MEETING OF THE FACULTY COUNCIL OF THE FACULTY OF SCIENCE

A regular meeting of the Faculty Council of the Faculty of Science will be held on Wednesday, February 16, 2022, at 1:00 p.m. by Webex.

AGENDA

1. **Regrets**
2. **Adoption of the Minutes of January 19, 2022**
3. **Business Arising from the Minutes**
4. **Correspondence:** None
5. **Reports of Standing Committees**:
    A. **Undergraduate Studies Committee**:
        a. Department of Chemistry, proposal to amend pre-requisites and/or co-requisites for CHEM 2400, Introductory Organic Chemistry I, and CHEM 2401, Introductory Organic Chemistry II, Paper 5.A.a. (pages 6 to 12)
    B. **Graduate Studies Committee:**
        a. Department of Computer Science, Request for Approval of a Graduate Course, COMP 6935, Computer Vision, Paper 5.B.a. (pages 13 to 18)
        b. Department of Computer Science, Request for Approval of a Graduate Course, COMP 7000, Masters Project II, Paper 5.B.b. (pages 19 to 27)
    C. **Library Committee:** No business
6. **Reports of Delegates from Other Councils**
7. **Report of the Dean**
8. **Question Period**
9. **Adjournment**

Travis Fridgen, Ph.D.
Acting Dean of Science

Faculty of Science

Office of the Dean
St. John's, NL Canada   A1B 3X7
Tel: 709 864 8154   Fax: 709 864 3316
deansci@mun.ca   www.mun.ca/science

FACULTY OF SCIENCE
FACULTY COUNCIL OF SCIENCE
Minutes of Meeting of January 19, 2022

A meeting of the Faculty Council of the Faculty of Science was held on Wednesday, January 19, 2022, at 1:00 p.m. using Webex.

FSC 2906   **Present**
Biochemistry
M. Berry, R. Bertolo, J. Brunton, S. Harding, D. Hunt

Biology
A. Chaulk, K. Tahlan, Y. Wiersma

Chemistry
C. Bottaro, H. Grover, M. Katz, S. Pansare, B. Power, D. Stirling, T.J. Stockmann, H. Therien-Aubin

Computer Science
S. Bungay, M. Emshey, M. Hamilton, C. Hyde, O. Meruvia-Pastor, K. Popuri

Earth Sciences
J. Bishop, G. Dunning, A. Langille, G. Layne, A. Malcolm, M. Miskell, S. Piercey

Economics
K. Chu

Mathematics & Statistics
I. Booth, D. Dyer, D. Harvey, J.C. Loredo-Osti, S. MacLachlan, S. Mantyka, D. Pike, T. Sheel, S. Sullivan, H. Usefi, A. Variyath, Y. Yilmaz-Cigsar

Ocean Sciences
I. Fleming, D. Nichols, C. Parrish

Physics & Physical Oceanography
L. Beaulieu, D. Coombs, E. Hayden, M. Morrow, J. Munroe, L. Zedel

Psychology
A. Anand, R. Bennett, C. Fitzpatrick, C. Quinn-Nilas, C. Thorpe, C. Walsh, D. Wilson

Physics & Physical Oceanography
L. Beaulieu, D. Coombs, E. Hayden, M. Morrow, J. Munroe, L. Zedel

Psychology
A. Anand, R. Bennett, C. Fitzpatrick, C. Quinn-Nilas, C. Thorpe, C. Walsh, D. Wilson

Dean of Science Office
J. Blundell, S. Dufour, T. Edmunds, K. Foss, T. Fridgen, L. Frizzell, G. Jackson, J. Kavanagh, G. Kenny, P. MacCallum, T. Mackenzie, V. MacNab, J. Major, R. Newhook, J. Whalen

Student Representatives:
C. Clowe-Coish, T. Durgut, M. Geng, E. Ignatz, W. Kinden, M. Longjohn, A. Meyer, T. Oguntuyaki, S. Sullivan

Guest:
Ms. Violet Ford, Associate Vice-President (Indigenous Research)

FSC 2907 **Regrets**:
D. Boyce, D. McIlroy, K. Poduska, N. Ryan, D. Smith, Y. Tzenov, J. Whelan

FSC 2908 **Adoption of Minutes**
Moved: Minutes of the meeting of December 1, 2021, be adopted.
(Berry/Sullivan) **Carried.** Notes for correction: G. Layne and D. Stirling were present at the December 1, 2021 meeting; Item FSC 2901, A.j.: The title of the program should be changed to Data-centric Computing.

FSC 2909 **Ms. Violet Ford, Associate Vice-President (Indigenous Research):**
Ms. Ford was clear that the purpose of her attending the Faculty of Science Faculty Council meeting was to provide an update on what has been happening since she took up her position in September 2021.
Ms. Ford's role is to ensure that indigenous communities are engaged at the very beginning of a research project, even before the proposal has taken form. Engagement is critical before the conceptual framework of the proposal to ensure a relationship is created with the communities.
Ms. Ford has been meeting with faculties/units and indigenous groups and communities in Labrador and Corner Brook. She has given many presentations and developed good beginning relationships and addressed many concerns expressed to her.
Ms. Ford is looking at the Indigenization research policy in detail. After speaking with many faculty and researchers, she has noticed there are many challenges with relation to this policy. Because the policy is now up for review – it has been 18 months since it was approved in July of 2020 – and based on what she has been hearing, she is convinced it is time now to look closely and review the policy

in more detail. A working group should be struck within the next few weeks to review the policy.

If anyone wants to get in touch with Ms. Ford with questions about the policy or procedures or any concerns you may have, you can send those queries to her through the Indigneous research portal. She indicated her door is open if anyone wishes to meet, as well.

FSC 2910   **Business Arising:** None

FSC 2911   **Correspondence:** None

FSC 2912   **Reports of Standing Committees:**
     A.   **Undergraduate Studies Committee:** No business.
     B.   **Graduate Studies Committee:**
          Presented by Graham Layne, Chair, Graduate Studies Committee: Department of Computer Science, Special Topics course, COMP 6982, Special Topics in Computer Vision, approved by the committee and presented to Faculty Council for information only.
     C.   **Library Committee:** No business.

FSC 2913   **Reports of Delegates from Other Councils:** None

FSC 2914   **Report of the Dean**
Presented by Dr. Travis Fridgen, Acting Dean

1. **New Graduate Programs**
   The two new course-based masters administered through Faculty of Science and one through Faculty of Engineering and Applied Science will be up and running in Fall 2022. These programs will have their first intakes in September 2022. Thank you and great work to all those who worked on preparing these program proposals, especially those from Computer Science and Mathematics and Statistic, and feel free to promote them when you can.

2. **Winter 2022 semester update**
   There will be a Winter semester update coming very shortly, and I anticipate the resumption of classes on January 31. I anticipate it will look like the Fall 2021 semester. The Dean of Science Office will be working with department heads and administrators to look at staffing levels.

3. **Scientific Endeavours in Academia**
   Jacqueline Blundell is organising a Faculty of Science in person interdisciplinary conference for April 8-10 called Scientific Endeavours in Academia (SEA).
   Dr. Blundell provided information on the conference:

We will need lots of volunteers and people for judging. We will have oral and poster presentations, and a couple of keynotes we hope can attend. Please encourage your students to attend. If you have questions or would like to help out, please get in touch.

FSC 2915   **Question Period**

It is expected that classes will be on campus for those courses with fewer than 100 students, and those courses will be delivered in person. There's the possibility that those courses with more than 100 students can go ahead in person if the class can be broken into two classes, but we're trying to figure that out so that a hybrid delivery of sorts can be used. If examinations are to be held in person for any course with over 100 students, the class can be divided up in order to accomplish this. There will be a date by which the students must be notified, if this a route instructors wish to take with their examinations.

The Acting Dean will take the concerns around lack of a mandate for 3-ply non-surgical masks to the CRO.

Instructors can hold office hours in person, as they are important. Some students may be fine doing them remotely as well.

Voting to adopt Faculty Council minutes will remain as it has been since the Faculty Council meetings have been held remotely. For any votes that are considered to be contentious, we can do polling to record individual votes.

FSC 2916   **Adjournment**

The meeting adjourned at 2:00 p.m.

February 3, 2022

TO: All Members of Faculty Council, Faculty of Science

FROM: Tracey Edmunds, Secretary, Faculty of Science Committee on Undergraduate Studies

SUBJECT: **Proposals for Calendar Changes**

At a virtual meeting held on January 31st, 2022, the Faculty of Science Committee on Undergraduate Studies agreed that the following item should be forwarded to Faculty Council for approval:

1. **Department of Chemistry**

(a) Department of Chemistry - Amend Pre-requisite and/or Co-requisite for Chemistry 2400 and 2401.

Tracey Edmunds

_____
Tracey Edmunds

Memorial University of Newfoundland
Undergraduate Calendar Change Proposal Form
Cover Page

LIST OF CHANGES

Indicate the Calendar change(s) being proposed by checking and completing as appropriate:

- ☐ New course(s):
- ☐ Amended or deleted course(s):
- ☐ New program(s):
- ☐ Amended or deleted program(s):
- ☐ New, amended or deleted Glossary of Terms Used in the Calendar entries
- ☐ New, amended or deleted Admission/Readmission to the University (Undergraduate) regulations
- ☐ New, amended or deleted General Academic Regulations (Undergraduate)
- X New, amended or deleted Faculty, School or Departmental regulations
- ☐ Other:

ADMINISTRATIVE AUTHORIZATION

By signing below, you are confirming that the attached Calendar changes have obtained all necessary Faculty/School approvals, and that the costs, if any, associated with these changes can be met from within the existing budget allocation or authorized new funding for the appropriate academic unit.

Signature of Dean/Vice-President: _____

Date: _____

Date of approval by Faculty/Academic Council: _____

Memorial University of Newfoundland
Undergraduate Calendar Change Proposal Form
Senate Summary Page for Courses

COURSE NUMBER AND TITLE
CHEM 2400 Introductory Organic Chemistry I
CHEM 2401 Introductory Organic Chemistry II

ABBREVIATED COURSE TITLE
No changes

RATIONALE

An alternate path of Chemistry courses is being proposed to streamline students' ability to complete Chemistry course requirements. Specifically, this will allow CHEM 1051 – General Chemistry II (or CHEM 1001 at Grenfell Campus) and CHEM 2400 – Introductory Organic Chemistry I, to be completed concurrently by altering course access requirements.

In consultation with the Depts. of Biology and Biochemistry, we recognize this change will alter their programs. By altering the conditions of CHEM 2400 to be co-requisite with 1051, this alters the implied conditions on other courses that have 2400 as a prerequisite or co-requisite; any course having CHEM 2400 as a prerequisite would now have to explicitly state the requirement of CHEM 1051 as a prerequisite, if required, as it would be possible for a student to complete 2400, but drop or fail 1051, and still continue on with their program. Both Biochemistry and Biology have agreed with the change proposed here and will manage calendar changes in their programs accordingly.

Following consultation with the School of Science and the Environment at Grenfell Campus, the same changes will be made to the CHEM 2400 and 2401 entries in the Grenfell Campus section of the Calendar.

CALENDAR CHANGES

12.3 Chemistry

2400 Introductory Organic Chemistry I
is a course on bonding involving carbon; conformations and stereochemistry; introduction to functional groups and nomenclature; properties, syntheses and reactions of hydrocarbons, alkyl halides, alcohols and ethers.

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.
CR: CHEM 2440
CO: CHEM 1051 or CHEM 1001
LH: 3
OR: 2 hours of tutorial weekly
PR: a minimum 60% in CHEM ~~1051~~ 1050 or CHEM 1200; or CHEM 1010 and the former CHEM 1011 with a grade of at least 80% in each; or the former CHEM 1011 with a grade of at least 85%; or a minimum 60% in ~~either CHEM 1001 or~~ the former CHEM 1031; Science 1807 and Science 1808

2401 Introductory Organic Chemistry II
is an introduction to the interpretation of mass, infrared, 1H and 13C NMR spectra; properties, syntheses and reactions of simple aromatic and heteroaromatic compounds, ketones, aldehydes, amines, carboxylic acids and their derivatives; aldol and related reactions.

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.
CR: CHEM 2440
LH: 3
OR: 2 hours of tutorial weekly
PR: Science 1807 and Science 1808; CHEM 2400; a minimum grade of 60% of CHEM 1051 or CHEM 1001

CALENDAR ENTRY AFTER CHANGES

12.3 Chemistry

2400 Introductory Organic Chemistry I

is a course on bonding involving carbon; conformations and stereochemistry; introduction to functional groups and nomenclature; properties, syntheses and reactions of hydrocarbons, alkyl halides, alcohols and ethers.

    AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.
    CR: CHEM 2440
    CO: CHEM 1051 or CHEM 1001
    LH: 3
    OR: 2 hours of tutorial weekly
    PR: a minimum 60% in CHEM 1050 or 1200; or CHEM 1010 and the former CHEM 1011 with a grade of at least 80% in each; or the former CHEM 1011 with a grade of at least 85%; or a minimum 60% in the former CHEM 1031; Science 1807 and Science 1808

2401 Introductory Organic Chemistry II

is an introduction to the interpretation of mass, infrared, 1H and 13C NMR spectra; properties, syntheses and reactions of simple aromatic and heteroaromatic compounds, ketones, aldehydes, amines, carboxylic acids and their derivatives; aldol and related reactions.

    AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.
    CR: CHEM 2440
    LH: 3
    OR: 2 hours of tutorial weekly
    PR: Science 1807 and Science 1808; CHEM 2400; a minimum grade of 60% in CHEM 1051 or 1001

SECONDARY CALENDAR CHANGES

To the Grenfell Campus section of the Calendar:

13.5 Chemistry

2400 Introductory Organic Chemistry I

is a course on bonding involving carbon; conformations and stereochemistry; introduction to functional groups and nomenclature; properties, syntheses and reactions of hydrocarbons, alkyl halides, alcohols and ethers.

> AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.
> CR: CHEM 2440
> CO: CHEM 1001 or CHEM 1051
> LH: 3
> PR: a minimum 60% in CHEM ~~1051~~ 1050 or CHEM 1200; or CHEM 1010 and the former CHEM 1011 with a grade of at least 80% in each; or the former CHEM 1011 with a grade of at least 85%; or a minimum 60% in ~~either CHEM 1001 or~~ the former CHEM 1031; Science 1807 and Science 1808

2401 Introductory Organic Chemistry II

is an introduction to the interpretation of mass, infrared, 1H and 13C NMR spectra; properties, syntheses and reactions of simple aromatic and heteroaromatic compounds, ketones, aldehydes, amines, carboxylic acids and their derivatives; aldol and related reactions.

> AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.
> CR: CHEM 2440
> LH: 3
> PR: CHEM 2400; a minimum 60% in CHEM 1001 or CHEM 1051; Science 1807 and Science 1808

SECONDARY CALENDAR ENTRY AFTER CHANGES

To the Grenfell Campus section of the Calendar:

13.5 Chemistry

2400 Introductory Organic Chemistry I
is a course on bonding involving carbon; conformations and stereochemistry; introduction to functional groups and nomenclature; properties, syntheses and reactions of hydrocarbons, alkyl halides, alcohols and ethers.

> AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.
> CR: CHEM 2440
> CO: CHEM 1001 or CHEM 1051
> LH: 3
> PR: a minimum 60% in CHEM 1050 or 1200; or CHEM 1010 and the former CHEM 1011 with a grade of at least 80% in each; or the former CHEM 1011 with a grade of at least 85%; or a minimum 60% in the former CHEM 1031; Science 1807 and Science 1808

2401 Introductory Organic Chemistry II
is an introduction to the interpretation of mass, infrared, 1H and 13C NMR spectra; properties, syntheses and reactions of simple aromatic and heteroaromatic compounds, ketones, aldehydes, amines, carboxylic acids and their derivatives; aldol and related reactions.

> AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.
> CR: CHEM 2440
> LH: 3
> PR: CHEM 2400; a minimum 60% in CHEM 1001 or CHEM 1051; Science 1807 and Science 1808

Gail-

The above Regular Course has been approved by GSC after
discussion, and revisions to the original proposal that was
circulated.

I attach the revised version of the proposal that was approved, for
inclusion on the next Faculty Council agenda.

Regards,
Graham

Request for Approval of a
Graduate Course

Adobe Reader, minimum version 8, is required to complete this form. Download the latest version: http://get.adobe.com/reader. (1) Save the form by clicking on the diskette icon on the upper left side of the screen; (2) Ensure that you are saving the file in PDF format; (3) Specify where you would like to save the file, e.g. Desktop; (4) Review the How to create and insert a digital signature webpage for step by step instructions; (5) Fill in the required data and save the file; (6) Send the completed form by email to: sgs@mun.ca.

To: Dean, School of Graduate Studies
From: Faculty/School/Department/Program
Subject: ☑ Regular Course   ☐ Special/Selected Topics Course

Course No.: Comp 6935

Course Title: Computer Vision

I.   **To be completed for all requests:**

A. **Course Type:**   ☐ Lecture course   ☑ Lecture course with laboratory
                                   ☐ Laboratory course   ☑ Undergraduate course[1]
                                   ☐ Directed readings   ☐ Other (please specify)

B. **Can this course be offered by existing faculty?**   ☑ Yes   ☐ No

C. **Will this course require new funding (including**   ☐ Yes   ☑ No
        payment of instructor, labs, equipment, etc.)?
        If yes, please specify:

D. **Will additional library resources be required**   ☐ Yes   ☑ No
        (if yes, please contact munul@mun.ca for
        a resource consultation)?

E. **Credit hours for this course:** 3

F. **Course description (please attach course outline and reading list):**

        This course studies how to develop methods that enable a machine to "understand" or analyze images. The course introduces the fundamental problems in computer vision and the state-of-the-art approaches that address them.

G. **Method of evaluation:**   Percentage

	Written	Oral
Class tests	20	
Assignments	15	
Other (specify): (Project)	35	
Final examination:	30	
Total 100		

---
[1] Must specify the additional work at the graduate level

II. To be completed for special/selected topics course requests only

For special/selected topics courses, there is no evidence of:

                                                            Instructor's initials

1. duplication of thesis work   _____

2. double credit   _____

3. work that is a faculty research product   _____

                                                            MH*(see attachment)
4. overlap with existing courses   _____

Recommended for offering in the   Fall   Winter   Spring   20<u>2</u>3

Length of session if less than a semester:

III. This course proposal has been prepared in accordance with General Regulations governing the School of Graduate Studies

Matthew Hamilton Digitally signed by Matthew Hamilton
Date: 2021.11.14 17:48:52 -03'30'   November 14, 2021
_____   _____
Course instructor   Date

_____   2021-12-13
                                                            _____
Approval of the head of the academic unit   Date

IV. This course proposal was approved by the Faculty/School/Council

_____   _____
Secretary, Faculty/School/Council   Date

*This course is intended to create a graduate version of COMP-4301, which is cross-listed with ECE-8410. In the past, CS4301/ECE-8410 have been offered in tandem with Engineering graduate course ENGI-9805. The proposed course is an effort to provide a corresponding Computer Science graduate course to also be offered simultaneously with COMP-4301/ECE-8410/ENGI-9805.

Computer Science 6935
Computer Vision
Winter 2022

Department of Computer Science

Instructor:	Matthew Hamilton
E-mail:	mhamilton@mun.ca

Credit Restrictions: COMP-4301, COMP-6982, ECE-8410, ENGI-9805

Course Content:

Course Objectives:
COMP 6935 Computer Vision studies how to develop methods that enable a machine to "understand" or analyze images. The course introduces the fundamental problems in computer vision and the state-of-the-art approaches that address them. Topics include feature detection and matching, geometric and multi-view vision, structure from X, segmentation, object tracking and visual recognition.

Topics:
1. Feature detection and matching
2. Geometric and multi-view vision
3. Structure from X
4. Segmentation
5. Object tracking
6. Visual recognition

Textbook and Resources:

Computer Vision: Algorithms and Applications by Richard Szeliski (available for free on author's page)
Computer Vision: A Modern Approach by David Forsyth and Jean Ponce

Additional materials assigned throughout the course.

Evaluation:

	Grade Weight
Assignments	15%
Class Tests	20%
Project	35%
Final	30%
	100%

<u>Difference between the graduate and the undergraduate version of this course</u>:

Where this course is offered in conjunction with undergraduate Computer Visions course (COMP 4301/ENGI 8410), graduate students projects should reflect a higher level of sophistication and should be based on the implementation of techniques or algorithms presented in a journal publication. Graduate students will also be given extra work as part of assignments involving evaluation and comprehension of selected research papers in the area.

In terms of the evaluation scheme in comparison to the undergraduate COMP 4301/ENGI 8410, the Project has a higher weight (35% vs. 30%) and the Assignments a lower weight (%15 vs. 20%) than the undergraduate version.

Gail-

Please use the attached file for the Faculty Council agenda.
I just realized that the entry for Recommended for Offering date in the
previous version is for Special Topics courses only, and thus redundant
to this submission.

Regards,
Graham

On 2022-02-09 11:32, Graham Layne wrote:
> Gail-
>
> The above Regular Course has been approved by GSC.
>
> I attach the version of the proposal that was reviewed and approved,
> for inclusion on the next Faculty Council agenda.
>
> Regards,
> Graham

Request for Approval of a
Graduate Course

Adobe Reader, minimum version 8, is required to complete this form. Download the latest version: http://get.adobe.com/reader. (1) Save the form by clicking on the diskette icon on the upper left side of the screen; (2) Ensure that you are saving the file in PDF format; (3) Specify where you would like to save the file, e.g. Desktop; (4) Fill in the required data and save the file; (5) Submit the completed form to:

School of Graduate Studies; Memorial University of Newfoundland; IIC-2012 (Bruneau Centre for Research and Innovation); St. John's, NL A1C 5S7 Canada   Fax: 709.864.4702   eMail: sgs@mun.ca

To: Dean, School of Graduate Studies
From: Faculty/School/Department/Program
Subject: ☑ Regular Course   ☐ Special/Selected Topics Course

Course No.:   Comp 7000

Course Title: Masters Project II

I.   To be completed for all requests:

A.   Course Type: ☐ Lecture course   ☐ Lecture course with laboratory
                             ☐ Laboratory course   ☐ Undergraduate course[1]
                             ☐ Directed readings   ☑ Other (please specify) Supervised Project Course

B.   Can this course be offered by existing faculty?   ☑ Yes   ☐ No

C.   Will this course require new funding (including   ☐ Yes   ☑ No
payment of instructor, labs, equipment, etc.)?
If yes, please specify:

D.   Will additional library resources be required   ☐ Yes   ☑ No
(if yes, please contact munul@mun.ca for
a resource consultation)?

E.   Credit hours for this course: 3

F.   Course description (reading list required):

This course is analogous to Comp 6999, but is designed to only be available after completion of Comp 6999. Students are required, with supervision by a member of the Department, to prepare a research report in an area of CS.... (for the complete version of the course description please see the Appendix)

G.   Method of evaluation: Percentage

	Written	Oral
Class tests		
Assignments		
Other (specify):	100	
Final examination:		
Total	100% Report & Presentation	

---

[1] Must specify the additional work at the graduate level

II. **To be completed for special/selected topics course requests only**

For special/selected topics courses, there is no evidence of:

Instructor's initials

1. duplication of thesis work _____

2. double credit _____

3. work that is a faculty research product _____

4. overlap with existing courses _____

Recommended for offering in the Fall Winter Spring 20 ___

Length of session if less than a semester:

III. **This course proposal has been prepared in accordance with General Regulations governing the School of Graduate Studies**

Oscar Meruvia (Deputy Head, Grad. Studies)   24/Nov/2021
_____   _____
Course instructor   Date

                                                          2021-12-13
_____   _____
Approval of the head of the academic unit   Date

IV. **This course proposal was approved by the Faculty/School/Council**

_____   _____
Secretary, Faculty/School/Council   Date

Updated June 2017

Rationale for Comp 7000.

In attention to the concerns expressed by the ACE's and SGS Faculty Council, the Computer Science Department has decided to withdraw the original proposal for Comp700A/B. Instead, we are bringing forward a new course proposal: Comp7000 – Master's Project II.

Following the precedent that there are other directed studies courses at the graduate level being offered at MUN, Comp7000 is being proposed as a second project course, analogous to our existing Comp 6999 (Master's Project). There are two important items to note:

1) COMP 6999 will remain a required course and would not change at all.

2) COMP 7000 will be a regular course that has as pre-requisite COMP6999. Any non-thesis-based student can take COMP 7000 after they have taken COMP 6999.

The benefits of this change are the following:

- Academic freedom of association for both professors and students to stop the collaboration after completing Comp6999: If a student or a professor are unsatisfied for any reason with the Comp6999 experience, they don't have to engage into Comp 7000. It would become entirely optional for both.
- Academic freedom with respect to course contents: It is up to the supervisor and the student to decide whether they would like to build on the project already completed in 6999, or to do a different project.
- Expanded academic offer for the student: Comp7000 will be just one more regular course available to students. A student can decide whether they want to take such a course or not, with the same supervisor as in Comp6999, or with a different one.
- The language in the calendar would be greatly simplified: Comp6999 will remain a required course, just as it is currently the case in the Work-term route. This would also eliminate the need for a student to choose among three options.
- Comp7000 would be a 3 credit-hour course, which is consistent with other grad levels courses, which implies an expected workload of about one tenth of the total workload of a two-year Masters program in Computer Science.

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
Department of Computer Science
Computer Science 7000
Masters Project II

Executive Summary:

This course is analogous to Comp 6999 (Master's Project) but can only be taken after completion of Comp 6999. Students are required, with supervision by a member of the Department, to prepare a research report in an area of Computer Science. The student should demonstrate an ability to carry out research work independently. At the end of the course a project report will be submitted, and a 15-to-30-minute presentation will be given by the student. This course is open only to students in non-thesis-based programs in Computer Science.

Pre-Requisites:

Comp 6999

Calendar Entry:

• 7000 Master's Project II

Course Description:

This course is analogous to Comp 6999 (Master's Project). Students are required, with supervision by a member of the Department, to prepare a research report in an area of Computer Science. The student should demonstrate an ability to carry out research work independently. At the end of the course a project report will be submitted, and a 15-minute presentation will be given by the student. This course is open only to students in non-thesis-based programs in Computer Science.

Textbook:

N/A

Expected workload:

The expected course load of a Master's student in Computer Science is between 1 and 3 courses per term, and is usually 2 courses per term. The amount of work expected from a student taking Comp7000 is equivalent to that of a one 3-credit hour course. Therefore, the expected workload of Comp7000 would allow a Master's student to take at least one other course during the same term.

Expected outcomes:

Within the expected workload described above, the student should demonstrate an ability to carry out research work independently. The Master's project can be either applied research, such as a working prototype of a practical solution to an existing problem, or could encompass the collection, organization or analysis of information to increase understanding of a topic or issue of relevance in Computer Science. The project may replicate elements of prior projects or other projects as a whole. It could also be a summary, review, or synthesis of earlier publications on the chosen subject. A research project may also be an expansion on past work, but not necessarily something that can be published in a conference or journal.

Format of delivery:

Direct supervision with no lectures.

To register for the course, students contact potential supervisors before the registration period. During the registration period, a course-change form for Comp7000 must be signed by the student and the project supervisor. The supervisory commitment is for one term only.

Supervision will be remote or in-person, if Health & Safety regulations allow it and there is a mutual agreement. Students and supervisors are expected to meet once a week for approximately 13 weeks.

Regarding the formatting of the report, students are expected to submit the report using the template provided by the department and follow the guidelines distributed at the beginning of the term.

At the end of the term, a 15-30 minute presentation will be given by the student. The presentation may be done in-person (if Health & Safety regulations allow it), at the Computer Science Research Forum, or live using Online Rooms or Webex. An online presentation may be recorded or may include a pre-recorded Seminar, which will be uploaded to the Computer Science Virtual Seminar Room on Brightspace/D2L.

Evaluation:

100% Course Report and Presentation.

Memorial University Policies:
Memorial University of Newfoundland is committed to supporting inclusive education based on the principles of equity, accessibility and collaboration. Accommodations are provided within the scope of the University Policies for the Accommodations for Students with Disabilities (www.mun.ca/policy/site/policy.php?id=239). Students who may need an academic accommodation are asked to initiate the request with the Glenn Roy Blundon Centre at the earliest opportunity (www.mun.ca/blundon).

Students are expected to adhere to those principles which constitute proper academic conduct. A student has the responsibility to know which actions, as described under Academic Offences in the University Regulations, could be construed as dishonest or improper. Students found guilty of an academic offence may be subject to a number of penalties commensurate with the offence including reprimand, reduction of grade, probation, suspension or expulsion from the University. For more information regarding this policy, students should refer to the University Regulations for Academic Misconduct (Section 6.12) in the University Calendar.

Calendar changes (at https://www.mun.ca/regoff/calendar/sectionNo=GRAD-0263):

28.10.4 Courses

A selection of the following graduate courses will be offered to meet the requirements of students, as far as the resources of the Department will allow. Normally, students will be expected to complete their course work during the fall and winter semesters. Courses might not be offered in the spring semester.

- 601W Work Term
- 6758-6769 Special Topics in Computer Applications
- 6770-6790 Special Topics in Computer Science
- 690A/B Research Methods in Computer Science
- 6901 Applied Algorithms *(credit may be obtained for only one of 6901 and 6783)*
- 6902 Computational Complexity *(credit may be obtained for only one of 6902 and 6743)*
- 6903 Concurrent Computing
- 6904 Advanced Computer Architecture *(credit may be obtained for only one of 6904 and 6722)*
- 6905 Software Engineering *(credit may only be obtained for one of 6905 or 6713)*
- 6906 Numerical Methods *(credit may only be obtained for one of 6906 or 6731)*
- 6907 Data Mining Techniques and Methodologies *(credit may be obtained for only one of 6907 and 6762)*
- 6908 Database Technology and Applications *(credit may be obtained for only one of 6908 and 6751)*
- 6909 Fundamentals of Computer Graphics *(credit may be obtained for only one of 6909 or 6752)*
- 6910 Services Computing, Semantic Web and Cloud Computing
- 6911 Bio-inspired Computing
- 6912 Autonomous Robotics *(credit may be obtained for only one of 6912 and 6778)*
- 6913 Bioinformatics
- 6914 3D Modelling and Rendering
- 6915 Machine Learning
- 6916 Security and Privacy
- 6918 Digital Image Processing *(credit may be obtained for only one of 6918 or 6756)*
- 6921 Syntax and Semantics of Programming Languages *(credit may be obtained for only one of 6921 or 6711)*
- 6922 Compiling Methods *(credit may be obtained for only one of 6922 and 6712)*
- 6924 Formal Grammars, Automata and Languages
- 6925 Advanced Operating Systems
- 6926 Performance Evaluation of Computer Systems *(credit may be obtained for only one of 6726 and 6926)*
- 6928 Knowledge-Based Systems *(credit may be obtained for only one of 6928 or 6755)*
- 6929 Advanced Computational Geometry *(credit may be obtained for only one of 6929 or 6745)*
- 6930 Theory of Databases *(credit may be obtained for only one of 6930 or 6742)*
- 6931 Matrix Computations and Applications *(credit may be obtained for only one of 6931, 6732, and CMSC 6910) (cross-listed with CMSC 6910)*
- 6932 Matrix Computations in Control *(credit may be obtained for only one of 6932 or 6738)*
- 6933 Nonlinear and Linear Optimization *(cross-listed with Mathematics 6202)*
- 6934 Introduction to Data Visualization *(credit may be obtained for only one of 6934 or 6774)*
- 6980-6998 Special Topics in Computer Science
- 6999 Master's Project
- 7000 Master's Project II

Final version of the calendar changes (at https://www.mun.ca/regoff/calendar/sectionNo=GRAD-0263):

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