3
Prerequisites:	Prerequisites:
	9 credits completed at the Master's level and permission of the Field School instructor.
Description :	Description :
	This course offers hands-on, experiential learning in one or more disciplines of the Fine Arts via faculty-led travel to and residency at a festival, conference, exhibition or partner institution either locally, nationally, or internationally.
Component(s):	Component(s):
	Field Studies
Notes :	Notes :
	Students may be considered to repeat this course for credit, provided the subject matter is different each time.
	Students enrolled in this course are required to defray the costs of the field school.
	Students who have received credit for a field school under another course code may be considered to repeat this course for credit provided the subject matter is different.
	Students will have to apply for this course by submitting required documentation.

Rationale:

The creation of a new course code will provide students with a more accurate reflection of their academic accomplishments on their transcripts while solving internal administrative issues pertaining to registration.

Students will find information on how to apply to a Field School, as well as the application form on the Concordia International website.

Note that an undergraduate course code is being created as well. This change is introduced in the FA-FFAR-41 dossier, which has been

submitted to APC in November, 2021.

The interdisciplinary courses offered under the FAFS 660 course code are open to all programs, but not specific to any particular program. Accordingly, the new course code should not be published under the program pages in the calendar.

Resource Implications :

There are no resource implications.

Graduate Program Regular Curriculum Change - FA-FFAR-1 - VERSION : 7

COURSE CHANGE FORM

Dossier Type: Graduate Program Regular Curriculum ChangeDossier Title: Field School grad course codeCalendar Section Name: FAFS 860Calendar Section Type: CourseDescription of Change: FAFS 860 NewProposed: Graduate Curriculum ChangesFaculty/School: Faculty of Fine ArtsDepartment: Interdisciplinary Studies in Fine ArtsCalendar publication date:
Planning and Promotion: 2

Calendar publication date: 2022/2023/Fall Planning and Promotion: 21 Jan 2022 Effective/Push to SIS date: 21 Jan 2022 Implementation/Start date: 01 Aug 2022

Path: Graduate > See Winter 2022 Graduate Calendar > Courses > Fine Arts Courses > Interdisciplinary Courses in Fine Arts Type of Change: New Course

Present Text (from 2021) calendar	Proposed Text
	FAFS 860 Doctoral Fine Arts Field School 3
Prerequisites:	Prerequisites:
	9 credits completed at the PhD level and permission of the field school instructor.
Description :	Description :
	This course offers hands-on, experiential learning in one or more disciplines of the Fine Arts via faculty-led travel to and residency at a festival, conference, exhibition or partner institution either locally, nationally, or internationally.
Component(s):	Component(s):
	Field Studies
Notes :	Notes :
	Students may be considered to repeat this course for credit, provided the subject matter is different each time. Students who have received credit for a field school under another course code may also be considered to repeat this course for credit provided the subject matter is different.
	Students enrolled in this course are required to defray the costs of the field school.
	Students will have to apply for this course by submitting required documentation.

Rationale:

The creation of a new course code will provide students with a more accurate reflection of their academic accomplishments on their transcripts while solving internal administrative issues pertaining to registration.

Students will find information on how to apply to a Field School, as well as the application form on the Concordia International website.

Note that an undergraduate course code is being created as well. This change is introduced in the FA-FFAR-41 dossier, which has been

submitted to APC in November, 2021.

The interdisciplinary courses offered under the FAFS 860 course code are open to all programs, but not specific to any particular program. Accordingly, the new course code should not be published under the program pages in the calendar.

Resource Implications :

There are no resource implications.

FAFS 398 Fine Arts Field School (3 credits) – abridged syllabus

(Cross-listed with FAFS 660 and FAFS 860)

Prerequisite

24 credits completed and permission of the Field School instructor.

Description

This course offers hands-on, experiential learning in one or more disciplines of the Fine Arts via faculty-led travel to and residency at a festival, conference, exhibition or partner institution either locally, nationally, or internationally.

Learning outcomes

Learning outcomes will vary according to the course topic and discipline(s) involved. They may include:

- Introduction to interdisciplinarity and collaborative work with students from all Fine Arts departments and beyond
- Analyze and critically assess outcomes including research, artistic work, exhibition, etc.
 produced as part of a local, national, or international festival, conference, exhibition, etc.
- Engage critically and creatively in experiential, site-specific learning
- Develop a research and/or creative project in dialogue with the content of a local, national, or international festival, conference, exhibition, or learning activities offered by a partner institution

Assessments

Course assessments and weighting will vary according to the course topic and discipline(s) involved. They may include:

- Active participation (e.g. through live discussions, blog posts, attendance to shows, performances, exhibitions, conferences, or other activities planned as part of the Field School)
- Oral and/or performance presentation(s) solo and/or in a group
- Research paper(s) and/or creative project(s)
- Participation at an "end-of-Field-School" outcome, on site or in Montreal (e.g. exhibition, public performance, publication, etc.)

FAFS 660 Fine Arts Field School (3 credits) – abridged syllabus

(Cross-listed with FAFS 860 and FAFS 398)

Prerequisite

9 credits completed at the Master's level and permission of the Field School instructor.

Description

This course offers hands-on, experiential learning in one or more disciplines of the Fine Arts via faculty-led travel to and residency at a festival, conference, exhibition or partner institution either locally, nationally, or internationally.

Learning outcomes

Learning outcomes will vary according to the course topic and discipline(s) involved. They may include:

- Introduction to interdisciplinarity and collaborative work with students from all Fine Arts departments and beyond
- Analyze and critically assess outcomes including research, artistic work, exhibition, etc.
 produced as part of a local, national, or international festival, conference, exhibition, etc.
- Engage critically and creatively in experiential, site-specific learning
- Develop a research and/or creative project in dialogue with the content of a local, national, or international festival, conference, exhibition, or learning activities offered by a partner institution

Assessments

Course assessments and weighting will vary according to the course topic and discipline(s) involved. They may include:

- Active participation (e.g. through live discussions, blog posts, attendance to shows, performances, exhibitions, conferences, or other activities planned as part of the Field School)
- Oral and/or performance presentation(s) solo and/or in a group
- Research paper(s) and/or creative project(s)
- Participation at an "end-of-Field-School" outcome, on site or in Montreal (e.g. exhibition, public performance, publication, etc.)

FAFS 860 Fine Arts Field School (3 credits) – abridged syllabus

(Cross-listed with FAFS 660 and FAFS 398)

Prerequisite

9 credits completed at the PhD level and permission of the Field School instructor.

Description

This course offers hands-on, experiential learning in one or more disciplines of the Fine Arts via faculty-led travel to and residency at a festival, conference, exhibition or partner institution either locally, nationally, or internationally.

Learning outcomes

Learning outcomes will vary according to the course topic and discipline(s) involved. They may include:

- Introduction to interdisciplinarity and collaborative work with students from all Fine Arts departments and beyond
- Analyze and critically assess outcomes including research, artistic work, exhibition, etc.
 produced as part of a local, national, or international festival, conference, exhibition, etc.
- Engage critically and creatively in experiential, site-specific learning
- Develop a research and/or creative project in dialogue with the content of a local, national, or international festival, conference, exhibition, or learning activities offered by a partner institution

Assessments

Course assessments and weighting will vary according to the course topic and discipline(s) involved. They may include:

- Active participation (e.g. through live discussions, blog posts, attendance to shows, performances, exhibitions, conferences, or other activities planned as part of the Field School)
- Oral and/or performance presentation(s) solo and/or in a group
- Research paper(s) and/or creative project(s)
- Participation at an "end-of-Field-School" outcome, on site or in Montreal (e.g. exhibition, public performance, publication, etc.)