

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

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, December 4 at 1:00 p.m. by WebEx and in-person (Room: C- 2045).

AGENDA

- 1. Regrets
- 2. Adoption of the Minutes of November 20, 2024 (pages 3-7)
- 3. Business Arising from the Minutes
- 4. Correspondence: No Correspondence
- 5. Reports of Standing Committees:
- A. Undergraduate Studies Committee: Presented by Shannon Sullivan, Chair, Undergraduate Studies Committee
- a) Department of Biochemistry
 - i. HUBI 2001 and 3004 calendar change corrections, Paper A. a. i. (pages 10-14)
 - ii. HUBI 4001 Biomolec., new course proposal, Paper A. a. ii. (pages 15-22)
 - iii. HUBI 4003 Pub Health Nutr., new course proposal, Paper A. a. iii. (pages 23-31)
 - iv. HUBI 4102, calendar change proposal, Paper A. a. iv. (pages 32-36)
 - v. HUBI 4240, calendar change proposal, Paper A. a. v. (pages 37-41)
 - vi. HUBI 4300, calendar change proposal, Paper A. a. vi. (pages 42-45)
 - vii. HUBI 4801 and 4802, new course proposal, Paper A. a. vii. (pages 46-52)
 - viii. HUBI Concentration Course Lists, Paper A. a. vii. (pages 53-67)
- b) Department of Biology
 - i. BIOL 3712, proposal to cross list OSCS, Paper A. b. (pages 68-72)
- c) Department of Computer Science
 - i. Concentrations, Paper A. c. i. (pages 73-81)
 - ii. Computer Science degree allow MATH-1006, Paper A. c. ii. (pages 82-92)
 - iii. Computer Science and Physics joint major and joint honours program, Amendment, Paper A. c. iv. (pages 93-98)
- d) Department of Earth Science
 - i. EASC 3172, amend course title, Paper A. d. i. (pages 99-102)
 - ii. EASC 3420, amend prerequisite and course description, Paper A. d. ii. (pages 103-106)
 - iii. EASC 4907, new course; proposal proposal, Paper A. d. iii. (pages 107-120)
- e) Department of Mathematics and Statistics
 - i. MATH 4130, amend prerequisites, Paper A. e. i. (pages 121-125)

- ii. STAT 2500 course update, Paper A. e. ii.(pages 126-135)
- iii. STAT 35211, 3585,4530 prerequisites changes, Paper A. e. iii. (pages 136-141)
- iv. ECON and MATH, Major revision, Paper A. e. iv. (pages 142-149)
- v. MATH and PHYS, Major and Honours revisions, Paper A. e. v. (pages 150-158)
- vi. COMP and MATH, Major and Honours proposal, Paper A. e. vi. (pages 159-170)
- vii. MATH 4340 and 4341 prerequisites changes, Paper A. e. vii. (pages 171-175)
- f) Department of Physics and Physical Oceanography
 - i. PHYS 3000 change to supplementary examination regulation, Paper A. f. i. (pages 176-184)
- g) Department of Psychology
 - i. Calendar changes regulation 4.5.2 Honours dissertations, Paper A. g. i. (pages 185-194)
 - ii. Complete calendar change proposals, Paper A. g. ii. (pages 195-425)
 - iii. Calendar changes packages Library report, Paper A. g. iii. (pages 426-431)

B. Graduate Studies Committee:

Presented by Adrian Fiech, Chair, Graduate Studies Committee

- a) Department of Chemistry
 - i. CHEM-6290, Special Topics Course, Nuclear Science, approved by the Faculty of Science Graduate Committee and present to Faculty Council for information only. Paper B. a. (pages 432-436)
- C. Library Committee: No business
- 6. Report of the Dean
- 7. Question Period
- 8. Adjournment

Travis Fridgen, Ph.D. Interim 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 November 20, 2024

A meeting of the Faculty Council of the Faculty of Science was held on Wednesday, November 20, 2024, at 1:00 p.m. using a hybrid model of WebEx and in-person (C-2045).

FSC 3075 Present

Biology

A. Chaulk, S. Dufour, D. Harvey, D. Marshall, M. Rise

Biochemistry

M. Berry, R. Bertolo, J. Brunton, S. Christian

Chemistry N. Ryan, S. Smith, H. Therien-Aubin

Computer Science

C. Hyde, C. Sullivan

Mathematics & Statistics

J. Alam, I. Booth, C. Cigsar, R. Haynes, J.C. Loredo-Osti, T. Sheel, S. Sullivan, Y. Yilmaz-Cigsar

Ocean Sciences I. Fleming, P. Gagnon, J. Wrobewski

Physics & Physical Oceanography D. Coombs, S. Curnoe, E. Hayden, I. Saika-Voivod, L. Zedel

Psychology S. Blandford, D. Hallett

Dean of Science Office

J. Blundell, J. Bowering, T. Fridgen, M. Fitzpatrick, L. Frizzell, S. Garasym, C. Hussey, G. Jackson, J. Kavanagh, P. MacCallum, J. Major, V. MacNab, T. Mackenzie, D. Nichols, R. Newhook, N. Squires, C. Thorpe

Representatives from other Faculties

B. Misiuk (HSS)

Student Representatives

F. Dominie, E. Gnam, F. Ishrak, E. Mohammadreza

FSC 3076 Adoption of Minutes

Moved: Minutes of the meeting of June 19, 2024, be adopted. (Sullivan/Bungay) **Carried.**

- FSC 3077 Business Arising: No Business
- FSC 3078 Correspondence: No Report
- FSC 3079 Reports of Standing Committees:

A. Undergraduate Students Committee:

Presented by Shannon Sullivan, Chair, Faculty of Science, Undergraduate Studies Committee

- a. Department of Biology, BIOL 3050 Calendar Change Proposal, (Sullivan/ Rise) **Carried**.
- b. Department of Biology, BIOL 3709 Proposal Description & PRs, (Sullivan/ Rise) Carried.
- c. Department of Biology, BIOL 3711 Calendar Change for Consultation, (Sullivan/ Rise) Carried.
- d. Department of Biology, BIOL 3712 Proposal to Cross List OSCS. (New information has been submitted, this calendar change will be deferred to the December 4th Faculty Council.)
- e. Department of Biology, BIOL 4050 Proposal Title Change, (Sullivan/Rise) **Carried**.
- f. Department of Biology, BIOL 4052 Proposal Removal of Activity, (Sullivan/ Rise) Carried.
- g. Department of Biology, BIOL-STAT Joint Honours Proposal Remove CHEM 2401, (Sullivan/Rise) Carried.
- h. Department of Biology, MNBL Proposal MATH 1006 OSCS 3710, 3711, (Sullivan/Rise) Carried.
- i. Department of Computer Science, COMP 2001, 2002, 2003 Prerequisite Change, (Sullivan/Hatcher) **Carried**.
- j. Department of Computer Science, COMP 2004-2008 PR Restriction, (Sullivan/Hatcher) **Carried**.
- k. Department of Computer Science, COMP Concentrations, (Sullivan/Hatcher) Carried.

- 1. Department of Computer Science, COMP Program Eligibility Math Requirement, (Sullivan/Hatcher) **Carried**.
- m. Department of Computer Science, COMP Program Eligibility Numerical Grade Requirement, (Sullivan/Hatcher) Carried.
- n. Department of Computer Science, COMP Introduction to Human-Computer Interaction, (Sullivan/Hatcher) **Carried**.
- o. Department of computer Science, COMP CS-Physics Joint program COMP Course Change (joint Major / Joint Honours), (Sullivan/Hatcher) Carried.

The following calendar changes (Paper 5 A. q to Paper 5 A. x) will be deferred to the December 4th Faculty Council meeting due to missing information.

- p. Department of Mathematics and Statistics, MATH 4130 Prerequisite Changes, Paper 5 A. q. (pages 90-94)
- q. Department of Mathematics and Statistics, MATH 4340 and 4341 Prerequisite change, Paper 5 A. r (pages 95-98)
- r. Department of Mathematics and Statistics, AMAT/COMP, COMP/PMAT, COMP/MATH Joint Major and Honours, Paper 5 A. s. (pages 99-108)
- s. Department of Mathematics and Statistics, ECON MATH Major Revision, Paper 5 A. t. (pages 109-115)
- t. Department of Mathematics and Statistics, MATH-PHYS Major and Honours Revision, Paper 5 A. u. (pages 116-123)
- u. Department of Mathematics and Statistics, STAT 2500 Course Update, Paper 5 A. v. (pages 124-130)
- v. Department of Mathematics and Statistics, STAT 3521, 3585, 4530 Prerequisite Changes, Paper 5 A. w. (pages131-143)
- w. Department of Psychology, Complete calendar change proposals, Paper 5 A. x. (pages 135-362)

Shannon Sullivan informed Faculty Council that the university diary for the Fall 2025 academic semester will look different due to the Canada Summer Games. MUN residences are being used to accommodate the athletes participating in the Games. To allow time for the residences to be ready for our students to move in for Fall semester, the semester will have a later than normal start date. The start date will be September 9, 2025, and end on December 5, with the exam period being December 8-14. The exam grade will be released on December 19. There was a discussion around start dates and release of exams as well as the shortened student period between the last day of classes and the start of the exam period. Dr. Sullivan assured the members of Faculty Council that the SUGS is doing everything they can do for the students.

B. Graduate Studies Committee:

Presented by Adrian Fiech, Chair, Graduate Studies Committee

- a. Department of Biochemistry, Special Topics Course, BIOC-6002, Introduction to Applied Computational Chemistry, approved by the Faculty of Science Graduate Committee and present to Faculty Council for information only.
- b. Department of Chemistry, Special Topics Course, CHEM-6496, Advanced Analytical Techniques in Organic Chemistry, approved by the Faculty of Science Graduate Committee and present to Faculty Council for information only.
- c. Department of Earth Science, Request for Approval of a Graduate Course EASC 6173; An Introduction to Potential Field, Electrical and Electromagnetic Methods, (Fiech/Christian) Carried.
- d. Department of Mathematics and Statistics, Core Course Proposed Calendar Changes, (Fiech/Loredo-Osti) **Carried**.
- e. Department of Psychology, Course deletions, (Fiech/Hallett) Carried.
- f. Department of Psychology, Calendar Change to 32.19.1 to add Health and Wellness specialization area, (Fiech/Hallett) **Carried**.
- C. Library Committee: No Business
- FSC 3080 Committee Matrix: The committee Matrix is posted on-line (<u>Committees</u>] <u>Faculty of Science | Memorial University of Newfoundland</u>) for your review and approval. Minor changes and additions to be made. (Thorpe/Sullivan) Carried.

FSC 3081 IT Structure in Faculty of Science:

The Dean spoke to the plan to centralize the IT structure in the Faculty of Science.

The Dean introduced, Seth Hutcherson, the Systems Manager for the Faculty of Science. The Faculty of Science IT support team's location and a resource email will be sent out to members of the Faculty of Science once the team is in place. Mr. Hutcherson created a memo which was sent out to the Faculty of Science prior to the council meeting. This is to inform faculty and staff members of the upcoming changes to the Faculty of Science IT support team as well as other changes being implemented by the OCIO. The Faculty of Science is not planning to eliminate IT jobs within the faculty; however, job duties may be changed to better meet the needs of faculty and staff.

FSC3082 Research Week Actives Presented by Jacqueline Blundell, Associate Dean of Graduate and Research

During research week the Faculty of Science will be hosting: A Minute for Science, Plastic Forum, Brosnan Lecture, Research Exchange and Whale of a Time. All of the Research Week Activities are listed on <u>www.mun.ca/research/research-week</u>. Please register for the events you are planning to attend.

FSC 3082 Adjournment:

Meeting adjourned at 1:48pm



Faculty of Science

Faculty of Science Undergraduate Committee (FoScUgs) Memorial University, St. John's NL A1B 3X7 Tel: 709.864.8253 www.mun.ca

November 26, 2024

To:	Deansciassistant – Faculty Council
From:	FoScUgs – amended programs
Subject:	Transmission of documents from FoScUgs to Faculty Council

Please see attached documents for inclusion in Faculty Council.

1. Department of Psychology

a Calendar changes regulation 4.5.2 Honours dissertations b Complete calendar change proposals c Calendar changes packages – Library report

2. Department of Earth Sciences

a. EASC 3172 b. EASC 3420 c. EASC 4907 (pdf consolidated)

3. Department of Biochemistry (Human Biosciences)

- a. HUBI 2001 & 3004 calendar change corrections
- b. HUBI 4001 Biomolec New Course Proposal
- c. HUBI 4003 Pub Health Nutr New Course Proposal
- d. HUBI 4102 Calendar change proposal
- e. HUBI 4240 Calendar change proposal
- f. HUBI 4300 Calendar change proposal
- g. HUBI 4801 & 4802 New course proposal
- h. HUBI concentrations modified course list proposal

4. Department of Computer Science

- a. Concentrations
- b. Allow MATH 1006
- c. COMP 3150
- d. COMP PHYS Joint Program

5. Department of Physics & Physical Oceanography

a. PHYS 3000 Supplementary Exams

6. Department of Mathematics & Statistics

- a. MATH 4130
- b. STAT 2500
- c. STAT 3521
- d. ECON MATH Major Revision
- e. MATH-PHYS Major & Honours
- f. COMP-MATH Major & Honours
- g. MATH 4340 & 4341 PR

7. Department of Biology

a. BIOL 3712 Proposal cross list to OCSC 3712

Melanie Fitzpatrick Secretary Faculty of Science Undergraduate Committee (FoScUgs)

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:

- \Box New course(s):
- X Amended or deleted course(s): HUBI 2001 and 3004
- □ 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)
- □ 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

HUBI 2001 Introduction to Biochemistry

HUBI 3004 Cellular Signalling

REVISED COURSE NUMBER AND TITLE

N/A

RATIONALE

HUBI 2001: The initial Calendar submission for this course had an omission in the prerequisites; we neglected to include Chemistry 1001 which is offered at Grenfell Campus and is credit restricted with Chemistry 1051.

HUBI 3004: In the initial Calendar submission for this course, an error was made in the pre-requisite list. It should have included HUBI 2004 Fundamentals of Modern Molecular Biology, and not HUBI 2002 Introduction to Human Nutrition.

ANTICIPATED EFFECTIVE DATE

Fall 2025

CALENDAR CHANGES

HUBI 2001 Introduction to Biochemistry is an introduction to the major macromolecules of living organisms; proteins, nucleic acids, carbohydrates, and lipids: their structure, relationship, and biochemical function. Other topics include: enzymes; the biochemistry of membranes; and an introduction to cellular signalling.

CO: Chemistry 2400

CR: the former Biochemistry 2101, Biochemistry 2201, Pharmacy 2004, or the former Pharmacy 3110

PR: Chemistry <u>1001 or</u> 1051

HUBI 3004 Cellular Signaling provides a comprehensive overview of how cellular function adapts to changes in the environment, how this relates to human disease, and examples of how nutrients, therapeutic and illicit drugs, and Indigenous medicines interact with signalling cascades. The impact of intracellular signalling on survival, differentiation, and other cellular outputs will be covered. These include, but are not limited to, mineral and vitamin signalling, cytokine and chemokine signalling, gaseous signalling molecules, cyclin-dependent kinases, and receptor signalling pathways.

CR: Biochemistry 3108

PR: HUBI 2001 (or Biochemistry 2201 or the former 2101) or Pharmacy 2004 (or the former Pharmacy 3110), HUBI 2002 (or Biochemistry 2600 or Human Kinetics and Recreation 2600) 2004 (or Biochemistry 2200).

CALENDAR ENTRY AFTER CHANGES

HUBI 2001 Introduction to Biochemistry is an introduction to the major macromolecules of living organisms; proteins, nucleic acids, carbohydrates, and lipids: their structure, relationship, and biochemical function. Other topics include: enzymes; the biochemistry of membranes; and an introduction to cellular signalling. CO: Chemistry 2400

CR: the former Biochemistry 2101, Biochemistry 2201, Pharmacy 2004, or the former Pharmacy 3110

PR: Chemistry 1001 or 1051

HUBI 3004 Cellular Signaling provides a comprehensive overview of how cellular function adapts to changes in the environment, how this relates to human disease, and examples of how nutrients, therapeutic and illicit drugs, and Indigenous medicines interact with signalling cascades. The impact of intracellular signalling on survival, differentiation, and other cellular outputs will be covered. These include, but are not limited to, mineral and vitamin signalling, cytokine and chemokine signalling, gaseous signalling molecules, cyclin-dependent kinases, and receptor signalling pathways. CR: Biochemistry 3108

PR: HUBI 2001 (or Biochemistry 2201 or the former 2101) or Pharmacy 2004 (or the former Pharmacy 3110), HUBI 2004 (or Biochemistry 2200).

SECONDARY CALENDAR CHANGES N/A

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page

Academic Unit	Email Address	Response/Date
Humanities and Social Sciences	hss@mun.ca	
Business Administration	deanfba@mun.ca	
Education	educdean@mun.cay	
Engineering and Applied Science	engrconsult@mun.ca	Yes
Human Kinetics and Recreation	hkrdean@mun.ca	
Medicine	DeanofMedicine@mun.ca	Yes
Music	kbulmer@mun.ca	
Nursing	deanNurse@mun.ca	Yes
Pharmacy	pharminfo@mun.ca	
Science	deansci@mun.ca	Yes (Biology)
Social Work	adeanugradswk@mun.ca	
Library	univlib@mun.ca	
Grenfell Campus		
Arts and Social Science	gcsass@mun.ca	
Science and the Environment	gcsse@mun.ca	Yes
Fine Arts	gcsofa@mun.ca	
Marine Institute		
	miugconsultations@mi.mun.ca	
Labrador Institute		
Arctic and Subarctic Studies	deanofsass@mun.ca	

Click here to go to consultation emails

LIBRARY REPORT

A library report is not required.

RESOURCE IMPLICATIONS

There are no anticipated resource demands.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS N/A

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): HUBI 4001
- \Box 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)
- □ 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

HUBI 4001 Biomolecular Structure and Dynamics

REVISED COURSE NUMBER AND TITLE

New course

ABBREVIATED COURSE TITLE

Biomol Structure Dynamics

RATIONALE

New course for students in the new Human Biosciences program, to provide a modernized, experiential course that builds on the new HUBI common 3rd year core. This common core covers multiple biomolecules and thus enables us to offer a hands-on 4th year course that incorporates structure and dynamics of proteins, carbohydrates, lipids and nucleic acids.

ANTICIPATED EFFECTIVE DATE

Fall 2025

CALENDAR CHANGES

HUBI 4001 Biomolecular Structure and Dynamics provides an in-depth exploration of the interplay between structure, dynamics, and function of complex biomolecules, which may include proteins, carbohydrates, lipids, and nucleic acids. Topics covered will include exemplar biomolecular systems of particular interest in human health and disease including drug design targets. Students will probe structure/dynamics/function relationships hands-on using tools such as bioinformatics, 3D structure databanks, computational modelling and molecular simulation analysis.

PR: HUBI 2004, HUBI 3003; or permission of the instructor

CALENDAR ENTRY AFTER CHANGES

New course

SECONDARY CALENDAR CHANGES

This course is included in a separate proposal to modify the lists of courses offered to fulfill the requirements for a Concentrations in the Human Biosciences program.

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page – HUBI 4001

CONSULTATIONS SOUGHT

Academic Unit	Email Address	Response/Date
Humanities and Social Sciences	<u>hss@mun.ca</u>	
Business Administration	deanfba@mun.ca	
Education	educdean@mun.ca	
Engineering and Applied Science	engrconsult@mun.ca	yes
Human Kinetics and Recreation	hkrdean@mun.ca	
Medicine	DeanofMedicine@mun.ca	yes
Music	kbulmer@mun.ca	
Nursing	deanNurse@mun.ca	yes
Pharmacy	pharminfo@mun.ca	
Science	deansci@mun.ca	Yes (biology)
Social Work	adeanugradswk@mun.ca	
Library	univlib@mun.ca	
Grenfell Campus		
Arts and Social Science	gcsass@mun.ca	
Science and the Environment	gcsse@mun.ca	
Fine Arts	gcsofa@mun.ca	
Marine Institute		
	miugconsultations@mi.mun.ca	
Labrador Institute		
Arctic and Subarctic Studies	deanofsass@mun.ca	

Click here for consultation emails.

LIBRARY REPORT

A library report is appended It can be found here.

RESOURCE IMPLICATIONS

This new 4th year course is part of our overall launch of the new Human Biosciences program, and no additional teaching manpower is required. We planned for the development of new, modern courses suited to the expertise of our faculty; five courses that were part of the discontinued Biochemistry major will not be offered again.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS

Please see sample course outline appended below.

Sample course outline:



Department of Biochemistry

Instructors:

Valerie Booth Office # CSF-3237 vbooth@mun.ca Jaeok Park Office # CSF-3238 jaeokp@mun.ca Katie Wilson k.wilson@mun.ca Office # CSF-3236

<u>Human Biosciences 4001</u> Biomolecular Structure and Dynamics

There are no set office hours for this course. Students wishing to discuss course material can drop by the instructor's office in the CSF or email to arrange an in-person or virtual appointment.

Every effort will be made to respond to emails within 24 hours, with the exception of evenings, weekends and holidays.

Course Description:

Biomolecular Structure and Dynamics provides an in-depth exploration of the interplay between structure, dynamics, and function of complex biomolecules, which may include proteins, carbohydrates, lipids, and nucleic acids. Topics covered will include exemplar biomolecular systems of particular interest in human health and disease including drug design targets. Students will probe structure/dynamics/function relationships hands-on using tools such as bioinformatics, 3D structure databanks, computational modelling and molecular simulation analysis.

Pre-requisites:

Hubi 2004, Hubi 3003

Course Learning Goals:

- Capacity to apply a wide variety of computer programs to computational and experimental data on biological molecules
- Use a wide variety of sources (from scientific literature to analysis of databases) to explain the relationships between structure, function and dynamics for a biomolecule of interest
- Make connections between scientific literature claims and your own analysis of information available in databases with biomolecular data

Required Text and Resources

None

Method of Evaluation Grade Item	Weight	Notes	Relevant due dates
Participation	10%	class discussions	
Quizzes	40%	In-class multiple choice/short answer quizzes. Non-cumulative (4 quizzes, 10% each)	Every 3 weeks
Project – Part 1	15%	Choose a biomolecule of interest (instructors will provide a list of suggestions but will not limit students to this list). Perform a literature search on your biomolecule and create an annotated bibliography with 10 articles. Make 2 figures that demonstrate you can apply at least 2 of the hands-on tools we've done so far to Your biomolecule.	~Week 6
Project – Part 2	40%	Research and explain your biomolecule's function/structure/dynamics in an oral presentation, making use of at least 3 of the hands-on tools learned in the course, as well as your literature search. Recorded oral presentation.	End of semester

Tentative Course Schedule

Note that as an in-person course, sessions and course content **will NOT continue** during on-campus building closures due to weather. Changes or cancellations due to exceptional circumstances will be communicated through Brightspace.

Week	Dates	Topics and Evaluations	Important Dates
1		Hands-on: Using the Protein Data Bank Analyzing 3D Structures with PyMol	
2		Biomolecular dynamics – what do we mean by dynamics and why are they important for function? Applications to proteins that modify lipid structures: surfactant proteins, cell penetrating peptides, anti- microbial peptides <i>Hands-on: Explore these molecules as part of the</i> <i>lectures using tools from Week 1</i>	

3	Probing protein structure, binding, and dynamics with NMR – Hands-on component: analyze NMR data examples along with lecture, e.g. with NMRium		
4	Biomolecular crowding effects on protein structure and dynamics Hands-on: you'll analyze NMR data for biomolecules with and without crowder.	Quiz 1	
5	Exploring protein structure and dynamics via X-ray crystallography		
6	Hands-on X-ray crystallography: protein crystallization and structural model building	Project – Part 1 due	
7	Hands on: Obtaining structural information from molecular dynamics (MD) simulation Using the ATLAS Database	Quiz 2	
8	Role of glycans in biomolecular structure with hands-on MD examples		
9	Effects of lipid environment on the structure and function of membrane proteins with <i>hands-on MD examples</i>		
10	Examining nucleic acid structure including effects of DNA damage with <i>hands-on MD examples</i>	Quiz 3	
11	Experimental techniques for probing biomolecular binding interactions: calorimetry and fluorimetry		
12	Hands-on: Molecular docking: principles and applications		
13	Time to work on projects	Project – Part 2 due	
Examination Period (Exam date TBD) Quiz 4 (non-cumulative)			

Additional Policies / Supports

Commitment to Accommodation

Memorial University of Newfoundland is committed to fostering equitable and accessible learning environments for all students. Accommodations for students with disabilities are provided in accordance with the <u>Accommodations for Students with Disabilities Policy</u> and its related procedures. Students who feel that they may require formal academic accommodations to address barriers or challenges they are experiencing related to their learning are encouraged to contact <u>Accessibility Services (the Blundon</u> <u>Centre)</u> at the earliest opportunity to ensure any required accommodations are provided in a timely manner. You can contact Accessibility Services (the Blundon Centre) by emailing <u>blundon@mun.ca</u>.

Safe, Equitable and Inclusive Learning

In line with the Newfoundland and Labrador Human Rights Act, this course aims to provide a safe, equitable and inclusive learning environment regardless of race, colour, nationality, ethnic origin, social origin, religious creed, religion, age, disability, disfigurement, sex (including pregnancy), sexual orientation, gender identity, gender expression, marital status, family status, source of income or political opinion. **If any student feels this has not been achieved, and that they, or others, are/could be negatively impacted, please contact me**. All conversations are confidential.

Academic Integrity

Academic integrity means taking full responsibility for the academic work you submit for your courses, so that your instructors can evaluate you on the basis of your own understanding and effort. It means being honest and honourable in all academic pursuits, even in difficult circumstances. Students are expected to know and avoid academic offences; ignorance of an offence is not an acceptable excuse for committing it. Penalties could include reprimand, reduction of grade, probation, suspension, or expulsion from the University. For more information you may refer to the University Regulations for Academic Misconduct (Section 6.12) in the University Calendar, revisit the INTG 1000 course in Brightspace, and/or see the <u>undergraduate page about academic integrity</u>.

Recordings

With the exception of provisions made for students with special needs, all other recording of visual and/or audio content in sessions is restricted and must be approved by the instructor.

Your Health

There is nothing more important than your mental and physical health. Doctors' notes are **not** required for medical absences in this course. You are encouraged to seek appropriate medical attention from the Student Wellness and Counselling Centre. I am committed to working with students with pre-existing medical and mental health needs, as well as new needs that may arise within the semester. I encourage you to reach out to the Blundon Centre as early as possible to discuss any adjustments you think may be necessary in this course. Let's explore the options to help you succeed, no matter what is going on.

Additional Supports

Memorial University offers a broad range of supports, both academic and general in nature. These include, but are not limited to: Student Wellness and Counselling Centre, Student Support and Crisis Management, Student Parent Assistance & Resource Centre, The Circle: First Nations, Inuit & Métis Students Resource Centre, and the International Students Resource Centre. Full listings and links to these and other supports can be found at www.mun.ca/student/ and https://www.munsu35.ca/resource-centres/.

You may also wish to reach out to the many <u>Student Clubs and Societies</u> which can help you deepen learning in your discipline or pursue your interests outside the classroom and get connected with others.

All lecture material, including notes and presentations, are the intellectual property of the course instructor(s) and may not be reproduced without permission.

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): HUBI 4003

- \Box Amended or deleted course(s):
- □ New program(s):
- \Box 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)
- □ 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 HUBI 4003

COURSE NUMBER AND TITLE

HUBI 4003 Public Health Nutrition

ABBREVIATED COURSE TITLE

HUBI 4003 Public Health Nutrition

RATIONALE

The introduction of this 4th-year course, Public Health Nutrition, aligns with the recent overhaul of our curriculum, which emphasizes specialized senior-level courses for Human Biosciences majors. This course addresses a critical gap in the program by focusing on the intersection of nutrition, public health, and food policy, areas essential for preparing students to engage with current issues in health promotion, food security, and policy-making. It will provide students with the analytical, technical, and policy writing skills required for careers in public health nutrition with governmental and non-governmental organizations and industry.

ANTICIPATED EFFECTIVE DATE

Fall 2025

CALENDAR CHANGES (New course entry)

HUBI 4003 Public Health Nutrition explores how public health nutrition research informs the development, evaluation, and reformulation of food and health policies. Topics include food security, dietary guidelines, food policies in Canada and globally, and public health interventions aimed at improving nutritional and health outcomes. Students will gain practical experience through survey development and assessment, data collection, analysis, and interpretation activities, as well as policy-based assignments.

PR: 6 credit hours in Human Biosciences courses at the 3000-level or above, or permission of the instructor

SECONDARY CALENDAR CHANGES

This course is included in a proposal to modify the lists of courses offered to fulfill the requirements for a Concentrations offered in the Human Biosciences program. The calendar changes are included in that proposal, which is under review simultaneously with this new course proposal.

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page – HUBI 4003

CONSULTATIONS SOUGHT

Academic Unit	Email Address	Response/Date
Humanities and Social Sciences	<u>hss@mun.ca</u>	
Business Administration	deanfba@mun.ca	
Education	educdean@mun.ca	
Engineering and Applied Science	engrconsult@mun.ca	yes
Human Kinetics and Recreation	<u>hkrdean@mun.ca</u>	
Medicine	DeanofMedicine@mun.ca	yes
Music	kbulmer@mun.ca	
Nursing	deanNurse@mun.ca	yes
Pharmacy	pharminfo@mun.ca	
Science	deansci@mun.ca	Yes (Biology)
Social Work	adeanugradswk@mun.ca	
Library	univlib@mun.ca	
Grenfell Campus		
Arts and Social Science	gcsass@mun.ca	
Science and the Environment	gcsse@mun.ca	
Fine Arts	gcsofa@mun.ca	
Marine Institute		
	miugconsultations@mi.mun.ca	
Labrador Institute		
Arctic and Subarctic Studies	deanofsass@mun.ca	

Click here for consultation emails

LIBRARY REPORT

A library report is appended. It can be found here.

RESOURCE IMPLICATIONS

This new 4th year course is part of our overall launch of the new Human Biosciences program, and no additional teaching manpower is required. We planned for the development of new, modern courses suited to the expertise of our faculty; five courses that were offered for the discontinued Biochemistry major will not be offered again. The shared Biochemistry/Chemistry computer lab is sufficient to meet the needs of the course for the hands-on components of the course.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS

Please see sample course outline appended below.

Course Instructor Information

Course Coordinator

Dr. Scott Harding Office: CSF-3235 Phone: 709-864-8539 Email: <u>sharding@mun.ca</u>

Communication: I usually respond quickly to student questions via email. However, please allow up to 48 hours (excluding weekends and holidays) to receive a reply. Please use the instructor's "@mun.ca" email account when communicating about this course. Also, please be sure to put the course number in your subject line (e.g. HUBI4XX7). Important messages for the class will be communicated using the course Brightspace page under the "News" or "Announcements" sections.

Office Hours and Tutorials: If you have specific comments or concerns regarding the course material, it would be best to schedule an appointment with the course coordinator or the professor responsible for that material.

Course Information

Course Title: Public Health Nutrition

Course Code and CRN: HUBI-4003-001 (Public Health Nutrition)

Calendar Description: This course explores how public health nutrition research informs the development, evaluation, and reformulation of food and health policies. Topics include food security, dietary guidelines, food policies in Canada and globally, and public health interventions aimed at improving nutritional and health outcomes. Students will gain practical experience through survey development and assessment, data collection, analysis, and interpretation activities, as well as policy-based assignments.

Prerequisites: Any two HUBI 3000-level courses or with the permission of the instructor

Etiquette and a Professional Environment: The class is a professional and respectful environment; therefore, everyone is expected to be tolerant of the opinions and comments of others even if they disagree. Discussion and questioning are encouraged, as they generally help improve the learning environment. If you have an issue regarding the level of professionalism and respect in the course, feel free to discuss it privately with one of the instructors.

Learning Goals

By taking this course, students will be able to:

1. Explain key concepts in public health nutrition and their relationship with human health.

- 2. Analyze the role of food policy and public health interventions in promoting nutrition, food security, and population health.
- 3. Apply data collection and analysis techniques, and manipulate, analyze, and summarize datasets relevant to public health nutrition.
- 4. Compare Canadian food and nutrition policies with those from other regions globally.
- 5. Develop research-informed recommendations for food policy change or public health interventions.
- 6. Demonstrate skills in communicating scientific findings to stakeholders and policymakers.

Topics Covered

Week	Topic/Lecture	Activity/Assessment
1	Introduction to Public Health Nutrition	Case studies on major public health nutrition challenges
2	Determinants of Health and Nutrition	Group discussions: Applying determinants of health to real-world nutrition problems
3	Data Collection Methods in Public Health Nutrition – Part 1	In-class activity: Survey design
4	Data Collection Methods in Public Health Nutrition – Part 2	In-class activity: Dietary assessment tools
5	Introduction to Food Security: Concepts and Measures	Assignment: Food security analysis in Canada
6	Global and Local Perspectives on Food Security and Nutrition	Group policy brief assignment; Discussion: Compare food security policies in different jurisdictions.
7	No lecture or activities	
8	Nutrition Surveillance and Data Analysis Techniques – Part 1	Statistical analysis of nutrition and demographic data
9	Nutrition Surveillance and Data Analysis Techniques – Part 2	Data visualization activity
10	Canadian Food and Nutrition Policies	Guest lectures from a public health researcher or government public health
11	Ethics and Equity in Public Health Nutrition	Group discussion on Indigenous food systems and equitable food policies in Canada (e.g. Nutrition North)
12	International Nutrition Policies and Frameworks (WHO, FAO, SDGs)	Group comparative policy analysis report

Required and Recommended Text and Resources

- There is no required textbook for this course. Reading lists will be posted in Brightspace under "Required Reading". These will be a collection of peer-reviewed articles, websites, and policy documents.
- Students will need to install SPSS on a compatible device, or some classes will be held in the Biochemistry computer lab when data analysis activities are scheduled.

Method of Evaluation

Item	Due Date	% of Final Grade
Case study report		10
Group discussion participation (x2)		10
Food security assignment		10
Group policy brief assignment		10
Dietary patterns assignment		10
In-class assignments (x4)		40
Group debate		10
Bonus Assignment		5
Total		100

Assessment Details

Case Study Report

- Read and assess case study scenarios provided by the instructor. Assess the cases as groups and prepare short reports individually.
- Learning Objective: Further develop assessment skills and short report writing.

Food Security and Nutrition Assessment

- Analysis and interpretation of Canadian food security datasets collected by Stats Canada.
- Learning Objective: Data manipulation, analysis, summarization of outcomes.

Group Policy Brief Assignment

- Write a 2-3 page policy brief addressing a public health nutrition issue (e.g., sugar tax, food insecurity). Students should provide an overview of the issue, relevant data, and policy recommendations.
- Learning Objective: Concise, persuasive writing tailored to policymakers with limited time.

Dietary Patterns (e.g. Western, Mediterranean, HEFI-2019) Assignment

- Using data provided you will calculate different diet pattern scores and summarize these scores using various sociodemographic data.
- Learning Objective: Calculation of dietary scoring system from large data set and compare with other groups who have used a different scoring system on the same data.

Comparative Policy Analysis Report

- Compare public health nutrition policies in Canada with another country, assessing effectiveness and feasibility of adopting foreign policies.
- Learning Objective: Further develop critical thinking skills by evaluating policy frameworks across different contexts.

Bonus Assignment

- Write an op-ed, letter to the editor, or advocacy letter to a policymaker supporting or opposing a public health nutrition policy.
- Learning Objective: application of knowledge, knowledge translation, impacting policy development with persuasive, evidence-based arguments.

Please review the University Regulations regarding grading and evaluation of student coursework:

Evaluation of Student Work

• <u>https://www.mun.ca/university-calendar/university-regulations-undergraduate/6/7/</u>

Grading

• https://www.mun.ca/university-calendar/university-regulations-undergraduate/6/9/

Accommodations

 Only Blundon Center approved accommodations are accepted for time extensions on quizzes, tests, and examinations. There are no extensions for the written assignments as these can be completed and submitted at any time during the semester and are not contingent on covering any piece of material in the lectures.

Assignments

Use of Assistive Tools in Writing Assignments: In this course, students are permitted to use generative artificial intelligence (GAI) tools to assist with editing and refining their **original writing**. However, it is important that the initial drafts of any writing assignments are created by **YOU**, the student, without the use of prompted GAI. All foundational writing work should be authentically yours. Misuse of GAI tools may be considered academic misconduct.

Late Assignments: Assignments are due at 23:59 PM on the dates specified above (unless otherwise notified by the instructors). If assignments are handed in late a 30% late penalty will be levied on the final mark for the assignment. All assignments will be marked and provided with the same level of feedback if they are handed in before 23:59 PM on the last day of classes. Any assignments handed in after the end of the last day of classes will receive a 0. Assignments submitted as a group will be given the same mark for all individuals in the group regardless of effort. Any issues with individuals within groups not "pulling their weight" should be brought to the attention of the instructors immediately.

The mitigating circumstances for requesting an extension of a deadline or alternate evaluation must meet the criteria set out in the following regulations "6.7.5 Exemptions from Parts of the Evaluation"

(<u>https://www.mun.ca/university-calendar/university-regulations-undergraduate/6/7/</u>). Failure to comply with this policy will result in the assessment/evaluation being marked as a zero.

Please read these sections of the University Regulations as soon as possible.

Policies and other relevant information

Please familiarize yourself with the relevant Memorial University policies:

Accommodations

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 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 as soon as possible (www.mun.ca/blundon).

Academic Integrity

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 - <u>https://www.mun.ca/university-calendar/university-regulations-undergraduate/6/12/</u>) of the University Regulations.

Equity and Inclusion

Please assist in creating a learning environment that supports equity and the provision of a safe learning environment regardless of religious, linguistic, and economic backgrounds, lifestyle choices, gender, nationality, physical ability, or learning differences.

Memorial University's Land Acknowledgement

We respectfully acknowledge the territory in which we gather as the ancestral homelands of the Beothuk, and the island of Newfoundland as the ancestral homelands of the Mi'kmaq and Beothuk. We would also like to recognize the Inuit of Nunatsiavut and NunatuKavut and the Innu of Nitassinan, and their ancestors, as the original people of Labrador. We strive for respectful partnerships with all the peoples of this province as we search for collective healing and true reconciliation and honour this beautiful land together.

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:

- \Box New course(s):
- X Amended or deleted course(s): HUBI 4102
- □ 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)
- □ 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

HUBI 4102 Current Topics in Biochemistry

REVISED COURSE NUMBER AND TITLE

HUBI 4102 Controversies in Biochemistry and Molecular Genetics

ABBREVIATED COURSE TITLE

HUBI 4102 Controvers Biochem Mol Gene

RATIONALE

This course was required in the discontinued Biochemistry Hons program. An option in our new Human Biosciences program is for students to select courses to specialize in a HUBI Concentration. The addition of "Molecular Genetics" to the course name allows us to broaden the course content to make it relevant to two of our program Concentrations (Biochemistry and Molecular Genetics). Changing "Current Topics" to "Controversies in" aligns this course with a similar course offered for the other two Concentrations in our program.

ANTICIPATED EFFECTIVE DATE

Fall 2025

CALENDAR CHANGES

HUBI 4102 Current Topics in Controversies in Biochemistry and Molecular Genetics is a seminar course in which faculty and students will discuss topics of current interest in the biochemical literature. Students will be responsible for reading and critically assessing recent literature. uses recent scientific literature to explore current controversies in biochemistry and genetics; topics are generally selected and presented by students with student-driven discussions.

EQ: Biochemistry 4102 PR: Honours Biochemistry students in their final year or permission of the Head 9 credit hours in Human Biosciences courses at the 3000-level or higher LH: 3

CALENDAR ENTRY AFTER CHANGES

HUBI 4102 Controversies in Biochemistry and Molecular Genetics uses recent scientific literature to explore current controversies in biochemistry and genetics; topics are generally selected and presented by students with student-driven discussions

EQ: Biochemistry 4102 PR: 9 credit hours in Human Biosciences courses at the 3000-level or above LH: 3

SECONDARY CALENDAR CHANGES N/A

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page HUBI 4102

Academic Unit	Email Address	Response/Date
Humanities and Social Sciences	<u>hss@mun.ca</u>	
Business Administration	deanfba@mun.ca	
Education	educdean@mun.ca	
Engineering and Applied Science	engrconsult@mun.ca	Yes 11/20/2024
Human Kinetics and Recreation	hkrdean@mun.ca	
Medicine	DeanofMedicine@mun.ca	Yes 11/13/2024
Music	kbulmer@mun.ca	
Nursing	deanNurse@mun.ca	Yes 11/12/2024
Pharmacy	pharminfo@mun.ca	
Science	deansci@mun.ca	Yes, Biology 11/12/2024
Social Work	adeanugradswk@mun.ca	
Library	univlib@mun.ca	
Grenfell Campus		
Arts and Social Science	gcsass@mun.ca	
Science and the Environment	gcsse@mun.ca	Yes 11/12/2024
Fine Arts	gcsofa@mun.ca	
Marine Institute		
	miugconsultations@mi.mun.ca	
Labrador Institute		
Arctic and Subarctic Studies	deanofsass@mun.ca	

Click here to go to consultation emails

LIBRARY REPORT

A library report is not required.

RESOURCE IMPLICATIONS

There are no anticipated resource demands.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS N/A
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:

- \Box New course(s):
- X Amended or deleted course(s): HUBI 4240
- \Box 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)
- □ 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

HUBI 4240 Nutrient-Gene Interactions and Personalized Nutrition

REVISED COURSE NUMBER AND TITLE

HUBI 4240 Nutrient-Gene Interactions and Personalized Health

ABBREVIATED COURSETITLE

HUBI 4240 Nutr-Gene Int & Persn Health

RATIONALE

The proposed name and modified calendar description describe the course content more accurately. The course material has evolved with exponential advances in the understanding of how nutrients influence gene expression. The interactions between nutrients and genes may inform lifestyle practices that are not restricted to dietary changes; as such, the term "Personalized Health" fits better. Also, the controversy surrounding the ethical use of DNA data collected by companies such as "Ancestry" or "23 and Me" is an important part of course content, and ideally should be reflected in the course description.

In addition, BIOC 3106 and BIOC 2100 are very old course numbers that were replaced by 3206 and 2200 so we have removed the courses from the PR list.

ANTICIPATED EFFECTIVE DATE

Fall 2025

CALENDAR CHANGES

HUBI 4240 Nutrient-Gene Interactions and Personalized Nutrition Health is designed to provide greater understanding of the relationships between nutrients and the genome and the potential to design personalized diets health plans based on the genetic makeup of an individual. and Ethical issues surrounding the collection of personal DNA data are addressed. Students will develop an appreciation for the roles of nutrients in direct interactions with genes to that affect regulate metabolic processes, thereby maintaining influencing health and preventing diseases risk.

EQ: Biochemistry 4240

PR: HUBI 2002 (or Biochemistry 2600 or Human Kinetics 2600), HUBI 2003 (or Biochemistry 3206 or 3106), HUBI 2004 (or Biochemistry 2100 or 2200, or Biology 2250)

CALENDAR ENTRY AFTER CHANGES

HUBI 4240 Nutrient-Gene Interactions and Personalized Health is designed to provide greater understanding of the relationships between nutrients and the genome and the potential to design personalized health plans based on the genetic makeup of an individual. Ethical issues surrounding the collection of personal DNA data are addressed. Students will develop an appreciation for the roles of nutrients in direct interactions with genes that affect metabolic processes, thereby influencing health and disease risk.

LH: 3

PR: HUBI 2002 (or Biochemistry 2600 or Human Kinetics 2600), HUBI 2003 (or Biochemistry 3206), HUBI 2004 (or Biochemistry 2200, or Biology 2250)

SECONDARY CALENDAR CHANGES N/A

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page HUBI4240

Academic Unit	Email Address	Response/Date	
Humanities and Social Sciences	<u>hss@mun.ca</u>		
Business Administration	deanfba@mun.ca		
Education	educdean@mun.ca		
Engineering and Applied Science	engrconsult@mun.ca		
Human Kinetics and Recreation	hkrdean@mun.ca		
Medicine	DeanofMedicine@mun.ca		
Music	kbulmer@mun.ca		
Nursing	deanNurse@mun.ca		
Pharmacy	pharminfo@mun.ca		
Science	deansci@mun.ca		
Social Work	adeanugradswk@mun.ca		
Library	univlib@mun.ca		
Grenfell Campus			
Arts and Social Science	gcsass@mun.ca		
Science and the Environment	gcsse@mun.ca		
Fine Arts	gcsofa@mun.ca		
Marine Institute			
	miugconsultations@mi.mun.ca		
Labrador Institute			
Arctic and Subarctic Studies	deanofsass@mun.ca		

Click here to go to consultation emails

LIBRARY REPORT

A library report is not required.

RESOURCE IMPLICATIONS

There are no anticipated resource demands.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS N/A

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:

- \Box New course(s):
- X Amended or deleted course(s): HUBI 4300
- □ 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)
- □ 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

HUBI 4300 Controversies in Nutrition

REVISED COURSE NUMBER AND TITLE

HUBI 4300 Controversies in Nutrition and Health

ABBREVIATED COURSE TITLE

HUBI 4300 Controvers Nutr and Health

RATIONALE

This course was required for the discontinued Biochemistry (Nutrition) major. An option in our new Human Biosciences program is for students to select courses to specialize in a HUBI Concentration. The addition of the word "Health" to the course name allows us to broaden the course content to make it relevant to two of our program Concentrations (Health and Disease and Nutrition and Metabolism).

ANTICIPATED EFFECTIVE DATE

Fall 2025

CALENDAR CHANGES

HUBI 4300 Controversies in Nutrition <u>and Health</u> is a course in which <u>uses recent</u> <u>scientific literature to explore</u> current controversies and trends in <u>related to</u> human <u>health and/or</u> nutrition; topics are <u>generally selected and</u> presented <u>by students with</u> <u>student-driven discussions</u>. and discussed using the scientific literature.

EQ: Biochemistry 4300

PR: HUBI 3001, 3002 and 3003 or the former Biochemistry 3203, and Medicine 310B At least 12 credit hours in Human Biosciences courses at the 3000-level or higher LH: 3

CALENDAR ENTRY AFTER CHANGES

HUBI 4300 Controversies in Nutrition and Health uses recent scientific literature to explore current controversies related to human health and/or nutrition; topics are generally selected and presented by students with student-driven discussions.

EQ: Biochemistry 4300 PR: 12 credit hours in Human Biosciences courses at the 3000-level or higher LH: 3

SECONDARY CALENDAR CHANGES N/A

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page HUBI4300

Academic Unit	Email Address	Response/Date		
Humanities and Social Sciences	<u>hss@mun.ca</u>			
Business Administration	deanfba@mun.ca			
Education	educdean@mun.ca			
Engineering and Applied Science	engrconsult@mun.ca	yes		
Human Kinetics and Recreation	hkrdean@mun.ca			
Medicine	DeanofMedicine@mun.ca	yes		
Music	kbulmer@mun.ca			
Nursing	deanNurse@mun.ca	yes		
Pharmacy	pharminfo@mun.ca			
Science	deansci@mun.ca	Yes (biology)		
Social Work	adeanugradswk@mun.ca			
Library	univlib@mun.ca			
Grenfell Campus				
Arts and Social Science	gcsass@mun.ca			
Science and the Environment	gcsse@mun.ca	Yes		
Fine Arts	gcsofa@mun.ca			
Marine Institute				
	miugconsultations@mi.mun.ca			
Labrador Institute				
Arctic and Subarctic Studies	deanofsass@mun.ca			

Click here for consultation emails

LIBRARY REPORT

A library report is not required.

RESOURCE IMPLICATIONS

There are no anticipated resource demands.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS N/A

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:

X New course(s): Human Biosciences 4801 and 4802

- \Box 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)
- □ 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

Human Biosciences 4801 Directed Study

Human Biosciences 4802 Directed Study

REVISED COURSE NUMBER AND TITLE

N/A

ABBREVIATED COURSE TITLE

Human Biosciences 4801 Directed Study

Human Biosciences 4802 Directed Study

RATIONALE

We would like to provide an opportunity for motivated students to have a one-semester independent study experience as part of the HUBI program. This would meet the needs of talented students who express a particular interest in a topic or research area not addressed in our courses or a topic they wish to study in more depth. The Human Biosciences directed studies courses will offer students a structured, hands-on research experience under faculty supervision. *Together with their faculty supervisor, the student will develop a syllabus for the directed studies* with responsibilities that typically include:

- 1. Literature Reviews and Analytical Frameworks: Students begin with a literature review to ground their work in existing research. They outline key research questions and experimental approaches, which reinforces understanding of study design.
- 2. **Experimental and Data Analysis Tasks**: Students may actively engage in research tasks, such as conducting laboratory assays and performing data analysis, gaining practical skills critical to biosciences research.
- 3. **Formal Reporting and Presentation**: A formal report may be structured as a manuscript for submission to a journal, or as a research-based report for industry, or an interim report for a funding sponsor.
- 4. **Regular Supervision and Mentorship**: Regular meetings with the supervisor (and sometimes graduate students) ensure ongoing guidance, support, and feedback, helping students refine their technical skills and analytical approaches.

Enrollment in a Directed Study course would require a commitment from an Instructor and permission by the Department Head. We do not expect many students will avail of a Directed Studies opportunity, but we would like to have the option in the Calendar for the exceptional students who are highly self-directed and motivated. We have requested two separate course numbers so HUBI majors could have two such experiences if they chose to do so; however, one student having two course experiences would be exceptional, and completely independent.

ANTICIPATED EFFECTIVE DATE

Fall 2025

CALENDAR Entry (new courses)

Human Biosciences 4801 Directed Study is an independent study course. Students will work directly with one faculty member to rigorously and independently research a topic of interest, culminating in a written document that may be in the form of an in depth review paper or a detailed research report.

PR: 12 credit hours from Human Biosciences courses at the 3000-level or higher and permission of an Instructor and the Head of the Department

Human Biosciences 4802 Directed Study is an independent study course. Students will work directly with one faculty member to rigorously and independently research a topic of interest, culminating in a written document that may be in the form of an in depth review paper or a detailed research report.

PR: HUBI 4801 and permission of an Instructor and the Head of the Department

SECONDARY CALENDAR CHANGES

These courses are included in a separate proposal (also under review) to modify the lists of courses offered to fulfill the requirements for a Concentrations in the Human Biosciences program.

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page – HUBI 4801 and 4802

CONSULTATIONS SOUGHT

Academic Unit	Email Address	Response/Date	
Humanities and Social Sciences	hss@mun.ca		
Business Administration	deanfba@mun.ca		
Education	educdean@mun.ca		
Engineering and Applied Science	engrconsult@mun.ca	yes	
Human Kinetics and Recreation	hkrdean@mun.ca		
Medicine	DeanofMedicine@mun.ca	yes	
Music	kbulmer@mun.ca		
Nursing	deanNurse@mun.ca	yes	
Pharmacy	pharminfo@mun.ca		
Science	deansci@mun.ca		
Social Work	adeanugradswk@mun.ca		
Library	univlib@mun.ca		
Grenfell Campus			
Arts and Social Science	gcsass@mun.ca		
Science and the Environment	gcsse@mun.ca	yes	
Fine Arts	gcsofa@mun.ca		
Marine Institute			
	miugconsultations@mi.mun.ca		
Labrador Institute			
Arctic and Subarctic Studies	deanofsass@mun.ca		

Click here for consultation emails

LIBRARY REPORT

A library report is appended. It can be found here.

RESOURCE IMPLICATIONS

There are no demands on resources. Faculty and teaching staff are not required to supervise Directed Study students; as such, no teaching credit is awarded to instructors who choose to supervise a student in a Directed Studies course.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS

Please see sample course syllabus appended below.

Example Syllabus:

Course Calendar Entry

Human Biosciences 4801 Directed Study is an independent study course. Students will work directly with one Faculty mentor to independently research a topic of interest, culminating in a written document that may be in the form of an in-depth review paper or a detailed research report. Enrollment requires permission from an Instructor and the Head of the academic unit.

PR: At least twelve credit hours in HUBI 3000-level courses or with the permission of the instructor

Required Textbook

None

Evaluation

- Performance on Research and Experimental Tasks Mentor (50%)
 - Setting learning objectives and project scope
 - Designing syllabus for course
 - Literature review
 - Analytical framework
 - Execution of research tasks
- Evaluation of Written Report Mentor (40%)
 - Literature review
 - Analytical framework
 - Summary of research experience
 - Reflections on how learning objectives were achieved
- Evaluation of Written Report Head of Department or delegate (10%)
 - Literature review
 - Analytical framework
 - Summary of research experience
 - Reflections on how learning objectives were achieved

Research Experience

This section of the syllabus would be unique to each student and determined in consultation with their Faculty mentor. This could be completely student-driven or it could contribute to the Faculty mentor's ongoing research program.

Brief Summary of the Research Objectives

The research objectives will be designed by the student in consultation with the Faculty mentor. Again, these will be unique and the self-directed learning objectives will be achievable within a single semester and within the time constraints of a single 3-credit hour course.

Student Requirements for Course Completion

This will be determined in consultation with the Faculty mentor and the Head of Department or delegate. The requirements for research engagement and ongoing and final "deliverables" by the student must satisfy the standard expected for a 3-credit hour 4000-level Human Biosciences course. These Directed Studies courses may completed in year 3 or 4 of the program and are not meant to be similar to the standards expected for the honours project courses (HUBI 499A/B)

Meetings with Faculty Mentor

Bi-weekly meetings are mandatory to ensure student progress, including discussion of literature findings, evaluation of progress on experiment design and research activities, and guidance in data analysis and interpretation of results.

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):
- \Box 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
- X New, amended or deleted General Academic Regulations (Undergraduate)
- □ 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 Regulations

SECTION OF CALENDAR

Indicate the section of the Calendar impacted by the proposed change(s):

- □ Glossary of Terms Used in the Calendar
- □ Admission/Readmission to the University (Undergraduate)
- General Academic Regulations (Undergraduate)
- □ Faculty of:
- □ School of:
- X Department of: Biochemistry (Human Biosciences majors)
- □ Other:

RATIONALE

Human Biosciences (HUBI) is a new undergraduate program offered by the Department of Biochemistry. Within the HUBI major and honours programs, students have the option of completing 15 credit hours in courses that fulfill the requirements for one of four "Concentration" designations. In Fall 2025, the first full cohort of HUBI students will enter 4th year. In preparation for this inaugural cohort, we have revisited the courses that populate each Concentration list. We are proposing changes:

- 1. to include new courses that were not available when the HUBI program was approved (proposals for HUBI 4001, 4003, 4801 and 4802 under review), and remove others that will not likely be offered again;
- 2. to include some courses were overlooked when the program was initially approved, but we now recognize they are relevant to the Concentration;
- 3. to remove courses that we do not intend to offer again, or
- 4. to remove coursed from other academic units (rationale described below)

These changes will provide more options for course selection within a concentration.

We have also proposed a change in name for two of the concentrations. The Nutrition concentration will be changed to Nutrition & Metabolism, as we have a new high-level metabolism course (HUBI 4016, approved in 2023), and anticipate that a recent hire will contribute another new course that will fit into this concentration. We are also proposing that the Concentration currently named "Gene Regulation" is renamed to "Molecular Genetics"; this is a better descriptor of the overall focus of the Concentration and the expertise of faculty members teaching the courses.

The courses deleted from a Concentration are highlighted in pink below. The rationale for removing courses is as follows:

- Biology 2250 was removed from "Molecular Genetics" because we decided that 2nd level courses should not be included as options for fulfilling the Concentration requirements. *Note that Psychology 2520 Intro to Neuropsychology is in the Biochemistry Concentration despite of being a 2000-level course; this is because of its novel content.*
- Biology 4241 was removed because the prerequisite is Biology 2250, and Biology 4606 was removed, also because of the prerequisites (BIOL 2250 and 3951); also, it has not been offered by Biology in the recent past.

Also note that HUBI 4242 was removed from the Nutrition Concentration because it was regularized to HUBI 4700, so it is redundant in the list.

The new courses under review with this proposal are highlighted in yellow.

Existing courses added to a concentration are highlighted in green.

ANTICIPATED EFFECTIVE DATE

Fall 2025

CALENDAR CHANGES

11.8.3.1 Biochemistry

Students selecting the Biochemistry concentration are required to complete 15 credit hours from the following courses:

Human Biosciences 3101, 3105, 3207 4002, 4101, 4001, 4102, 4106, 4200, 4201, 4232, 4233-4239, 4801, 4802, Chemistry 2100, Chemistry 2401, Psychology 2520, Psychology 3800.

11.8.3.2 Health and Disease

Students selecting the Health and Disease concentration are required to complete 15 credit hours from the following courses:

Human Biosciences 3101, <u>3052</u> (or Biology 3052), 3600, <u>4003</u>, <u>4101</u>, <u>4104</u>, 4230, 4231, 4232, <u>4300</u>, 4301, 4240, <u>4241-4249</u>, <u>4700</u>, <u>4801</u>, <u>4802</u>, Biology 3050, Chemistry 4701, Psychology 3860</u>.

11.8.3.3 Gene Regulation Molecular Genetics

Students selecting the Molecular Biology Molecular Genetics concentration are required to complete 15 credit hours from the following courses:

Human Biosciences 3207, <u>4001</u>, <u>4102</u>, 4104, 4231, <u>4233 – 4239</u>, 4240, <u>4801, 4802</u>, Biology <u>2250</u>, 3951, <u>4241, 4606</u>

11.8.3.4 Nutrition and Metabolism

Students selecting the Nutrition <u>and Metabolism</u> concentration are required to complete 15 credit hours from the following courses:

Human Biosciences 3402, 3600, <u>4003</u>, 4106, 4230, <u>4231</u>, 4240, <u>4242</u>, <u>4241-4249</u>, 4300, 4301, <u>4700, 4701</u>, <u>4801, 4802</u>, Biology 3052

CALENDAR ENTRY AFTER CHANGES

11.8.3.1 Biochemistry

Students selecting the Biochemistry concentration are required to complete 15 credit hours from the following courses:

Human Biosciences 3101, 3207, 4001, 4102, 4106, 4232, 4233-4239, 4801, 4802, Chemistry 2100, Chemistry 2401, Psychology 2520, Psychology 3800,

11.8.3.2 Health and Disease

Students selecting the Health and Disease concentration are required to complete 15 credit hours from the following courses:

Human Biosciences 3101, 3052 (or Biology 3052), 3600, 4003, 4104, 4230, 4231, 4232, 4300, 4301, 4240, 4241-4249, 4700, 4801, 4802, Biology 3050, Psychology 3860.

11.8.3.3 Molecular Genetics

Students selecting the Molecular Genetics concentration are required to complete 15 credit hours from the following courses:

Human Biosciences 3207, 4001, 4102, 4104, 4231, 4233 – 4239, 4240, 4801, 4802, Biology 3951.

11.8.3.4 Nutrition and Metabolism

Students selecting the Nutrition and Metabolism concentration are required to complete 15 credit hours from the following courses:

Human Biosciences 3402, 3600, 4003, 4106, 4230, 4231, 4240, 4241-4249, 4300, 4301, 4700, 4701, 4801, 4802, Biology 3052

SECONDARY CALENDAR CHANGES N/A

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page

Academic Unit	Email Address	Response/Date		
Humanities and Social Sciences	<u>hss@mun.ca</u>			
Business Administration	deanfba@mun.ca			
Education	educdean@mun.ca			
Engineering and Applied Science	engrconsult@mun.ca	yes		
Human Kinetics and Recreation	hkrdean@mun.ca			
Medicine	DeanofMedicine@mun.ca	yes		
Music	kbulmer@mun.ca			
Nursing	deanNurse@mun.ca	yes		
Pharmacy	pharminfo@mun.ca			
Science	deansci@mun.ca	Yes (biology)		
Social Work	adeanugradswk@mun.ca			
Library	univlib@mun.ca			
Grenfell Campus				
Arts and Social Science	gcsass@mun.ca			
Science and the Environment	gcsse@mun.ca			
Fine Arts	gcsofa@mun.ca			
Marine Institute				
	miugconsultations@mi.mun.ca			
Labrador Institute				
Arctic and Subarctic Studies	deanofsass@mun.ca			

Email consultations can be found here.

LIBRARY REPORT

A library report is not required.

RESOURCE IMPLICATIONS

The resource implications for the new courses are addressed in the new course proposals currently under review.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS N/A



Collection Strategies Division

Queen Elizabeth II Library

25 November 2024

What follows is a report generated for the Department of Human Biosciences in response to a number of new course proposals. In summary, Memorial Libraries is well positioned to support these changes under existing budgetary allocations and with minimal reliance on document delivery. Students opting to take any of these courses should have access to more than adequate primary and secondary research material where "library research" is a course requirement. Memorial Libraries highly recommends that course readings outside of those provided in the course textbooks be made available to students via our Course Reserves system to ensure that license and copyright requirements are met to provide seamless access. Consultation on reading lists and how the Library can provide research support is welcome at any time.

HUBI 4001: Biomolecular Structure and Dynamics

- Memorial Libraries holds several hundred monographs related to the main course topics, the vast majority of which are part of electronic book collections such as those from Springer.
- Access to any primary literature on the course topics should be seamless via existing subscriptions and through our current collection of databases. New journal subscriptions will be considered annually.

HUBI 4003: Public Heath Nutrition

• Memorial Libraries holds over a thousand monographs related to the subject of this course. In this case, paper holdings are divided among a few library branches. As above, several hundred books are available electronically.

• Access to any primary literature on the course topics should be seamless via existing subscriptions and through our current collection of databases. New journal subscriptions will be considered annually.

HUBI 4801 & 4802: Directed Study

• Memorial Libraries welcomes the opportunity to consult with Faculty supervising students in independent study. Resources can be added to the collection where needed under existing budgetary structures.

Erin Alcock

Science Research Liaison Librarian

Calendar Change Proposals from Biochemistry

BiocDHundergrad

Mon 11/11/2024 8:19 PM

Sent Items

To:Faculty of Humanities and Social Sciences <hss@mun.ca>; Dean - Faculty of Business Administration <deanfba@mun.ca>; Dean of Education <educdean@mun.ca>; engrconsult@mun.ca <engrconsult@mun.ca>; HKR Dean <hkrdean@mun.ca>; Dean of Medicine : McKeen, Dr. Dolores <deanofmedicine@mun.ca>; Karen Bulmer <kbulmer@mun.ca>; DeanNurse <DeanNurse@mun.ca>; pharminfo@mun.ca <pharminfo@mun.ca>; Dean of Science <deansci@mun.ca>; University Librarian <univlib@mun.ca>; GC School of Arts and Social Science <gcsass@mun.ca>; GC School of Science and the Environment <gcsse@mun.ca>; GC School of Fine Arts <gcsofa@mun.ca>; miugconsultations@mi.mun.ca <miugconsultations@mi.mun.ca>; deanofsass <deanofsass@mun.ca>; adeanugradswk <adeanugradswk@mun.ca>;

Ccjbrunton@mun.ca <jbrunton@mun.ca>;

❷ 8 attachments (205 KB)

HUBI 2001 and 3004 calendar change corrections.docx; HUBI 4001 Biomolec New Course Proposal.docx; HUBI 4003 Pub Health Nutr New Course Proposal.docx; HUBI 4102 calendar change proposal.docx; HUBI 4240 calendar change proposal.docx; HUBI 4300 calendar change proposal.docx; HUBI 4801 and 4802 New course proposal.docx; HUBI Concentration Course Lists.docx;

Hello All,

Coming to you from the Dept of Biochemistry are three new course proposals, three that describe modifications to the names and prerequisites of existing courses, and a proposal to clean up errors and omissions that we made in Calendar entries with the transition from Biochemistry to Human Biosciences courses. Also, as our first cohort of HUBI students reach 4th year, in preparation we have modified the lists of courses that students may choose from to satisfy the requirements for each of the four Concentrations in the Human Biosciences major; the proposal is also attached.

I would appreciate receiving comments and feedback sent to jbrunton@mun.ca by Dec 2nd.

Thanks very much!

Janet Brunton, PhD Professor and Deputy Head (Undergraduate) Department of Biochemistry Memorial University of Newfoundland

phone 709 864-8533 fax: 709 864-2422

Calendar Change Proposals from Biochemistry

Engineering Consult <engrconsult@mun.ca>

Wed 11/20, 2:46 PM

Thank you for the opportunity to comment on the proposed Calendar changes for the Human Biosciences program: Concentrations; HUBI 2001 Introduction to Biochemistry; HUBI 3004 Cellular Signalling; HUBI 4001 Biomolecular Structure and Dynamics; HUBI 4003 Public Health Nutrition; HUBI 4102 Controversies in Biochemistry and Molecular Genetics; HUBI 4240 Nutrient-Gene Interactions and Personalized Health; HUBI 4300 Controversies in Nutrition and Health; and HUBI 4801 and 4802 Directed Study.

At its meeting on Nov. 20, the Committee on Undergraduate Studies for the Faculty of Engineering and Applied Science found no impact on our programs.

I offer the following suggestions: HUBI 4003 replace "This course exposes ..." by "HUBI 4003 Public Health Nutrition exposes ..." HUBI 4102 is listed as equivalent to BIOC 4102. Should there be a parallel Calendar change for BIOC 4102? HUBI 4240 is listed as equivalent to BIOC 4240. Should there be a parallel Calendar change for BIOC 4240? HUBI 4240 is listed as equivalent to BIOC 4300. Should there be a parallel Calendar change for BIOC 4300. Should there be a

Dr. Glyn George, Chair Committee on Undergraduate Studies Faculty of Engineering and Applied Science Memorial University of Newfoundland St. John's NL A1B 3X5

Bailey, Robert

Tue 11/12, 5:29 PM

Dear Janet,

I have reviewed the proposed changes to HUBI courses/programs on behalf of the School of Science and the Environment at Grenfell Campus.

First, we are very much in support of the change to HUBI 2001 to include the Grenfell course CHEM 1001 as an alternative prerequisite to CHEM 1051. This will be a great help to students who complete their first year at Grenfell Campus before transferring to St. John's into a program which requires HUBI 2001.

The remaining proposals have no impact on the School of Science and the Environment and we are happy to support them. My only comment is in regard to the new course HUBI 4802. I wondered if the wording of the course description, rather than duplicating that of HUBI 4801, should reflect the fact that this is meant as a second such experience and independent of the first. (The courses sound like a good idea though.)

Thank you for the opportunity to provide comments on this proposal.

Best wishes, Robert.

 Associate Professor, Mathematics Grenfell Campus, Memorial University Corner Brook, NL, Canada

Office: AS 3025 Phone: +1 (709) 637-7166 (no voicemail available) Email: robert.bailey@mun.ca

Please do not feel obliged to respond outside of your usual working hours!

DeanNurse

Tue 11/12, 12:09 PM

Good morning Dr. Brunton.

Dr. Pike tells me that she has reviewed the documents and sees no implications for the Faculty of Nursing.

Thank you for your time, Jane

Subject: Re: Calendar Change Proposals from Biochemistry
From: medvicedean <medvicedean@mun.ca>
Date: 11/13/2024, 2:40 PM
To: "jbrunton@mun.ca" <jbrunton@mun.ca>
CC: "Dean of Medicine : McKeen, Dr. Dolores" <deanofmedicine@mun.ca>

Hi Janet,

Many thanks for the opportunity to review the number of proposals from Biochemistry. On behalf of the Faculty of Medicine, there are no concerns.

Thanks, Danielle

DANIELLE O'KEEFE MD CCFP FCFP MSc CCPE

Vice Dean, Education and Faculty Affairs Associate Professor of Family Medicine

Faculty of Medicine Memorial University of Newfoundland Faculty of Medicine Building | Room M2M311 300 Prince Philip Drive St. John's, NL, Canada A1B 3V6 T 709 864 6289 | F 709 864 6336 www.mun.ca/medicine

Our Vision: An inclusive, vibrant and cutting edge hub of discovery and learning that is tangibly contributing to the health and wellbeing of people locally and globally.

From: BiocDHundergrad <biocdhundergrad@mun.ca>
Date: Monday, November 11, 2024 at 8:19 PM
To: Faculty of Humanities and Social Sciences <hss@mun.ca>, Dean - Faculty of Business
Administration <deanfba@mun.ca>, Dean of Education <educdean@mun.ca>, engrconsult@mun.ca
<engrconsult@mun.ca>, HKR Dean <hkrdean@mun.ca>, Dean of Medicine : McKeen, Dr. Dolores
<deanofmedicine@mun.ca>, Karen Bulmer <kbulmer@mun.ca>, DeanNurse <DeanNurse@mun.ca>, pharminfo@mun.ca>, GC School of Arts and Social Science <gcsass@mun.ca>, GC School of Science
and the Environment <gcsse@mun.ca>, GC School of Fine Arts <gcsofa@mun.ca>, miugconsultations@mi.mun.ca
, adeanugradswk <adeanugradswk@mun.ca>
Cc: jbrunton@mun.ca <jbrunton@mun.ca>
Subject: Calendar Change Proposals from Biochemistry

Hello All,

Coming to you from the Dept of Biochemistry are three new course proposals, three that describe modifications to the names and prerequisites of existing courses, and a proposal to clean up errors and omissions that we made in Calendar entries with the transition from Biochemistry to Human Biosciences courses. Also, as our first cohort of HUBI students reach 4th year, in preparation we have modified the lists of courses that students may choose from to satisfy the

Page 66 of 436 requirements for each of the four Concentrations in the Human Biosciences major; the proposal is also attached.

I would appreciate receiving comments and feedback sent to jbrunton@mun.ca by Dec 2nd.

Thanks very much!

Janet Brunton, PhD Professor and Deputy Head (Undergraduate)

Department of Biochemistry Memorial University of Newfoundland

phone 709 864-8533 fax: 709 864-2422

Subject: Re: FW: Calendar Change Proposals from Biochemistry From: lain J Mcgaw <ijmcgaw@mun.ca> Date: 11/12/2024, 10:47 AM To: jbrunton@mun.ca

Hi Janet These changes look good. I see that it will not take any more people to teach these courses as you are getting rid of some. Maybe in the future if these are reinstated they can be used as leverage for new faculty hires. I saw the directed studies course - is this different to an Honours project? If so could an Honours student do both or is the directed studies meant to be for students who do not do the Honours program? cheers Iain - -Professor Department of Ocean Sciences 0 Marine Lab Road Memorial University St John's, NL Canada A1C 5S7

Tel: 709 864-3272 Fax: 709 864-3220

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:

 \Box New course(s):

X Amended or deleted course(s): OCSC 3712 – Benthic Biology (x-listing from BIOL 3712)

- □ 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)
- □ 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

Ocean Sciences 3712 – Benthic Biology

ABBREVIATED COURSE TITLE

Benthic Biology

RATIONALE

We propose a calendar change to cross-list 3712 as an Ocean Sciences course. This is a Bonne Bay field course and has been offered during the Spring semester along with a number of other courses that are cross-listed as Ocean Sciences electives or in some way count for the Marine Biology & Ocean Sciences major programs. Cross-listing this course will give Ocean Science students an additional option for Ocean Sciences electives at the Bonne Bay Aquarium & Research Station.

CALENDAR CHANGES

13.10 Ocean Sciences (new entry)

OCSC 3712 Benthic Biology

examines the biology of the aquatic benthos (bottom-dwelling organisms); their origins, adaptations, life histories and ecological roles. This course may be offered in a usual 13 week semester or as a two-week field course. **CR:** the former Biology 3630 **EQ:** Biology 3712 **LC:** either three hours of lecture and three hours of laboratory per week or a two-week field course that embodies equivalent instructional time **LH:** either three hours of lecture and three hours of laboratory per week or a two-week field course that embodies equivalent instructional time **PR:** Science 1807 and Science 1808; Biology 2122 and 2600

CALENDAR ENTRY AFTER CHANGES

13.10 Ocean Sciences

OCSC 3712 Benthic Biology

examines the biology of the aquatic benthos (bottom-dwelling organisms); their origins, adaptations, life histories and ecological roles. This course may be offered in a usual 13 week semester or as a two-week field course.

CR: the former Biology 3630

EQ: Biology 3712

LC: either three hours of lecture and three hours of laboratory per week or a two-week field course that embodies equivalent instructional time

LH: either three hours of lecture and three hours of laboratory per week or a two-week field course that embodies equivalent instructional time

PR: Science 1807 and Science 1808; Biology 2122 and 2600

SECONDARY CALENDAR CHANGES

Before:

13.2 Biology

BIOL 3712 Benthic Biology

examines the biology of the aquatic benthos (bottom-dwelling organisms); their origins, adaptations, life histories and ecological roles. This course may be offered in a usual 13 week semester or as a two-week field course.

CR: the former Biology 3630

EQ: Ocean Sciences 3712

LC: either three hours of lecture and three hours of laboratory per week or a two-week field course that embodies equivalent instructional time

LH: either three hours of lecture and three hours of laboratory per week or a two-week field course that embodies equivalent instructional time

PR: Science 1807 and Science 1808; Biology 2122 and 2600

After:

13.2 Biology

BIOL 3712 Benthic Biology

examines the biology of the aquatic benthos (bottom-dwelling organisms); their origins, adaptations, life histories and ecological roles. This course may be offered in a usual 13 week semester or as a two-week field course.

CR: the former Biology 3630

EQ: Ocean Sciences 3712

LC: either three hours of lecture and three hours of laboratory per week or a two-week field course that embodies equivalent instructional time

LH: either three hours of lecture and three hours of laboratory per week or a two-week field course that embodies equivalent instructional time

PR: Science 1807 and Science 1808; Biology 2122 and 2600

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page

CONSULTATIONS SOUGHT

Academic Unit	Email Address	Response Received?	
St. John's Campus			
Humanities and Social Sciences	hss@mun.ca		
Business Administration	eoldford@mun.ca		
Education	efurey@mun.ca		
Engineering and Applied Science	engrconsult@mun.ca	Yes	
Human Kinetics and Recreation	hkrdean@mun.ca		
Medicine	deanofmedicine@med.mun.ca	Yes	
Music	musicdean@mun.ca		
Nursing	deanNurse@mun.ca		
Pharmacy	pharminfo@mun.ca		
Science	deansci@mun.ca		
Social Work	adeanugradswk@mun.ca		
Library	univlib@mun.ca		
Grenfell Campus			
Arts and Social Science	kjacobse@grenfell.mun.ca		
Science and the Environment	ssedean@grenfell.mun.ca		
Fine Arts	pride@grenfell.mun.ca		
Marine Institute			
	miugconsultations@mi.mun.ca		
Labrador Institute			
Arctic and Subarctic Studies	ashlee.cunsolo@mun.ca		

LIBRARY REPORT

No library report required for this proposal.

RESOURCE IMPLICATIONS

There are no resource implications associated with this calendar change.
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:

- \Box New course(s):
- \Box Amended or deleted course(s):
- X New program(s): Concentrations in Artificial Intelligence, Data-centric Computing, Theory of Computation, Visual Computing and Games

X Amended or deleted program(s): 11.4.5 Major in Computer Science (Data-centric Computing), Major in Computer Science (Smart Systems), Major in Computer Science (Visual Computing and Games)

- □ 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)
- □ 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 Programs

PROGRAM TITLE

11.4.5 Major in Computer Science (Data-centric Computing) (B.Sc. only) -- REMOVE

11.4.6 Major in Computer Science (Smart Systems) (B.Sc. only) -- REMOVE

11.4.7 Major in Computer Science (Visual Computing and Games) (B.Sc. only) -- REMOVE

11.4.9 Computer Science Concentrations -- NEW

RATIONALE

We currently offer a "general" major in computer science and three "stream" majors, Data-centric Computing, Smart Systems and Visual Computing and Games. The streams are only available to BSc majors, not to BA majors or honours students. Students must formally declare at most one stream as their program. We propose to move from offering streams to offering concentrations. The motivation is to provide more program flexibility and to widen access whilst still allowing students to demonstrate specialization within computer science. Concentrations can be completed by BA and BSc majors, and by honours students. Students can complete more than one concentration. When applying to graduate, a student who has completed a concentration can expressly state to the Registrar in writing that they are also applying for a concentration designation. We also take this opportunity to add a concentration in a new area, the Theory of Computation.

ANTICIPATED EFFECTIVE DATE

Fall 2025

CALENDAR CHANGES

<u>11.4.5 Major in Computer Science (Data-centric Computing) (B.Sc. only)</u> As a component of the <u>Degree Regulations for the General Degree of Bachelor of</u> <u>Science</u> a student must successfully complete the following courses:

1. Forty-five credit hours in Computer Science courses are required for a major in Computer Science (Data-centric Computing):

- a. Computer Science <u>1001</u>, <u>1002</u>, <u>1003</u>, <u>2001</u>, <u>2002</u>, <u>2003</u>, <u>2004</u>, <u>2005</u>, <u>2006</u>, <u>2007</u>, and <u>2008</u>;
- b. Computer Science <u>3202, 3400, 3401</u> and <u>4304;</u> and
- c. Six additional credit hours in Computer Science courses selected from Computer Science <u>3019</u>, <u>4550</u>, <u>4734</u>, <u>4750</u>, <u>4754</u>, <u>4019</u>. Some of these courses require the completion of prerequisites that are not themselves part of the major.
- 2. Additional courses required are: Mathematics <u>1000</u>, <u>1001</u>, <u>2000</u>, <u>2050</u>, and Statistics <u>2500</u> or <u>2550</u>.

It is recommended, but not required, that students take Business 4720.

11.4.6 Major in Computer Science (Smart Systems) (B.Sc. only)

As a component of the <u>Degree Regulations for the General Degree of Bachelor of</u> <u>Science</u> a student must successfully complete the following courses:

- 1. Forty-five credit hours in Computer Science courses are required for a major in Computer Science (Smart Systems):
 - a. Computer Science <u>1001, 1002, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007,</u> and <u>2008;</u>
 - b. Computer Science <u>3200</u>, <u>3201</u>, <u>3202</u> and one of <u>3301</u>, <u>3401</u> or <u>3550</u>; and
 - c. Six additional credit hours in Computer Science courses selected from Computer Science <u>4301</u>, <u>4303</u>, <u>4750</u>, <u>4766</u>.
- 2. Additional courses required are: Mathematics <u>1000</u>, <u>1001</u>, <u>2000</u>, <u>2050</u>, and Statistics <u>2500</u> or <u>2550</u>.

<u>11.4.7 Major in Computer Science (Visual Computing and Games) (B.Sc. only)</u> As a component of the <u>Degree Regulations for the General Degree of Bachelor of</u> <u>Science</u> a student must successfully complete the following courses:

- 1. Forty-five credit hours in Computer Science courses are required for a major in Computer Science (Visual Computing and Games):
 - a. Computer Science <u>1001</u>, <u>1002</u>, <u>1003</u>, <u>2001</u>, <u>2002</u>, <u>2003</u>, <u>2004</u>, <u>2005</u>, <u>2006</u>, <u>2007</u>, and <u>2008</u>;
 - b. Computer Science <u>3300</u>, <u>3301</u>, and <u>4300</u>;
 - c. Six additional credit hours in Computer Science courses selected from Computer Science <u>3200</u>, <u>4301</u>, <u>4302</u>, <u>4303</u>, <u>4304</u>; and
 - d. Three additional credit hours in Computer Science courses selected from those listed in c. above, or Computer Science <u>4766</u>, <u>4768</u>.
- 2. Additional courses required are: Mathematics <u>1000</u>, <u>1001</u>, <u>2000</u>, <u>2050</u>, and Statistics <u>2500</u> or <u>2550</u>.

11.4.9 Computer Science Concentrations

While meeting the requirements for a majors or honours program in Computer Science, students may choose to select courses in one of the following formal concentrations which, if completed, will be noted on the student's transcript.

Particular attention should be paid to necessary prerequisites when scheduling courses. Students should consult with the Academic Officer regarding the availability of courses applicable to their chosen concentration.

11.4.9.1 Artificial Intelligence

Students selecting an Artificial Intelligence concentration are required to complete 18 credit hours as follows:

- a. Computer Science 3200, 3202
- b. <u>Twelve additional credit hours selected from Computer Science 3201, 3401, 3766, 4301, 4303, 4750, 4766, Statistics 4486</u>

11.4.9.2 Data-centric Computing

Students selecting a Data-centric Computing concentration are required to complete 18 credit hours as follows:

- a. Computer Science 3400, 3401, 4304, 4754
- b. <u>Six additional credit hours selected from Computer Science 3202, 3550, 3730,</u> <u>3731, 4550, 4734, 4750, Statistics 3530, 4411, 4486</u>

11.4.9.3 Theory of Computation

Students selecting a Theory of Computation concentration are required to complete 18 credit hours as follows:

- a. <u>Computer Science 3600, 3602, 4742</u>
- b. <u>Nine additional credit hours selected from Computer Science 4741, 4743, 4750, 499A/B (Note: 499A/B are only available to students who have been admitted to the Computer Science honours program), Mathematics 3240, 3300, 3320, 3340, 3370, 4252, 4320, 4321, 4331, 4340, 4341, 4370</u>

11.4.9.4 Visual Computing and Games

<u>Students selecting a Visual Computing and Games concentration are required to complete 18 credit hours as follows:</u>

- a. <u>Computer Science 3300, 3301, 4300</u>
- b. <u>Nine additional credit hours selected from Computer Science 3200, 3730, 3766, 4301, 4302, 4303, 4304, 4766, 4768</u>

CALENDAR ENTRY AFTER CHANGES

11.4.9 Computer Science Concentrations

While meeting the requirements for a majors or honours program in Computer Science, students may choose to select courses in one of the following formal concentrations which, if completed, will be noted on the student's transcript.

Particular attention should be paid to necessary prerequisites when scheduling courses. Students should consult with the Academic Officer regarding the availability of courses applicable to their chosen concentration.

11.4.9.1 Artificial Intelligence

Students selecting an Artificial Intelligence concentration are required to complete 18 credit hours as follows:

- a. Computer Science 3200, 3202
- b. Twelve additional credit hours selected from Computer Science 3201, 3401, 3766, 4301, 4303, 4750, 4766, Statistics 4486

11.4.9.2 Data-centric Computing

Students selecting a Data-centric Computing concentration are required to complete 18 credit hours as follows:

- a. Computer Science 3400, 3401, 4304, 4754
- b. Six additional credit hours selected from Computer Science 3202, 3550, 3730, 3731, 4550, 4734, 4750, Statistics 3530, 4411, 4486

11.4.9.3 Theory of Computation

Students selecting a Theory of Computation concentration are required to complete 18 credit hours as follows:

- a. Computer Science 3600, 3602, 4742
- b. Nine additional credit hours selected from Computer Science 4741, 4743, 4750, 499A/B (Note: 499A/B are only available to students who have been admitted to

the Computer Science honours program), Mathematics 3240, 3300, 3320, 3340, 3370, 4252, 4320, 4321, 4331, 4340, 4341, 4370

11.4.9.4 Visual Computing and Games

Students selecting a Visual Computing and Games concentration are required to complete 18 credit hours as follows:

- a. Computer Science 3300, 3301, 4300
- b. Nine additional credit hours selected from Computer Science 3200, 3730, 3766, 4301, 4302, 4303, 4304, 4766, 4768

SECONDARY CALENDAR CHANGES

11.4.11.1 Admission Requirements

In order to be considered for admission to the CICS, an applicant:

- 1. must be a declared Computer Science Major;
- 2. must be registered as a full-time student at the time of application;
- must have successfully completed Computer
 Science <u>1001</u>, <u>1002</u>, <u>1003</u>, <u>2001</u>, <u>2002</u>, <u>2003</u>, <u>2004</u>, <u>2005</u>, <u>2006</u>, <u>2007</u>, <u>2008</u> and 6 credit hours at the 3000 level or beyond prior to the start of the internship;
- 4. must have completed at least 75 credit hours prior to the start of the internship;
- 5. must have at least 15 credit hours remaining after the co-operative internship in order to satisfy degree requirements, as described under <u>Major in Computer</u> <u>Science</u> or <u>Honours in Computer Science</u>, at least 3 credit hours of which must be in Computer Science courses. . Course requirements specific to the programs in Data-Centric Computing, Smart Systems, or Visual Computing and Games are not considered if the student would otherwise satisfy the requirements for the <u>Major in Computer Science</u> or the Honours in Computer Science; concentrations are not considered if the student would otherwise satisfy the requirements for the Major in Computer Science or the Honours in Computer Science; and
- 6. is expected to return to University as a full-time student after the co-operative internship.

In addition to the above, admission is also subject to academic performance.

15.4 Computer Science

www.mun.ca/computerscience

For Departmental Regulations and Course Descriptions, see <u>Faculty of Science</u> section of the Calendar.

The following undergraduate programs are available in the Department of Computer Science:

- 1. Applied Mathematics and Computer Science Joint Major
- 2. <u>Computer Internship Option (CIIO)</u>
- 3. Computer Science Honours (B.A., B.Sc.)
- 4. Computer Science and Economics Joint Major
- 5. <u>Computer Science and Geography Joint Honours</u>
- 6. <u>Computer Science and Geography Joint Major</u>
- 7. Computer Science and Physics Joint Honours (B.Sc. only)
- 8. Computer Science and Physics Joint Major (B.Sc. only)
- 9. Computer Science and Pure Mathematics Joint Honours
- 10. Computer Science and Pure Mathematics Joint Major
- 11. Computer Science and Statistics Joint Honours
- 12. Computer Science and Statistics Joint Major
- 13. Computer Science (Software Engineering) Honours (B.Sc. only)
- 14. Major in Computer Science
- 15. Major in Computer Science (Data-centric (Computing) (B.Sc. only)
- 16. Major in Computer Science (Smart Systems) (B.Sc. only)
- 17. Major in Computer Science (Visual Computing and Games) (B.Sc. only)
- 18. Minor in Computer Science

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page

CONSULTATIONS SOUGHT

Academic Advising Centre		
Humanities and Social Sciences		
Business Administration—no concerns		
Education		
Engineering and Applied Science—support change		
Grenfell Campus (Arts & Social Sciences)		
Grenfell Campus (Science and the Environment)		
Grenfell Campus (Fine Arts)		
Human Kinetics and Recreation		
Library—no impact on Library		
Marine Institute		
Medicine—no concerns		
Music		
Nursing—no concerns		
Pharmacy—no impact on Pharmacy		
Social Work—support change		
Science		
Biochemistry		
Biology		
Chemistry		
Earth Sciences		
Geography		
Mathematics and Statistics		
Ocean Sciences		
 Physics and Physical Oceanography 		

• Psychology—change is reasonable

LIBRARY REPORT

No additional requirements.

RESOURCE IMPLICATIONS

There are no resource implications associated with this change

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:

- \Box New course(s):
- \Box Amended or deleted course(s):
- \Box New program(s):
- X Amended or deleted program(s): Major in Computer Science
 Major in Computer Science (Data-centric Computing)
 Major in Computer Science (Smart Systems)
 Major in Computer Science (Visual Computing and Games)
 Honours in Computer Science
 Honours in Computer Science (Software Engineering)
 □ 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)
- □ 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 Programs

PROGRAM TITLE

11.4.1 Admission to Major Programs

- 11.4.3 Admission to Minor Program
- 11.4.4 Major in Computer Science
- 11.4.5 Major in Computer Science (Data-centric Computing) (B.Sc. only)
- 11.4.6 Major in Computer Science (Smart Systems) (B.Sc. only)
- 11.4.7 Major in Computer Science (Visual Computing and Games) (B.Sc. only)
- 11.4.8 Honours in Computer Science
- 11.4.9 Honours in Computer Science (Software Engineering) (B.Sc. Only)

RATIONALE

Math 1000 is a required course for all Computer Science programs with the exception of the minor. Math 1006 is a new course which has equivalent math content to Math 1000, the main difference between the courses are the examples given throughout the course. We are proposing to add Math 1006 as an option to Math 1000. Since Math 1000 and 1006 are credit-restricted, this means any students who take Math 1006 and then decide to do Computer Science will not have to take Math 1000 for no credit.

ANTICIPATED EFFECTIVE DATE

Fall 2025

CALENDAR CHANGES

11.4.1 Admission to Major Programs

Admission to the Major programs in the Department of Computer Science is competitive and selective. Students who wish to enter these programs must submit a completed application form to the Department of Computer Science on or before 11:59 p.m. (Newfoundland time) on May 31 for Fall semester registration and on or before 11:59 p.m. (Newfoundland time) on August 31 for Winter semester registration. The online application form is located on the Department of Computer Science's website. To be eligible for admission students must have normally completed 24 credit hours as listed below:

- 1. Computer Science 1001, 1002.
- Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses. Critical Reading and Writing (CRW) courses are regulated by the Faculty of Humanities and Social Sciences. Eligible CRW courses are indicated under Faculty of Humanities and Social Sciences, Course Descriptions.
- 3. Mathematics 1000 <u>or 1006</u> and 1001 (or 1090 and 1000).
- 4. Six credit hours in other courses.

Students who fulfill the eligibility requirements compete for a limited number of available spaces. Selection is based on academic performance, normally cumulative average and performance in recent courses.

11.4.3 Admission to Minor Program

Admission to the Minor program in the Department of Computer Science is competitive and selective. Students who wish to enter this program must submit a completed application form to the Department of Computer Science on or before 11:59 p.m. (Newfoundland time) on May 31 for Fall semester registration and on or before 11:59 p.m. (Newfoundland time) on August 31 for Winter semester registration. The online application form is located on the Department of Computer Science's website. To be eligible for consideration of admission students must have normally successfully completed the following 9 credit hours: Computer Science 1001, 1002, and Mathematics 1000 or 1006.

Students who fulfill the eligibility requirements compete for a limited number of available spaces. Selection is based on academic performance, normally cumulative average and performance in recent courses.

11.4.4 Major in Computer Science

As a component of the Degree Regulations for the General Degree of Bachelor of Science or the Degree Regulations for the General Degree of Bachelor of Arts, as appropriate, a student must successfully complete the following courses:

- 1. Forty-five credit hours in Computer Science courses are required for a major in Computer Science:
 - a. Computer Science 1001, 1002, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.
 - b. At least 6 additional credit hours in Computer Science at the 4000 level.
 - c. Twelve additional credit hours in Computer Science at the 3000 level or beyond.
- 2. Additional courses required are: Mathematics 1000 <u>or 1006</u>, 1001, 2000, 2050, and Statistics 2500 or 2550.

Note:

Students are encouraged to take Mathematics 3000 and Statistics 2560.

11.4.5 Major in Computer Science (Data-centric Computing) (B.Sc. only) As a component of the Degree Regulations for the General Degree of Bachelor of Science a student must successfully complete the following courses:

- 1. Forty-five credit hours in Computer Science courses are required for a major in Computer Science (Data-centric Computing):
 - a. Computer Science 1001, 1002, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, and 2008;
 - b. Computer Science 3202, 3400, 3401 and 4304; and
 - c. Six additional credit hours in Computer Science courses selected from Computer Science 3019, 4550, 4734, 4750, 4754, 4019. Some of these courses require the completion of prerequisites that are not themselves part of the major.
- 2. Additional courses required are: Mathematics 1000 <u>or 1006</u>, 1001, 2000, 2050, and Statistics 2500 or 2550.

It is recommended, but not required, that students take Business 4720.

11.4.6 Major in Computer Science (Smart Systems) (B.Sc. only)

As a component of the Degree Regulations for the General Degree of Bachelor of Science a student must successfully complete the following courses:

- 1. Forty-five credit hours in Computer Science courses are required for a major in Computer Science (Smart Systems):
 - a. Computer
 Science 1001, 1002, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, and 2008;
 - b. Computer Science 3200, 3201, 3202 and one of 3301, 3401 or 3550; and
 - c. Six additional credit hours in Computer Science courses selected from Computer Science 4301, 4303, 4750, 4766.
- 2. Additional courses required are: Mathematics 1000 <u>or 1006</u>, 1001, 2000, 2050, and Statistics 2500 or 2550.

11.4.7 Major in Computer Science (Visual Computing and Games) (B.Sc. only) As a component of the Degree Regulations for the General Degree of Bachelor of Science a student must successfully complete the following courses:

- 1. Forty-five credit hours in Computer Science courses are required for a major in Computer Science (Visual Computing and Games):
 - a. Computer
 Science 1001, 1002, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, and 2008;
 - b. Computer Science 3300, 3301, and 4300;

- c. Six additional credit hours in Computer Science courses selected from Computer Science 3200, 4301, 4302, 4303, 4304; and
- d. Three additional credit hours in Computer Science courses selected from those listed in c. above, or Computer Science 4766, 4768.
- 2. Additional courses required are: Mathematics 1000 <u>or 1006</u>, 1001, 2000, 2050, and Statistics 2500 or 2550.
- 11.4.8 Honours in Computer Science
 - 1. See Bachelor of Arts (Honours) Degree Regulations or Degree Regulations for the Honours Degree of Bachelor of Science (as appropriate).
 - 2. Sixty-three credit hours in Computer Science courses are required for the Honours Degree in Computer Science, including:
 - a. Computer
 Science 1001, 1002, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 20
 08, and 499A/B.
 - b. Twelve additional credit hours in Computer Science at the 4000 level.
 - c. Eighteen additional credit hours in Computer Science courses at the 3000 level or beyond.
 - 3. Additional courses required are: Mathematics 1000 <u>or 1006</u>, 1001, 2000, 2050, and Statistics 2500 or 2550.

Note:

Students are encouraged to take Mathematics 3000 and Statistics 2560.

11.4.9 Honours in Computer Science (Software Engineering) (B.Sc. Only) Completion of the Honours in Computer Science (Software Engineering) Program does not qualify persons to hold the designation "Professional Engineer" as defined by various Provincial Acts governing the Engineering Profession.

- 1. See Degree Regulations for the Honours Degree of Bachelor of Science.
- 2. Sixty-three credit hours in Computer Science courses are required for the Honours Degree in Computer Science (Software Engineering), including:
 - a. Computer
 Science 1001, 1002, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 20
 08, 4770, 499A/B.
 - b. Nine additional credit hours in Computer Science chosen from 4302, 4718, 4721, 4723, 4759, 4766, and 4768.
 - c. Six additional credit hours in Computer Science at the 4000 level.
 - d. Twelve additional credit hours in Computer Science at the 3000 level or beyond.
- 3. Additional courses required are: Mathematics 1000 <u>or 1006</u>, 1001, 2000, 2050, and Statistics 2500 or 2550.

Note:

The Honours project (499A/B) must be in the area of Software Engineering.

CALENDAR ENTRY AFTER CHANGES

11.4.1 Admission to Major Programs

Admission to the Major programs in the Department of Computer Science is competitive and selective. Students who wish to enter these programs must submit a completed application form to the Department of Computer Science on or before 11:59 p.m. (Newfoundland time) on May 31 for Fall semester registration and on or before 11:59 p.m. (Newfoundland time) on August 31 for Winter semester registration. The online application form is located on the Department of Computer Science's website. To be eligible for admission students must have normally completed 24 credit hours as listed below:

- 5. Computer Science 1001, 1002.
- 6. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses. Critical Reading and Writing (CRW) courses are regulated by the Faculty of Humanities and Social Sciences. Eligible CRW courses are indicated under Faculty of Humanities and Social Sciences, Course Descriptions.
- 7. Mathematics 1000 or 1006 and 1001 (or 1090 and 1000).
- 8. Six credit hours in other courses.

Students who fulfill the eligibility requirements compete for a limited number of available spaces. Selection is based on academic performance, normally cumulative average and performance in recent courses.

11.4.3 Admission to Minor Program

Admission to the Minor program in the Department of Computer Science is competitive and selective. Students who wish to enter this program must submit a completed application form to the Department of Computer Science on or before 11:59 p.m. (Newfoundland time) on May 31 for Fall semester registration and on or before 11:59 p.m. (Newfoundland time) on August 31 for Winter semester registration. The online application form is located on the Department of Computer Science's website. To be eligible for consideration of admission students must have normally successfully

completed the following 9 credit hours: Computer Science 1001, 1002, and Mathematics 1000 or 1006.

Students who fulfill the eligibility requirements compete for a limited number of available spaces. Selection is based on academic performance, normally cumulative average and performance in recent courses.

11.4.4 Major in Computer Science

As a component of the Degree Regulations for the General Degree of Bachelor of Science or the Degree Regulations for the General Degree of Bachelor of Arts, as appropriate, a student must successfully complete the following courses:

- 3. Forty-five credit hours in Computer Science courses are required for a major in Computer Science:
 - a. Computer Science 1001, 1002, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, and 2008.
 - b. At least 6 additional credit hours in Computer Science at the 4000 level.
 - c. Twelve additional credit hours in Computer Science at the 3000 level or beyond.
- 4. Additional courses required are: Mathematics 1000 or 1006, 1001, 2000, 2050, and Statistics 2500 or 2550.

Note:

Students are encouraged to take Mathematics 3000 and Statistics 2560.

11.4.5 Major in Computer Science (Data-centric Computing) (B.Sc. only) As a component of the Degree Regulations for the General Degree of Bachelor of Science a student must successfully complete the following courses:

- 3. Forty-five credit hours in Computer Science courses are required for a major in Computer Science (Data-centric Computing):
 - a. Computer Science 1001, 1002, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, and 2008;
 - b. Computer Science 3202, 3400, 3401 and 4304; and
 - c. Six additional credit hours in Computer Science courses selected from Computer Science 3019, 4550, 4734, 4750, 4754, 4019. Some of these courses require the completion of prerequisites that are not themselves part of the major.
- 4. Additional courses required are: Mathematics 1000 or 1006, 1001, 2000, 2050, and Statistics 2500 or 2550.

It is recommended, but not required, that students take Business 4720.

11.4.6 Major in Computer Science (Smart Systems) (B.Sc. only)

As a component of the Degree Regulations for the General Degree of Bachelor of Science a student must successfully complete the following courses:

- 3. Forty-five credit hours in Computer Science courses are required for a major in Computer Science (Smart Systems):
 - a. Computer Science 1001, 1002, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, and 2008;
 - b. Computer Science 3200, 3201, 3202 and one of 3301, 3401 or 3550; and
 - c. Six additional credit hours in Computer Science courses selected from Computer Science 4301, 4303, 4750, 4766.
- 4. Additional courses required are: Mathematics 1000 or 1006, 1001, 2000, 2050, and Statistics 2500 or 2550.

11.4.7 Major in Computer Science (Visual Computing and Games) (B.Sc. only) As a component of the Degree Regulations for the General Degree of Bachelor of Science a student must successfully complete the following courses:

- 3. Forty-five credit hours in Computer Science courses are required for a major in Computer Science (Visual Computing and Games):
 - a. Computer Science 1001, 1002, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, and 2008;
 - b. Computer Science 3300, 3301, and 4300;
 - c. Six additional credit hours in Computer Science courses selected from Computer Science 3200, 4301, 4302, 4303, 4304; and
 - d. Three additional credit hours in Computer Science courses selected from those listed in c. above, or Computer Science 4766, 4768.
- 4. Additional courses required are: Mathematics 1000 or 1006, 1001, 2000, 2050, and Statistics 2500 or 2550.
- 11.4.8 Honours in Computer Science
 - 4. See Bachelor of Arts (Honours) Degree Regulations or Degree Regulations for the Honours Degree of Bachelor of Science (as appropriate).
 - 5. Sixty-three credit hours in Computer Science courses are required for the Honours Degree in Computer Science, including:
 - a. Computer Science 1001, 1002, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 20 08, and 499A/B.
 - b. Twelve additional credit hours in Computer Science at the 4000 level.
 - c. Eighteen additional credit hours in Computer Science courses at the 3000 level or beyond.
 - 6. Additional courses required are: Mathematics 1000 or 1006, 1001, 2000, 2050, and Statistics 2500 or 2550.

Note:

Students are encouraged to take Mathematics 3000 and Statistics 2560.

11.4.9 Honours in Computer Science (Software Engineering) (B.Sc. Only) Completion of the Honours in Computer Science (Software Engineering) Program does not qualify persons to hold the designation "Professional Engineer" as defined by various Provincial Acts governing the Engineering Profession.

- 4. See Degree Regulations for the Honours Degree of Bachelor of Science.
- 5. Sixty-three credit hours in Computer Science courses are required for the Honours Degree in Computer Science (Software Engineering), including:
 - a. Computer Science 1001, 1002, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 20 08, 4770, 499A/B.

- b. Nine additional credit hours in Computer Science chosen from 4302, 4718, 4721, 4723, 4759, 4766, and 4768.
- c. Six additional credit hours in Computer Science at the 4000 level.
- d. Twelve additional credit hours in Computer Science at the 3000 level or beyond.
- 6. Additional courses required are: Mathematics 1000 or 1006, 1001, 2000, 2050, and Statistics 2500 or 2550.

Note:

The Honours project (499A/B) must be in the area of Software Engineering.

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page

CONSULTATIONS SOUGHT

Academic Advising Centre		
Humanities and Social Sciences		
Business Administration		
Education		
Engineering and Applied Science – no impact		
Grenfell Campus (Arts & Social Sciences)		
Grenfell Campus (Science and the Environment)		
Grenfell Campus (Fine Arts)		
Human Kinetics and Recreation		
Library – no impact on Library		
Marine Institute		
Medicine – no concerns		
Music		
Nursing—no impact on Nursing		
Pharmacy—no impact on Pharmacy		
Social Work		
Science		
Biochemistry		
Biology		
Chemistry		
Earth Sciences		
Geography		
Mathematics and Statistics		
Ocean Sciences		
Physics and Physical Oceanography		

Psychology

LIBRARY REPORT

No additional requirements.

RESOURCE IMPLICATIONS

There are no resource implications associated with this change

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:

- \Box New course(s):
- \Box Amended or deleted course(s):
- □ New program(s):
- X Amended or deleted program(s):
 Computer Science and Physics Joint Major
 Computer Science and Physics Joint Honours
- □ 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)
- □ 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 Programs

PROGRAM TITLE

10.1.6 Computer Science and Physics Joint Major (B.Sc. only) 10.2.17 Computer Science and Physics Joint Honours (B.Sc. only)

RATIONALE

COMP 3731 – Introduction to Scientific Computing is a required course for the Computer Science-Physics joint programs however, this course has not been offered in recent years and is unlikely to be offered in the near future. We are proposing to remove this as a required course and add a requirement for three additional credit hours in Computer Science courses at the 3000-or 4000-level.

We are also proposing to allow Math 1006 as an acceptable option to MATH 1000 for these programs.

Finally, we are proposing to remove a suggestion to take COMP 2500 – Data Analysis with Scripting Languages as an elective for this program because that course also has not been offered in a long time and is unlikely to be offered in the near future.

ANTICIPATED EFFECTIVE DATE

Fall 2025

CALENDAR CHANGES

10.1.6 Computer Science and Physics Joint Major (B.Sc. only)

As a component of the Degree Regulations for the General Degree of Bachelor of Science, the following courses are required:

- 1. Chemistry 1050 and 1051 (or Chemistry 1010, the former 1011, and the former 1031).
- Thirty-nine credit hours in Computer Science are required for the Joint Major: 1001, 1002, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 3731 plus 9 <u>12</u> further credit hours in Computer Science courses numbered 3000 or higher, including at least 3 credit hours at the 4000 level.
- 3. Physics 1050 (or 1020) and 1051 plus at least 30 additional credit hours in Physics including 2053, 2055, 2750, 2820, 3220, 3400, 3500, 3750, 3800.
- 4.
- a. Mathematics 1000 (or 1006) and 1001.
- b. Mathematics 2000, 2050, 2260, 3202.

- c. Additional electives to bring the credit hours to 120. Computer Science 2500 and Statistics 2550 are is recommended.
- 10.2.17 Computer Science and Physics Joint Honours (B.Sc. only) The following courses are prescribed:
 - 1. Chemistry 1050 and 1051 (or Chemistry 1010, the former 1011, and the former 1031) (or 1200 and 1001).
 - 2.
- a. Computer
 Science 1001,1002, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 20
 08, 3731.
- b. Nine <u>Twelve</u> additional credit hours in Computer Science courses numbered 3000 or higher, including at least 3 credit hours in courses at the 4000 level.

3.

- a. Physics 1050 (or 1020) and 1051.
- b. Physics 2053, 2055, 2750, 2820, 3220, 3400, 3500, 3750, 3800, and 3820.
- c. Three additional credit hours in Physics at the 4000 level.
- 4. Physics 490A/B or Computer Science 499A/B.
- 5.
- a. Mathematics 1000 (or 1006) and 1001.
- b. Mathematics 2000, 2050, 2260, and 3202.
- 6. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses.
- 7. Two electives to bring the total credit hours to 120. Computer Science 2500 and Statistics 2550 are is recommended.

The topic for the honours project or thesis, Computer Science 499A/B or Physics 490A/B, must be chosen with the prior approval of both departments.

CALENDAR ENTRY AFTER CHANGES

10.1.6 Computer Science and Physics Joint Major (B.Sc. only)

As a component of the Degree Regulations for the General Degree of Bachelor of Science, the following courses are required:

- 5. Chemistry 1050 and 1051 (or Chemistry 1010, the former 1011, and the former 1031).
- Thirty-nine credit hours in Computer Science are required for the Joint Major: 1001, 1002, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 plus 12 further credit hours in Computer Science courses numbered 3000 or higher, including at least 3 credit hours at the 4000 level.

- 7. Physics 1050 (or 1020) and 1051 plus at least 30 additional credit hours in Physics including 2053, 2055, 2750, 2820, 3220, 3400, 3500, 3750, 3800.
- 8.
- a. Mathematics 1000 (or 1006) and 1001.
- b. Mathematics 2000, 2050, 2260, 3202.
- c. Additional electives to bring the credit hours to 120. Statistics 2550 is recommended.

10.2.17 Computer Science and Physics Joint Honours (B.Sc. only) The following courses are prescribed:

- 8. Chemistry 1050 and 1051 (or Chemistry 1010, the former 1011, and the former 1031) (or 1200 and 1001).
- 9.
- a. Computer
 Science 1001,1002, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 20
 08.
- b. Twelve additional credit hours in Computer Science courses numbered 3000 or higher, including at least 3 credit hours in courses at the 4000 level.

10.

- a. Physics 1050 (or 1020) and 1051.
- b. Physics 2053, 2055, 2750, 2820, 3220, 3400, 3500, 3750, 3800, and 3820.
- c. Three additional credit hours in Physics at the 4000 level.
- 11. Physics 490A/B or Computer Science 499A/B.

12.

- a. Mathematics 1000 (or 1006) and 1001.
- b. Mathematics 2000, 2050, 2260, and 3202.
- 13. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses.
- 14. Two electives to bring the total credit hours to 120. Statistics 2550 is recommended.

The topic for the honours project or thesis, Computer Science 499A/B or Physics 490A/B, must be chosen with the prior approval of both departments.

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page

CONSULTATIONS SOUGHT

Academic Advising Centre		
Humanities and Social Sciences		
Business Administration		
Education		
Engineering and Applied Science – no impact		
Grenfell Campus (Arts & Social Sciences)		
Grenfell Campus (Science and the Environment)		
Grenfell Campus (Fine Arts)		
Human Kinetics and Recreation		
Library – no impact on Library		
Marine Institute		
Medicine – no concerns		
Music		
Nursing—no impact on Nursing		
Pharmacy—no impact on Pharmacy		
Social Work		
Science		
Biochemistry		
Biology		
Chemistry		
Earth Sciences		
Geography		
Mathematics and Statistics		
Ocean Sciences		
Physics and Physical Oceanography		

Psychology

LIBRARY REPORT

No additional requirements.

RESOURCE IMPLICATIONS

There are no resource implications associated with this change

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:

- \Box New course(s):
- <u>Amended or deleted course(s)</u>: EASC 3172
- □ New program(s):
- \Box 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)
- □ 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

EASC 3172 Environmental and Geotechnical Geophysics

REVISED COURSE NUMBER AND TITLE

EASC 3172 Environmental and Near-Surface Geophysics

ABBREVIATED COURSE TITLE

Environ & NearSurface Geophys

RATIONALE

Students report that the word 'technical' suggests an intimidating level of mathematics or engineering in the course. Since this is not at all the case, we wish to remove this potential hurdle to enrolment. The field course EASC 2905 has been replaced by the significantly modified field course EASC 2906, hence this should be updated in the CO/PR lists.

ANTICIPATED EFFECTIVE DATE

Fall 2025

CALENDAR CHANGES

EASC 3172 Environmental and Geotechnical Near-Surface Geophysics

is an introduction to geophysical methods used to investigate the shallow Earth, with particular application to environmental issues, including groundwater distribution and contaminant tracking, and delineation of buried infrastructure, artifacts, and waste materials. The laboratory component involves outdoor surveys, where students work in small teams using geophysical equipment, followed by analysis of collected data using modern software. Pertinent techniques will be covered, with an emphasis on electrical and electromagnetic methods.

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.

CO: EASC 2905 2906 or permission of the instructor for students not following a Major in Earth Sciences

LH: 3

PR: Physics 1051 (or 1021); Mathematics 1001; Mathematics 2000 or Statistics 2550; EASC 2905 2906 or permission of the instructor for students not following a Major in Earth Sciences; Science 1807 and Science 1808

CALENDAR ENTRY AFTER CHANGES

EASC 3172 Environmental and Near-Surface Geophysics

is an introduction to geophysical methods used to investigate the shallow Earth, with particular application to environmental issues, including groundwater distribution and contaminant tracking, and delineation of buried infrastructure, artifacts, and waste materials. The laboratory component involves outdoor surveys, where students work in small teams using geophysical equipment, followed by analysis of collected data using modern software. Pertinent techniques will be covered, with an emphasis on electrical and electromagnetic methods.

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.

CO: EASC 2906 or permission of the instructor for students not following a Major in Earth Sciences

LH: 3

PR: Physics 1051 (or 1021); Mathematics 1001; Mathematics 2000 or Statistics 2550; EASC 2906 or permission of the instructor for students not following a Major in Earth Sciences; Science 1807 and Science 1808

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page

CONSULTATIONS SOUGHT

A consultation email was sent on Nov. 1, 2024 to the following email addresses. See attached document for responses.

Academic Unit	Email Address	
Humanities and Social Sciences	assocdeancphss@mun.ca	
Business Administration	busihelp@mun.ca	
Education	educdean@mun.ca	
Engineering and Applied Science	engrconsult@mun.ca	
Human Kinetics and Recreation	hkrdean@mun.ca	
Medicine	DeanofMedicine@mun.ca	
Music	kbulmer@mun.ca	
Nursing	deanNurse@mun.ca	
Pharmacy	pharminfo@mun.ca	
Science	deansci@mun.ca	
Social Work	adeanugradswk@mun.ca	
Library	univlib@mun.ca	
Grenfell Campus		
Arts and Social Science	g <u>csass@mun.ca</u>	
Science and the Environment	g <u>csse@mun.ca</u>	
Fine Arts	g <u>csofa@mun.ca</u>	
Marine Institute		
	miugconsultations@mi.mun.ca	
Labrador Institute		
Arctic and Subarctic Studies	deanofsass@mun.ca	

RESOURCE IMPLICATIONS

There are no resource implications.

Library Report : will be submitted

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:

- \Box New course(s):
- <u>Amended or deleted course(s)</u>: Earth Sciences 3420
- □ New program(s):
- \Box 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)
- □ 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

EASC 3420 Global Tectonic Processes

ABBREVIATED COURSE TITLE

Global Tectonic Processes

RATIONALE

This 'whole Earth' course was the only required 3000 level course in the EASC program. It was envisioned as a synthesis course with all the fundamental 2000 level courses as prerequisites. MATH 1001 was also a prerequisite, only to ensure that students completed the Faculty of Science mathematics requirements in a timely manner within their program. However, the department has decided to remove EASC 3420 as a requirement for a degree. The changed role of EASC 3420 within the program has prompted a re-evaluation of the prerequisites. Accordingly, the courses EASC 2031 Mineralogy, EASC 2502 Geochemistry and MATH 1001 have been removed as pre-requisites. Although a greater understanding of rocks and minerals is useful for understanding global tectonic processes, the basics are taught in EASC 1000 and 1002 and they are reinforced in lectures and labs in EASC 3420. It is expected that the material in EASC 3420 will be useful to students taking EASC 2031 and 2502, regardless of the order of the courses. The material in MATH 1001 was never a requirement for EASC 3420. Removing these pre-requisites will allow students more flexibility in completing their degree. The calendar description has also been updated to more comprehensively capture the existing course content.

ANTICIPATED EFFECTIVE DATE

Fall 2025

CALENDAR CHANGES

EASC 3420 Global Tectonic Processes

examines how horizontal and vertical motions of the Earth's surface are influenced by the foundational concepts required to understand modern plate tectonics, such as earthquake focal mechanisms, paleomagnetism, heat and mass transfer, isostasy and flexure, and plate motions.within its interior. Surface motions. These concepts are used described to qualitatively and quantitatively investigate within the framework of plate tectonics, and used to identify major controls on the igneous, metamorphic and sedimentary rock records the full range of tectonic plate boundaries on Earth, and their associations with the evolution of rocks and natural resources. Laboratory exercises emphasize <u>practical</u> geologic and geophysical applications of the material developed in lectures. CR: the former EASC 2070, 2161, 2400 and 4901 LH: 3 PR: EASC 2031, 2401, 2502, 2702, Mathematics 1000 and 1001, Physics 1021 or 1051

CALENDAR ENTRY AFTER CHANGES

EASC 3420 Global Tectonic Processes

examines the foundational concepts required to understand modern plate tectonics, such as earthquake focal mechanisms, paleomagnetism, heat and mass transfer, isostasy and flexure, and plate motions. These concepts are used to qualitatively and quantitatively investigate the full range of tectonic plate boundaries on Earth, and their associations with the evolution of rocks and natural resources. Laboratory exercises emphasize practical applications of the material developed in lectures. CR: the former EASC 2070, 2161, 2400 and 4901

LH: 3

PR: EASC 2401, 2702, Mathematics 1000, Physics 1021 or 1051

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page

CONSULTATIONS SOUGHT

A consultation email was sent on Nov. 1, 2024 to the following email addresses. See attached document for responses.

Academic Unit	Email Address	
Humanities and Social Sciences	assocdeancphss@mun.ca	
Business Administration	busihelp@mun.ca	
Education	educdean@mun.ca	
Engineering and Applied Science	engrconsult@mun.ca	
Human Kinetics and Recreation	hkrdean@mun.ca	
Medicine	DeanofMedicine@mun.ca	
Music	kbulmer@mun.ca	
Nursing	deanNurse@mun.ca	
Pharmacy	pharminfo@mun.ca	
Science	deansci@mun.ca	
Social Work	adeanugradswk@mun.ca	
Library	univlib@mun.ca	
Grenfell Campus		
Arts and Social Science	g <u>csass@mun.ca</u>	
Science and the Environment	g <u>csse@mun.ca</u>	
Fine Arts	g <u>csofa@mun.ca</u>	
Marine Institute		
	miugconsultations@mi.mun.ca	
Labrador Institute		
Arctic and Subarctic Studies	deanofsass@mun.ca	

RESOURCE IMPLICATIONS None

Library Report: to be submitted

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): Earth Sciences 4907 Computer Earth Modelling
- 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)
- o 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

EASC 4907 Computer Earth Modelling.

RATIONALE

Computer Earth modelling is now routinely used in mineral exploration, mine development, oil & gas exploration (and the oil/gas industry putting CO2 back into the ground), hydrology, geotechnical work — pretty much every application concerned with what's down in the ground. The uses range from simply visualizing known subsurface data, e.g., rock type down drill-holes, in 3D visualization software (e.g., Leapfrog, gOcad, Geoscience Analyst); to interpolating and extrapolating between subsurface data-points to construct the surfaces through 3D space representing inferred contacts between geological units (including faults); all the way to automatically constructing geological interfaces through the 3D model that honour all known data-points and structural geological and stratigraphical constraints ("implicit modelling", a geological "inverse problem"). Examples of qualitative visualization are a junior mining company "plotting" their downhole data and interpretations in 3D using, e.g., Leaprog, and twirling around and zooming in and out of this 3D model to impress hoped-for investors. Examples of quantitative uses are mapping out, in 3D, the extents of an orebody so that size and tonnage estimates can be made, and target depths and locations provided for further drilling, or for mine planning. Also, automated construction of geological interfaces via implicit modelling, or similar algorithms that incorporate geological rules and expectations as constraints, can aid in "drawing" the geological features, something that is much more difficult to do in 3D compared to classic 2D sections.

Students graduating from our BSc Earth Sciences program and getting a job in pretty much any geo-industry, especially mineral exploration and hydrocarbon/energy industries, but also hydrology and geotechnical, can expect to at least encounter 3D computer Earth models, and quite likely have to work with such things. However, currently little or none of this topic is covered in our courses. Hence the need for this course: preparing our students for concepts and tools that are now a significant part of what a professional geoscientist does.

ANTICIPATED EFFECTIVE DATE

2025-2026 fall or winter.

CALENDAR CHANGES

Add:

EASC 4907 Computer Earth Modelling is an introduction to the techniques of constructing and working with 3D computer models, i.e., a digital twin, of the Earth's subsurface. Techniques covered include the different ways of digitally representing the subsurface (voxellated or object-based), approaches for interpolation and extrapolation
from known data points, and methods for automatically generating geological interfaces through a model ("implicit modelling"). Applications covered include resource exploration, CO₂ sequestration, hydrogeology and geotechnical.

LH: 3

PR: MATH 2000; EASC 2401 or permission of the instructor for students not following a Major in Earth Sciences.

CALENDAR ENTRY AFTER CHANGES

EASC 4907 Computer Earth Modelling is an introduction to the techniques of constructing and working with 3D computer models, i.e., a digital twin, of the Earth's subsurface. Techniques covered include the different ways of digitally representing the subsurface (voxellated or object-based), approaches for interpolation and extrapolation from known data points, and methods for automatically generating geological interfaces through a model ("implicit modelling"). Applications covered include resource exploration, CO₂ sequestration, hydrogeology and geotechnical.

LH: 3

PR: MATH 2000; EASC 2401 or permission of the instructor for students not following a Major in Earth Sciences.

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page

CONSULTATIONS SOUGHT

A consultation email was sent on Nov. 1, 2024 to the following email addresses. See attached document for responses. All concerns were addressed.

Academic Unit	Email Address
Humanities and Social Sciences	assocdeancphss@mun.ca
Business Administration	busihelp@mun.ca
Education	educdean@mun.ca
Engineering and Applied Science	engrconsult@mun.ca
Human Kinetics and Recreation	hkrdean@mun.ca
Medicine	DeanofMedicine@mun.ca
Music	kbulmer@mun.ca
Nursing	deanNurse@mun.ca
Pharmacy	pharminfo@mun.ca
Science	deansci@mun.ca
Social Work	adeanugradswk@mun.ca
Library	univlib@mun.ca
Grenfell Campus	
Arts and Social Science	g <u>csass@mun.ca</u>
Science and the Environment	g <u>csse@mun.ca</u>
Fine Arts	g <u>csofa@mun.ca</u>
Marine Institute	
	miugconsultations@mi.mun.ca
Labrador Institute	
Arctic and Subarctic Studies	deanofsass@mun.ca

LIBRARY REPORT

See attached

RESOURCE IMPLICATIONS

Computers: students' own laptops (used in a regular classroom) and/or one of Earth Sciences computer labs. For the examples to be considered in this course, nothing special in terms of computer hardware, e.g., graphics cards, will be required. The department currently has over 30 computers in our computer lab. Many of these computers are being replaced this year. Therefore, if students do no have a laptop or do not want to use their own computers, they will have access to the departmental computer lab.

Software: Ideally this course would use software that is used in industry. These software include: Leapfrog, Geomodeller, Geoscience Analyst. The instructor will ask companies if we have the software for free or at an education discount. The instructor will ask the department to pay for the license(s). However, if the cost is prohibitally expenses, then the instructor can use free open source 3D viewers that are appropriate and open-source Python code.

Teaching: This is a 4th-year course that will be offered every other year, alternating with another 4th year course.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS

Syllabus:

Introduction & motivation: examples from mining, oil/gas, hydrology & geotechnical. Ways of parameterizing computer Earth models: Voxel-based models (Minecraft!). Ways of parameterizing computer Earth models: Object-based, nodes/point locations in 3D space (drill core); edges, facets and surfaces (topography, boundaries between geological units, faults); intersection and connection of surfaces (watertight surfaces). Interpolation & extrapolation through 3D space: of scalar fields (kriging).

Construction of surfaces through 3D space: "drawing" in 3D, computer-aided design manipulation, 3D animation "drawing".

Construction of surfaces through 3D space, automated approaches: interpolating & extrapolating surfaces through 3D space; consistency with structural geological information, stratigraphic rules; implicit modelling/level set approaches (Skua, Leapfrog, Geomodeller, gOcad).

Construction of surfaces as a geological "inverse" problem: data, uncertainties in observed data, quantification of "fit" to observed data, uncertainties in parameters of constructed model; formulation as an optimization problem; overview of methods to solve these optimization problems.

Method of evaluation:

Assignments (20%): approximately weekly; small hands-on, computer-based tasks that reinforce concepts covered during the week.

Project (40%): a single project, due at the end of classes; topic is the choice of the student; applied, such as inputting a real data-set into, e.g., Leapfrog, and using some of the computer modelling capabilities talked about during the course (see syllabus), or writing computer code to implement an automated method of model manipulation or construction, or some combination of these.

Final exam (40%): A classic paper-and-pencil final exam covering all the content of the course.

Textbook/literature:

Caumon, G., 2018, Geological Objects and Physical Parameter Fields in the Subsurface: A Review, in Handbook of Mathematical Geosciences: Fifty Years of IAMG, Daya Sagar, Cheng, Agterberg (eds.), 567–588.

de la Varga, M., A. Schaaf and F. Wellmann, 2019, GemPy 1.0: open-source stochastic geological modeling and inversion, Geoscientific Model Development, 12, 1–32, https://doi.org/10.5194/gmd-12-1-2019; *and other GemPy publications* (https://www.gempy.org).

Grose, L., L. Ailleres, G. Laurent and M. Jessell, 2021, LoopStructural 1.0: time-aware geological modelling, Geoscientific Model Development, 14, 3915–3937, https://doi.org/10.5194/gmd-14-3915-2021; and other publications from the Loop geological modelling group (https://loop3d.org).

Hillier, M.J., E.M. Schetselaar, E.A. de Kemp and G. Perron, 2014, Three-Dimensional Modelling of Geological Surfaces Using Generalized Interpolation with Radial Basis Functions, Mathematical Geosciences, 46, 931–953, https://doi.org/10.1007/s11004-014-9540-3; and other publications from the GSC Ottawa geological modelling group.

Jessell, M.W., 1981, NODDY– An interactive map creation package, Unpublished MSc, University of London, 1981; and papers on the Noddy geological modelling software (https://tectonique.net/noddy/).

Mallet, J.L., 1992, GOCAD: A Computer Aided Design Program for Geological Applications, in Three-Dimensional Modeling with Geoscientific Information Systems, Turner, A.K. (ed.), NATO ASI Series, 354, Springer, https://doi.org/10.1007/978-94-011-2556-7_11.

Mallet, J.L., 2002, Geomodeling, Oxford University Press. A textbook, although somewhat dated now.

Wellmann, F., and G. Caumon, 2018, 3-D Structural geological models: Concepts, methods, and uncertainties, in Advances in Geophysics, Cedric Schmelzbach (ed.), 59, 1–121, https://doi.org/10.1016/bs.agph.2018.09.001.

Reid, R.J., and E.J. Cowan, 2023, Towards quantifying uncertainties in geological models for mineral resource estimation through outside-in deposit-scale structural geological analysis, Australian Journal of Earth Sciences, 70, 990–1009.

Instructors: Farquharson Date: November 12, 2024

To: Dr. Colin Farquharson, Department of Earth Sciences, Memorial University

From: Danial Duda, Map Librarian, Archives & Special Collections, QE II Library, Memorial Unversity

Re: Library Report for Proposed Course EASC 4XXX "Computer Earth Modelling"

Memorial Libraries can support the research and teaching needs for the proposed course of "Computer Earth Modelling". All of the readings listed in the proposal are in our library except one, but the article is accessible using our Document Delivery service.

While searching the titles in our system, I also used the subject heading links with each title to see what other books or journals we have related to the item. We have hundreds of titles that can support the research and teaching needs for the course. If there is material the instructor wants or needs and we do not have it, we can purchase it for the library.

The library also has a number of databases that support this course: GeoRef, Petroleum Abstracts, Scopus and Web of Science, along with many more. These databases help students and researchers find thousands of articles in computer earth modelling and the various software used in this work, such as Leapfrog, gOcad, or Geoscience Analyst. If direct access to these materials is not available, our Document Delivery services are there to help people get what they need for their work.

If more information is needed or if you have any questions, please do not hesitate to contact me at <u>dduda@mun.ca</u> or 709-864-3198.

Public Consultation for Earth Sciences

Public Consultation

Public consultation for proposed calendar changes from the Earth Sciences Department Engineering Consult <engrconsult@mun.ca> Yesterday, 2:27 PMMorrill, Penny L;Ahmed, Salim;Jonathan Anderson <jonathan.anderson@mun.ca>;Garzon, Marissella;Edmunds, Jayde Thank you for the opportunity to comment on the proposed Calendar changes: Change of title for EASC 3172 from Environmental and Geotechnical Geophysics to Environmental and Near-Surface Geophysics; Change in prerequisites and course description EASC 3420 Environmental and Geotechnical Geophysics; and The new course EASC 4907 Computer Earth Modelling.

At its meeting on Nov. 20, the Committee on Undergraduate Studies for the Faculty of Engineering and Applied Science found no impact on our programs.

---Dr. Glyn George, Chair Committee on Undergraduate Studies Faculty of Engineering and Applied Science Memorial University of Newfoundland St. John's NL A1B 3X5

Public consultation for proposed calendar changes from the Earth Sciences Department

medvicedean

Yesterday, 8:56 PMMorrill, Penny L; Dean of Medicine : McKeen, Dr. Dolores

Hi,

On behalf of the Faculty of Medicine, there are no concerns with the proposed changes for the 3 courses referenced below.

Thanks, Danielle

DANIELLE O'KEEFE MD CCFP FCFP MSc CCPE

Vice Dean, Education and Faculty Affairs Associate Professor of Family Medicine

Faculty of Medicine

Memorial University of Newfoundland

Faculty of Medicine Building | Room M2M311

300 Prince Philip Drive St. John's, NL, Canada A1B 3V6 T 709 864 6289 | F 709 864 6336

www.mun.ca/medicine

Our Vision: An inclusive, vibrant and cutting edge hub of discovery and learning that is tangibly contributing to the health and wellbeing of people locally and globally.

DeanNurse

Yesterday, 1:59 PM

Good afternoon Dr. Morrill,

Dr. Pike has reviewed the calendar change and she tells me that she sees no questions or concerns from the Faculty of Nursing regarding the proposed changes from Earth Sciences.

Have a great day!

Jane

McGrath, Gerona Fri 11/1, 12:07 PMMorrill, Penny L Thank you for the opportunity to review the proposed changes to some of the Earth Sciences courses. There is no impact on the School of Pharmacy.

Gerona

Gerona McGrath MBA, M.Ed. Manager of Academic Programs School of Pharmacy Iain J Mcgaw <ijmcgaw@mun.ca> Fri 11/1, 3:26 PMMorrill, Penny L Changes look fine, Ocean Sciences has no problems with suggested changes

Professor Department of Ocean Sciences 0 Marine Lab Road Memorial University St John's, NL Canada A1C 5S7 Tel: 709 864-3272 Fax: 709 864-3220

Saika-Voivod, Ivan Wed 11/6, 10:47 AMMorrill, Penny L Thank you, Penny, for these thoughtful and eminently reasonable answers to my questions. Best, Ivan

Ivan Saika-Voivod, Professor Deputy Head (Undergraduate Studies) Department of Physics and Physical Oceanography, Memorial University of Newfoundland Tel: 709-864-8886, Fax: 709-864-8739, Rm C3026, http://www.physics.mun.ca/~saika/

Hi Ivan,

Thank you for your valuable questions. I have asked them to the Professor who proposed the course. Here is a summary of his answers with my own two cents added.

Re: software costs

There are a few options. Worst case scenario, there are free, open-source 3D viewers that are good, and open-source Python code for doing some of the operations. For teaching the students about the methodology this would be fine. But it would be more relevant to their potential jobs if they could be using Leapfrog. If the course is approved, I will approach the company that licences Leapfrog and ask for a free/reduced cost academic version of the software. If there is a

cost involved, then I will ask the department to cover this cost. If the department says no, then I will use the open-source option.

Re: 4th Year

The content will be taught at a 4th year level. We will only offer this course every other year, which is becoming the norm in our department for 4th year courses, but not 3rd year courses. 4th year course offerings are slim from year to year in our department, but are needed for our students to get professionally registered. There is also the potential of extending the course to graduate students, with a modified grading scheme. Our department is also severely lacking in graduate courses from year-to-year as well.

Please let me know if you have any other equations.

Cheers,

Penny

Public consultation for proposed calendar changes from the Earth Sciences Department Saika-Voivod, Ivan Fri 11/1, 3:54 PMMorrill, Penny L Dear Penny,

Thank you for the opportunity to provide feedback on these proposals.

For the proposed new course, what are the software licencing costs (and who incurs them)? Also, if the prerequisites are all at the second-year level, what makes this a 4^{th} year course?

Cheers, Ivan

Ivan Saika-Voivod, Professor Deputy Head (Undergraduate Studies) Department of Physics and Physical Oceanography, Memorial University of Newfoundland Tel: 709-864-8886, Fax: 709-864-8739, Rm C3026, http://www.physics.mun.ca/~saika/ Morrill, Penny L

Faculty of Humanities and Social Sciences;Dean - Faculty of Business Administration;Dean of Education;engrconsult@mun.ca;HKR Dean;Dean of Medicine : McKeen, Dr. Dolores;Karen Bulmer;DeanNurse;pharminfo@mun.ca;Dean of Science;adeanugradswk;University Librarian;GC School of Arts and Social Science;GC School of Science and the Environment;GC School of Fine Arts;miugconsultations@mi.mun.ca;deanofsass

Nov. 1, 2024

To whom it may concern,

The Department of Earth Sciences is proposing the following calendar changes:

- 1. Change of title for EASC 3172 from Environmental and Geotechnical Geophysics to Environmental and Near-Surface Geophysics
- 2. Change in prerequisites and course description EASC 3420 Environmental and Geotechnical Geophysics
- 3. The new course EASC 4907 Computer Earth Modelling

See attached for detailed proposed calendar changes. Please send your feedback to pmorrill@mun.ca.

Thank you,

Penny

Library Report Communication

Library report for new course proposal Colin Farquharson <cgfarquh@mun.ca> Sat 11/2/2024 9:11 AM Thanks, Penny. I've replied to Kathryn asking if they could provide the report by the end of next week, and so in time, just, for the FoSCUS meeting.

Bye for now, Colin.

- >> From: "Rose, Kathryn" <kathrynr@mun.ca>
- >> Subject: RE: Library report for new course proposal
- >> Date: November 1, 2024 at 1:36:40 PM NDT
- >> To: "cgfarquh@mun.ca" <cgfarquh@mun.ca>

>>

>> Hi Colin, My goodness. Please accept my sincerest apologies for this. My inbox has been

overwhelmed and I've caught this request looking for others that came in this past week.

>> When do you need these for? I am going to sit down with Dan and we'll come up with a plan to ensure you get these as soon as possible.

- >> Kathryn From: Libraries Hiring Panel <univlib@mun.ca>
- >> Sent: October 11, 2024 10:27 AM
- >> To: Rose, Kathryn <kathrynr@mun.ca>
- >> Subject: FW: Library report for new course proposal
- >> SHERI COOMBS MA | Decanal Assistant
- >> Memorial University Libraries
- >> L-2019A Queen Elizabeth II Library
- >> Memorial University | St. John's | Newfoundland | A1B 3Y1
- >> T: 709.864.3862
- >> E: sheri.coombs@mun.ca
- >> www.library.mun.ca

- >> To: Libraries Hiring Panel <univlib@mun.ca>
- >> Subject: Library report for new course proposal
- >> Hello,

>>

>> I'm proposing a new Earth Sciences undergraduate course on computer Earth modelling. Please see the attached SCUgS forms.

>>

>> Could you please provide us with the Library Report that needs to accompany this propsal?

>> From: Colin Farquharson <cgfarquh@mun.ca>

>> Sent: Friday, October 11, 2024 9:51 AM

- >>
- >> Thanks very much,
- >> Colin.
- >>
- >>
- >> --
- >> Colin Farquharson,
- >> Professor,
- >> Department of Earth Sciences,
- >> Memorial University of Newfoundland,
- >> St. John's, NL, A1B 3X5, Canada;
- >> cgfarquh@mun.ca;
- >> <u>http://www.esd.mun.ca/~farq/</u>.

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:

- \Box New course(s):
- X Amended or deleted course(s): Mathematics 4130 / Physics 4220: Introduction to General Relativity
- \Box New program(s):
- \Box 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)
- □ 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

Mathematics 4130 / Physics 4220: Introduction to General Relativity

RATIONALE

MATH 4130/PHYS4220 (Introduction to General Relativity) was first offered in Winter 2008 and has been taught at least every second year since then. When it was first designed and approved it was given a convoluted prerequisite that involved a either a high level mathematics course (MATH 4230 – Differential Geometry) or a high level physics courses (PHYS 3220 – Classical Mechanics). While the original proposer¹ of this course thought this was a good idea, subsequent experience teaching the course has shown that neither of these is necessary for students to succeed. Hence, we propose to loosen and simplify the prerequisites. Eliminating the unnecessary prerequisites will make the course accessible to a broader group of students.

This change has been approved by both the Department of Mathematics and Statistics and the Department of Physics and Physical Oceanography.

ANTICIPATED EFFECTIVE DATE

Fall 2025

CALENDAR CHANGES

MATH 4130 Introduction to General Relativity studies both the mathematical structure and physical content of Einstein's theory of gravity. Topics include the geometric formulation of special relativity, curved spacetimes, metrics, geodesics, causal structure, gravity as spacetime curvature, the weak-field limit, geometry outside a spherical star, Schwarzschild and Kerr black holes, Robertson-Walker cosmologies, gravitational waves, an instruction to tensor calculus, Einstein's equations, and the stress-energy tensor. **CO:** MATH 4230

EQ: Physics 4220 PR: MATH 2260 and 3202 and one of Physics 3220 or MATH 4230 or permission of the Head of Department.

PHYS 4220 Introduction to General Relativity studies both the mathematical structure and physical content of Einstein's theory of gravity. Topics include the geometric formulation of special relativity, curved spacetimes, metrics, geodesics,

¹ Who happens to be the same person who is now proposing this revision!

causal structure, gravity as spacetime curvature, the weak-field limit, geometry outside a spherical star, Schwarzschild and Kerr black holes, Robertson-Walker cosmologies, gravitational waves, an introduction to tensor calculus, Einstein's equations, and the stress-energy tensor.

CO: Mathematics 4230

EQ: Mathematics 4130

PR: Mathematics <u>2260 and</u> 3202 and one of PHYS 3220, Mathematics 4230 or waiver approved by the instructor

CALENDAR ENTRY AFTER CHANGES

MATH 4130 Introduction to General Relativity

studies both the mathematical structure and physical content of Einstein's theory of gravity. Topics include the geometric formulation of special relativity, curved spacetimes, metrics, geodesics, causal structure, gravity as spacetime curvature, the weak-field limit, geometry outside a spherical star, Schwarzschild and Kerr black holes, Robertson-Walker cosmologies, gravitational waves, an instruction to tensor calculus, Einstein's equations, and the stress-energy tensor.

EQ: Physics 4220

PR: MATH 2260 and MATH 3202

PHYS 4220 Introduction to General Relativity studies both the mathematical structure and physical content of Einstein's theory of gravity. Topics include the geometric formulation of special relativity, curved spacetimes, metrics, geodesics, causal structure, gravity as spacetime curvature, the weak-field limit, geometry outside a spherical star, Schwarzschild and Kerr black holes, Robertson-Walker cosmologies, gravitational waves, an introduction to tensor calculus, Einstein's equations, and the stress-energy tensor.

EQ: Mathematics 4130

PR: Mathematics 2260 and 3202

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page

CONSULTATIONS SOUGHT

Academic Unit	Response Received
Humanities and Social Sciences	"HSS has no concerns with the proposed revisions."

Academic Unit	Response Received
Business Administration	No response
Education	No response
Engineering and Applied Science	" no impact on our programs. We are happy to support this change."
Human Kinetics and Recreation	No response
Marine Institute	No response
Medicine	"there are no concerns with the proposed prerequisite changes."
Music	"we see no impact on our students and have have no concerns. "
Nursing	No response
Pharmacy	"There is no impact on the School of Pharmacy."
Science	
Biochemistry	No response
Biology	No response
Chemistry	No response
Computer Science	No response
Earth Sciences	No response

Academic Unit	Response Received
Mathematics and Statistics	Proposing Department
Ocean Sciences	No response
Physics and Physical Oceanography	Co-proposing Department
Psychology	No response
Social Work	No response
Library	"This change will have no impact on the library."
Grenfell - Arts and Social Science	No response
Grenfell - Science and the Environment	No response
Grenfell - Fine Arts	No response
Labrador Institute	No response

LIBRARY REPORT

"This change will have no impact on the library".

RESOURCE IMPLICATIONS

There are no resource implications.

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:

- \Box New course(s):
- X 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)
- □ 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

STAT 2500 Statistics for Business and Arts Students

REVISED COURSE NUMBER AND TITLE

STAT 2500 Statistical Foundations for Data Analytics

ABBREVIATED COURSE TITLE

Stat Foundations D Analytics

RATIONALE

STAT 2500 is one of our service courses that is included in many programmes. It has been offered with minimal changes through the years. However, the field has changed. We live in the information age, and our ability to collect data has evolved radically. Individuals are exposed to large amounts of data daily in their professional lives. This requires developing skills appropriate for analyses that use new technologies. We consider that a first course in statistics should also provide the foundations for data analytics and include an extended section in exploratory data analysis using state-of-the-art software and techniques. The restructured STAT 2500 aims to do that by reorganising the content and increasing the emphasis on exploratory data analysis while preserving as much as possible of the original content. We consider that the restructured course promotes statistics literacy and helps develop the students' analytics skills.

ANTICIPATED EFFECTIVE DATE

September 2025

CALENDAR CHANGES

i) 13.9.2 Statistics Courses (St. John's Campus Section)

STAT 2500 Statistics for Business and Arts Students Statistical Foundations for Data <u>Analytics</u> covers descriptive statistics (including histograms, stem-and-leaf plots and box plots), elementary probability, random variables, the binomial distribution, the normal distribution, sampling distribution, estimation and hypothesis testing including both one and two sample tests, paired comparisons, correlation and regression, related applications. fundamental concepts such as population, sample, probability, random variables, and their distributions, enabling students to grasp modern data analytics. The course also includes various exploratory data analysis and visualization techniques using specialized statistical software such as R. Additional topics include point and interval estimation, hypothesis testing for one or more populations, and a brief overview of correlation and simple linear regression.

CR: STAT 2550, the former 2510, Psychology 2910, 2925 and the former 2900 LH: one 90 minute lab per week. Statistical computer package will be used in the laboratory, but no prior computing experience is assumed Lab computations are done with appropriate statistical software such as R, although no prior statistics computing experience is assumed.

PR: 3 credit hours in Mathematics or Statistics courses, or a combination of placement test and high school Mathematics scores acceptable to the Department

ii) 13.22 Mathematics and Statistics (Grenfell Campus Section)

STAT 2500 Statistics for Business and Arts Students Statistical Foundations for Data <u>Analytics</u> covers descriptive statistics (including histograms, stem-and-leaf plots and box plots), elementary probability, random variables, the binomial distribution, the normal distribution, sampling distribution, estimation and hypothesis testing including both one and two sample tests, paired comparisons, correlation and regression, related applications. fundamental concepts such as population, sample, probability, random variables, and their distributions, enabling students to grasp modern data analytics. The course also includes various exploratory data analysis and visualization techniques using specialized statistical software such as R. Additional topics include point and interval estimation, hypothesis testing for one or more populations, and a brief overview of correlation and simple linear regression.

CR: STAT 2550, the former STAT 2510, Psychology 2910, Psychology 2925 and the former Psychology 2900

LH: <u>1.5</u> one 90 minute lab per week. Lab computations are done with appropriate statistical software such as R, although no prior statistics computing experience is assumed.

PR: 3 credit hours in Mathematics or Statistics courses, or a combination of placement test and high school Mathematics scores acceptable to the School of Science and the Environment

CALENDAR ENTRY AFTER CHANGES

i) 13.9.2 Statistics Courses (St. John's Campus Section)

STAT 2500 Statistical Foundations for Data Analytics covers fundamental concepts such as population, sample, probability, random variables, and their distributions, enabling students to grasp modern data analytics. The course also includes various exploratory data analysis and visualization techniques using specialized statistical software such as R. Additional topics include point and interval estimation, hypothesis

testing for one or more populations, and a brief overview of correlation and simple linear regression.

CR: STAT 2550, the former 2510, Psychology 2910, 2925 and the former 2900 LH: one 90 minute lab per week. Lab computations are done with appropriate statistical software such as R, although no prior statistics computing experience is assumed. PR: 3 credit hours in Mathematics or Statistics courses, or a combination of placement test and high school Mathematics scores acceptable to the Department

ii) 13.22 Statistics Courses (Grenfell Campus Section)

STAT 2500 Statistical Foundations for Data Analytics covers fundamental concepts such as population, sample, probability, random variables, and their distributions, enabling students to grasp modern data analytics. The course also includes various exploratory data analysis and visualization techniques using specialized statistical software such as R. Additional topics include point and interval estimation, hypothesis testing for one or more populations, and a brief overview of correlation and simple linear regression.

CR: STAT 2550, the former 2510, Psychology 2910, 2925 and the former 2900 LH: one 90 minute lab per week. Lab computations are done with appropriate statistical software such as R, although no prior statistics computing experience is assumed. PR: 3 credit hours in Mathematics or Statistics courses, or a combination of placement test and high school Mathematics scores acceptable to the School of Science and the Environment.

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page

CONSULTATIONS SOUGHT

Academic Unit	Response Received
Humanities and Social Sciences	No reponse
Business Administration	"The proposed changes on STAT 2500 are generally supported by the instructors."
Education	No reponse
Engineering and Applied Science	Yes: No impact on programs (see below for response to comment)
Human Kinetics and Recreation	No reponse
Marine Institute	No reponse
Medicine	No reponse
Music	No reponse
Nursing	" no implications for our students."
Pharmacy	"No impact"

Academic Unit	Response Received
Science	No reponse
Biochemistry	No reponse
Biology	No reponse
Chemistry	No reponse
Computer Science	No reponse
Earth Sciences	No reponse
Mathematics and Statistics	No reponse
Ocean Sciences	"The proposed changes on STAT 2500 are generally supported by the instructors."
Physics and Physical Oceanography	No reponse
Psychology	Queried on credit restrictions. Typo in original version corrected.
Social Work	No reponse
Library	See below.
Grenfell - Arts and Social Science	No reponse
Grenfell - Business	"No concerns"

Academic Unit	Response Received
Grenfell - Science and the Environment	Discussed in detail and suggested revisions implemented.
Grenfell - Fine Arts	No reponse
Labrador Institute	No reponse

Specific Comments:

From Engineering: "I do note that the significant change of emphasis in the content of STAT 2500 might merit a new course number. On the one occasion when I taught STAT 2500 (way back in 1997), there was very little data analysis."

Response: The content overlaps more than 80% with the current version of 2500 and so we do not think that it needs renumbering.

LIBRARY REPORT

Good afternoon Ivan,

Thank you for the opportunity to provide feedback on these changes and updates. They will have no impact on the library. We will continue to support the students in these courses under existing budgetary allocations.

Kathryn

Kathryn Rose, MLIS, PhD (she/her) I Head, Collections Strategies Memorial University Libraries St. John's, Newfoundland, A1B 3Y1 +1 709 864-3139 www.library.mun.ca

RESOURCE IMPLICATIONS

This is an updated of an existing course. There are no resource implications.

APPENDIX: Sample Course Syllabus/Outline

STAT 2500 – Statistical Foundations for Data Analytics

Calendar description.

STAT 2500 Statistical Foundations for Data Analytics covers fundamental concepts such as population, sample, probability, random variables, and their distributions, enabling students to grasp modern data analytics. The course also includes various exploratory data analysis and visualization techniques using specialized statistical software such as R. Additional topics include point and interval estimation, hypothesis testing for one or more populations, and a brief overview of correlation and simple linear regression.

CR STAT 2550 and former STAT 2510, Psychology 2910, 2925 and the former 2900 **LH** One 90 minute lab per week. Lab computations are done with appropriate statistical software such as R, although no prior statistics computing experience is assumed

PR 3 credit hours in Mathematics or Statistics courses, or a combination of placement test and high school Mathematics scores acceptable to the Department

Course outline

- 1) Exploratory data analysis
 - a) Population, sample and random sampling
 - b) Data types
 - c) Summary statistics
 - d) Data inspection and diagnostics
- 2) Basic concepts in probability
 - a) Principles of probability
 - i) Random experiment
 - ii) Sample space and events
 - iii) Ven and tree diagrams
 - iv) Probability of an event
 - v) Conditional probability
 - vi) Law of Total Probability
 - vii) Bayes' Theorem
 - b) Discrete probability models and enumeration techniques
 - c) Continuous probability models
 - d) Random variables and probability functions
 - e) Expected values, means and variances
 - f) Median, quartiles, and quantiles

- g) Bivariate expected values, covariance, and correlation
- 3) Univariate families of distributions
 - a) Bernoulli and binomial distributions
 - b) Poisson distribution
 - c) Geometric distribution
 - d) Discrete uniform distribution
 - e) Continuous uniform distribution
 - f) Exponential distribution
 - g) Normal (Gaussian) distribution
 - h) Distributions of the sample mean, variance, and related ones.
- 4) Data visualization and statistical graphics
 - a) Strip charts and dot plots
 - b) Boxplots
 - c) Stem-and-leaf plots
 - d) Histograms and density estimators
 - e) Pie charts and bar charts
 - f) Multiple boxplots
 - g) QQ-plots
 - h) Scatterplots
- 5) Statistical inference
 - a) Point estimation
 - b) Interval estimation
 - c) Hypotheses testing: one- and two-sample tests
 - d) Testing the mean of more than two samples
 - e) Linear correlation
 - f) Simple linear regression

Textbook

• Course notes posted in Brightspace.

Reference texts

- AA Agresi, C Franklin and B Klingenberg, *Statistics: The art and science of learning from data*, 4th ed, Pearson.
- JT McClave, PG Benson and T Sincick, *Statistics for business economics*, Pearson. Ch 1–8,11.
- A Holmes, B Illowsky and S Dean, Introductory business statistics, OpenStax. Ch 1– 10,13
- WW Piegorsch. Statistical data analytics, Wiley. Ch 1–6.

Evaluation scheme

Type of evaluation	Number	Weight
Online quizzes	5	30%
Term exam	1	20%
Final exam	1	50%
Lab quizzes	6	6% (bonus)

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:

- \Box New course(s):
- X 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)
- □ 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

STAT 3521 Regression STAT 3585 Computational Statistics STAT 4530 Survey Sampling

RATIONALE

The Statistics 2530 course is added as a prerequisite option for the Statistics 3521 and 3585 courses. Data Science majors can fulfill their program requirements by taking either Statistics 2560 or Statistics 2530. Students who choose Statistics 2530 in place of Statistics 2560 will meet the same prerequisite requirements for Statistics 3521 and 3585.

The prerequisite for Statistics 4530 is changed from Stat 3411 to Stat 2410. Recently, the 3411 prerequisite has been waived for students with Statistics 2410. This has been successful and so we now consider 2410 a sufficient prerequisite for Statistics 4530.

ANTICIPATED EFFECTIVE DATE

September 2025

CALENDAR CHANGES – Section 13.9.2 Statistics Courses

STAT 3521 Regression covers inferences in linear regression analysis including estimation, confidence and prediction intervals, hypotheses testing and simultaneous inference; matrix approach to regression analysis, multiple linear regression, multicollinearity, model building and selection, polynomial regression, qualitative predictor variables.

PR: Mathematics 2050 and either STAT 3411 or both Mathematics 1001 and one of STAT 2501 or 2530 or 2560 or the former 2511

STAT 3585 Computational Statistics is an introduction to modern computational statistics, using a programming language which implements S. Emphasis will be placed on the development of algorithms and programs for generating random numbers, numerical techniques and programs for graphical exploratory data analysis, implementing specialized statistical procedures, Monte Carlo simulation and resampling.

PR: STAT 2410, and either STAT 2530 or STAT 2560

STAT 4530 Survey Sampling covers basic concepts, simple random sampling, unequal probability sampling and the Horvitz-Thompson principle, sufficiency, design

and modelling in sampling, ratio and regression estimators, stratified and cluster sampling, methods for elusive and/or hard-to-detect populations. PR: STAT <u>3411</u> <u>2410</u>

CALENDAR ENTRY AFTER CHANGES – Section 13.9.2 Statistics Courses

STAT 3521 Regression covers inferences in linear regression analysis including estimation, confidence and prediction intervals, hypotheses testing and simultaneous inference; matrix approach to regression analysis, multiple linear regression, multicollinearity, model building and selection, polynomial regression, qualitative predictor variables.

PR: Mathematics 2050 and either STAT 3411 or both Mathematics 1001 and one of STAT 2501 or 2530 or 2560 or the former 2511

STAT 3585 Computational Statistics is an introduction to modern computational statistics, using a programming language which implements S. Emphasis will be placed on the development of algorithms and programs for generating random numbers, numerical techniques and programs for graphical exploratory data analysis, implementing specialized statistical procedures, Monte Carlo simulation and resampling.

PR: STAT 2410, and either STAT 2530 or STAT 2560

STAT 4530 Survey Sampling covers basic concepts, simple random sampling, unequal probability sampling and the Horvitz-Thompson principle, sufficiency, design and modelling in sampling, ratio and regression estimators, stratified and cluster sampling, methods for elusive and/or hard-to-detect populations. PR: STAT 2410

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page

CONSULTATIONS SOUGHT

Academic Unit	Response Received
Humanities and Social Sciences (Economics)	"I do not see any concerns. "
Business Administration	"No feedback"
Education	No response
Engineering and Applied Science	"No impact"
Human Kinetics and Recreation	No response
Marine Institute	No response
Medicine	No response
Music	No response
Nursing	"No implications"
Pharmacy	No response
Science	No response

Academic Unit	Response Received
Biochemistry	No response
Biology	No response
Chemistry	No response
Computer Science	No response
Earth Sciences	No response
Mathematics and Statistics	No response
Ocean Sciences	"No problems"
Physics and Physical Oceanography	No response
Psychology	No response
Social Work	No response
Grenfell - Arts and Social Science	No response
Grenfell - Business	"No concerns"
Grenfell - Science and the Environment	No response
Grenfell - Fine Arts	No response
Labrador Institute	No response

LIBRARY REPORT

Good afternoon Ivan,

Thank you for the opportunity to provide feedback on these changes and updates. They will have no impact on the library. We will continue to support the students in these courses under existing budgetary allocations.

Kathryn

Kathryn Rose, MLIS, PhD (she/her) I Head, Collections Strategies Memorial University Libraries St. John's, Newfoundland, A1B 3Y1 +1 709 864-3139 www.library.mun.ca

RESOURCE IMPLICATIONS

There are no resource implications.

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Cover Page

Joint Major in Economics and Mathematics

LIST OF CHANGES

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

- □ New courses
- \Box Amended or deleted course(s):
- □ New programs(s)
- X Amended or deleted program(s):

AMAT/ECON and ECON/PMAT Joint Majors (deleted)

- -> ECON/MATH Joint Major (added)
 - □ 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)
 - □ 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 and Labrador Undergraduate Calendar Change Proposal Form Senate Summary Page for Programs Mathematics Major and Honours Degrees

OLD PROGRAMS (to be deleted)

Joint Major in Applied Mathematics and Economics (BSc) Joint Major in Economics and Pure Mathematics (BSc)

NEW PROGRAMS (to be added)

Joint Major in Economics and Mathematics (BSc)

RATIONALE

Last year there was a major revision to the undergraduate programs in the Department of Mathematics and Statistics. In particular the former Applied and Pure Mathematics degrees were replaced with a Mathematics Major and a Mathematics Honours degree. As a result, the joint degrees now also need updating. This proposal replaces the former Joint Major in Applied Mathematics/Economics and Economics/Pure Mathematics with a single Joint Major in Economics and Mathematics.

Both the new Mathematics Major and the Economics Major are built around fixed sets of core courses (11 for MATH, 9 for ECON) plus choices of higher-level courses (4 for MATH, 5 for ECON) to bring the requirements up to 15 for MATH and 14 for ECON. The new joint degrees are constructed by defining a new combined core along with choices to make up the balance. Numerical constraints to this construction include:

- 1) a Joint Major should contain 12-15 courses from each subject,
- extra Faculty of Science regulations mean that at least another 5 courses will be required to complete any degree: i) an English course, ii) a CRW course, iii) two courses from another science and iv) one course from another science.

Hence, including all requirements, a Joint Major will require at least 29 courses. At the same time this degree needs to maintain the flexibility necessary to cover either the material of the old AMAT/ECON or the old ECON/PMAT as well as hybrids of these degrees and any new developments that may occur at the interface of these subjects.

The core MATH courses in the new degree are those in the Mathematics major with the replacement of MATH 3030 (Mathematical Inquiry II) with MATH 3100 (Introduction to Dynamical Systems) which is central enough to Economics that it was part of both of the old joint Majors. The core ECON courses are exactly those of the Economics major. The extra choice courses are reduced to 5 in ECON and 2 in MATH, resulting in 14 from

ECON and 13 from MATH. There are also two required STAT courses (as required by the regular economics major). Combined with the standard Faculty of Science requirements, this results in a total of 34 required courses for the degree compared to 32 and 33 in the old joint degrees.

This proposal was co-developed by the Department of Economics and the Department of Mathematics and Statistics. It has been passed at Departmental meetings of both units.

ANTICIPATED EFFECTIVE DATE

This program will be available for students from September 2025.

CALENDAR CHANGE

From the current calendar, delete the following sections:

10.1.2 Applied Mathematics and Economics Joint Major

As a component of the Degree Regulations for the General Degree of Bachelor of Science, the following courses are required:

- 1. Mathematics 1000, 1001, 2000, 2030 (or the former 2130), 2050, 2051, 2260, 2320, 3000, 3100, 3202, Statistics 2550.
- 2. Either Mathematics 3132 and 4131 or 3161 and 4160.
- 3. A computing course early in the program is required. Computer Science 1510 is highly recommended.
- 4. Economics: 1010 (or the former 2010), 1020 (or the former 2020), 2550, 3000, 3001, 3010, 4550, 4551.
- 5. Eighteen further credit hours chosen from among the various Economics courses in consultation with the Head of the Department or delegate, including at least 9 credit hours at the 4000 level.

10.1.10 Economics and Pure Mathematics Joint Major

As a component of the Degree Regulations for the General Degree of Bachelor of Science, the following courses are required:

- 1. Mathematics 1000, 1001, 2000, 2030 (or the former 2130), 2050, 2260, 2320, 3000, 3100, 3202, 3320, Statistics 2550 and one 4000 level Mathematics course.
- 2. A computing course early in the program is required. Computer Science 1510 is highly recommended.
- 3. Economics: 1010 (or the former 2010), 1020 (or the former 2020), 2550, 3000, 3001, 3010, and 6 credit hours from either 3550 and 3551, or 4550and 4551.
4. Eighteen further credit hours chosen from among the various Economics courses in consultation with the Head of the Department or delegate, including at least 9 credit hours at the 4000 level.

Then add the following section (number as appropriate).

10.1.X Economics and Mathematics Joint Major

As a component of the Degree Regulations for the General Degree of Bachelor of Science, the following courses are required:

- 1. <u>Six credit hours in Critical Reading and Writing (CRW) courses including</u> <u>at least 3 credit hours in English courses.</u>
- 2. One of Computer Science 1001 or Computer Science 1510.
- 3. Statistics 2550 (or 2500) plus a further three credit hours in Statistics.
- 4. <u>Three credit hours in a science subject other that Computer Science,</u> <u>Economics, Mathematics or Statistics plus a further three credit hours in</u> <u>either that same science subject or Computer Science.</u>
- 5. <u>Economics: 1010 (or the former 2010), 1020 (or the former 2020), 2550,</u> <u>3000, 3001, 3010, 3550, 4550 and at least one of 3551 or 4551.</u>
- 6. <u>Fifteen further credit hours chosen from courses offered by the</u> <u>Department of Economics numbered 3000 or above. At least 6 must be in</u> <u>courses numbered 4000 or above. These courses should be chosen in</u> <u>consultation with the Head of Department or delegate.</u>
- 7. <u>Mathematics 1000 (or 1006), 1001, 2000, 2030 (or 2130), 2050, 2051,</u> <u>2260, 2320, 3000, 3100, 3202.</u>
- 8. <u>Six further credit hours chosen from courses offered by the Department of</u> <u>Mathematics and Statistics numbered 3000 or above. At least 3 must be in</u> <u>courses numbered 4000 or above.</u>

CALENDAR ENTRY AFTER CHANGES

10.1.X Economics and Mathematics Joint Major

- 1. Six credit hours in Critical Reading and Writing (CRW) courses including at least 3 credit hours in English courses.
- 2. One of Computer Science 1001 or Computer Science 1510.
- 3. Statistics 2550 (or 2500) plus a further three credit hours in Statistics.

- 4. Three credit hours in a science subject other that Computer Science, Economics, Mathematics or Statistics plus a further three credit hours in either that same science subject or Computer Science.
- 5. Economics: 1010 (or the former 2010), 1020 (or the former 2020), 2550, 3000, 3001, 3010, 3550, 4550 and at least one of 3551 or 4551.
- Fifteen further credit hours chosen from courses offered by the Department of Economics numbered 3000 or above. At least 6 must be in courses numbered 4000 or above. These courses should be chosen in consultation with the Head of Department or delegate.
- 7. Mathematics 1000 (or 1006), 1001, 2000, 2030 (or 2130), 2050, 2051, 2260, 2320, 3000, 3100, 3202.
- 8. Six further credit hours chosen from courses offered by the Department of Mathematics and Statistics numbered 3000 or above. At least 3 must be in courses numbered 4000 or above.

SECONDARY CALENDAR CHANGES

Science Side:

11.9 Mathematics

- 3. Applied Mathematics and Economics Joint Major (BSc only)
- 11. Economics and Pure Mathematics Joint Major (BSc only)

HSS Side:

15.5 Economics

15.5.7.2 Bachelor of Science

Programs for Joint Majors in Economics and Computer Science, Pure Mathematics, Applied Mathematics or Statistics, and a Joint Major in Statistics and Economics (Cooperative) are found under the heading Faculty of Science, Joint Program Regulations in the entry for the Faculty of Science.

A student who wishes to take a Joint Major in Economics and Computer Science, Mathematics or Statistics must arrange a program in consultation with the heads of the respective departments and comply with the General Regulations for the Majors Degrees.

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page

CONSULTATIONS SOUGHT

Academic Unit	Response Received
Humanities and Social Sciences	"No concerns"
Business Administration	"No comments"
Education	No response
Engineering and Applied Science	"No impact"
Human Kinetics and Recreation	No response
Marine Institute	No response
Medicine	No response
Music	No response
Nursing	No response
Pharmacy	"No impact"
Science	

Academic Unit	Response Received
Biochemistry	No response
Biology	No response
Chemistry	No response
Computer Science	No response
Earth Sciences	No response
Mathematics and Statistics	No response
Ocean Sciences	No response
Physics and Physical Oceanography	No response
Psychology	No response
Social Work	No response
Grenfell - Arts and Social Science	No response
Grenfell - Science and the Environment	No response
Grenfell - Fine Arts	No response
Labrador Institute	No response

LIBRARY REPORT

Good Morning Ivan,

This will have no impact on the library.

Kathryn

-----Original Message-----From: University Librarian <<u>univlib@mun.ca</u>> Sent: November 1, 2024 10:57 AM To: Rose, Kathryn <<u>kathrynr@mun.ca</u>> Subject: FW: Revision of Joint Degrees: Economics and Mathematics, Mathematics and Physics

SHERI COOMBS MA I Decanal Assistant Memorial University Libraries L-2019A Queen Elizabeth II Library Memorial University I St. John's I Newfoundland I A1B 3Y1 T: 709.864.3862 E: <u>sheri.coombs@mun.ca</u> www.library.mun.ca

RESOURCE IMPLICATIONS

There are no resource implications.

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Cover Page Joint Major and Joint Honours in Mathematics and Physics

LIST OF CHANGES

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

- □ New courses
- \Box Amended or deleted course(s):
- □ New programs(s)
- X Amended or deleted program(s): AMAT/PHYS Joint Major/Honours ->

MATH/PHYS Joint Major/Honours

- □ 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)
- 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 and Labrador Undergraduate Calendar Change Proposal Form Senate Summary Page for Programs Mathematics Major and Honours Degrees

PROGRAM TITLE

Joint Major in Applied Mathematics and Physics (BSc) Joint Honours in Applied Mathematics and Physics (BSc)

REVISED PROGRAM TITLE

Joint Major in Mathematics and Physics (BSc) Joint Honours in Mathematics and Physics (BSc)

RATIONALE

Last year there was a major revision to the undergraduate programs in the Department of Mathematics and Statistics. In particular the former Applied and Pure Mathematics degrees were replaced with a Mathematics Major and a Mathematics Honours degree. As a result, the joint degrees now also need updating. While the names change, the changes to the course requirements are fairly minor and mainly reflect changes in the corresponding Major/Honours degrees.

Starting with the Joint Major the specific changes are:

- We update to match the core requirements those of the new Mathematics Major. Hence, we add MATH2030 (Mathematical Inquiry I) which is a central course in the Mathematics degrees. This replaces MATH3001 (Real Analysis II) which continues to be required for the Honours Mathematics degree but not the Major.
- 2) On the Physics side, a choice is added between PHYS3800 (Computational Physics) and PHYS3900 (Experimental Physics I). This is in line with the existing requirements for the joint Honours in Applied Mathematics and Physics (which we are retaining for the updated degree). As this is an extra course on the Physics side, regulation 6 (on extra choice courses) is updated to reflect this.
- 3) With MATH 2030 now required, the complicated "Writing course" regulation is no longer necessary. It is removed.
- 4) The computer science requirement is updated to reflect the fact that most students now take COMP1001.

For the Joint Honours, we update the name, the computer science requirement, change one required third year course (3230: Classical Mechanics II) to a choice of any third year physics course and finally change the Applied Mathematics Honours project 419A/B to the Mathematics Honours Project 409A/B. As for all Joint Honours degrees, the course requirements are quite high (36 or 37 in this case depending on the choice of the extra science courses) and so there is very little room for modification. For this reason, MATH2030 is not added to the Honours degree except as a recommendation.

In both cases, the preamble is also updated to the "As a component of the Degree Regulation…" style instead of the previous "Required courses are…". As a knock-on this has changed the wording of regulation 9 in the honours degree.

For the additional credit hours that may be selected from either Department the language is updated and coordinated to specify that the courses can come from any offered by the two Departments. This is mainly to clarify that on the math/stats side both MATH and STAT courses are allowed. Previously the joint major restricted to Applied Mathematics courses while the Honours was intended to allow anything offered by either Department, but perhaps the language was unclear.

This proposal was co-developed by the Department of Mathematics and Statistics and the Department of Physics and Physical Oceanography. It has been passed at Departmental meetings of both units.

ANTICIPATED EFFECTIVE DATE

These programs will be available for students from September 2025.

CALENDAR CHANGE

10.1.3 Applied Mathematics and Physics Joint Major

Required course for this degree are: <u>As a component of the Degree Regulations for the</u> <u>General Degree of Bachelor of Science, the following courses are required:</u>

- 1. Six credit hours in Critical Reading and Writing (CRW) courses including at least 3 credit hours in English courses.
- 2. A computing course. Computer Science 1510 is recommended. One of Computer Science 1001, Computer Science 1510, Engineering 1020 or an equivalent course in computer programming.
- 3. Six credit hours in <u>a</u> science other than Mathematics or Physics (if Computer Science is chosen then Computer Science <u>1510</u> then a Computer Science <u>course from the second requirement 10.1.3.2</u> may be counted as 3 of those hours).
- 4. Mathematics 1000 (or 1006), 1001, 2000, <u>2030 (or 2130)</u>, 2050, 2051, 2260, 2320, 3000, 3001, 3132, 3202.
- 5. Physics 1050 (or 1020), 1051, 2053, 2055, 2750 (or 2056), 2820, 3220, 3400, 3500, 3750 and one of 3800 or 3900.

- 6. Mathematics 3161 or Physics 3820.
- At least 15 <u>Twelve</u> additional credit hours chosen from <u>Mathematics and Physics</u> courses numbered 3000 or above <u>that are offered by the Department of</u> <u>Mathematics and Statistics or the Department of Physics and Physical</u> <u>Oceanography</u>. At least 3 hours are required from Mathematics and 3 hours are required from Physics. <u>At least 3 credit hours must be selected from courses</u> offered by each Department.
- 8. A writing course. Any one of Mathematics 2030 (or the former 2130), Physics 3900, Mathematics 419A/B, or Physics 490A/B is acceptable.

The last requirement does not have to be met independently of the other regulations. For example, it can be satisfied by choosing Physics 3900 as a 3000+ elective in clause 8. above.

10.2.2 Applied Mathematics and Physics Joint Honours

The following courses are required: As a component of the Degree Regulations for the Honours Degree of Bachelor of Science, the following courses are required:

- 1) Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses.
- 2) A computing course. Computer Science 1510 or 1001 is recommended. One of Computer Science 1001, Computer Science 1510, Engineering 1020 or an equivalent course in computer programming.
- Six credit hours in a science other than Mathematics or Physics (if Computer Science is chosen then Computer Science <u>1510</u> then a Computer Science course from the second requirement 10.2.2.2 may be counted as 3 of these hours).
- 4) Mathematics 1000 (or 1006), 1001, 2000, 2050, 2051, 2260, 2320, 3000, 3001, 3132, 3202, 3210.
- Physics 1050 (or 1020), 1051, 2053, 2055, 2750 (or 2056), 2820, 3220, 3230, 3400, 3500, 3750, and one of 3800 or 3900, and a further three credit hours numbered 3000 or higher.
- 6) One of Mathematics 3161 or Physics 3820 and one of Mathematics 4160 or Physics 4820.
- 7) Physics 490A/B or Mathematics 419409A/B.
- 8) Twelve additional credit hours chosen from courses numbered 4000 or higher that are offered by the Department of Mathematics and Statistics or the Department of Physics and Physical Oceanography. At least 3 credit hours must be selected from courses offered by each Department. in each of Mathematics and Physics.

9) Twelve credit hours in applicable elective courses. Mathematics 2030 (or 2130) is recommended.

The topic for the Honours project or thesis, Mathematics 419409A/B or Physics 490A/B, must be chosen with the prior approval of both departments.

CALENDAR ENTRY AFTER CHANGES

10.1.3 Mathematics and Physics Joint Major

As a component of the Degree Regulations for the General Degree of Bachelor of Science, the following courses are required:

- 1) Six credit hours in Critical Reading and Writing (CRW) courses including at least 3 credit hours in English courses.
- 2) One of Computer Science 1001, Computer Science 1510, Engineering 1020 or an equivalent course in computer programming.
- Six credit hours in a science other than Mathematics or Physics (if Computer Science is chosen then a Computer Science course from the second requirement 10.1.3.2 may be counted as 3 of these hours).
- 4) Mathematics 1000 (or 1006), 1001, 2000, 2030 (or 2130), 2050, 2051, 2260, 2320, 3000, 3132, 3202.
- 5) Physics 1050 (or 1020), 1051, 2053, 2055, 2750 (or 2056), 2820, 3220, 3400, 3500, 3750 and one of 3800 or 3900.
- 6) Mathematics 3161 or Physics 3820.
- 7) Twelve additional credit hours chosen from courses numbered 3000 or above that are offered by the Department of Mathematics and Statistics or the Department of Physics and Physical Oceanography. At least 3 credit hours must be selected from courses offered by each Department.

10.2.2 Mathematics and Physics Joint Honours

- 1) Six credit hours in Critical Reading and Writing (CRW) courses including at least 3 credit hours in English courses.
- 2) One of Computer Science 1001, Computer Science 1510, Engineering 1020 or an equivalent course in computer programming.
- Six credit hours in a science other than Mathematics or Physics (if Computer Science is chosen then a Computer Science course from the second requirement 10.2.2.2 may be counted as 3 of these hours).
- 4) Mathematics 1000 (or 1006), 1001, 2000, 2050, 2051, 2260, 2320, 3000, 3001, 3132, 3202, 3210.

- 5) Physics 1050 (or 1020), 1051, 2053, 2055, 2750 (or 2056), 2820, 3220, 3400, 3500, 3750, one of 3800 or 3900, and a further three credit hours numbered 3000 or higher.
- 6) One of Mathematics 3161 or Physics 3820 and one of Mathematics 4160 or Physics 4820.
- 7) Physics 490A/B or Mathematics 409A/B.
- 8) Twelve additional credit hours chosen from courses numbered 4000 or higher that are offered by the Department of Mathematics and Statistics or the Department of Physics and Physical Oceanography. At least 3 credit hours must be selected from courses offered by each Department.
- 9) Mathematics 2030 (or 2130) is recommended.

The topic for the Honours project or thesis, Mathematics 409A/B or Physics 490A/B, must be chosen with the prior approval of both departments.

SECONDARY CALENDAR CHANGES

11.9 Mathematics and Statistics

- 4. Applied Mathematics and Physics Joint Honours (B.Sc. only)
- 5. Applied Mathematics and Physics Joint Major (B.Sc. only)

11.11 Physics and Physical Oceanography

- 1. Applied Mathematics and Physics Joint Honours
- 2. Applied Mathematics and Physics Joint Major

SECONDARY CALENDAR ENTRIES AFTER CHANGES

11.9 Mathematics and Statistics

- 4. Mathematics and Physics Joint Honours (B.Sc. only)
- 5. Mathematics and Physics Joint Major (B.Sc. only)

11.11 Physics and Physical Oceanography

- 1. Mathematics and Physics Joint Honours
- 2. Mathematics and Physics Joint Major

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page

CONSULTATIONS SOUGHT

Academic Unit	Response Received
Humanities and Social Sciences	"No concerns"
Business Administration	"No comments"
Education	No response
Engineering and Applied Science	"No impact"
Human Kinetics and Recreation	No response
Marine Institute	No response
Medicine	No response
Music	No response
Nursing	No response
Pharmacy	"No impact"
Science	
Biochemistry	No response
Biology	No response

Academic Unit	Response Received
Chemistry	No response
Computer Science	No response
Earth Sciences	No response
Mathematics and Statistics	No response
Ocean Sciences	No response
Physics and Physical Oceanography	Developed in co-operation with this Department
Psychology	No response
Social Work	No response
Grenfell - Arts and Social Science	No response
Grenfell - Science and the Environment	No response
Grenfell - Fine Arts	No response
Labrador Institute	No response

LIBRARY REPORT

Good Morning Ivan,

This will have no impact on the library.

Kathryn

-----Original Message-----

From: University Librarian <<u>univlib@mun.ca</u>> Sent: November 1, 2024 10:57 AM To: Rose, Kathryn <<u>kathrynr@mun.ca</u>> Subject: FW: Revision of Joint Degrees: Economics and Mathematics, Mathematics and Physics

SHERI COOMBS MA I Decanal Assistant Memorial University Libraries L-2019A Queen Elizabeth II Library Memorial University I St. John's I Newfoundland I A1B 3Y1 T: 709.864.3862 E: <u>sheri.coombs@mun.ca</u> www.library.mun.ca

RESOURCE IMPLICATIONS

There are no resource implications.

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Cover Page Joint Major and Joint Honours in Computer Science and Mathematics

LIST OF CHANGES

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

- □ New courses
- \Box Amended or deleted course(s):
- □ New programs(s)
- X Amended or deleted program(s):

AMAT/COMP and COMP/PMAT Joint Major/Honours (deleted)

-> COMP/MATH Joint Major/Honours (added)

- □ 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)
- □ 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 and Labrador Undergraduate Calendar Change Proposal Form Senate Summary Page for Programs Mathematics Major and Honours Degrees

OLD PROGRAMS (to be deleted)

Joint Major in Applied Mathematics and Computer Science (BSc) Joint Major in Computer Science and Pure Mathematics (BSc) Joint Honours in Computer Science and Pure Mathematics (BSc)

NEW PROGRAMS (to be added)

Joint Major in Computer Science and Mathematics (BSc) Joint Honours in Computer Science and Mathematics (BSc)

RATIONALE

Last year there was a major revision to the undergraduate programs in the Department of Mathematics and Statistics. In particular the former Applied and Pure Mathematics degrees were replaced with a Mathematics Major and a Mathematics Honours degree. As a result, the joint degrees now also need updating. This proposal replaces the former Joint Major in Applied Mathematics and Computer Science and Computer Science/Pure Mathematics with a single Joint Major in Computer Science and Mathematics. Similarly, the Joint Honours in Computer Science and Pure Mathematics is replaced with a single Joint Honours in Computer Science and Mathematics. Previously there was no official Applied Mathematics/Computer Science Honours, though several students had completed this degree as an Individualized Honours.

Both the new MATH Major and the COMP Major are built around fixed sets of core courses (11 for MATH, 9 for COMP¹) plus choices of higher-level courses (4 for MATH, 6 for COMP) to bring the requirements up to 15. Similarly, the Honours degrees have core courses (14 for MATH, 9 for COMP), the honours project (2 courses) plus choices of higher-level courses (9 for MATH, 10 for COMP). The new joint degrees are then naturally constructed by defining a new combined core along with choices to make up the balance. Numerical constraints to this construction include:

¹ For convenience of discussion, the three one-credit courses COMP 2006/7/8 will be treated as a single course. These are the only non-three-credit hour courses in the degree and it is easier to write about numbers of courses rather than credit hours.

- 1) a Joint Major should contain 12-15 courses from each subject,
- 2) a Joint Honours should contain at least 12 courses from each subject with a combined requirement of at least 28 courses,
- extra Faculty of Science regulations mean that at least another 5 courses will be required to complete any degree: i) an English course, ii) a CRW course, iii) two courses from another science and iv) one course from another science and
- 4) a standard degree is 40 courses.

Hence, including all requirements, a Joint Major will require at least 29 courses and a Joint Honours will require at least 33. At the same time there can be many different flavours of a computer science/mathematics degree. While we maintain a solid core in each area, we also aim to maintain enough flexibility to allow students to adapt the degree to both their interests and the rapidly evolving developments at the interface of these fields.

Comparing the number of courses in the new and old degrees it can be seen that the old degrees were overloaded and in particular the old Honours degree could not be completed in four years by a student who took only 10 courses per year. Further, the old Majors were both close to the maximum number of courses allowed for a joint Major and in fact were almost (bar one course in COMP) identical to the corresponding Double Majors (where a student takes all requirements for both degrees). The new degrees have more reasonable requirements.

	AMAT/COMP	COMP/PMAT	COMP/MATH	COMP/PMAT	COMP/MATH
	Major	Major	Major	Honours	Honours
COMP/MATH	15/14	15/14	12/12	15/20 + 2	13/13 + 6
Courses					
STAT Courses	1	1	1	1	1
	recommended				
Other Courses	5	5	5	5	5
Total Courses	34/35	35	30	43!	38

Finally, note that both of the (non-joint) mathematics and computer science degrees have a statistics requirement. Computer Science requires 2500 (Stats for Business and Arts Students) or 2550 (Statistics for Science Students) while Mathematics requires 2410 (Introduction to Probability Theory). The joint degrees give a choice between 2550 and 2410. However, 2550 (or 2500) is a prerequisite for many 3000 and 4000 level Computer Science courses (and one Mathematics course) while many further Statistics courses may require either or both of these courses. Hence, we include a note in the Statistics requirement to warn students that this is a potentially significant choice.

These changes have been approved by both Departments.

ANTICIPATED EFFECTIVE DATE

These programs will be available for students from September 2025.

CALENDAR CHANGE

From the current calendar, delete the following sections:

10.1.1 Applied Mathematics and Computer Science Joint Major

As a component of the Degree Regulations for the General Degree of Bachelor of Science, the following courses are required:

- 1) Computer Science 1001, 1003, 2002, 2002, 2003, 2004, 2005, 2006, 2007, 2008, plus 18 further credit hours in Computer Science courses numbered 3000 or higher
- 2) Mathematics 1000, 1001, 2000, 2030 (or the former 2130), 2050, 2051, 2260, 2320, 3000, 3100, 3132, 3161, 3202, 4160 and 4190.

In addition, Statistics 2550 is highly recommended.

10.1.7 Computer Science and Pure Mathematics Joint Major

As a component of the Degree Regulations for the General Degree of Bachelor of Science, the following courses are required:

- 1. Computer Science 1001, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008.
- 2. Eighteen additional credit hours in Computer Science courses numbered 3000 or higher.
- 3. Mathematics 1000, 1001, 2000, 2030 (or the former 2130) 2050, 2051, 2260, 2320, 3000, 3202, 3320, 3340 and Statistics 2550.
- 4. Nine additional credit hours in courses numbered 3000 or higher offered by the Department of Mathematics and Statistics, excluding the former Mathematics 3330.

10.2.18 Computer Science and Pure Mathematics Joint Honours

As a component of the Degree Regulations for the Honours Degree of Bachelor of Science, the following courses are required:

At least 51 credit hours in Computer Science courses are required including the following:

- 1. Computer
 - Science 1001, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008.
- 2. Excluding 499A/B, twenty-one additional credit hours from courses numbered 3000 or higher, at least six credit hours of which must be in courses at the 4000 level.

The following courses in Mathematics and Statistics are required:

- 1. Mathematics 1000, 1001, 2000, 2030 (or the former 2130), 2050, 2051, 2260, 2320, 3000, 3001, 3202, 3210, 3320, 3340, Statistics 2550.
- 2. Either Mathematics 4000 or 4001.
- Excluding the former Mathematics 3330, the former 4399, and 439A/B, fifteen additional credit hours in courses offered by the Department of Mathematics and Statistics numbered 3000 or higher including at least nine credit hours from courses numbered 4000 or higher and at least nine credit hours in Pure Mathematics courses.
- An Honours Dissertation (either Computer Science 499A/B or Mathematics 439A/B) with the topic chosen in consultation with both departments.

Note:

There is an Undergraduate Advisor in each Department. These advisors should be consulted on all academic matters.

Then add the following sections (number as appropriate).

10.1.X Computer Science and Mathematics Joint Major

- 1. <u>Six credit hours in Critical Reading and Writing (CRW) courses, including at least</u> <u>3 credit hours in English courses.</u>
- 2. Six credit hours in a science other than Computer Science or Mathematics.
- 3. <u>Three further credit hours in a science other than Computer Science</u>, <u>Mathematics or the science chosen in the previous clause</u>.
- 4. <u>Mathematics 1000 (or 1006)</u>, 1001, 2000, 2030 (or 2130), 2050, 2051, 2260, 2320, 3000.
- 5. <u>Nine further credit hours in courses offered by the Department of Mathematics</u> <u>and Statistics numbered 3000 or above including at least three numbered 4000</u> <u>or above.</u>
- 6. <u>Computer Science 1001, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008.</u>

- 7. <u>Twelve further credit hours in Computer Science numbered 3000 or above</u> including at least three numbered 4000 or above.
- 8. <u>Statistics 2410 or 2550. In making this choice, students should be aware</u> <u>that several further COMP or MATH courses have 2550 as a prerequisite.</u> <u>STAT courses may require either or both. Students wishing to maintain</u> <u>flexibility should take both courses.</u>

10.2.X Computer Science and Mathematics Joint Honours

As a component of the Degree Regulations for the General Degree of Bachelor of Science, the following courses are required:

- 1. <u>Six credit hours in Critical Reading and Writing (CRW) courses, including at least</u> <u>3 credit hours in English courses.</u>
- 2. Six credit hours in a science other than Computer Science or Mathematics.
- 3. <u>Three further credit hours in a science other than Computer Science</u>, <u>Mathematics or the science chosen in the previous clause</u>.
- 4. <u>Mathematics 1000 (or 1006), 1001, 2000, 2030 (or 2130), 2050, 2051, 2260,</u> <u>2320, 3000, 3001.</u>
- 5. <u>Nine further credit hours in courses offered by the Department of Mathematics</u> and Statistics numbered 3000 or above including at least three numbered 4000 or above.
- 6. <u>Computer Science 1001, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008.</u>
- 7. <u>Fifteen further credit hours in Computer Science numbered 3000 or above</u> including at least six numbered 4000 or above.
- 8. <u>Twelve further credit hours chosen from courses offered by the Departments of</u> <u>Computer Science or Mathematics and Statistics numbered 3000 or above</u> <u>including at least six numbered 4000 or above</u>.
- Statistics 2410 or 2550. In making this choice, students should be aware that several further COMP or MATH courses have 2550 as a prerequisite. STAT courses may require either or both. Students wishing to maintain flexibility should take both courses.
- 10. <u>An Honours Dissertion (either Computer Science 499A/B or Mathematics</u> 409A/B) with the topic chosen in consultation with both departments.

CALENDAR ENTRY AFTER CHANGES

10.1.X Computer Science and Mathematics Joint Major

- 1. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses.
- 2. Six credit hours in a science other than Computer Science or Mathematics.
- 3. Three further credit hours in a science other than Computer Science, Mathematics or the science chosen in the previous clause.
- 4. Mathematics 1000 (or 1006), 1001, 2000, 2030 (or 2130), 2050, 2051, 2260, 2320, 3000.
- 5. Nine further credit hours in courses offered by the Department of Mathematics and Statistics numbered 3000 or above including at least three numbered 4000 or above.
- 6. Computer Science 1001, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008.
- 7. Twelve further credit hours in Computer Science numbered 3000 or above including at least three numbered 4000 or above.
- 8. Statistics 2410 or 2550. In making this choice, students should be aware that several further COMP or MATH courses have 2550 as a prerequisite. STAT courses may require either or both. Students wishing to maintain flexibility should take both courses.

10.2.X Computer Science and Mathematics Joint Honours

- 1. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses.
- 2. Six credit hours in a science other than Computer Science or Mathematics.
- 3. Three further credit hours in a science other than Computer Science, Mathematics or the science chosen in the previous clause.
- 4. Mathematics 1000 (or 1006), 1001, 2000, 2030 (or 2130), 2050, 2051, 2260, 2320, 3000, 3001.
- 5. Nine further credit hours in courses offered by the Department of Mathematics and Statistics numbered 3000 or above including at least three numbered 4000 or above.
- 6. Computer Science 1001, 1003, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008.
- 7. Fifteen further credit hours in Computer Science numbered 3000 or above including at least six numbered 4000 or above.
- 8. Twelve further credit hours chosen from courses offered by the Departments of Computer Science or Mathematics and Statistics numbered 3000 or above including at least six numbered 4000 or above.
- 9. Statistics 2410 or 2550. In making this choice, students should be aware that several further COMP or MATH courses have 2550 as a prerequisite. STAT

courses may require either or both. Students wishing to maintain flexibility should take both courses.

10. An Honours Dissertion (either Computer Science 499A/B or Mathematics 409A/B) with the topic chosen in consultation with both departments.

SECONDARY CALENDAR CHANGES

Changes

11.4 Computer Science

- 1. Applied Mathematics and Computer Science Joint Major
- 8. Computer Science and Pure Mathematics Joint Honours
- 9. Computer Science and Pure Mathematics Joint Major

11.9 Mathematics and Statistics

- 2. Applied Mathematics and Computer Science Joint Major (B.Sc. only)
- 7. Computer Science and Pure Mathematics Joint Honours (B.Sc. only)
- 8. Computer Science and Pure Mathematics Joint Major (B.Sc. only)

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page

CONSULTATIONS SOUGHT

Academic Unit	Response Received
Humanities and Social Sciences	"No concerns"
Business Administration	No response
Education	No response
Engineering and Applied Science	No response
Human Kinetics and Recreation	No response
Marine Institute	No response
Medicine	No response
Music	No response
Nursing	"No concerns or comments"
Pharmacy	"No impact"
Science	
Biochemistry	No response

Academic Unit	Response Received
Biology	Noted typo in wording of Science requirements (now fixed)
Chemistry	No response
Computer Science	Co-developed with this Department.
Earth Sciences	No response
Mathematics and Statistics	No response
Ocean Sciences	"No impact"
Physics and Physical Oceanography	Noted that MATH 1006 and 1000 are equivalent. MATH 1006 added as alternative to 1000.
Psychology	No response
Social Work	No response
Grenfell - Arts and Social Science	No response
Grenfell - Business	"No concerns"
Grenfell - Science and the Environment	See below
Grenfell - Fine Arts	No response
Labrador Institute	No response

Comments from Grenfell Science and the Environment

I've had a look over the proposed revisions of the joint programs, and have a few suggestions. Overall the proposal looks sound. I've cc'd Rob Gallant in case he or the Math program have anything to add.

1. For the second and third items (about courses in other sciences), presumably these are meant to cover more than one discipline (so, for instance, three courses in Physics would not count for this purpose). However, the current phrasing could be interpreted in that way.

2. Since MATH 2130 still exists at Grenfell Campus, it shouldn't be referred to as "the former". (I note that the MATH 2030 Calendar entry also does this, and possibly this may also appear elsewhere.)

3. Referring to "courses offered by the Department of Mathematics and Statistics" rather than "courses in Mathematics and/or Statistics" has the potential to be interpreted as excluding MATH courses only offered at Grenfell Campus. For the sake of transferability, the latter wording might be better. A similar comment applies to the wording "courses offered by the Departments of Computer Science or Mathematics and Statistics".

Best wishes, Robert.

Dr. Robert Bailey Interim Dean, School of Science and the Environment Associate Professor, Mathematics Grenfell Campus, Memorial University Corner Brook, NL, Canada

Responses:

- 1) These are really the Faculty of Science rules that say that to get a BSc you have to have courses from at least four sciences. Then there is another rule that says (something like) to be admitted into a BSc degree you have to have two courses from at least three sciences. There are lots of COMP and MATH courses in this degrees (and STAT counts the same as MATH), so those rules amount to two more sciences with at least two courses from one and one from the other. There are different ways of writing these requirements with some degrees explicitly including them and others only referring to Faculty of Science rules. We ended up including them here. I think that we have rephrased from the version that you originally saw. Hopefully it is clear now.
- 2) Fixed: here and in the other proposals.
- 3) I have checked and been assured that the registration system doesn't distinguish between St. John's and Grenfell courses. So Grenfell courses are not restricted. The suggested alternate phrasing "courses in Mathematics and/or Statistics" has its own interpretation problems as some other units on the St. John's campus offer small-s statistics courses. So both have some possible confusions (though I think either would legally be okay). It has become customary for us to use the "Department of Mathematics and Statistics" language but there is no intention to exclude Grenfell courses (and in fact no way to do that even if we wanted to). Anything with a MATH or STAT designation will meet the requirement.

LIBRARY REPORT

Good Morning Ivan,

These changes will have no impact on the library. We will continue to support students in the new programs.

Kathryn

From: University Librarian <<u>univlib@mun.ca</u>>
Sent: November 12, 2024 9:47 AM
To: Rose, Kathryn <<u>kathrynr@mun.ca</u>>
Subject: FW: Revision of Joint Degrees between Computer Science and Mathematics

RESOURCE IMPLICATIONS

There are no resource implications. These new programs are entirely made up of existing courses and replace existing programs.

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:

- \Box New course(s):
- X Amended or deleted course(s): MATH 4340 and MATH 4341
- □ New program(s):
- \Box 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)
- □ 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

MATH 4340 Combinatorial Analysis and MATH 4341 Combinatorial Designs

RATIONALE

The creation of Math 4342 Advanced Graph Theory has inspired a desire to make all of the 4th year combinatorics courses more accessible. To that end, we increase the list of 3rd year combinatorics courses that can be used as prerequisites for MATH 4340 and MATH 4341.

ANTICIPATED EFFECTIVE DATE

Fall 2025

CALENDAR CHANGES

MATH 4340 Combinatorial Analysis

continues most of the topics started in 3340 with further work on distributions, recurrence relations and generating functions. Generating functions are used to solve recurrence relations in two variables. Also included is a study of Polya's theorem with applications.

PR: MATH 2000 and one of MATH 3240 or 3340

MATH 4341 Combinatorial Designs

includes the study of finite fields, Latin squares, finite projective planes and balanced incomplete block designs.

PR: <u>One of MATH 3240,</u> 3320 or 3340

CALENDAR ENTRY AFTER CHANGES

MATH 4340 Combinatorial Analysis continues most of the topics started in 3340 with further work on distributions, recurrence relations and generating functions. Generating functions are used to solve recurrence relations in two variables. Also included is a study of Polya's theorem with applications.

PR: MATH 2000 and one of MATH 3240 or 3340

MATH 4341 Combinatorial Designs includes the study of finite fields, Latin squares, finite projective planes and balanced incomplete block designs.

PR: One of MATH 3240, 3320 or 3340

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page

CONSULTATIONS SOUGHT

Academic Unit	Response Received
Humanities and Social Sciences	"No concerns"
Business Administration	No response
Education	No response
Engineering and Applied Science	No response
Human Kinetics and Recreation	No response
Marine Institute	No response
Medicine	No response
Music	No response
Nursing	"No implications"
Pharmacy	"No impact"
Science	
Biochemistry	No response
Biology	Noted typo in wording of Science requirements (now fixed)

Academic Unit	Response Received
Chemistry	No response
Computer Science	Co-developed with this Department.
Earth Sciences	No response
Mathematics and Statistics	No response
Ocean Sciences	"Looks fine, no problems"
Physics and Physical Oceanography	No response
Psychology	No response
Social Work	No response
Grenfell - Arts and Social Science	No response
Grenfell - Business	"No concerns"
Grenfell - Science and the Environment	See below
Grenfell - Fine Arts	No response
Labrador Institute	No response

LIBRARY REPORT

Good Morning Ivan,

These changes will have no impact on the library.

Kathryn

From: University Librarian <<u>univlib@mun.ca</u>>
Sent: November 12, 2024 9:48 AM
To: Rose, Kathryn <<u>kathrynr@mun.ca</u>>
Subject: FW: Revision of pre-requisites for MATH 4340 and 4341 (St. John's campus)

RESOURCE IMPLICATIONS

There will be no resource implications.

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:

- \Box New course(s):
- \Box 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 Regulations

SECTION OF CALENDAR

Indicate the section of the Calendar impacted by the proposed change(s):

- □ Glossary of Terms Used in the Calendar
- □ Admission/Readmission to the University (Undergraduate)
- General Academic Regulations (Undergraduate)
- X Faculty of: Science
- □ School of:
- Department of:
- □ Other:

RATIONALE

The Dept of Physics and Physical Oceanography is proposing a change of Supplementary Examination regulation 8.1 to allow all students taking PHYS 3000 the opportunity to avail of a supplementary exam if they wish. It has been brought to our attention by the Dept of Electrical and Computer Engineering that students in both the Computer Engineering and Electrical Engineering programs who fail required course PHYS 3000 *Physics of Device Materials* are unable to avail of the re-examination clause in their Promotion Regulations: <u>https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-engineering-and-applied-science/7/2/</u>.

Under this clause, students in specific circumstances are permitted to be re-examined in Engineering courses that they have failed. While PHYS 3000 is required for these Engineering programs, because it is a Science course, it does not fall under the Engineering Promotion regulations. Engineering students who are permitted to take a re-exam in their Engineering courses, provided they achieve a certain academic result, are promoted to the next term in their program.

However, if those same students fail PHYS 3000 with that same specific set of circumstances, they are unable to be re-examined, and thus cannot avail of the opportunity to be promoted to the next term.

We would therefore like to offer students taking PHYS 3000 the option of a supplementary exam. For Engineering students in this course, it would mean they have an opportunity to be promoted to the next term. Currently, the Faculty of Science regulations concerning supplementary exams only permit the Dept of Math and Statistics to offer supplementary exams in certain courses: https://www.mun.ca/university-calendar/st-johns-campus/faculty-of-science/8/.

ANTICIPATED EFFECTIVE DATE

Fall 2025

CALENDAR CHANGES

8 Supplementary Examinations

 Supplementary examinations will be allowed in certain courses offered by the Department of Mathematics and Statistics that have written final examinations <u>and in Physics 3000</u>. In each course, students will be informed as to the possibility of a supplementary examination during the first week of classes. This information will be provided in writing, as part of the Course Syllabus.

CALENDAR ENTRY AFTER CHANGES

8 Supplementary Examinations

 Supplementary examinations will be allowed in certain courses offered by the Department of Mathematics and Statistics that have written final examinations and in Physics 3000. In each course, students will be informed as to the possibility of a supplementary examination during the first week of classes. This information will be provided in writing, as part of the Course Syllabus.

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page

CONSULTATIONS SOUGHT

Academic Unit	Response Received
Humanities and Social Sciences	Thurs. Nov. 21, 2024
Business Administration	
Education	
Engineering and Applied Science	
Human Kinetics and Recreation	
Marine Institute	
Medicine	Wed. Nov. 13, 2024
Music	
Nursing	Fri. Nov. 15, 2024
Pharmacy	Thurs. Nov. 21, 2024
Science	
Biochemistry	

Academic Unit	Response Received
Biology	
Chemistry	
Computer Science	
Earth Sciences	
Mathematics and Statistics	
Ocean Sciences	
Physics and Physical Oceanography	
Psychology	
Social Work	
Library	Wed. Nov. 13, 2024
Grenfell - Arts and Social Science	
Grenfell - Science and the Environment	Wed. Nov 20, 2024
Grenfell - Fine Arts	
Labrador Institute	

Consultation email
From: Saika-Voivod, Ivan <<u>saika@mun.ca</u>>

Date: Tuesday, November 12, 2024 at 5:20 PM

To: assocdeancphss <<u>assocdeancphss@mun.ca</u>>, Business Undergrad Help <<u>busihelp@mun.ca</u>>, Dean of Education

<<u>educdean@mun.ca</u>>, <u>engrconsult@mun.ca</u> <<u>engrconsult@mun.ca</u>>, HKR Dean <<u>hkrdean@mun.ca</u>>, Dean of Medicine : McKeen, Dr. Dolores

<<u>deanofmedicine@mun.ca</u>>, Karen Bulmer <<u>kbulmer@mun.ca</u>>, DeanNurse <<u>DeanNurse@mun.ca</u>>, <u>pharminfo@mun.ca</u><<u>pharminfo@mun.ca</u>>, Dean of Science <<u>deansci@mun.ca</u>>, adeanugradswk <<u>adeanugradswk@mun.ca</u>>, University Librarian <<u>univlib@mun.ca</u>>, GC School of Arts and Social Science <<u>gcsass@mun.ca</u>>, GC School of Science and the Environment <<u>gcsse@mun.ca</u>>, GC School of Fine Arts <<u>gcsofa@mun.ca</u>>, <u>miugconsultations@mi.mun.ca</u> <<u>miugconsultations@mi.mun.ca</u>>, deanofsass <<u>deanofsass@mun.ca</u>>

Cc: engrECE < engr.ece@mun.ca>

Subject: Consultation request: Suppl. exams for PHYS 3000

The Department of Physics and Physical Oceanography is soliciting feedback on a proposal requesting that supplemental exams be offered for PHYS 3000, affecting section 8.1 of the Faculty of Science section of the calendar. The proposal will benefit students in both the Computer Engineering and Electrical Engineering programs who fail required course PHYS 3000 *Physics of Device Materials* but are unable to avail of the re-examination clause in their Promotion Regulations since PHYS 3000 is a course within the Faculty of Science and not within the Faculty of Engineering and Applied Science.

Please send comments to Ivan Saika-Voivod at saika@mun.ca.

Thank you,

Ivan Saika-Voivod, Professor Deputy Head (Undergraduate Studies) Department of Physics and Physical Oceanography, Memorial University of Newfoundland Tel: 709-864-8886, Fax: 709-864-8739, Rm C3026, <u>http://www.physics.mun.ca/~saika/</u>

Responses

From: Rose, Kathryn <kathrynr@mun.ca>
Date: Wednesday, November 13, 2024 at 9:28 AM
To: Saika-Voivod, Ivan <saika@mun.ca>
Subject: FW: Consultation request: Suppl. exams for PHYS 3000
Good Morning Ivan,

This change will have no impact on the library.

Kathryn

From: University Librarian <univlib@mun.ca>
Sent: November 13, 2024 9:27 AM
To: Rose, Kathryn <kathrynr@mun.ca>
Subject: FW: Consultation request: Suppl. exams for PHYS 3000

SHERI COOMBS MA | Decanal Assistant Memorial University Libraries L-2019A Queen Elizabeth II Library Memorial University | St. John's | Newfoundland | A1B 3Y1 T: 709.864.3862 E: <u>sheri.coombs@mun.ca</u> www.library.mun.ca

From: medvicedean <medvicedean@mun.ca>
Date: Wednesday, November 13, 2024 at 2:23 PM
To: Saika-Voivod, Ivan <saika@mun.ca>
Cc: Dean of Medicine : McKeen, Dr. Dolores <deanofmedicine@mun.ca>
Subject: Re: Consultation request: Suppl. exams for PHYS 3000
Hi Ivan,

On behalf of the Faculty of Medicine, there are no concerns with the proposed changes.

Thanks, Danielle

DANIELLE O'KEEFE MD CCFP FCFP MSc CCPE Vice Dean, Education and Faculty Affairs Associate Professor of Family Medicine

Faculty of Medicine Memorial University of Newfoundland Faculty of Medicine Building | Room M2M311 300 Prince Philip Drive St. John's, NL, Canada A1B 3V6 T 709 864 6289 | F 709 864 6336 www.mun.ca/medicine From: DeanNurse <<u>DeanNurse@mun.ca</u>> Date: Friday, November 15, 2024 at 10:55 AM To: Saika-Voivod, Ivan <<u>saika@mun.ca</u>> Subject: RE: Consultation request: Suppl. exams for PHYS 3000 Good morning.

Dr. Pike, our dean, tells me that she has reviewed the document and sees no implications for the Faculty of Nursing.

Thank you for your time, Jane

From: Bailey, Robert <rbailey00@mun.ca>
Date: Wednesday, November 20, 2024 at 10:28 AM
To: Saika-Voivod, Ivan <saika@mun.ca>
Cc: GC School of Science and the Environment <gcsse@mun.ca>, Parsons, Carolyn S <cparsons@mun.ca>
Subject: RE: Consultation request: Suppl. exams for PHYS 3000
Dear Ivan,

I have reviewed the proposal on behalf of the School of Science and the Environment at Grenfell Campus. There is no direct impact of this change on any of our courses or programs, and we are happy to support it.

Thank you for the opportunity to comment on this proposal.

Regards, Robert.

Dr. Robert Bailey Interim Dean, School of Science and the Environment Associate Professor, Mathematics Grenfell Campus, Memorial University Corner Brook, NL, Canada

Office: AS 3025 Phone: +1 (709) 637-7166 (*no voicemail available*) Email: <u>robert.bailey@mun.ca</u> From: assocdeancphss <<u>assocdeancphss@mun.ca</u>> Date: Thursday, November 21, 2024 at 3:24 PM To: Saika-Voivod, Ivan <<u>saika@mun.ca</u>> Subject: FW: Consultation request: Suppl. exams for PHYS 3000 No concerns from HSS

Patricia Dold (she/her) Associate Professor, Religious Studies Associate Dean, Curriculum and Programs Faculty of Humanities and Social Sciences St. John's Campus, Memorial University

From: McGrath, Gerona <geronam@mun.ca>
Date: Thursday, November 21, 2024 at 4:13 PM
To: Saika-Voivod, Ivan <saika@mun.ca>
Subject: RE: Consultation request: Suppl. exams for PHYS 3000
Thank you for the opportunity to review the proposed change to PHYS 3000 re: supplemental exams. There is no impact on the School of Pharmacy.

Gerona

RESOURCE IMPLICATIONS

Administrative overhead required for holding supplemental exams falls in the same category of deferred exams. No additional resources are required.

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Cover Page

Regulations Regarding Submission of Honours Theses to the Library

LIST OF CHANGES

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

- \Box New course(s):
- □ Amended or deleted course(s):
- \Box 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 Regulations

SECTION OF CALENDAR

Indicate the section of the Calendar impacted by the proposed change(s):

- □ Glossary of Terms Used in the Calendar
- □ Admission/Readmission to the University (Undergraduate)
- General Academic Regulations (Undergraduate)
- **X** Faculty of: *Faculty of Science*; 4 Degree Regulations; 4.5 Programs of Study for the Honours Degree of Bachelor of Science
- □ School of:
- Department of:
- □ Other:

RATIONALE

There are inconsistencies between the requirements for honours thesis submission between the Bachelor of Arts (Honours) and the Bachelor of Science (Honours) degrees. Notably, the Honours Degree of Bachelor of Science regulations specify a particular deadline for library submission of honours dissertation documents, which is currently "[...] before the Honours Degree is conferred. The deadline for the submission of an Honours dissertation shall be no later than three weeks before the end of the final semester of the student's program." No such specific deadline is indicated for the Honours Degree of Bachelor of Arts.

We propose revising the relevant section of the calendar to be consistent with current library policies. We have consulted with the library on the suggested wording (see below). Please note that we originally proposed revising the regulations for the Bachelor of Arts (Honours) dissertation submission with identical wording, but have removed this proposal upon receiving feedback from the dean of Humanities and Social Sciences, who indicated that their faculty will be reviewing regulations regarding their honours degrees.

ANTICIPATED EFFECTIVE DATE

2025-2026 University Calendar

CALENDAR CHANGES

Faculty of Science:

4.5.2 Comprehensive Examination and Dissertation

- 1. A candidate for the Honours Degree of Bachelor of Science shall complete one of the following options, at the discretion of the Head of each Major department:
 - a. the student shall pass a general comprehensive examination in the Major subject(s), or
 - b. the student shall submit a dissertation of a standard acceptable to the Head of each Major department, who shall also have the option of requiring the student to pass an oral examination thereon. The Honours dissertation shall be equivalent to either a 3 credit hour course or a 6 credit hour linked course, as specified in the course offerings of the Major department(s).
- 2. If a student is required to submit a dissertation, this dissertation must be submitted to the University Library by the department upon completion. before the Honours Degree is conferred. The deadline for the submission of an Honours dissertation shall be no later than three weeks before the end of the final semester of the student's program.
- 3. <u>A release form, signed by both the author and the Head of each Major</u> <u>department, must accompany a dissertation when it is submitted to the University</u> <u>Library.</u> All Honours dissertations in the University Library shall be available for unrestricted consultation by students and faculty except under very exceptional circumstances which must be approved by the Head of each the Major department <u>concerned</u>. Copyright remains with the author. A release form, signed by both the author and the Head of each Major department, must accompany a dissertation when it is submitted to the University Library.

CALENDAR ENTRY AFTER CHANGES

Faculty of Science:

4.5.2 Comprehensive Examination and Dissertation

- 2. A candidate for the Honours Degree of Bachelor of Science shall complete one of the following options, at the discretion of the Head of each Major department:
 - a. the student shall pass a general comprehensive examination in the Major subject(s), or
 - b. the student shall submit a dissertation of a standard acceptable to the Head of each Major department, who shall also have the option of requiring the student to pass an oral examination thereon. The Honours dissertation shall be equivalent to either a 3 credit hour course or a 6 credit hour linked course, as specified in the course offerings of the Major department(s).
- 2. If a student is required to submit a dissertation, this dissertation must be submitted to the University Library by the department upon completion. A release form, signed by both the author and the Head of each Major department, must accompany a dissertation when it is submitted to the University Library. All

Honours dissertations in the University Library shall be available for unrestricted consultation by students and faculty except under very exceptional circumstances which must be approved by the Head of the department concerned. Copyright remains with the author.

SECONDARY CALENDAR CHANGES

N/A

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Appendix Page

1. CONSULTATIONS SOUGHT

Academic Unit	Response Received
Humanities and Social Sciences	08 November 2024
Business Administration	01 November 2024
Education	
Engineering and Applied Science	16 October 2024
Human Kinetics and Recreation	
Marine Institute	
Medicine	
Music	
Nursing	
Pharmacy	07 October 2024
Science	
Biochemistry	
Biology	
Computer Science	
Earth Sciences	
Mathematics and Statistics	
Ocean Sciences	
Office of the Dean	
Physics and Physical Oceanography	
Psychology	
Social Work	07 October 2024

Library	
Grenfell - Arts and Social Science	07 October 2024
Grenfell - Science and the Environment	
Grenfell - Fine Arts	

2. REQUEST FOR FEEDBACK

From: Deputy Head, Department of Psychology <psychdeputyhead@mun.ca> Sent: October 4, 2024 3:45 PM

To: Faculty of Humanities and Social Sciences <hss@mun.ca>; Dean - Faculty of Business Administration <deanfba@mun.ca>; Dean of Education <educdean@mun.ca>; engrconsult@mun.ca; HKR Dean <hkrdean@mun.ca>; Dean of Medicine : McKeen, Dr. Dolores <deanofmedicine@mun.ca>; Karen Bulmer <kbulmer@mun.ca>; DeanNurse <DeanNurse@mun.ca>; pharminfo@mun.ca; Dean of Science <deansci@mun.ca>; adeanugradswk <adeanugradswk@mun.ca>; Libraries Hiring Panel <univlib@mun.ca>; GC School of Arts and Social Science <gcsass@mun.ca>; GC School of Science and the Environment <gcsse@mun.ca>; GC School of Fine Arts <gcsofa@mun.ca>; miugconsultations@mi.mun.ca; deanofsass <deanofsass@mun.ca> Cc: psyugradadvice@mun.ca; Head Psychology <psychhead@mun.ca>; Blandford, Stephanie Nicole <snblandford@mun.ca>

Subject: Department of Psychology Calendar Change Proposals for Consultation

Hello,

The Department of Psychology has approved several proposals for changes to the Undergraduate University Calendar Sections 11.12 and 13.12 pertaining to the Program Regulations and Courses managed by the Department. We are now requesting consultation within the broader University Community. All proposed changes have been compiled into one large document.

These proposals represent substantial changes to the Psychology program that will strengthen it. This will be accomplished by redressing challenges faced by students that can delay progress through their degrees, increasing the diversity of courses being offered by the Department, improving access to specific area knowledge for both Majors and non-Majors alike, and by making more efficient use of the Department's teaching resources. Implementing this suite of changes involves revising the Calendar regulations for degrees in Psychology and Behavioural Neuroscience, the creation of new course offerings, the amending and renumbering of current course offerings, and the deletion of inactive or now redundant course offerings.

At present, the program includes some bottlenecks in requirements that can lead to significant delays in degree completion for students who experience issues with one or more courses at the 2000 level. Additionally, Majors are not exposed to most area-specific content until the 3000 level, and some interesting course offerings have usage limitations for Majors, so that they only can be taken as electives. Lastly, multiple versions of similar content are offered, including one course for Majors and

one for non-Majors, a redundancy that does not make the most efficient use of the Department's teaching resources.

The revised program removes redundancies in instruction by eliminating the non-Majors version of several courses, and offering instead one combined course, which will also allow Majors to access more specific area content beginning at the 2000 level. Usage limitations on some course offerings have been removed, allowing them to now count towards students' Majors. New course offerings have been created for Majors at the 3000 level that will be offered on a rotating basis, and that improve the diversity of offerings in all areas of Psychology. The revised program also opens up additional courses at the 2000 level to broaden the offerings for Psychology Minors, including a few specific courses that are requirements for other programs (e.g. some Linguistics students require a course in Human Cognition for eligibility for graduate programs, but we have not offered such a course for non-Majors in well over a decade).

Overall, these changes will increase the Department of Psychology's capacity to continue providing its students with excellent educational opportunities.

Simultaneously, we are also proposing an unrelated amendment to Regulations surrounding submission of honours theses to the library. This proposal was made in consultation with the library, and would standardize wording between the BA (Honours) and BSc (Honours) regulations about thesis submission procedures.

The Department is asking that responses be forwarded by email to psychdeputyhead@mun.ca no later than November 8, 2024. If you have any questions regarding the proposals included, please get in touch with Kathleen Hourihan at psychdeputyhead@mun.ca.

Best, -Kathleen Hourihan -------Kathleen L. Hourihan, PhD (she/her) Associate Professor Department of Psychology Memorial University of Newfoundland (709) 864-8771

3. RESPONSES RELEVANT TO THIS SECTION

a. Library

Initial informal consultation with the library was sought prior to proposing the change. The library provided the specific wording used when proposing that the relevant text be made identical for both faculties.

"[...] Given those comments, we suggest consistent wording for both B.A. and B.Sc. regulations:

A copy of the Honours dissertation must be submitted to the University Library by the department upon completion. A release form, signed by both the author and the Head of each Major department, must accompany a dissertation when it is submitted to the University Library. All Honours dissertations in the University Library shall be available for viewing except under very exceptional circumstances, which must be approved by the Head of the department concerned. Copyright remains with the author."

b. Faculty of Business Administration

From: Miskell, Michelle <mmiskell@mun.ca>

Sent: October 7, 2024 6:39 PM [Forwarded to PSYC 01 Nov)

To: busicugs <busicugs@mun.ca>; Furey, Mary A <mfurey@mun.ca>; Coady, Peggy
<pacoady@mun.ca>; jcumby@mun.ca; skomiak@mun.ca; Lorne Sulsky <lsulsky@mun.ca>; Shannahan,
Kirby <kirbys@mun.ca>; Pauline A. Downer <pdowner@mun.ca>; Registrar, Faculty of Business
Administration <business_registrar@mun.ca>; Skanes, Heather <hskanes@mun.ca>;
rwnoseworthy@mun.ca; kestaubitzer@mun.ca; alexandradh@mun.ca
Subject: RE: Consultation request. Department of Psychology Calendar Change Proposals

Good day Committee,

I have reservations about one change in this extensive proposal, described on pages 33/34 of this document.

The author notes that regulations about submission of the honours dissertation in the Faculty of HSS are not in line with the regulations about submission of the honours dissertation in the Faculty of Science. This is an issue for the Dept of Psych as students can complete a major in psyc as either an Arts degree or a Science degree. So I can see how they want to have these regulations match.

However, they are suggesting eliminating the regulation that students must submit their dissertation no later than three weeks before the end of the final semester of the student's program. In practice, this falls on the last day of the week in the second to last week of classes. In my many years with Earth

Sciences, this is the regulation that we leaned on to ensure that both students (and supervisors!) completed the thesis before the last day of classes, it was examined before the exam period began, and the student then had two weeks to make corrections and submit the final thesis on the last day of the exam period. With this practice in place, a grade would not be submitted for the student until the final, corrected version was in hand, ready to be submitted to the Center for Newfoundland Studies at the QEII Library. Almost twenty years ago we leaned on this regulation to cut down on students/supervisors going way over whatever arbitrary deadline was given, causing issues with graduation, and ensuring that students didn't end up writing masters theses. When this regulation is put into practice, it ensures that a final grade for a thesis is submitted within the deadlines prescribed by the Registrar's Office for final grades, the supervisor/department and library all have a completed copy of the thesis before the student graduates, and the volume of work that is completed is suitable for the undergraduate level. When appropriate, an INC grade can be used for students who have extenuating circumstances.

Instead of removing this regulation from the Faculty of Science, it makes more sense to me to add it to the Faculty of HSS regulations.

Furthermore, it makes sense to consult with the CNS at the QEII regarding the other part of the Faculty of Science regulation concerning when the thesis must be submitted to the library. I note that the author is proposing the part of the regulations that states it should be submitted "before the degree is conferred" should be struck. I also disagree with this or the same reasons as above. However, I have a feeling that the CNS does not put this into practice. So if they aren't actually checking this, then what's the point of having the reg in the calendar. It would be interesting to know their position on this.

Thank you for the opportunity to consider this proposal.

Best wishes,

Michelle

Michelle Miskell (she/her) | Manager of Academic Programs

Faculty of Business Administration Memorial University of Newfoundland St. John's, Newfoundland, Canada A1B 3X5 T 709 864 2369 | Room BN 1015

C. Faculty of Humanities and Social Sciences

From: assocdeancphss <assocdeancphss@mun.ca>
Sent: Friday, November 8, 2024 7:19 PM
To: Deputy Head, Department of Psychology <psychdeputyhead@mun.ca>
Cc: Simonson, Kathryn <kathryns@mun.ca>
Subject: FW: Department of Psychology Calendar Change Proposals for Consultation

Dear Colleagues,

I regret to report that technical problems with outlook email delayed the delivery of this proposal to me for review until October 28. We have taken what steps we can to help avoid such delays in the future.

Clearly, a tremendous amount of work has gone into the present proposal. HSS does have concerns:

1. On behalf of the Faculty of Humanities and Social Sciences, I must object to the changes proposed to the HSS regulations under 6.4.3. Either the department of Psychology or the Library, or both, should have brought the proposed changes to the HSS Dean's office when Psychology undertook preliminary consultations.

HSS will undertake its own review of its Honours regulations beginning as soon as possible and we will take into account the Library's recommendations and the benefits of consistency across various units' honours regulations. HSS has 15 department, most of which offer honours programs. I cannot approve changes to general regulations under these circumstances.

I must, with all due respect for the work of Psychology here, insist that the proposed changes to HSS sections of the Calendar be removed from the proposal.

- I am also concerned about the impact of the proposed changes to existing courses on inprogram students and the various academic advisors and Registrar's Office staff who will have to help these students complete their degrees. There appears to be no advice for in-program students on how to navigate, for example, the shifting of 2000 level courses to 3000s and 3000s to 4000 level.
- 3. I do not know if the size of the proposal caused delays in delivery by email. Regardless, I have been operating on the assumption that Registrar's and Senate and its committees, preferred separate proposals, at least for courses, program, and regulation changes. I would ask the Senate Committee on Undergraduate Studies to clarify preferred procedures.

Thank you for the opportunity to review.

Patricia Dold

Patricia Dold (she/her) Associate Professor, Religious Studies Associate Dean, Curriculum and Programs Faculty of Humanities and Social Sciences St. John's Campus, Memorial University



Department of Psychology Proposed Calendar Changes

Contents	2
Part I: Program Regulations	3
1.Program Regulations	4
2. Appendix: Consultations, Responses, Resource Implications	43
Part II: New Courses	44
1.New Large Lecture-Based PSYC Courses	46
2. New Restricted PSYC Courses at Advanced Levels	72
3. Appendix: Consultations, Responses, Resource Implications	131
Part III: Amended Courses	132
1.Amendments to PSYC Courses Being Renumbered	134
2.Amendments to PSYC Courses Having PRs Renumbered	137
3.Amendments to PSYC Courses Being Renumbered, PRs Revised	140
4.Amendments to PSYC Course Being Renumbered and Now Allowed for PSYC Major	146
5.Amendments to PSYC Courses Changing to 2000 Level and Changing PRs	152
6.Amendments to PSYC Courses Changing to 3000 Level and Updating PRs	158
7.Amendments to PSYC Courses Removing PSYC 2520/2521 and Adding PSYC 2910 as PRs	163
8.Amendments to PSYC Courses Adding PSYC 2910, 2911, 2X21, and 2930 to PR	166
9.Amendment to PSYC 2010 Biological and Cognitive Development	200
10.Unique Amendment to PSYC Courses	202
11. Appendix: Consultations, Responses, Resource Implications	209
Part IV: Deleted Courses	210
1.Deletion of Inactive PSYC Courses	212
2.Deletion of Active PSYC Course	215
3.Deletion of Non-Restricted PSYC Courses Being Combined with Restricted Courses	216
4.Deletion of Now Redundant PSYC Courses	218
5. Appendix: Consultations, Responses, Resource Implications	220
Part V: Consultations, Correspondence, And Resource Implications	221
1.Consultations Sought	222
2.Request for Feedback	223
3.Responses	225
4. Resource Implications	231
5. Library Report	232

Contents

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form

Part I: Program Regulations

- 1. Changes to Program Regulations
- 2. Appendix Page

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

1.Program Regulations

PROGRAM TITLE

11.12 Psychology

RATIONALE

This is a substantial change to the structure of the Psychology program. The current program includes some bottlenecks in requirements that can lead to significant delays in degree completion for students who experience issues with one or more courses at the 2000 level. It also does not make the most efficient use of teaching resources as multiple versions of similar content are offered, including one course for Majors and one for non-Majors. Also, Majors also are not exposed to most area-specific content until the 3000 level, and some interesting course offerings have usage limitations for Majors, so that they only can be taken as electives.

The revised program will remove redundancies in instruction by eliminating the non-Majors version of several courses, and instead offering one combined course. This will allow Majors to access more specific area content beginning at the 2000 level, and will remove usage limitations for some course offerings that previously could only be used as electives for Majors. The above will allow for the creation of new course offerings for Majors at the 3000 level, which will be offered on a rotation basis, and will improve the diversity of offerings in all areas of Psychology. The revised program also opens up additional courses at the 2000 level to broaden the offerings for Psychology Minors, including a few specific courses that are requirements for other programs (e.g., some Linguistics students require a course in Human Cognition for eligibility for graduate programs; we previously had not offered such a course for non-Majors in well over a decade).

ANTICIPATED EFFECTIVE DATE

2025-2026 Academic Calendar

CALENDAR CHANGES

11.12.3 Admission to Honours Programs

The Honours programs in the Department of Psychology are designed for students who would like to concentrate their studies or pursue graduate work. Students who wish to be admitted to these programs must submit an application to the Department of Psychology by March 15th for Fall semester registration. This form is available on the Department of Psychology website in the Winter semester. To be eligible for admission, students must have successfully completed Psychology 2910, 2911, 2520 or 2521, and 2930, and 3910; and a minimum of 12 credit hours in Psychology <u>2X21 major</u> (restricted) courses; and a minimum of 9 credit hours in Psychology courses at or above the 3000 level, including at least 3 credit hours in 3X5X courses at the 3000- or 4000-level by the end of the semester in which the student is applying; and have obtained in these courses a grade of "B" or better, or an average of 75% or higher.

Students who fulfill the eligibility requirements compete for a limited number of available spaces. Selection is based on <u>securing a thesis supervisor and</u> academic performance in the above major courses. Once <u>Selected students can enroll in Psychology 499A only after securing a their</u> thesis supervisor <u>is confirmed by the</u>, and providing confirmation of supervision to the Academic Program Officer <u>or Deputy Head</u>, <u>Undergraduate</u>.

Note:

Students are strongly advised to enroll in Psychology 3900 in the 3rd year of their program, i.e., in the academic year prior to beginning Psychology 499A.

Students are advised to consult the Bachelor of Arts (Honours) Degree Regulations or Degree Regulations for the Honours Degree of Bachelor of Science, as appropriate.

11.12.4 Requirements for a Major in Psychology

Students completing this program cannot receive credit for Psychology 2920. Students who intend to pursue graduate studies should take courses leading to the Honours degree. Regular meetings with the Academic Program Officer are also strongly recommended.

- Students may Major in Psychology as part of either a B.A. or a B.Sc. program, and should consult the Degree Regulations for the General Degree of Bachelor of Science or the Degree Regulations for the General Degree of Bachelor of Arts, as appropriate. All Majors are required to complete a minimum of 42 credit hours of Psychology as listed below:
 - a. Psychology 1000, 1001, 2520 (or 2521), 2910, 2911, 2930.

- b. <u>Twelve credits hours in any Psychology 2X21.</u>
- c. Twelve credit hours in Psychology chosen from the following: 3050, 3100, the former PSYC 3250, 3251, 3350, 3450, 3620, 3650, 3750, or one of 3800, 3810, 3820, 3830, 3840 or 3860. Nine credit hours of Psychology courses at the 3000-level, including at least three credit hours in any Psychology 3X5X, and an additional six credit hours in any 3000-level course in Psychology other than 3550, with no more than three credit hours in any 385X courses.
- d. Twelve <u>Six</u> credit hours of 4000-level courses in Psychology, of which at least one must be a research experience course (4X7X) and one must be a selected topics or a seminar course (4X5X).
- 2. Psychology Majors following the B.Sc. program are also required to successfully complete the following:
- a. Mathematics 1000 (or equivalent), <u>Mathematics 1006</u> or Statistics 1500, or two of Mathematics 1090, 1050, 1051 (or equivalent).
- b. Biology 1001 and 1002.
- c. Either Chemistry 1050 and 1051 (or 1200 and 1001 or 1010 and the former 1011); or Physics 1020 (or 1050) and 1021 (or 1051).

Note:

First year students should think carefully about whether Chemistry or Physics best suits their future program needs. Students should examine the prerequisites for upper-level science courses and attempt to take them in their first year.

d. Six credit hours of laboratory courses at the 2000 level or above in one of Biology, Chemistry, Computer Science, Human Biosciences, Ocean Sciences or Physics. Students are advised to consult the Course Descriptions section of the Calendar for their chosen lab courses to ensure pre-requisites are met.

Note:

Biology/Psychology 3750, and 4701, and Biology 3053 cannot be used to satisfy the requirement of 6 laboratory credit hours at the 2000 level or above.

3. Psychology Majors following the B.A. program are also required to successfully complete Mathematics 1000 (or equivalent), <u>Mathematics 1006</u>, or Statistics 1500, or two of Mathematics 1090, 1050, 1051 (or equivalent), and are encouraged to complete at least 6 credit hours in Biology.

11.12.5 Requirements for Honours in Psychology

Students completing this program cannot receive credit for Psychology 2920.

- Honours students in Psychology should consult Degree Regulations for the Honours Degree of Bachelor of Science or Bachelor of Arts (Honours) Degree Regulations as appropriate. All Honours students are required to successfully complete the 660 credit hours of Psychology as listed below:
- a. Psychology 1000, 1001, 2520 (or 2521), 2910, 2911, 2930, <u>3550, 3991</u>0, 4910, 499A/B
- b. Fifteen credit hours in any Psychology 2X21.
- c. Eighteen credit hours chosen from the alternatives listed in Clause 1. b. of the requirements for a Major in Psychology <u>A minimum of six credit hours in any</u> <u>Psychology 3X5X, and an additional nine credit hours in any 3000-level course in</u> <u>Psychology other than 3550 or 3910, with no more than three credit hours in any 385X courses.</u>
- d. Twelve <u>Nine</u> credit hours of 4000-level courses in Psychology, <u>not including</u> <u>499A/B</u>, of which at least one must be a research experience course (4X7X) and one two must be a selected topics or a seminar courses.
- Honours students must also successfully complete the requirements listed in either Clause 2. or Clause 3., as applicable, of the requirements for a Major in Psychology.
- 3. Honours students will be required to submit in their graduating year, an undergraduate thesis (Psychology 499A/B) which demonstrates their competence in Experimental Psychology.
- 4. The overall evaluation of the Honours dissertation (i.e. the Psychology 499A/B grading evaluation) will result in one of the following grades being awarded:

Pass: Indicates performance meets expectations in the formal written report and in classwork.

Fail: Indicates failing performance in the formal written report and/or the classwork.

11.12.6 Requirements for a Major in Behavioural Neuroscience (B.Sc. Only)

Students completing this program cannot receive credit for Psychology 2920.

A program is offered in the Psychology Department to provide an education in Behavioural Neuroscience. Students planning to enroll in the program are advised to consult with the Head of the Department <u>Academic Program Officer</u> at the earliest opportunity because certain course choices may restrict later options. Students who intend to pursue graduate studies should take courses leading to the Honours degree.

As a component of the Degree Regulations for the General Degree of Bachelor of Science, the program for a Major in Behavioural Neuroscience shall include:

1. a. Psychology 1000, 1001, 2521 <u>2822</u>, 2910, 2911, 2930, 3800, 3820<u>2</u>, and one of 381<u>5</u>0, 38<u>3051</u>, 3840<u>52</u>, or 38<u>6053</u>.

b. Three credit hours in <u>any</u> Psychology <u>2X21 except 2821</u>. chosen from the following: 3050, 3100, the former 3250, 3251, 3350, 3450, 3620, 3650, 3750.

c. Any research experience course (4X7X) and one of Psychology 4250, 4251, 4850, 4851, 4852, 4853, or 4854.

2. a. Mathematics 1000 (or equivalent), <u>Mathematics 1006</u>, or Statistics 1500, or two of Mathematics 1090, 1050, 1051 (or equivalent).

b. Chemistry 1050 and 1051 (or 1200 and 1001).

- c. Physics 1020 (or 1050) and 1021 (or 1051).
- e. Biology 1001 and 1002.
- f. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses.
- 3. Eighteen credit hours from the following courses chosen from at least two different sciences:
 - a. Biology: Any 2000-, 3000-, or 4000-level course except 2040, 2041, 2120, 3053, or 3820.
 - b. Chemistry: 2100, 2210, 2301 (or the former Chemistry 2300), 2302, 2400, 2401, 2610, or any 3000 or 4000 level mathematics course.
 - c. Computer Science: Any 2000, 3000, or 4000 level course except the former 2650 and the former 2801.
 - d. Human Biosciences: Any 2000-, 3000-, or 4000-level course except the former Biochemistry 2000, 2005, 2010, 2011, 3202, 3402, or 4502.
 - e. Ocean Sciences: any 2000-, 3000-, or 4000-level course.

- f. Mathematics: 2000, 2050, 2051, 2260, 2320, or any 3000 or 4000 level mathematics course.
- g. Medicine 310A/B.
- h. Physics: Any 2000, 3000, or 4000 level course except 2150, 2151, 3150, 3151.

Notes:

- 1. Credit may not be obtained for both Biology 3750 and Psychology 3750 <u>2721</u> or for both Biology 4701 and Psychology 4701.
- 2. The courses listed under Clause 3 may have prerequisites. It is the student's responsibility to ensure that all prerequisites have been met, or that waivers have been obtained, before registering for these courses.
- 3. <u>When selecting a Psychology 2X21 course to fulfill Clause 1b above, students</u> <u>should consider the prerequisite requirements for their research experience</u> <u>requirement in Clause 1c.</u>

11.12.7 Requirements for Honours in Behavioural Neuroscience (B.Sc. Only)

Students in Behavioural Neuroscience should consult Degree Regulations for the Honours Degree of Bachelor of Science. Students completing this program cannot receive credit for Psychology 2920.

- 1. Honours students in Behavioural Neuroscience are required to successfully complete the following Psychology courses:
- a. Psychology 1000, 1001, 2521 <u>2822</u>, 2910, 2911, 2930, 3800, 38202, 39<u>1</u>00, and one of 3850, 3851, 3852, or 3853.
- b. Three credit hours chosen from the following: the former 3250, 3810<u>51</u>, 3830<u>51</u>, 3840<u>52</u>, or 3860<u>53</u>.
- b. Three credit hours in <u>any</u> Psychology <u>2X21, except 2821</u>. chosen from the following: 3050, 3100, 3251, 3350, 3450, 3650, 3650, 3750.
- c. Any research experience course (4X7X) and one of Psychology 4250, 4251, 4850, 4851, 4852, 4853, or 4854.
- d. Psychology 499A/B, an undergraduate thesis to be submitted in their graduating year.

- 2. Honours students in Behavioural Neuroscience must also successfully complete the requirements listed in Clauses 2. and 3. of the requirements for a Major in Behavioural Neuroscience.
- 3. In accordance with Academic Standing under the Degree Regulations for the Honours Degree of Bachelor of Science, Honours students must obtain a grade of "B" or better, or an average of 75% or higher in all the required courses listed in Clauses 1. and 3. of the requirements for a major in Behavioural Neuroscience and Clause 1 of the requirements for honours in Behavioural Neuroscience, except those at the 1000 level.

Notes:

 Non-Psychology courses taken to fulfill the requirements of this Clause for a major in Behavioural Neuroscience are used to calculate eligibility for Honours standing.
 When selecting a Psychology 2X21 course to fulfill Clause 1b above, students should consider the prerequisite requirements for their research experience requirement in Clause 1c.

11.12.9.2 Program of Study

In addition to the requirements below students must fulfill all requirements for either a Major in Psychology (B.A.), a Major in Psychology (B.Sc.), Major in Behavioural Neuroscience, Honours in Psychology (B.A.), Honours in Psychology (B.Sc.), or Honours in Behavioural Neuroscience. Courses in each program are normally taken in blocks as shown in the appropriate program table. Students should consult with a faculty advisor each semester regarding course selection.

Students' status in the program is assessed at the end of each semester. To remain in PCOP, students must receive a passing grade in all required courses, and must maintain an average of at least 65% in all Psychology courses and a cumulative average of at least 65%. A student who fails a required course, fails to maintain an average of 65% in Psychology courses, or fails to maintain a cumulative average of 65%, will be required to withdraw from PCOP. The student in question may apply for readmission in a subsequent year after passing the specified required course(s) previously failed, or re-establishing the required average.

Students are required to successfully complete three work terms.

11.12.10 Suggested Course Sequences Work Term Schedule

<u>Course patterns may vary. Students are encouraged to meet with the undergraduate</u> <u>coordinator early in their program in order to establish a course pattern that meets the</u> <u>requirements as set out in these regulations.</u>

<u>Term:</u>	<u>Fall</u>	<u>Winter</u>	<u>Spring</u>
<u>Year 1</u>	<u>AT 1</u>	<u>AT 2</u>	-
<u>Year 2</u>	<u>AT 3</u>	<u>AT 4</u>	<u>WT 1</u>
<u>Year 3</u>	<u>AT 5</u>	<u>AT 6</u>	<u>WT 2</u>
<u>Year 4</u>	<u>AT 7</u>	<u>WT 3</u>	-
<u>Year 5</u>	<u>AT 8</u>	-	-
<u>AT = Academic Term; WT = Work Term</u>			

11.12.10 Suggested Course Sequences

The tables below show suggested course sequences for the B.A. in Psychology (Co-operative), the B.Sc. in Psychology (Co-operative), the B.A. Honours in Psychology (Co-operative), the B.Sc. Honours in Psychology (Co-operative), the B.Sc. in Behavioural Neuroscience (Co-operative), and the B.Sc. Honours in Behavioural Neuroscience (Co-operative).

Course patterns may vary. Students are encouraged to meet with the undergraduate coordinator early in their program in order to establish a course pattern that meets the requirements as set out in these regulations.

Suggested Course Sequence for B.A. in Psychology (Co-operative)

Term	Suggested Courses
Fall Semester 4	Critical Reading and Writing requirement Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement Mathematics-1000 or one of Mathematics-1090, 1050, 1051 Psychology-1000
Winter Semester 2	Critical Reading and Writing requirement Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement One of Mathematics 1000, 1090, 1050 or 1051 (Psychology Majors are required to successfully complete Mathematics 1000 or two of 1090, 1050, 1051 (or equivalent). An Elective or Humanities and Social Sciences requirement can be taken if Mathematics 1000 was taken in Semester 1.) Psychology-1001

Term	Suggested Courses
Fall Semester 3	Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement Psychology 2520 or 2930 Psychology 2910
Winter Semester 4	Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement Psychology 2911 Psychology 2930 or 2520
Spring Work Term 1	Psychology-199W
Fall Semester 5	Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement Psychology 3000-Level Core Psychology 3000-Level Core
Winter Semester 6	Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement Psychology 3000-Level Core Psychology 3000-Level Core
Spring Work Term 2	Psychology 299W
Fall Semester 7	Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement Psychology 4000-Level Psychology Selected Topics course
Winter Work Term 3	Psychology 399W
Fall Semester 8	Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement Psychology 4000-Level Psychology Research Experience course

Suggested Course Sequence for B.A. in Psychology (Co-operative)

Suggested Course Sequence for B.Sc. in Psychology (Co-operative)

Term	Suggested Courses
Term	Suggested Courses
Fall Semester 1	Biology 1001 Chemistry 1010 (or 1050) or Physics 1020 (or 1050) (Students registered in Physics 1050 must also be registered in Mathematics 1000 (not 1090)). Critical Reading and Writing requirement Mathematics 1090 or 1000 Psychology 1000
Winter Semester 2	Biology 1002 the former Chemistry 1011 (or 1051) or Physics 1021 (or 1051) Critical Reading and Writing requirement Mathematics 1000 or Elective or Science requirement Psychology 1001
Fall Semester 3	Biology, Chemistry, or Physics Lab Course Elective or Science requirement Elective or Science requirement Psychology 2520 or 2930 Psychology 2910
Winter Semester 4	Biology, Chemistry, or Physics Lab Course Elective or Science requirement Elective or Science requirement Psychology-2911 Psychology-2930 or 2520
Spring Work Term 1	Psychology 199W
Fall Semester 5	Elective or Science requirement Elective or Science requirement Elective or Science requirement Psychology 3000-Level Core Psychology 3000-Level Core
Winter Semester 6	Elective or Science requirement Elective or Science requirement Elective or Science requirement Psychology 3000-Level Core Psychology 3000-Level Core
Spring Work Term 2	Psychology 299W
Fall	Elective or Science requirement

Suggested Course Sequence for B.A. in Psychology (Co-operative)

Term	Suggested Courses
Semester 7	Elective or Science requirement Elective or Science requirement Psychology 4000-Level Psychology Selected Topics
Winter Work Term 3	Psychology 399W
Fall Semester 8	Elective or Science requirement Elective or Science requirement Elective or Science requirement Psychology 4000-Level Psychology Research Experience

Suggested Course Sequence for B.A. in Psychology (Co-operative)

Suggested Course Sequence for B.A. (Honours) in Psychology (Co-operative)

Term	Suggested Courses
Fall Semester 1	Critical Reading and Writing requirement B.A. Language Study requirement Elective or Humanities and Social Sciences requirement Mathematics 1000 or one of Mathematics 1090, 1050, 1051 Psychology 1000
Winter Semester 2	Critical Reading and Writing requirement B.A. Language Study requirement Elective or Humanities and Social Sciences requirement One of Mathematics 1000, 1090, 1050 or 1051 (Psychology Majors are required to successfully complete Mathematics 1000 or two of 1090, 1050, 1051 (or equivalent). An Elective or Humanities and Social Sciences requirement can be taken if Mathematics 1000 was taken in Semester 1.) Psychology 1001
Fall Semester 3	Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement Psychology 2520 or 2930 Psychology 2910
Winter Semester 4	Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement Psychology 2911 Psychology 2930 or 2520
Spring	Psychology 199W

Term	Suggested Courses
Work Term 1	
Fall Semester 5	Elective or Humanities and Social Sciences requirement Psychology 3000-Level Core Psychology 3000-Level Core Psychology 3000-Level Core Psychology 3900
Winter Semester 6	Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement Psychology 3000-Level Core Psychology Research Experience course Psychology 4910
Spring Work Term 2	Psychology 299W
Fall Semester 7	Elective or Humanities and Social Sciences requirement Psychology 3000-Level Core Psychology 4000-Level Core Psychology Selected Topics course Psychology 499A
Winter Work Term 3	Psychology 399W
Spring (Optional)	Psychology 499A or 499B
Fall Semester 8	Elective or Humanities and Social Sciences requirement Elective or Humanities and Social Sciences requirement Psychology 3000-Level Core Psychology 4000-Level Core Psychology 499B

Suggested Course Sequence for B.A. (Honours) in Psychology (Co-operative)

Suggested Course Sequence for B.Sc. (Honours) in Psychology (Co-operative)

Term	Suggested Courses
Fall Semester 1 -	Biology 1001 Chemistry 1010 (or 1050) or Physics 1020 (or 1050) (Students registered in Physics 1050 must also be registered in Mathematics 1000 (not 1090)). Critical Reading and Writing requirement Mathematics 1090 or Mathematics 1000 Psychology 1000

Term	Suggested Courses
Winter Semester 2 -	Biology 1002 the former Chemistry 1011 (or 1051) or Physics 1021 (or 1051) Critical Reading and Writing requirement Mathematics 1000 or Elective or Science requirement Psychology 1001
Fall Semester 3 -	Biology, Chemistry, or Physics Lab Course Elective or Science requirement Elective or Science requirement Psychology 2520 or 2930 Psychology 2910
Winter Semester 4 -	Biology, Chemistry, or Physics Lab Course Elective or Science requirement Elective or Science requirement Psychology 2911 Psychology 2930 or 2520
Spring Work Term 1 -	Psychology 199W
Fall Semester 5 -	Elective or Science requirement Elective or Science requirement Psychology 3000-Level Core Psychology 3000-Level Core Psychology 3900-
Winter Semester 6 -	Elective or Science requirement Psychology 3000-Level Core Psychology 3000-Level Core Psychology Research Experience Psychology 4910-
Spring Work Term 2 -	Psychology 299W-
Fall Semester 7 -	Elective or Science requirement Psychology 3000-Level Core Psychology 4000-Level Psychology Selected Topics Psychology 499A-
Winter Work Term 3	Psychology 399W-

Suggested Course Sequence for B.A. (Honours) in Psychology (Co-operative)

Term	Suggested Courses
-	
Spring (Optional)	Psychology 499A or 499B
Fall Semester 8 -	Elective or Science requirement Elective or Science requirement Psychology 3000-Level Core Psychology 4000-Level Core Psychology 499B-

Suggested Course Sequence for B.A. (Honours) in Psychology (Co-operative)

Suggested Course Sequence for B.Sc. in Behavioural Neuroscience (Co-operative)

Term	Suggested Courses
Fall Semester 1	Biology 1001 or Physics 1020 (or 1050) (Students registered in Physics 1050 must also be registered in Mathematics 1000 (not 1090)). Chemistry 1050 (or 1200) Critical Reading and Writing requirement Mathematics 1090 or Mathematics 1000 Psychology 1000
Winter Semester 2	Biology 1002 or Physics 1021 (or 1051) Chemistry 1051 (or 1001) Critical Reading and Writing requirement Mathematics 1000 or Mathematics 1001 Psychology 1001
Fall Semester 3	BHNR Requirement 1 (BHNR Requirement 1-6 specified in clause 3, Requirements for a Major in Behavioural Neuroscience (B.Sc. Only)). Elective or Science requirement Physics 1020 (or 1050) or Biology 1001 (Students registered in Physics 1050 must also be registered in Mathematics 1000 (not 1090)). Psychology 2521 or 2930 Psychology 2910
Winter Semester 4	BHNR Requirement 2 (BHNR Requirement 1-6 specified in clause 3, Requirements for a Major in Behavioural Neuroscience (B.Sc. Only)). Physics-1021 (or 1051) or Biology 1002 Mathematics 1001 or Elective or Science requirement Psychology 2911 Psychology 2930 or 2521
Spring Work Term 1	Psychology 199W

Term	Suggested Courses
Fall Semester 5	BHNR Requirement 3 (BHNR Requirement 1-6 specified in clause 3, Requirements for a Major in Behavioural Neuroscience (B.Sc. Only)). Elective or Science requirement Elective or Science requirement Psychology 3810, 3830, 3840, or 3860 Psychology 3800
Winter Semester 6	BHNR Requirement 4 (BHNR Requirement 1-6 specified in clause 3, Requirements for a Major in Behavioural Neuroscience (B.Sc. Only)). Elective or Science requirement Elective or Science requirement Psychology 3000-Level Core Psychology 3820
Spring Work Term 2	Psychology 299W
Fall Semester 7	BHNR Requirement 5 (BHNR Requirement 1-6 specified in clause 3, Requirements for a Major in Behavioural Neuroscience (B.Sc. Only)). Elective or Science requirement Elective or Science requirement Elective or Science requirement Psychology Research Experience course
Winter Work Term 3	Psychology 399W
Fall Semester 8	BHNR Requirement 6 (BHNR Requirement 1-6 specified in clause 3, Requirements for a Major in Behavioural Neuroscience (B.Sc. Only)). Elective or Science requirement Elective or Science requirement Elective or Science requirement Psychology Selected Topics course

Suggested Course Sequence for B.Sc. in Behavioural Neuroscience (Co-operative)

Suggested Course Sequence for B.Sc. (Honours) in Behavioural Neuroscience (Co-operative)

Term	Suggested Courses
Fall Semester 1 -	Biology 1001 or Physics 1020 (or 1050) (Students registered in Physics 1050 must also be registered in Mathematics 1000 (not 1090)). Chemistry 1050 (or 1200) Critical Reading and Writing requirement Mathematics 1090 or 1000 Psychology 1000-
Winter Semester 2 -	Biology 1002 or Physics 1021 (or 1051) Chemistry 1051 (or 1001) Critical Reading and Writing requirement

Term	Suggested Courses
	Mathematics 1000 or 1001 Psychology 1001
Fall Semester 3 -	BHNR Requirement 1 (BHNR Requirement 1-6 specified in clause 3, Requirements for a Major in Behavioural Neuroscience (B.Sc. Only)). Elective or Science requirement Physics 1020 (or 1050) or Biology 1001(Students registered in Physics 1050 must also be registered in Mathematics 1000 (not 1090)). Psychology 2521 or 2930 Psychology 2910-
Winter Semester 4 -	BHNR Requirement 2 (BHNR Requirement 1-6 specified in clause 3, Requirements for a Major in Behavioural Neuroscience (B.Sc. Only)). Mathematics 1001 or Elective or Science requirement Physics 1021 (or 1051) or Biology 1002 Psychology 2911 Psychology 2930 or 2521-
Spring Work Term 1 -	Psychology-199W-
Fall Semester 5 -	BHNR Requirement 3 (BHNR Requirement 1-6 specified in clause 3, Requirements for a Major in Behavioural Neuroscience (B.Sc. Only)). Elective or Science requirement Psychology 3810, 3830, 3840, or 3860 Psychology 3800 Psychology 3900-
Winter Semester 6 -	BHNR Requirement 4 (BHNR Requirement 1-6 specified in clause 3, Requirements for a Major in Behavioural Neuroscience (B.Sc. Only)). Elective or Science requirement Elective or Science requirement Psychology 3000-level core Psychology 3820-
Spring Work Term 2 -	Psychology 299W
Fall Semester 7 -	BHNR Requirement 5 (BHNR Requirement 1-6 specified in clause 3, Requirements for a Major in Behavioural Neuroscience (B.Sc. Only)). Elective or Science requirement Elective or Science requirement Psychology Research Experience course Psychology 499A-

Suggested Course Sequence for B.Sc. in Behavioural Neuroscience (Co-operative)

Term	Suggested Courses
Winter Work Term 3 -	Psychology-399W-
Spring (Optional)	Psychology 499A or 499B
Fall Semester 8 -	BHNR Requirement 6 (BHNR Requirement 1-6 specified in clause 3, Requirements for a Major in Behavioural Neuroscience (B.Sc. Only)). Elective or Science requirement Elective or Science requirement Psychology Selected Topics course Psychology 499B-

Suggested Course Sequence for B.Sc. in Behavioural Neuroscience (Co-operative)

13.12.1 Non-Restricted Courses

These courses are open to all students who have the appropriate prerequisites. Students who intend to major in Psychology should note the credit restrictions for PSYC 2010, 2100, 2440, 2610, 2810, 2920, and 3640 as taking any of these courses will reduce options in the Majors program

CALENDAR ENTRY AFTER CHANGES

11.12.3 Admission to Honours Programs

The Honours programs in the Department of Psychology are designed for students who would like to concentrate their studies or pursue graduate work. Students who wish to be admitted to these programs must submit an application to the Department of Psychology by March 15th for Fall semester registration. This form is available on the Department of Psychology website in the Winter semester. To be eligible for admission, students must have successfully completed Psychology 2910, 2911, 2930, and 3910; a minimum of 12 credit hours in Psychology 2X21 courses; and a minimum of 9 credit hours in Psychology courses at or above the 3000 level, including at least 3 credit hours in 3X5X courses by the end of the semester in which the student is applying; and have obtained in these courses a grade of "B" or better, or an average of 75% or higher.

Students who fulfill the eligibility requirements compete for a limited number of available spaces. Selection is based on securing a thesis supervisor and academic performance in the above major courses. Selected students can enroll in Psychology 499A only after their thesis supervisor is confirmed by the Academic Program Officer or Deputy Head, Undergraduate.

Note: Students are advised to consult the Bachelor of Arts (Honours) Degree Regulations or Degree Regulations for the Honours Degree of Bachelor of Science, as appropriate.

11.12.4 Requirements for a Major in Psychology

Students completing this program cannot receive credit for Psychology 2920. Students who intend to pursue graduate studies should take courses leading to the Honours degree. Regular meetings with the Academic Program Officer are also strongly recommended.

- Students may Major in Psychology as part of either a B.A. or a B.Sc. program, and should consult the Degree Regulations for the General Degree of Bachelor of Science or the Degree Regulations for the General Degree of Bachelor of Arts, as appropriate. All Majors are required to complete a minimum of 42 credit hours of Psychology as listed below:
- a. Psychology 1000, 1001, 2910, 2911, 2930.
 - b. Twelve credits hours in any Psychology 2X21.
 - c. Nine credit hours of Psychology courses at the 3000-level, including at least three credit hours in any Psychology 3X5X, and an additional six credit hours

in any 3000-level course in Psychology other than 3550, with no more than three credit hours in any 385X courses.

- d. Six credit hours of 4000-level courses in Psychology, of which one must be a research experience course (4X7X) and one must be a selected topics or a seminar course (4X5X).
- 2. Psychology Majors following the B.Sc. program are also required to successfully complete the following:
- a. Mathematics 1000 (or equivalent), Mathematics 1006, or Statistics 1500, or two of Mathematics 1090, 1050, 1051 (or equivalent).
- b. Biology 1001 and 1002.
- c. Either Chemistry 1050 and 1051 (or 1200 and 1001 or 1010 and the former 1011); or Physics 1020 (or 1050) and 1021 (or 1051).

Note:

First year students should think carefully about whether Chemistry or Physics best suits their future program needs. Students should examine the prerequisites for upper-level science courses and attempt to take them in their first year.

d. Six credit hours of laboratory courses at the 2000 level or above in one of Biology, Chemistry, Computer Science, Human Biosciences, Ocean Sciences or Physics. Students are advised to consult the Course Descriptions section of the Calendar for their chosen lab courses to ensure pre-requisites are met.

Note:

Biology 3750, 4701, and 3053 cannot be used to satisfy the requirement of 6 laboratory credit hours at the 2000 level or above.

 Psychology Majors following the B.A. program are also required to successfully complete Mathematics 1000 (or equivalent), Mathematics 1006, or Statistics 1500, or two of Mathematics 1090, 1050, 1051 (or equivalent), and are encouraged to complete at least 6 credit hours in Biology.

11.12.5 Requirements for Honours in Psychology

Students completing this program cannot receive credit for Psychology 2920.

1. Honours students in Psychology should consult Degree Regulations for the Honours Degree of Bachelor of Science or Bachelor of Arts (Honours) Degree Regulations as appropriate. All Honours students are required to successfully complete the 66 credit hours of Psychology as listed below:
- a. Psychology 1000, 1001, 2910, 2911, 2930, 3910, 3550, 499A/B
- b. Fifteen credit hours in any Psychology 2X21.
- c. A minimum of six credit hours in any Psychology 3X5X, and an additional nine credit hours in any 3000-level course in Psychology other than 3910 or 3550, with no more than three credit hours in any 385X courses.
- d. Nine credit hours of 4000-level courses in Psychology, not including 499A/B, of which one must be a research experience course (4X7X) and two must be selected topics or seminar courses.
- Honours students must also successfully complete the requirements listed in either Clause 2. or Clause 3., as applicable, of the requirements for a Major in Psychology.
- 3. Honours students will be required to submit in their graduating year, an undergraduate thesis (Psychology 499A/B) which demonstrates their competence in Experimental Psychology.
- 4. The overall evaluation of the Honours dissertation (i.e. the Psychology 499A/B grading evaluation) will result in one of the following grades being awarded:

Pass: Indicates performance meets expectations in the formal written report and in classwork.

Fail: Indicates failing performance in the formal written report and/or the classwork.

11.12.6 Requirements for a Major in Behavioural Neuroscience (B.Sc. Only)

Students completing this program cannot receive credit for Psychology 2920.

A program is offered in the Psychology Department to provide an education in Behavioural Neuroscience. Students planning to enroll in the program are advised to consult with the Academic Program Officer at the earliest opportunity because certain course choices may restrict later options. Students who intend to pursue graduate studies should take courses leading to the Honours degree.

As a component of the Degree Regulations for the General Degree of Bachelor of Science, the program for a Major in Behavioural Neuroscience shall include:

- 1. a. Psychology 1000, 1001, 2822, 2910, 2911, 2930, 3800, 3802, and one of 3850, 3851, 3852, or 3853.
 - b. Three credit hours in any Psychology 2X21 except 2821.

c. Any research experience course (4X7X) and one of Psychology 4250, 4251, 4850, 4851, 4852, 4853, or 4854.

2. a. Mathematics 1000 (or equivalent), Mathematics 1006, or Statistics 1500, or two of Mathematics 1090, 1050, 1051 (or equivalent).

b. Chemistry 1050 and 1051 (or 1200 and 1001).

- c. Physics 1020 (or 1050) and 1021 (or 1051).
- d. Biology 1001 and 1002.
- e. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses.
- Eighteen credit hours from the following courses chosen from at least two different sciences:
- Biology: Any 2000-, 3000-, or 4000-level course except 2040, 2041, 2120, 3053, or 3820.
- b. Chemistry: 2100, 2210, 2301 (or the former Chemistry 2300), 2302, 2400, 2401, 2610, or any 3000 or 4000 level mathematics course.
- c. Computer Science: Any 2000, 3000, or 4000 level course except the former 2650 and the former 2801.
- d. Human Biosciences: Any 2000-, 3000-, or 4000-level course except the former Biochemistry 2000, 2005, 2010, 2011, 3202, 3402, or 4502.
- e. Ocean Sciences: any 2000-, 3000-, or 4000-level course.
- f. Mathematics: 2000, 2050, 2051, 2260, 2320, or any 3000 or 4000 level mathematics course.
- g. Medicine 310A/B.
- h. Physics: Any 2000, 3000, or 4000 level course except 2150, 2151, 3150, 3151.

Notes:

- 1. Credit may not be obtained for both Biology 3750 and Psychology 2721.
- 2. The courses listed under Clause 3 may have prerequisites. It is the student's responsibility to ensure that all prerequisites have been met, or that waivers have been obtained, before registering for these courses.

3. When selecting a Psychology 2X21 course to fulfill clause 1b above, students should consider the prerequisite requirements for their research experience requirement in clause 1c.

11.12.7 Requirements for Honours in Behavioural Neuroscience (B.Sc. Only)

Students in Behavioural Neuroscience should consult Degree Regulations for the Honours Degree of Bachelor of Science. Students completing this program cannot receive credit for Psychology 2920.

- 1. Honours students in Behavioural Neuroscience are required to successfully complete the following Psychology courses:
- a. Psychology 1000, 1001, 2822, 2910, 2911, 2930, 3800, 3802, 3910, and one of 3850, 3851, 3852, or 3853.
- b. Three credit hours in any Psychology 2X21, except 2821
- c. Any research experience course (4X7X) and one of Psychology 4250, 4251, 4850, 4851, 4852, 4853, or 4854.
- d. Psychology 499A/B, an undergraduate thesis to be submitted in their graduating year.
- 2. Honours students in Behavioural Neuroscience must also successfully complete the requirements listed in Clauses 2. and 3. of the requirements for a Major in Behavioural Neuroscience.
- 3. In accordance with Academic Standing under the Degree Regulations for the Honours Degree of Bachelor of Science, Honours students must obtain a grade of "B" or better, or an average of 75% or higher in all the required courses listed in Clauses 1. and 3. of the requirements for a major in Behavioural Neuroscience and Clause 1 of the requirements for honours in Behavioural Neuroscience, except those at the 1000 level.

Notes:

- Non-Psychology courses taken to fulfill the requirements of this Clause for a major in Behavioural Neuroscience are used to calculate eligibility for Honours standing.
- 2. When selecting a Psychology 2X21 course to fulfill clause 1b above, students should consider the prerequisite requirements for their research experience requirement in clause 1c.

11.12.9.2 Program of Study

In addition to the requirements below students must fulfill all requirements for either a Major in Psychology (B.A.), a Major in Psychology (B.Sc.), Major in Behavioural Neuroscience, Honours in Psychology (B.A.), Honours in Psychology (B.Sc.), or Honours in Behavioural Neuroscience. Students should consult with a faculty advisor each semester regarding course selection.

Students' status in the program is assessed at the end of each semester. To remain in PCOP, students must receive a passing grade in all required courses, and must maintain an average of at least 65% in all Psychology courses and a cumulative average of at least 65%. A student who fails a required course, fails to maintain an average of 65% in Psychology courses, or fails to maintain a cumulative average of 65%, will be required to withdraw from PCOP. The student in question may apply for readmission in a subsequent year after passing the specified required course(s) previously failed, or re-establishing the required average.

Students are required to successfully complete three work terms.

11.12.10 Suggested Work Term Schedule

Course patterns may vary. Students are encouraged to meet with the undergraduate coordinator early in their program in order to establish a course pattern that meets the requirements as set out in these regulations.

Term:	Fall	Winter	Spring
Year 1	AT 1	AT 2	
Year 2	AT 3	AT 4	WT 1
Year 3	AT 5	AT 6	WT 2
Year 4	AT 7	WT 3	
Year 5	AT 8		
AT = Academic Term; WT = Work Term			

13.12.1 Non-Restricted Courses

These courses are open to all students who have the appropriate prerequisites.

SECONDARY CALENDAR CHANGES

Faculty of Science

10.2.6 Biochemistry and Psychology (Behavioural Neuroscience) Joint Honours

Note: The last year of admission into the Biochemistry and Psychology (Behavioural Neuroscience) joint honours program will be in 2023-2024 academic year. In 2024-2025 and beyond, students who are entering the third year of study may apply for the joint honours program in Human Biosciences and Psychology (Behavioural Neuroscience).

Note:

Students completing this program cannot receive credit for Psychology 2920.

The following courses (or equivalent) are required to complete the 120 credit hours in courses required for the degree:

- 1. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses;
- 2. Chemistry 1050 and 1051 (or 1200 and 1001), Biology 1001 and 1002, Mathematics 1000 and 1001, Physics 1050, (or 1020), 1051 (or 1021);
- 3. Biochemistry 2200 (or 2100), 2201, 2901, 3105, 3206;
- 4. Either Biochemistry 3108 and 3207, or Medicine 310A/B;
- 5. 9 credit hours to be selected from Biochemistry 3906 or 3907, 4002, 4101, 4102, 4103, 4104, 4105, 4200, 4201, 4210 or 4211, 4230, 4231, 4232-4239;
- 6. Psychology 1000, 1001, 2521 <u>2822</u>, 2910, 2911, 2930, 3800, 382002, 39<u>1</u>00;
- 7. Three credit hours in Psychology chosen from the following: the former PSYC 3250, 3810, 3830, 3840, or 3860 3850, 3851, 3852, 3853;

- 8. Three credit hours in <u>any</u> Psychology <u>2X21 course, except 2821, or Psychology</u> <u>3251 or 3350;</u> chosen from the following: 3050, 3100, 3251, 3350, 3450, 3620, 3650, 3750;
- 9. Any Psychology research experience course and one of Psychology 4850, 4851, 4852, 4853, or 4854;
- 10. Either Biochemistry 499A/B or Psychology 499A/B; and
- 11. Chemistry 2301, 2400, 2401.

Notes:

As provided for under the Graduation Requirements for the Honours Degree of Bachelor of Science, Honours students must obtain a grade of "B" or better, or an average of 75% or higher in all the required courses listed in Clauses 3. - 10. above, except those at the 1000 level.

Students in first year intending to follow this program should note the regulations for admission to Major programs in Psychology and that the deadline for submission of a completed application form to the Department of Psychology is June 1 for the Fall semester.

10.2.7 Biochemistry (Nutrition) and Psychology (Behavioural Neuroscience) Joint Honours

Note: The last year of admission into the Biochemistry (Nutrition) and Psychology (Behavioural Neuroscience) joint honours program will be in 2023-2024 academic year. In 2024-2025 and beyond, students who are entering the third year of study may apply for the joint honours program in Human Biosciences and Psychology (Behavioural Neuroscience).

Note:

Students completing this program cannot receive credit for Psychology 2920.

- 1. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses;
- 2. Chemistry 1050 and 1051 (or 1200 and 1001), Biology 1001 and 1002, Mathematics 1000, Physics 1020 or 1050, and 1021 (or 1051);

- Biochemistry 2200 (or 2100), 2201, 2600, 2901, 3203, 3206, 3906, Medicine 310A/B, 4300, 4301, 4502;
- 4. Three credit hours chosen from: Biochemistry 3052, 3108, 3402, 3600, 4002, 4105, 4200, 4230, 4231, 4240, 4241-4249, Biology 3050;
- 5. Psychology 1000, 1001, 2521 <u>2822</u>, 2910, 2911, 2930, 3800, 38<u>0</u>20, 39<u>1</u>00;
- 6. Three credit hours in <u>any</u> Psychology <u>385X</u> course chosen from the following: the former 3250, 3810, 3830, 3840, or 3860;
- 7. Three credit hours in <u>any</u> Psychology <u>2X21 course except 2821, or Psychology</u> <u>3251 or 3350</u> chosen from the following: <u>3050</u>, <u>3100</u>, <u>3251</u>, <u>3350</u>, <u>3450</u>, <u>3620</u>, <u>3650</u>, <u>3750</u>;
- 8. Any Psychology research experience course and one of Psychology 4850, 4851, 4852, 4853, or 4854;
- 9. Either Biochemistry 499A/B or Psychology 499A/B;
- 10. Chemistry 2400; and
- 11. Other courses to complete at least the prescribed minimum of 120 credit hours in courses for the Joint Honours Degree.

Notes:

- As provided for under the Graduation Requirements for the Honours Degree of Bachelor of Science, Honours students must obtain a grade of "B" or better, or an average of 75% or higher in all the required courses listed in Clauses 3. - 9. above, except those at the 1000 level.
- Students in first year intending to follow this program should note the regulations as outlined for admission to Major programs in Psychology and that the deadline for submission of a completed application form to the Department of Psychology is June 1 for the Fall semester.

10.2.9 Biology and Psychology Joint Honours

Note: Students completing this program cannot receive credit for Psychology 2920.

- Biology 1001, 1002, 2060, 2250, 2600, 2900; one of 3401, 3402, or 4404; four Biology electives at the 2000, 3000 or 4000 level not including Biology 499A or 499B.
- Psychology 1000, 1001, 2520 2821 (or 2521 2822), 2910, 2911, 2930, one of the former PSYC 3250, 3800, 3810, 3830, 3840, or 3860 three credit hours in any Psychology 385X; 39100, 3550 4910; one of the following: 3050, 3100, 3251, 3350, 3450, 3620, 3650 three credit hours in any other Psychology 2X21 course, except 2821, or Psychology 3251 or 3350; one further 4000 level Psychology research experience course.
- 3. Biology <u>3750</u> or Psychology <u>2721</u> 3750, <u>Biology</u> 4701, <u>Biology or Psychology</u> 499A/B.
- 4. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses.
- Mathematics 1000; Chemistry 1050 (or 1200), 1051 (or 1001), and 2400; Physics 1020 (or 1050) and 1021 (or 1051); Human Biosciences 2001 or the former Biochemistry 2101 or 2201 and Human Biosciences 2003 or the former Biochemistry 3106 or 3206.
- 6. Other courses, if necessary, to complete at least 120 credit hours of courses.
- 10.2.10 Biology and Psychology (Behavioural Neuroscience) Joint Honours

Note:

Students completing this program cannot receive credit for Psychology 2920.

- 1. Biology 1001, 1002, 2060, 2250, 2600, 2900; one of 3401, 3402, or 4404; five Biology electives at the 2000, 3000 or 4000 level not including Biology 499A or 499B.
- Psychology 1000, 1001, 2521–2822, 2910, 2911, 2930; one of the former PSYC 3250, 3810, 3830, 3840, or 3860; 3800, 38021, 39100; three credit hours in any 385X course; one further course in Psychology chosen from the following: 3050, 3100, 3251, 3350, 3450, 3620, 3650, 3750; three credit hours in any other Psychology 2X21 course except 2821, or Psychology 3251 or 3350; any

research experience course and one of Psychology <u>4250, 4251, 4850, 4851, 4852, 4853</u>, or 4854.

- 3. Biology or Psychology 499A/B.
- 4. Human Biosciences 2001 or the former Biochemistry 2101 or 2201, Human Biosciences 2003 or the former Biochemistry 3106 or 3206.
- 5. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses.
- Mathematics 1000 (or equivalent); Physics 1020 (or 1050) and 1021 (or 1051); Chemistry 1050 (or 1200), 1051 (or 1001), and 2400.
- 7. Other courses, if necessary, to complete at least 120 credit hours of courses.

Note:

As provided for under the Graduation Requirements for the Honours Degree of Bachelor of Science, Honours students must obtain a grade of "B" or better, OR average of 75% or higher in all the required courses listed in Clauses 1, 2, 3, and 4 above, except those at the 1000 level.

10.2.24 Human Biosciences and Psychology (Behavioural Neuroscience) Joint Honours

Note: Students completing this program cannot receive credit for Psychology 2920.

- 1. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses;
- 2. Chemistry 1050, 1051 (or 1200 and 1001), Biology 1001 and 1002, Mathematics 1006 (or equivalent);
- 3. Human Biosciences 2001 (or the former Biochemistry 2101 or 2201), 2002 (or the former Biochemistry 2600), 2003 (or the former Biochemistry 3206), 2004 (or the former Biochemistry 2100 or 2200), 2901, 3004, and Medicine 310A/B;

- An additional 15 credit hours to be selected from Human Biosciences 3001, 3002, 3003, 3101, 3906 or 3907, 4002, 4101, 4102, 4104, 4200, 4201, 4230, 4231, 4232;
- 5. Human Biosciences 4800 (Capstone);
- 6. Psychology 1000, 1001, 2521 2822, 2910, 2911, 2930, 3800, 38020, 39100;
- 7. Three credit hours in any Psychology <u>385X course</u> chosen from the following: the former PSYC 3250, 3810, 3830, 3840, or 3860;
- Three credit hours in <u>any other</u> Psychology chosen from the following: 3050, 3100, 3251, 3350, 3450, 3620, 3650, 3750; 2X21 course except 2821, or Psychology 3251 or 3350
- 9. Any Psychology research experience course and one of Psychology <u>4250, 4251,</u> 4850, 4851, 4852, 4853, or 4854;
- 10. Human Biosciences 499A/B or Psychology 499A/B; and
- 11. Chemistry 2400.

Students in first year intending to follow this program should note the regulations for admission to Major programs in Psychology and that the deadline for submission of a completed application form to the Department of Psychology is June 1 for the Fall semester.

Faculty of Humanities and Social Sciences

8.6.4 Regulations for the Certificate in Criminology

Elective Courses for the Certificate in Criminology

Criminology 2200 or the former Police Studies 2200, Criminology 2400 or the former Police Studies 1000 or the former Police Studies 2000, Criminology 3100 or the former Police Studies 3100, Criminology 4212 or the former Police Studies 4212 or Sociology 4212

Criminology 3306 or Sociology 3306 or the former Police Studies 3306, Criminology 4080 or Sociology 4080 or the former Police Studies 4080, Criminology 4099 or Sociology 4099 or the former Police Studies 4099, Criminology 4212 or Sociology 4212 or the former Police Studies 4212

Law and Society 1000 or the former Law and Society 2000

Law and Public Policy 3315 (or the former LWSO 3015), Law and Public Policy 3620 or Political Science 3620, Law and Public Policy 3820 or Political Science 3820, Law and Public Policy 3825 or Political Science 3825 (or the former LWSO 2000), Law and Public Policy 3830 or Political Science 3830 (or the former LWSO 3830), Law and Public Policy 4630

Psychology 2150-3120, 2800-3822, 2621 one of 3640 or 3650

8.6.5 Approved Course Substitutions for the Certificate in Criminology

Psychology 3626 (Grenfell) may be substituted for Psychology 2621 3640 or 3650.

15.18.9.4 Regulations for the Major in Criminology

- 1. A Major in Criminology consists of all of the requirements of the Bachelor of Arts program, including a minimum of 42 credit hours in courses as follows, which must include a minimum of 27 credit hours in Criminology courses:
 - a. 21 credit hours in:
 - Criminology 1001 or Sociology 1001 (or the former Sociology 2300 or Police Studies 2300);

- Criminology 2400 (or the former Police Studies 1000 or the former Police Studies 2000);
- iii. Criminology 2200 (or the former Police Studies 2200);
- iv. Criminology 3000 (or the former Police Studies 3000);
- v. Criminology 3100 (or the former Police Studies 3100) or Law and Public Policy 3315 (or the former Law and Society 3015);
- vi. Criminology 3500 (or the former Police Studies 3500);
- vii. Criminology 3395 (or the former Police Studies 3395) or Sociology 3395
- b. 6 credit hours in two of Criminology 4000 (or the former Police Studies 4000), Criminology 4001 (or the former Police Studies 4001), Criminology 4080 or Sociology 4080, Criminology 4099 (or the former Police Studies 4099) or Sociology 4099, Criminology 4212 (or the former Police Studies 4212) or Sociology 4212;
- c. 3 credit hours in one of Law and Society 1000, the former Law and Society 2000, Sociology 2100, or an additional 3 credit hours in Criminology at any level (excluding credit hours used to fulfill other requirements listed here);
- d. 3 credit hours in one of Political Science 3010, Statistics 2500, Sociology 3040, or Sociology 3041;
- e. 3 credit hours in one of Criminology 3290 or Sociology 3290;
 Criminology 3306 (or the former Police Studies 3306) or Sociology 3306;
 or the former Law and Society 3400;
- f. 3 credit hours in one of Archaeology 2492 or Psychology 2150 3120; and

- g. 3 credit hours in one of Anthropology 2414, History 2800, the former Law and Society 3012, Law and Public Policy 3830 (or the former Law and Society 3830), Sociology 3180, or Sociology 4205.
- 2. A student is expected to enroll in the Criminology section of any applicable crosslisted courses.
- 3. As per the Degree Regulations, Major Program of Study, students completing a Major in Criminology are ineligible for an interdisciplinary Minor in any program. Credit hours in a course cannot be used to fulfill the requirements of two Major programs, of both a Major and a Minor program, or the program requirements of all three of a Major, diploma and certificate.
- 4. Students cannot complete both a major and minor in criminology, a major and certificate in criminology, and/or a minor and certificate in criminology.

Students may wish to follow the pattern for the Major in Criminology listed under Suggested Course Pattern for a Major in Criminology (CRIM) below.

Level	Courses	Required or Elective Courses
1000 CRIM/Sociology	Sociology 1000 Criminology 1001 or Sociology 1001 (or the former Sociology 2300 or the former Police Studies 2300)	All courses required
Other 1000 and 2000, or any Criminology	3 credit hours in Criminology at any level (excluding otherwise-noted) Law and Society 1000	3 credit hours required

Suggested Courses for a Major in Criminology (CRIM)

Suggested Courses for a Major in Criminology (CRIM)

Level	Courses	Required or Elective Courses
	the former Law and Society 2000 Sociology 2100	
2000 <u>and 3000</u> Forensics	Archaeology 2492 Psychology 2150 - <u>3120</u>	3 credit hours required
2000 and 3000 Criminology	Criminology 2400 (or the former Police Studies 1000 or the former Police Studies 2000) Criminology 2200 (or the former Police Studies 2200) Criminology 3000 (or the former Police Studies 3000) Criminology 3100 (or the former Police Studies 3100) Criminology 3500 (or the former Police Studies 3500 Criminology 3395 (or the former Police Studies 3395) or Sociology 3395	All courses required
2000 and 3000 Methods	Political Science 3010 Sociology 3040 Sociology 3041 Statistics 2500	3 credit hours required
Other 3000	Criminology 3290 or Sociology 3290 Criminology 3306 (or the former Police Studies 3306) or Sociology 3306	3 credit hours required

Suggested Courses for a Major in Criminology (CRIM)

Level	Courses	Required or Elective Courses
	Law and Public Policy 3315 (or the former Law and Society 3015) Law and Public Policy 3620 or Political Science 3620 (or the former Political Science 3521) the former Law and Society 3400 Law and Public Policy 3825 or Political Science 3825 (or the former Law and Society 2000)	
2000 to 4000 Indigenous/Ethnicity	Anthropology 2414 History 2800 the former Law and Society 3012 Law and Public Policy 3830 or Political Science 3830 (or the former Law and Society 3830) Sociology 3180 Sociology 4205	3 credit hours required
4000	Criminology 4000 (or the former Police Studies 4000) Criminology 4001 (or the former Police Studies 4001) Criminology 4080 or Sociology 4080 Criminology 4099 (or the former Police Studies 4099) or Sociology 4099 Criminology 4212 (or the former Police Studies 4212) or Sociology 4212	6 credit hours required

Suggested Courses for a Major in Criminology (CRIM)

Level	Courses	Required or Elective Courses
4000 Policy	Law and Public Policy 4630 or Political Science 4630	

15.18.10 Minor in Criminology

For a Minor in Criminology, students must complete at least 27 credit hours in Criminology and other designated courses from relevant disciplines as follows:

- Sociology 1000 (or the former Sociology 2000); Criminology 1001 or Sociology 1001 (or the former Sociology 2300 or the former Police Studies 2300); Law and Society 1000; Criminology 3290 or Sociology 3290; and Criminology 3395 or Sociology 3395 (or the former Police Studies 3395).
- Any one of Sociology 3040; Sociology 3041, Political Science 3010, or Statistics 2500.
- At least 3 credit hours at the 2000-level chosen from the following courses: Criminology 2200, Criminology 2400, Criminology 2208 or Sociology 2208, Psychology <u>2621-2150</u>, <u>Psychology 2800</u>, Archaeology 2492, Sociology 2100; or other courses approved by the Criminology Undergraduate Program Director as listed in Elective Courses for the Minor in Criminology.
- At least 3 credit hours at the 3000-level chosen from the following courses: Criminology 3000 or the former Police Studies 3000, Criminology 3100 or the former Police Studies 3100, Criminology 3500 or the former Police Studies 3500,

Psychology <u>3120</u>, Psychology <u>3822</u>, 3640, or Political Science 3620 or Law and Public Policy 3620 (or the former Political Science 3521), or other courses approved by the Criminology Undergraduate Program Director as listed in Elective Courses for the Minor in Criminology.

5. At least 3 credit hours at the 4000 level chosen from the following courses: Criminology 4000, Criminology 4001, Criminology 4099 or Sociology 4099, Criminology 4212 or Sociology 4212, Sociology 4210, or other courses approved by the Criminology Undergraduate Program Director as listed in Elective Courses for the Minor in Criminology.

Credit hours in a course cannot be used to fulfill the requirements of both a Major and a Minor program, or the program requirements of all three of a Major or Minor, diploma, and Certificate.

Elective Courses for the Minor in Criminology (CRIM)

Level	Courses
2000	Anthropology 2414 Archaeology 2492 Criminology 2200 Criminology 2208 or Sociology 2208 Criminology 2400 History 2800 the former Law and Society 2000 Psychology <u>2150 2621</u> Psychology <u>2800</u> Sociology 2100
3000	Criminology 3000 or the former Police Studies 3000

Elective Courses for the Minor in Criminology (CRIM)

Level	Courses
	Criminology 3100 or the former Police Studies 3100
	Criminology 3306 or Sociology 3306
	Criminology 3500 or the former Police Studies 3500
	the former Law and Society 3012
	Law and Public Policy 3315 (or the former Law and Society 3015)
	Law and Public Policy 3620 or Political Science 3620 (or the former Political Science 3521)
	the former Law and Society 3400
	Law and Public Policy 3825 or Political Science 3825 (or the former Law and Society 2000)
	Law and Public Policy 3830 or Political Science 3830 (or the former Law and Society 3830)
	Psychology <u>3640-3120</u>
	Psychology 3822
	Sociology 3180
4000	Criminology 4000
	Criminology 4001
	Criminology 4080 or Sociology 4080
	Criminology 4099 or Sociology 4099
	Criminology 4212 or Sociology 4212
	Law and Public Policy 4630 or Political Science 4630
	Sociology 4210

School of Human Kinetics and Recreation

6.1 Bachelor of Human Kinetics and Recreation (Co-operative)

6.1.1 Optional Pathways

Bachelor of Human Kinetics and Recreation (Co-operative) Optional Pathways

Community Recreation	Health Promotion	Kinesiology	Therapeutic Recreation
HKR 2100 HKR 2505 HKR 2515 HKR 2545 HKR 2585 HKR 3100 HKR 3535 HKR 4485	HKR 2505 HKR 2515 HKR 2585 HKR 3535 HKR 3575 HKR 4485 3 credit hours from Sociology at the 2000 level or above	HKR 2340 HKR 2600 HKR 2703 HKR 3300 HKR 3310 HKR 3320 HKR 4702 HKR 4703	HKR 2505 HKR 2515 HKR 2585 HKR 3485 HKR 3515 HKR 3685 HKR 3785 HKR 4485 HKR 4785 Psychology 3640 <u>2621</u>

6.4 Bachelor of Recreation

Bachelor of Recreation

Required Non-HKR Courses (24 Credit Hours)	Required HKR Courses (54 Credit Hours)	Elective Courses (42 Credit Hours)
3 credit hours in a Critical Reading and Writing (CRW) designated course English 1090 or 1000	HKR 2000 HKR 2100 HKR 2300	42 credit hours of elective courses of which 30 credit hours must be at the 2000 level or above: 15-18 credit hours in HKR elective courses at the 2000 level or above

Bachelor of Recreation

Required Non-HKR Courses (24 Credit Hours)	Required HKR Courses (54 Credit Hours)	Elective Courses (42 Credit Hours)
Geography 1050	HKR 2500	24-27 credit hours in non-HKR elective courses.
Psychology 1000, 1001	HKR 2505	Optional Minor
Sociology 1000	HKR 2515	In completing the minor students must follow the
3 credit hours in Sociology at the	HKR 2545	minor program regulations listed under the appropriate Faculty or School.
2000 level	HKR 2585 Optional Therapeutic Re	Optional Therapeutic Recreation Concentration
Statistics 2550 or equivalent	HKR 3100	Students interested in pursuing a therapeutic
	HKR 3340	recreation concentration shall normally complete the
	HKR 3400 above:	above:
	HKR 3515	HKR 2311, or 2310 and 2320
	HKR 3535	HKR 3485 or 3685
	HKR 3555	Psychology 3640 - <u>2621</u>
	HKR 3575 or 3785	
	HKR 4485	
	HKR 4575 or 4685	
	HKR 4600	

2. Appendix: Consultations, Responses, Resource Implications

CONSULTATIONS SOUGHT

As per standard Appendix Page. See **Part V: Consultations and Correspondence** for master list of consultees and text of their responses.

RESOURCE IMPLICATIONS

There are no resource implications for these proposed changes. As we planned our program re-design, we aimed for changes that would be feasible with our existing teaching resources. We have proposed new courses to be added to our offerings, but these will be phased in over time, and on a rotation basis.

For the first year of the new program (2025-2026 academic year), the number of courses we offer will be comparable to the current (2024-2025 academic year) to support students completing the old program as well as newly admitted majors beginning the new program. One notable change in the new program is that would be offering more larger size courses to both majors and non-majors, including combining some majors and non-majors offering on similar topics into one course offering. Another key resource factor is that the new program reduces the number of 4000 level credit hours required for Majors. Nearly all 4000 level Psychology courses are smaller in capacity (20 students), so reducing the number of these courses that are required will allow teaching resources to be allocated elsewhere.

By the third year of the new program (2027-2028 academic year), nearly all students following the current program will likely have graduated, and we can therefore offer fewer individual 4000 level small seminar courses, and instead focus teaching resources on our newly proposed 40-person Majors courses.

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Cover Page

Part II: New Courses

- 1. New Large Lecture-Based PSYC Courses
- 2. New Restricted PSYC Courses at Advanced Level
- 3. Appendix Page

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:

X New course(s):

- \Box Deleted course(s):
- □ New program(s):
- \Box 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)
- □ 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

1.New Large Lecture-Based PSYC Courses

COURSE NUMBERS AND TITLES

- i. PSYC 3020: Adolescent Development
- ii. PSYC 3420: Embodied Minds

RATIONALE

The addition of these courses will broaden the course offerings available to anyone who wishes to take additional Psychology courses beyond the 1000 level, including Psychology and Behavioural Neuroscience Majors. These courses will be larger lecture-based course offerings open to any students who have completed the pre-requisites, and present specialized topics in developmental psychology (PSYC 3020) and cognitive psychology (PSYC 3420) at an accessible level.

ANTICIPATED EFFECTIVE DATE

Fall 2025

LIBRARY REPORT FOR SECTION Extracted from Part V.5 Library Report.

"With respect to new course proposals, Memorial Libraries is well positioned to support each of the new courses proposed under existing budget allocations and with minimal reliance on document delivery. Students opting to take any of these courses should have access to more than adequate primary and secondary research material where "library research" is a course requirement. Memorial Libraries highly recommends that course readings outside of those provided in the course textbooks be made available to students via our Course Reserves system to ensure that license and copyright requirements are met to provide seamless access. Consultation on reading lists and how the Library can provide research support is welcome at any time."

See each course entry for specific course-related feedback.

i. PSYC 3020: Adolescent Development

ABBREVIATED COURSE TITLE

Adolescent Development

CALENDAR CHANGES

13.12.1 Non-Restricted Courses

PSYC 3020: Adolescent Development

explores the understanding of adolescents and young adults from the perspective of developmental psychology. Topics may include (but are not limited to) physical development, advanced cognitive development, identity development, social development, moral development, sexuality, adolescent psychological disorders, and social problems.

PR: PSYC 1000, PSYC 1001

CALENDAR ENTRY AFTER CHANGES

PSYC 3020: Adolescent Development

explores the understanding of adolescents and young adults from the perspective of developmental psychology. Topics may include (but are not limited to) physical development, advanced cognitive development, identity development, social development, moral development, sexuality, adolescent psychological disorders, and social problems.

PR: PSYC 1000, PSYC 1001

LIBRARY REPORT

Extracted from Part V.5 Library Report.

"PSYC 3020: Adolescent Development The topic is well supported by Memorial Libraries under existing budget allocations."

RESOURCE IMPLICATIONS

None. As part of our larger set of program revisions, this course will be offered on a rotation basis along with other similarly structured courses (i.e., larger lecture courses that only require PSYC 1000 and/or PSYC 1001 as PR, open to both Majors and non-Majors), potentially in one semester in alternate years. Offering this course will not

require any additional teaching resources, but will be assigned to the regular teaching load for department faculty.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS

All people in the developmental area (Drs. Drover, Hallett, and Peterson) could teach this course, as well as Dr. Cheryll Fitzpatrick and Dr. Felix Ayesu.

Please see proposed syllabus below.

Course Outline

Psychology 3020

Adolescent Development

Fall Semester 2025/26

PREREQUISITES: PSYC 1000 AND PSYC 1001

TEXTBOOK: Steinberg, L. (2022). Adolesence (13th Ed.). New York: McGraw-Hill.

OVERVIEW: This course provides an overview of physical, cognitive and emotional development in adolescence. As this is a course in developmental psychology, the focus is not just on what happens in adolescence, but the processes that explain how we progress from adolescents to adulthood. This is why we call this area is better called "developmental" psychology and not just "child" psychology.

EXTRA CREDIT FOR RESEARCH PARTICIPATION: This class is part of the Psychology Research Experience Pool (PREP), which means you may choose to participate in psychology experiments for bonus credit points. You may earn up to 3% bonus marks for your final grade in this course via PREP. You may view a list of available research experiences at http://mun.sona-systems.com. You will see a link to create a new account. You must use your @mun.ca email address for your PREP account. When you login to the system the first time, you will be provided with some background information on your rights and responsibilities as a student in PREP. Please make sure you read this information (it is available to review at any time in the FAQ section of the website).

It is your choice whether or not to participate in any study. If you do not wish to participate in any studies, you have the option of completing an alternative written assignment to earn the bonus credit points. Each assignment is worth one credit point, and you may choose to do as many assignments as you wish, up to the maximum of 3 credit points. You may also choose to earn your bonus credit points with a combination of study participation and alternative written assignment(s)- the choice is yours. Please contact the PREP administrator (psych@mun.ca) for more information on the alternative assignment—do not ask your course instructor.

Finally, you should know that I, as your course instructor, have very limited access to PREP records. The only information I will be able to access is the total number of credit points earned by students in this course. I do not have access to which studies students have participated in, and will not be able to tell

whether you have earned credit points from Research Participation, Research Observation, or from completing the alternative assignment. If you have any questions about PREP, please email psych@mun.ca.

UNIVERSITY RESOURCES: There are many resources available at the university that can assist you in your studies, including the Writing Centre (<u>http://www.mun.ca/writingcentre/</u>) and the Student Wellness and Counselling Centre (<u>http://www.mun.ca/counselling/</u>). Memorial University is also committed to accommodating students with disabilities. If you are such a student, please make sure you talk with me as well as the Blundon Centre (<u>blundon@mun.ca</u>), as accommodation is coordinated through them.

ACADEMIC INTEGRITY: It is your responsibility to ensure that you are acting in accordance with the standards of academic integrity while in this course. More information about academic integrity can be found in section 6.12 in the University Calendar.

EVALUATION:	Two Midterm Exams (20% each)	40%
	Written Assignment	20%
	Final Exam	40%

Course Outline

Τορις	READINGS
BIOLOGICAL TRANSITIONS	CHAPTER 1
COGNITIVE TRANSITIONS	CHAPTER 2
Social Transitions	Chapter 3
Families	Chapter 4
PEER GROUPS	Chapter 5
Schools	CHAPTER 6
Work, Leisure, and Media	CHAPTER 7
Identity	CHAPTER 8
Αυτονομγ	Chapter 9
Ιντιμάζη	CHAPTER 10
Sexuality	CHAPTER 11
Achievement	CHAPTER 12
PSYCHOSOCIAL PROBLEMS IN ADOLESCENCE	CHAPTER 13

ABBREVIATED COURSE TITLE

Embodied Minds

ANTICIPATED EFFECTIVE DATE

Fall 2025

CALENDAR CHANGES

13.12.1 Non-Restricted Courses

PSYC 3420: Embodied Minds

explores the fascinating interplay between mind and body. Delve into the mind-body problem and learn about how our physical bodies shape thought, feeling, and consciousness. Investigate the intriguing parallels among human minds, artificial intelligence, and animal cognition. Discover practical applications in education and mental health, where understanding the embodied mind can transform teaching methods and therapeutic approaches. Learn how our minds are deeply connected to our bodies and the world around us.

PR: PSYC 1000, PSYC 1001

CALENDAR ENTRY AFTER CHANGES

PSYC 3420: Embodied Minds

explores the fascinating interplay between mind and body. Delve into the mind-body problem and learn about how our physical bodies shape thought, feeling, and consciousness. Investigate the intriguing parallels among human minds, artificial intelligence, and animal cognition. Discover practical applications in education and mental health, where understanding the embodied mind can transform teaching methods and therapeutic approaches. Learn how our minds are deeply connected to our bodies and the world around us.

PR: PSYC 1000, PSYC 1001

LIBRARY REPORT

Extracted from Part V.5 Library Report.

"PSYC 3420: Embodied Minds

The topic is well supported by Memorial Libraries under existing budget allocations."

RESOURCE IMPLICATIONS

None. As part of our larger set of program revisions, this course will be offered on a rotating basis along with other similarly structured courses (i.e., larger lecture courses that only require PSYC 1000 and/or PSYC 1001 as PR, open to both Majors and non-Majors), potentially in one semester in alternate years. Offering this course will not require any additional teaching resources, but will be assigned to the regular teaching load for department faculty.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS

Ideally, this course will be taught by Heath Matheson, but can potentially be taught by other cognition faculty or instructors with the relevant background.

See proposed syllabus below.



Title: Embodied Minds

Course and Semester: PSYC 3420, LEC

Instructor: Dr. Heath Matheson

Office: SN 3094

Email: hmatheson@mun.ca. Every effort will be made to respond to *most* emails within the week, with the exceptions of evenings, weekends and holidays, and questions regarding issues covered in class. If needed, please see me after class!



Office Hours: By appointment or 1h after class

Class Time: TBA

Class location and delivery mode: TBA, in-person

PR: PSYC 1000

TEACHING PHILOSOPHY

Education empowers and protects us. By exposing you to a diversity of ideas and helping you enhance your intellectual skills, education brings opportunity and helps you become a flexible, reflective, and engaged citizen. My overreaching goal is to use the discipline of psychology to promote this.

Equipping you with broad knowledge and helping you to learn to use it creatively is the way I will achieve this goal. In my class I won't simply teach you facts (indeed, the internet can do this if used properly); rather, the main goal is to teach you *skills*—to get you *thinking like a psychologist*. To do so, we will take an approach that mixes both fundamentals and application, encountering history, philosophy, theory, and cutting-edge scientific research from the field; in addition, I will give you opportunities to apply ideas to your personal life and the problems of today's world.

Research psychologists use a wide range of skills, including identifying and reasoning through problems, designing effective experiments and critically evaluating research, ethically interacting with people, performing complex data analysis and interpreting the results, and disseminating and communicating complex ideas. These skills are valuable no matter what you do in your life! Of course, my courses will help you if you pursue further studies in psychology. However, they will do more. Because you cannot predict what skills will be useful or when you might need them, my courses will help you whether you go into law, medicine, public health, education, policy, politics, public service, or private industry. Obtaining broad, generalizable skills is the essence of a liberal arts education and the essence of my teaching philosophy.



COURSE DESCRIPTION AND LEARNING OBJECTIVES

This lecture course explores the fascinating interplay between mind and body. Delve into the mind-body problem and learn about how our physical bodies shape thought, feeling, and consciousness. Investigate the intriguing parallels between human minds, artificial intelligence, and animal cognition. Discover practical applications in education and mental health, where understanding the embodied mind can transform teaching methods and therapeutic approaches. Learn how our minds are deeply connected to our bodies and the world around us. These issues are taught within the context of a 'classic' lecture with multiple choice examinations.

Examples of topics to be studied include:

- What is embodied cognition?
- What does the brain, body, and environment tell us about the mind?
- How do scientists study embodied minds?
- What are the ethics of embodied psychology?

Aligning with my teaching philosophy, the learning objectives are:

- To help you read deeply to obtain baseline factual knowledge from primary sources
 Weekly readings, reflection documents, and exams will help with this
- To help you develop organizational, creativity, integration, and communication skills
 - \circ $\;$ Applying embodied principles to your life will help with this $\;$



BACKGROUND AND FORMAT

This course is designed to meet your learning needs regarding background knowledge and preparation needed to pursue further studies at university.

In the case of a class disruption or cancellation (e.g. due to job action, Covid), and in the case of revisions to evaluation methods, the instructor or the Head of the department will notify all students registered in the course via the course shell in Brightspace. Any necessary revisions to the evaluation methods will be made in consultation with the students registered in this course. If a student demonstrates that they will be disadvantaged by the change, then, as per 6.7.4 of the University Calendar, accommodations will be made. Recordings will be made only under extreme circumstances.



REQUIRED READINGS

Note that, in designing your learning experience I worked hard to find a technology that a person can use that is relatively inexpensive and therefore accessible and inclusive, useable in diverse environments, allows you to go through the material in a self-paced manner, has opportunities for intermittent assessments, provides a medium for showing complex information (i.e. figures of data), and that can readily be updated or augmented with cutting edge knowledge from the field.

Thus, I will be assigning readings!



WARNING ***By taking this class you consent to the need to read.*** WARNING
TENATIVE SCHEDULE

Date	Topic Reading/Assignment		
January			
6	Introduction Syllabus		
9	Syllabus day!	Syllabus	
11	Overview of Embodied cognition	Reading packet 1	
13	Key principles and theories		
16	Key principles and theories		
18	Key principles and theories		
20	Body in cognition	Reading packet 2	
23	Body in cognition		
25	Body in cognition		
27	Body in cognition		
30	Embodied emotion	Reading packet 3	
February			
1	Embodied emotion		
3	Embodied emotion		
6	Embodied emotion		
8	Embodied emotion		
10	Embodied perception Reading packet 4		
13	Embodied perception		
15	Embodied perception		
17	Embodied perception		
20	Embodied language	Reading packet 5	
22	Embodied language		
24	Embodied language		
27	Embodied language		
March			
1*	Radical Embodiment	Reading packet 6	
3	Radical Embodiment		
6	Radical Embodiment		
8	Radical Embodiment		
10	Ethics and embodied psychology Reading packet 7		

13	Ethics and embodied psychology	
15	Ethics and embodied psychology	
17	Ethics and embodied psychology	
20	Embodied cognition in the clinic	Reading packet 8
22	Embodied cognition in the clinic	
24	Embodied cognition in the clinic	
27	Embodied cognition in the clinic	
29	Applied embodied cognition	Reading packet 9
31	Applied embodied cognition	
April		
3	Applied embodied cognition	
5	Review	

METHOD OF EVALUATION

Evaluation will be based on both your mastery of course content and your engagement with the process of your learning. Content evaluation will consider the quality of the of your knowledge through multiple choice examinations. Process evaluation will consider the quality of the processes engaged to complete the work, for example the timeliness and nature of your involvement in discussions and input on reflection documents.

Your grade will be based on the following:

Module multiple choice examinations (9 exams @ 10% each)	90%
Reflection document	5%
Study log	5%



ASSIGNMENTS

I will assign readings from a small library and/or chapters of texts centred around issues in 'embodied cognition' as it relates to significant domains of cognition. You will read these review/theory papers.

Module multiple choice examinations. There will be multiple choice exams on each module. You will complete these online. Final grade will be proportion of items answered correctly over the term.

Reflection documents. You will prepare 5 short reflection posts (~400 words worth 1 % each) in which you will reflect upon or enact an embodied principle within your recent experience. This will further elaborate on the concepts and the importance of them to your personal experiences.). Grade will be based on the quality of your post.

Study log. You will prepare a study log (see assignment appended to this syllabus).

Finally, further bonus points are available! You can earn up to 3% bonus by participating in psychology experiments hosted on PREP. Please do this; it helps science and is a fun experience!

Note, late assignments and missed MC exams and reflection documents will be given a 0. Only *PROACTIVE accommodations will be made under exceptional circumstances (e.g. Covid illness).* For purposes of equity, no retroactive accommodations will be made.

Please compare the definitions of rubric and instructions. You will find instructions for assignments in class and in the appendices to this syllabus. The rubric is below.

- 1. ru-bric (n): a guide listing criteria for grading or scoring academic papers, projects, or tests
- 2. in-struc-tions (n): an outline or manual of technical procedure



UNIVERSITY STUDENT. org

RUBRIC FOR COURSE ASSIGNMENTS

GRADE RANGE	VERBAL	GUIDELINES	CORRESPONDING VISUAL METAPHOR IN TERMS OF SPONGEBOB CAKES
A	Excellent	 Considerable evidence of original thinking Demonstrated outstanding capacity to analyze and synthesize Outstanding grasp of subject matter Evidence of extensive knowledge 	"Professional. Outstanding.'
В	Good	 Evidence of grasp of subject matter Some evidence of critical capacity and analytical ability Reasonable understanding of relevant issues Evidence of familiarity with the literature 	"A very lovely amateur's cake. You could open a shop, someday."
C	Satisfactory	 Evidence of some understanding of the subject matter Ability to develop solutions to simple problems Benefiting from university experience 	"A cake that looks yummy. I see you made it look like SpongeBob."
D	Marginal pass	 Evidence of minimally acceptable familiarity with the subject matter and the critical and analytical skills of the field 	"I suppose I will eat this but will rather not to be honest"

F	Inadequate	 Insufficient evidence of understanding of the subject matter Weakness in critical and analytical skills Limited or irrelevant use of the literature 	
			"Ew, no. Sorry. Is it even safe?"

This rubric will be used to evaluate the communication assignments and to develop the multiple choice exams.

Academic Support

Memorial University of Newfoundland is committed to fostering equitable and accessible learning environments for all students. Accommodations for students with disabilities are provided in accordance with Accommodations for Students with Disabilities Policy (www.mun.ca/policy/site/policy.php?id=239) and its related procedures. Students who feel that they may require formal academic accommodations to address barriers or challenges they are experiencing related to their learning are encouraged to contact Accessibility Services (the Blundon Centre) at the earliest opportunity to ensure any required academic accommodations are provided in a timely manner. You can contact Accessibility Services (Blundon Centre) by emailing blundon@mun.ca.

Academic Offenses

a. Plagiarism: Plagiarism occurs when a student submits or presents work of another person in such a manner as to lead the reader to believe that it is the student's original work; self-plagiarism is the submission of work previously submitted for academic credit without prior written and signed approval of the current course instructor.

Paraphrasing is plagiarism! (Almost certainly, at least). See the writing center and our discussion in class for more information about how to avoid accidental and structural plagiarism.

Using AI tools without proper citation constitutes plagiarism, and your work will be subject to the appropriate Memorial's Academic Misconduct policy. *Original work, completed wholly by you, is expected to be submitted in this course*. The use of an artificial intelligence tool like ChatGPT or ghostwriting services is not permitted. For more information review the library's Academic Integrity and Aritifical Intelligence (AI) and your academic work pages.

b. Cheating: Cheating takes numerous forms and includes, but is not limited to, the following: copying from another student's work or allowing another student to copy from one's own work; obtaining a copy of an examination before it is officially available; misrepresenting or falsifying references, citations, or sources of information; knowingly recording or reporting false or invented empirical or statistical data; and possession of notes, books, diagrams or other aids during examinations that are not authorized by the examiner (See Regulation 39(a)).

Ultimately, it is more valuable to communicate your own ideas poorly than to communicate ideas that aren't yours well!

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.

Harassment, Discrimination and Diversity

I am committed to providing a working and learning environment in which all students, staff and faculty are treated with respect and dignity. I acknowledge the right of all individuals in the University community to work or learn without discrimination or harassment because of race, colour, ancestry, place of origin, religion, family status, marital status, physical disability, mental disability, sex, age, sexual orientation, political beliefs or criminal or summary conviction offense unrelated to their employment.

Appendix B: Study Log

The knowledge you gain from this course cannot be uploaded to your brain like you upload files to a computer. *IT JUST CAN'T*. Learning is an ongoing and iterative process—it is a skill.

Learning will cause discomfort. This is how learning starts off:



But this is what it turns into:



This course is designed such that even a certified genius or alien super-intelligence will struggle to pass this course without the motivation and work ethic to do so. Why? Because, rather than being a test of trivia or of innate abilities, the course is designed to help the motivated and talented student develop their skills.

Taking a degree at a university is a lot like signing up for lessons at any club (ski, music, carpentry, cooking, etc.). You get to participate in a community with resources to help you develop your abilities. As the instructor, I am here to help. And like lessons, you will learn well by going to lessons and practicing, exploiting your own motivations and maximizing your own talents. Showing up to classes does not guarantee you a gold medal, a record deal, a booming business, or an illustrious career as a psychologist, but it does guarantee you the opportunity to develop skill that will help get you there.

But there is more. A major benefit to lifelong learning is that *it helps you achieve overall well-being* by helping you develop skills that keep you a creative and flexible problem solver. And who doesn't want to solve problems? If you ever find yourself asking 'But what is the practical benefit of all of this?' know that there is nothing more practical than being a flexible problem solver.

The learning objective of this assignment is to further develop your engagement skills to encourage lifelong learning. You will learn to coordinate your time, reflect on how you are spending it, and what you are getting out of the experience. It is expected that these skills will be generalizable to all areas of learning in your life.

To do so, you will keep a weekly study log, in which you document how you are engaging with this class. Your study log will look like:

	Α	В	C
1	Week	Total hours	Activity
2	1	6	read the syllabus
3			read chapter 1 twice
4			learned that perception is not just for my brain's enjoyment
5			recopied my notes
6	2	4.5	read chapter 2
7			found a potental news article
8			started making notes for test yourself 1
9			I am not sure if I think the brain can explain all of what I see, yet
10	3	6	read chapter 3
11			recopied my notes from last week and this week
12			got information about the writing assingment
13			did flashcards with study group
14			maybe my brain is important for perception, I don't know
15			

You will use a spreadsheet software to complete this assignment (e.g. excel, numbers, open office). A description of each heading of your spreadsheet and the expected content is below:

Week – Simply put which week the log is for. You are expected to do this once a week for the term.

Total hours – Give a report of how many hours you spent 'on task'. Here, on task means, reading, rewriting notes, doing searches for the assignments, drafting writing, study group (e.g. testing each other), etc. It is expected that you spend about 2-3 hours studying for each hour of lecture. With 3 hours of lecture a week, this means we should reasonably expect 6-9 hours of on task studying a week.

Activity – Give 3 bullet points describing what your main activities were. We will go over some handy study tips in class that you can use to populate this list. Additionally, give 1 bullet point describing something that you have learned or experienced that really stands out. Simply reflect on what has been covered and summarize your interaction with that material.

This assignment will be based *primarily* on the number of hours you report spending on task. Please save the file as 'YourLastName.csv'.

Appendix C: Using psychology to study Psychology...

...or...

How to go from here...



...to here...



... in 6 easy steps for the low low price of \$0.00

Page 263 of 436

One of the advantages of studying psychology is that it is a scientific discipline that researches learning and therefore reveals the ways in which we should study it. That is, there is a vast literature on the psychology of learning and memory and as students we benefit from applying it to our own practice. Like in all areas of life, people seek 'magic bullets' that will help them overcome problems, and in education people tend to look for new technologies, classroom design elements, or sometimes even drugs. *However, decades of research show that effective educational interventions are simple habits*.

Research on the 'testing effect' or 'retrieval practice' clearly shows that *the best way to learn new material is not by re-studying the material, but by testing yourself on it*. That is, passively exposing yourself over and over again to the material will not result in learning. By giving yourself opportunities to generate recently learned information during a self-imposed 'test', you participate more actively in encoding the knowledge. Doing this across all the material you encounter allows you to exploit 'elaborate rehearsal', allows for opportunities for feedback, and increases the number of associations you make between the material you are trying to learn and previously learned material (exploiting the network of associations that is semantic memory). These associations are how knowledge is created in the brain. Finally, doing this throughout the length of the course will allow you to exploit 'the spacing effect', in which material is better learned when it is spaced out and revisited it new ways. All of this benefits your ability to demonstrate the knowledge later and to combine it in new and exciting ways to solve creative problems.



Based on the psychological literature, here are the 6 concrete things you should do to learn:

- After reading a chapter (or section of a chapter), try to rewrite the main points of the material in your own words (i.e. conduct a 'free recall test' and exploit the 'testing effect'). You won't be able to recall everything, so go back to the material, find what you have left out, and start over. Repeat this until you feel you can freely recall the main points of the chapter (or section).
- Stop to do the test yourself questions (i.e. exploit the testing effect). These questions force you
 to generate more specific answers which benefits encoding. Ideally, you will do this with a
 partner who can provide feedback on your answers. Repeat this until you can answer all of the
 questions meaningfully. For maximum benefit, write out your responses.
- 3. Attend class and take notes, transcribing the discussions in class in your own words. This will expose you to alternative formats of the information (i.e. 'elaborative rehearsal'), for instance by reading something from the text, hearing it discussed auditorially from multiple perspectives, and seeing it presented visually in videos or pictures.
- 4. After class, try to rewrite the main points of the class in your own words (i.e. conduct a free recall test again). Expect the same benefits as with the textbook material.
- 5. Space your self-tests in increasing intervals (i.e. 'the spacing effect'). That is, don't simply generate the material once and move one. Generate the material immediately after a section, then again a day or two after that, then again a week or two after that. (Note that the ideal spacing might depend on you as an individual, so play around with different timings and see what works best).
- 6. When you encounter a reference to a previously learned concept or topic, make sure you can generate a description of that topic and relate it to what is currently being discussed (i.e. exploit associations in semantic memory). If not, revisit the earlier material and repeat.

Practicing these methods will practically *guarantee* you learn the material in depth and ensure success in the class. Also, these strategies will work for any class! We will do some exercises in class that promote these habits and will give you some experiences with them if you have not had them before. However, ultimately these are empowering habits that are in your control. The expectation of university educators is that you spend 2-3 hours studying *per hour* you spend in lecture. Of course, these methods appear to require greater effort than simply re-reading the material, watching it in a pre-recorded video or a lecture, or taking a memory drug. However, with these methods, you should find that each hour you spend will greatly enhance not only your depth of learning, but your learning efficiency as well. Once you are succeeding with these methods, you can spend much less time on material and learn it way better than the old habit if simply re-studying. Ultimately, you will find yourself more confident in the material, less stressed in assessments, and with more time for other activities. You can go for a nice excursion (see below for a nearby option)! It is a win-win!



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

2. New Restricted PSYC Courses at Advanced Levels

COURSE NUMBER AND TITLE

- i. PSYC 3151: Applying Behavioural Insights
- ii. PSYC 3152: Interpersonal Relationships
- iii. PSYC 3452: Cognitive Neuroscience
- iv. PSYC 3651: Clinical Psychology
- v. PSYC 3751: Animal Communication
- vi. PSYC 3752: Animal Cognition

vii. PSYC 4471: Research Experience in Cognitive Neuroscience

RATIONALE

The addition of these courses will broaden the course offerings available to Psychology and Behavioural Neuroscience Majors. These courses present more specialized topics in cognitive psychology (PSYC 3452, PSYC 4471), social psychology (PSYC 3151, PSYC 3152), clinical health/wellness psychology (PSYC 3651) and animal behaviour (PSYC 3571, PSYC 3752) at an advanced level.

ANTICIPATED EFFECTIVE DATE

Fall 2025

LIBRARY REPORT FOR SECTION

Extracted from Part V.5 Library Report.

"With respect to new course proposals, Memorial Libraries is well positioned to support each of the new courses proposed under existing budget allocations and with minimal reliance on document delivery. Students opting to take any of these courses should have access to more than adequate primary and secondary research material where "library research" is a course requirement. Memorial Libraries highly recommends that course readings outside of those provided in the course textbooks be made available to students via our Course Reserves system to ensure that license and copyright requirements are met to provide seamless access. Consultation on reading lists and how the Library can provide research support is welcome at any time."

See each course entry for specific course-related feedback.

i. PSYC 3151: Applying Behavioural Insights

ABBREVIATED COURSE TITLE

Applying Behav Insights

CALENDAR CHANGES

13.12.2 Majors Courses

PSYC 3151 Applying Behavioural Insights

will explore behavioural insights and nudges and the methods of how to apply them to alter behaviour, based on social psychology and decision science. This course will involve lectures, assignments, readings, discussions, case studies, and group-work. Example topics include social norms, heuristics, biases, motivation, persuasion, intervention design, and choice architecture. PR: PSYC 2121, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience

CALENDAR ENTRY AFTER CHANGES

PSYC 3151 Applying Behavioural Insights

will explore behavioural insights and nudges and the methods of how to apply them to alter behaviour, based on social psychology and decision science. This course will involve lectures, assignments, readings, discussions, case studies, and group-work. Example topics include social norms, heuristics, biases, motivation, persuasion, intervention design, and choice architecture.

PR: PSYC 2121, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience

LIBRARY REPORT

Extracted from Part V.5 Library Report.

"PSYC 3151: Applying Behavioural Insights Memorial Libraries holds all but two of the items on the reading list. These and any other required readings can be added to the collection under existing budget allocations."

RESOURCE IMPLICATIONS

None. As part of our larger set of program revisions, this course will be offered on a rotating basis along with other similarly structured courses (i.e., lecture courses of ~40 students who are Psychology or Behavioural Neuroscience Majors), potentially in one semester in alternate years. Offering this course will not require any additional teaching resources, but will be assigned to the regular teaching load for department faculty.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS

This course can be taught Martin Day and Laura Fallon, but could potentially be taught by other social faculty or instructors with the relevant background.

A proposed syllabus is below.

Applying Behavioural Insights and Nudges (Psychology 3X5X) Syllabus

Instructor:	Dr. Martin Day
Office:	SN 2073
Office Hours:	(insert), or by appointment.
	Please contact me if this time does not fit with your schedule – we can definitely find a time to meet.
Email:	mvday@mun.ca
	Generally, I aim to respond to e-mail the same day or within 24hrs. Occasionally there may be 24-48hr delays (e.g., weekends, evenings).
Teachng Assistant:	(insert)
Email:	(insert)

COURSE INFORMATION

Class Sessions: (insert) Location: (insert) Website: Brightspace

COURSE OVERVIEW

Welcome to Applying Behavioural Insights!

How do you get people to waste less energy, save more money, and eat healthier? How do you encourage people to vote, stay in school, stop smoking, and drive safer? How do you effectively "nudge" people to achieve personal and societal goals? Behavior change and policy improvements are notoriously difficult to achieve. However, in this course you will learn about a promising set of new methods that uses relevant social psychology and decision science to help people achieve a variety of goals that we are committed to in theory. This course primarily involves learning 1) the relevant psychological concepts useful for nudging and motivating behavior, and 2) what we know about how to apply this knowledge to change behavior. This will be accomplished through lectures, assignments, discussions, case studies, readings, and group-work. Some examples of social psychological and decision making topics include: norms, heuristics, biases, moral foundations, group identity, prospect theory, time-discounting, persuasion, social contagion, and choice architecture.

By the end of the semester you should be familiar with a wide range of concepts from social psychology and decision science that are relevant for behavioral analysis and intervention. Moreover, you should have the knowledge and working ability needed to critique and analyze real world problems and propose testable solutions. By succeeding in this class you will gain introductory skills in behavioral analysis and implementation that are applicable beyond the classroom (e.g., that can be useful to improve programs, policies, environments, messaging, and organizational practices). You will also have gained experience applying the concepts learned in this course to your own life.

REQUIRED READING

Book: Kahneman, D. (2010). *Thinking fast and slow.*

Additional required reading, including links, can be found in the Reading List below.

COURSE STRUCTURE

1) Primary lectures will generally introduce a broad topic, or related topics.

2) Secondary lectures will usually follow-up the primary lectures by providing an opportunity to discuss, practice, and apply the material. This will involve participating in a variety of activities, case studies, discussion of readings, and assignments.

Because of holidays and breaks, **Primary lectures and Secondary lectures will switch between Mondays and Wednesdays**. Please see the Course Schedule for full details. Attendance in all lectures is required. The assigned readings for each topic should be read prior to Secondary lectures.

GRADING SCHEME

Assignments	35%
Midterm	30%
Project Write-up & Poster	25%
Participation Activities	10%
Total	100%

COURSE COMPONENTS

Midterm Exam:

The midterm exam will assess your understanding of the material covered in the first seven weeks of the course. The format will mostly be short-answer and scenario-based. For example, you will be provided with information about several dilemmas and you will be asked to analyze behavioral aspects of these problems or design solutions. There may also be a small number of multiple choice questions. The exam is intended to give you mid-course feedback on your understanding of the material and especially on its application.

If you must miss a midterm, a make-up midterm will only be provided if you contact me with an approved extenuating circumstance (mainly severe illnesses, or religious holidays), preferably in advance. A personal trip, vacation, or job-recruitment, do not constitute an extenuating circumstance. This policy applies to the other course components as well.

Assignments, Project Write-up, and Poster:

Your project for this course is to propose an intervention to bring about a change in social behavior – presumably the reduction of harmful behavior and/or the promotion of beneficial behavior. This will be from the perspective of an organization (not-for profit, government entity, or business). You will work on this project in groups of no more than 4, over the second part of the semester.

Assignments:

The assignments begin on (insert date) and are designed to prepare and guide you through the intervention process. In Assignment 1, you will practice the diagnosis stage of the behavioral methodology learned in class (DDDT). In Assignment 2, you will use the DDDT method to analyze and critique several policies designed to change behavior (e.g., what they get right, what they overlook). In Assignment 3, you will choose one of two societal problems to practice the full DDDT framework. Note: The remaining assignments (#'s 4-6) will involve group-work. In Assignment 4, you and your group will select the context and define the target behavior you seek to change. In Assignment 5 your group will diagnose the cognitive and social processes relevant to the target behavior. In Assignment 6, your group will design your intervention. Assignment 7 is an individual assignment in which you will have the opportunity to apply concepts from class to your own life, and test whether they are effective.

Instructions for each assignment will be posted on the course website well in advance of the deadlines. All assignments should be submitted via the course website. **Late Policy:** Any written assignments (including those below) submitted after the deadline will be marked down <u>10% each day</u>, for up to 5 days. Papers submitted more than 5 days late will not be marked (i.e., will receive 0%).

Participation Activities:

You are encouraged to come to every class if possible. ^(C) The success of this course depends on the participation of everyone. You will be expected to play an active role in classroom activity.

Course participation will be based on your completion of class-relevant activities mostly during class time (e.g., completion of group and class discussions, review activities, demonstrations, exercises, etc). There will be many participation activities throughout the term, 8 of which will be assessed. There will also be an online course survey. The participation activities are worth 1% each, and the survey is worth 2%, to a maximum of 10%. Assessments will be pass/fail (i.e., they will be based only on whether an activity was completed or not).

Project Write-Up:

Together, your group will submit 1 write-up that should be 10-12 pages long and will follow a similar format as the assignments. It will include a section defining the problem, diagnosing the problem, describing the design, and testing the design. In addition, the final write-up will include a feasibility analysis of your group project and a critique section. Some components of the project write-up will be completed through your work on the assignments. However, you will also be expected to respond to feedback provided on your assignments, and from your fellow students in the poster session, and refine your intervention project.

More specific details of the write-up, as well as a grading rubric for the write-up, will be released later in the course. The same late policy will apply as for the assignments.

Project Poster: There will also be a poster session based on your group project. This informal event gives all groups the opportunity to showcase their final project to the instructor and class, and receive final feedback. The poster session will be held on (insert date), during class time. Your group will also be expected to provide constructive feedback on three other posters as part of your participation in this event.

COURSE EXPRECTATIONS

1. Preparation and Attendance

You are expected to come to each lecture and be prepared. Out of respect to your fellow students and teaching staff, you are expected to come to each lecture on time and stay for the entire period.

2. Course Content

You should find this course to be exciting, interesting, and fun (!) but doing well will involve a significant effort on your part. This course will involve new material as well as terminology and concepts that you may be familiar with.

A common mistake in this class is for students to think they are familiar with the material, but realize (sometimes too late) that they do not have a complete grasp of the concepts when it comes to applying the material. Application is a major component of this course. To excel, you will need to complete the readings thoroughly, and think about how to apply this information; you will need to attend and actively participate in lectures and discussions, and you will need to complete all coursework on schedule. There will also be opportunities to practice the material covered in lecture, which will greatly increase your ability to correctly apply the material and succeed in this course.

3. Lecture Notes

Students are expected to take notes during the lecture as the lecture slides are rarely complete. The basic lecture slides will be provided on the course website, typically the evening before a lecture (by 9pm). The basic lecture slides are not a substitute for coming to class and students are responsible for any course material covered in lecture and not provided in the uploaded lecture slides. If you miss a class, please contact one of your classmates to obtain the notes. If you have questions, I am happy to meet with you.

4. Academic Integrity

<u>Plagiarism, or any other type of unethical academic behavior will not be tolerated</u>. All course work (e.g., critical analysis, research proposal) must be based on your own ideas and thoughts. Whenever you use ideas that are not your own, give credit where due, and cite accordingly.

Plagiarism is a major academic offense. For a full definition, please see Plagiarism among Academic Offences: https://www.mun.ca/regoff/calendar/sectionNo=GRAD-0029

Memorial Policy: 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.

ChatGPT/Generative AI Policy: Students are <u>not allowed</u> to use generative AI programs (e.g., Chat GPT) to assist with the completion of written work for this course (e.g., Assignments). Any such use (including paraphrasing generative text) will be considered an academic offense. To clarify, it is acceptable to use spell-check and grammar check programs (i.e., for correction purposes, but not for creation of ideas/literature search purposes). These assignments are designed, in part, to help give you practice generating ideas, applying your critical thinking skills, and discovering and understanding the academic literature.

Some important tips:

Direct quotes should be used rarely, if at all, but are permissible. In general, describe other people's research results, theories, or arguments <u>in your own words</u>, and include a citation to the original source. For example, do not quote one or two sentences that describe the results of a study. Instead, if the finding is important to include, provide your understanding of the study result in your own words and cite the authors of the original ideas. If you must use a direct quote, be sure to put the text in quotation marks and include a page number in your citation.

To be clear: cite the source of any research finding, theory, or argument, even if you have rewritten it significantly using your own words. Simply changing wording order or replacing a couple words with synonyms is not acceptable. Sometimes it may be unclear whether a source is directly responsible for your own thinking/writing. It is best to double-check your source. When in doubt, err on the side of caution by citing the source.

5. Collaboration

Some parts of this course will involve collaboration and some parts will involve completely individual work without collaborating with other students. Assignments #1-#3 are to be written and completed individually, and involve choosing your own contexts. These assignments will give you individual practice honing the methodology learned in class. Although not necessary, you are allowed to talk about your ideas on the first 3 assignments and edit each other's work. The midterm will be completed individually. Students may study and review for the midterm with other students if they wish. Assignments #4-#7 and the poster will be completed in groups. These elements of class will necessarily involve collaboration with your group members and will give you practice applying the material with others. Part of the group

write-up will be completed as a group, and part independently. If you have any questions or concerns about individual work or collaboration, do not hesitate to contact the Instructor.

6. Accommodations

Students in need of accommodations according to University Regulations should contact me to make arrangements for course materials and assigned work. If accommodations are needed, please speak with me within the first couple weeks of class or before any due date. Failure to do so may result in my inability to respond in a timely manner. All discussions will remain confidential.

Memorial Policy: 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).

Land Acknowledgement

Memorial University, St. John's Campus: We respectfully acknowledge the territory in which we gather as the ancestral homelands of the Beothuk, and the island of Newfoundland as the ancestral homelands of the Mi'kmaq and Beothuk. We would also like to recognize the Inuit of Nunatsiavut and NunatuKavut and the Innu of Nitassinan, and their ancestors, as the original people of Labrador. We strive for respectful partnerships with all the peoples of this province as we search for collective healing and true reconciliation and honour this beautiful land together.

COURSE SCHEDULE

Date	<u>Class</u>	Lecture	In-Class Topic	Readings	Due dates
		<u>Type</u>			
Sep 7 (TH)	1	Primary	Intro: central course themes and outline		
Sep 12 (T)	2	Primary	A behavioral methods approach		
Sep 14 (TH)	3	Secondary	Practicing the behavioral method	Readings 1	Online Survey Due (TBD)
Sep 19 (T)	4	Primary	Bounded Rationality I		
Sep 21 (TH)	5	Secondary	Bounded Rationality I	Readings 2	Assignment 1 (TBD)
Sep 26 (T)	6	Primary	Bounded Rationality II		

Sep 28 (TH)	7	Secondary	Bounded Rationality II	Readings 3	Assignment 2 (TBD)
Oct 3 (T)	8	Primary	Behavior Change		
Oct 5 (TH)	9	Secondary	Behavior Change	Readings 4	
Oct 10 (T)			<pre>**Thanksgiving Break**No Lecture**</pre>		
Oct 12 (TH)	10	Primary	*Guest Speaker*		
Oct 17 (T)	11	Primary	Designing Better Policies		
Oct 19 (TH)	12	Secondary	Designing Better Policies	Readings 5	Assignment 3 (TBD)
Oct 24 (T)	13	Primary	Moral Decision Making		
Oct 26 (TH)	14	Secondary	Moral Decision Making	Readings 6	Assignment 4 (TBD)
Oct 31 (T)	15	Primary	Group Dynamics, Conflict, & Decision Making		
Nov 2 (TH)	16	Secondary	Group Dynamics, Conflict, & Decision Making	Readings 7	Assignment 5 (TBD)
Nov 7 (T)	17	Primary	Marketplace of Ideas & Persuasion	Readings 8	Assignment 5 (TBD)
Nov 9 (TH)	18	Secondary	Discussion & Midterm Prep		
Nov 14 (T)	19		**Midterm**		
Nov 16(TH)	20	Secondary	Marketplace of Ideas & Persuasion		
Nov 21 (T)	21	Primary	Environmental Behaviours		Assignment 6 (TBD)
Nov 23(TH)	22	Secondary	Final project preparation		
Nov 28 (T)	23	Secondary	Application & Conclusion	Readings 9	Assignment 7 (TBD)
Nov 30(TH)	24	Secondary	Poster Presentations		
			Final Write Up		(TBD)

**Please note that either the schedule or the assigned readings may be adjusted as the term progresses. If changes are made, an updated schedule will be posted on the Course Website.

READING LIST

Readings 1) A Behavioral Methods Approach

Datta, S. & Mullainathan, S. (2012). Behavioral design: A new approach to development policy. Center for Global Development, *Policy Paper 16*, 1-33.

Campbell, D. T. (1969). Reforms as experiments. *American psychologist*, 24, 409-429.

Readings 2) Bounded Rationality I

Kahneman, D. (2010). Thinking fast and slow, Chapters 1-3, 5, 8-9, 11-12.

Readings 3) Bounded Rationality II

Kahneman, D. (2010). Thinking fast and slow, Chapters 25-28

Readings 4) Behavior Change

- Miller, D. T., & Prentice, D. A. (2012). Psychology of behavior change. In Shafir, E. (Ed.). *The behavioral foundations of public policy* (pp.301-309). Princeton University Press.
- Tyler, T. (2012). The psychology of cooperation: Implications for public policy. In Shafir, E. (Ed.). *The behavioral foundations of public policy* (pp.77-90). Princeton University Press.

Kerr, S. (1995). On the folly of rewarding A while hoping for B. *Academy of Management Executive*, *9*, 7-14.

Useful Reference:

Prentice, D. A. (2012). The psychology of social norms and the promotion of human rights. In R.
Goodman, D. Jinks, & A. K. Woods (Eds.), *Understanding social action, promoting human rights* (pp. 22-46). New York: Oxford University Press.

Readings 5) Designing Better Policies

Kahneman, D. (2010). Thinking fast and slow, Chapter 13

Lowenstein, G., John, L., & Volpp, K. G. (2012). Using decision errors to help people help themselves. In Shafir, E. (Ed.). *The behavioral foundations of public policy* (pp.361-379). Princeton University Press.

Sunstein, C. (2013). Simpler. Chapter 7

Readings 6) Moral Decision Making

Haidt, J. (2007). The new synthesis in moral psychology. *Science*, *316*, 998-1002.

Useful Reference:

Day, M., Fiske, S., Downing, E., & Trail, T. (2014). Shifting liberal and conservative attitudes using moral foundations theory. *Personality and Social Psychology Bulletin.*

Readings 7) Group Dynamics, Conflict, & Decision Making

Dixon et al., (2012). Beyond prejudice: Are negative evaluations the problem and is getting us to like one another more the solution? *Behavioral and Brain Sciences*. pp. 1-11.

Useful References:

Paluck, E.L., & Shepherd, H. (2012). The salience of social referents: A field experiment on collective norms and harassment behavior in a school social network. *Journal of Personality and Social Psychology*, 103, 899-915.

Readings 8) Marketplace of Ideas & Persuasion

Heath, C., & Heath, D. 2007. *Made to Stick: Why Some Ideas Survive and Others Die.* Random House. Introduction & Chapter 1 (pp.3-62).

Useful Reference:

Petty, R. E., & Brinol, P. (2010). Attitude change. In R. F. Baumeister, & E. J. Finkel (Eds.), Advanced social psychology: The state of the science, (pp.217-259). Oxford University Press.

Readings 9) Applying Behavioral Principles to Ourselves

Mullainathan, S., & Shafir, E. (2013). Scarcity in everyday life (pp.205-225). *Scarcity: Why having too little means so much*. Henry Holt and Co.: New York

ii. PSYC 3152: Interpersonal Relationships

ABBREVIATED COURSE TITLE

Interpersonal Relationships

CALENDAR CHANGES

13.12.2 Majors Courses

PSYC 3152 Interpersonal Relationships

aims to better understand the processes underlying dyadic relationships and interactions, as well as knowledge of others, perception of others, and attributions. It also investigates verbal and nonverbal communication processes, self-concept, selfesteem, intimacy, and control and interpersonal power in romantic and non-romantic relationships. Finally, it discusses the foundations of functional and dysfunctional communication and how to develop healthy communication skills.

PR: PSYC 2121, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience

CALENDAR ENTRY AFTER CHANGES

PSYC 3152 Interpersonal Relationships

aims to better understand the processes underlying dyadic relationships and interactions, as well as knowledge of others, perception of others, and attributions. It also investigates verbal and nonverbal communication processes, self-concept, selfesteem, intimacy, and control and interpersonal power in romantic and non-romantic relationships. Finally, it discusses the foundations of functional and dysfunctional communication and how to develop healthy communication skills.

PR: PSYC 2121, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience

LIBRARY REPORT

Extracted from Part V.5 Library Report.

"PSYC 3152: Interpersonal Relationships

Memorial Libraries are missing seven items from this reading list. These items can be ordered if they are still in print and/or available in the North American academic bookseller market. The topics are broadly represented in other library holdings."

RESOURCE IMPLICATIONS

None. As part of our larger set of program revisions, this course would be offered on a rotating basis along with other similarly structured courses (i.e., lecture courses of ~40 students who are Psychology or Behavioural Neuroscience majors), potentially in one semester in alternate years. Offering this course would not require any additional teaching resources, but would be assigned to the regular teaching load for department faculty.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS

This course can be taught by Stéphane Dandeneau or Chris Quinn-Nilas, but could potentially be taught by other faculty or instructors with the relevant background.

A proposed syllabus is below.



PSYC 3152 Interpersonal Relationships

Instructor: Office: Office Hours: Email:

Teaching Assistants:

LAND ACKNOWLEDGMENTS

I acknowledge the land on which we gather and learn at Memorial University as the ancestral homelands of the Beothuk, whose culture has now been erased forever. I also acknowledge the island of Ktaqmkuk [uk-dah-hum-gook] (Newfoundland) as the unceded, traditional territory of the Beothuk and the Mi'kmaq. I acknowledge Labrador as the traditional and ancestral homelands of the Innu of Nitassinan [ne-tass-eh-nen], the Inuit of Nunatsiavut and the Inuit of NunatuKavut.

OVERVIEW OF COURSE

This course aims to understand better the processes underlying dyadic relationships and interactions, as well as knowledge of others, perception of others, and attributions. It also investigates verbal and nonverbal communication processes, self-concept, self-esteem, and intimacy, control and interpersonal power in romantic and non-romantic relationships. Finally, we discuss the foundations of functional and dysfunctional communication and how to develop healthy communication skills.

PREREQUISITE

PSY2100 Social Psychology

COURSE OBJECTIVES

General objectives

In general, the course aims to understand the processes underlying dyadic relationships and interactions and to become familiar with the concepts, models, theories and research on social perception, interpersonal communication and functional and dysfunctional relationships.

Specific objectives

Knowledge of the internal and external factors that influence dyadic relationships at different stages of the development of friendship, love and intimacy.

Knowledge of the factors that promote the maintenance of different types of dyadic relationships and those that promote satisfaction.

Knowledge of verbal and nonverbal communication characteristics that influence social perception and make dyadic interactions functional or dysfunctional.

Knowledge of the role of relationships and interactions in developing and confirming self-concept and self-esteem.

INSTRUCTIONAL CONTINUITY

In the event of any disruptions during this semester, this course will transition to remote delivery through the course shell on Brightspace for the duration of the interruption. In the case of a class disruption or cancellation and the case of revisions to evaluation methods, the instructor or the Head of the department will notify all students registered in the course via the course shell in Brightspace. Any necessary revisions to the evaluation methods will be made in consultation with the students registered in this course. If a student demonstrates that they would be disadvantaged by the change, then accommodations will be made as per 6.7.4 of the University Calendar.

REQUIRED READING

Textbook: Miller, R. S. Perlman, D. & Brehm, S. S. (2022). *Intimate Relationships, 9th edition*. Boston: McGraw-Hill.

Additional reading will be available on the **course website**.

EVALUATION COI	MPONENTS
-----------------------	-----------------

Evaluation	Weight
Midterm 1	25%
Midterm 2	35%
Final Research Paper	
Locating article	0%
Article summary	10% (individual)
Summary document	10% (team)
Oral presentation	10 % (team) + 10% (Individual component)

Midterms:

The midterm tests will assess your understanding of the material covered in this course (lectures and course readings). The first midterm will assess content from lectures X-XX. The second midterm will cover lectures X-XX. The midterms are not cumulative, and the format will be multiple-choice.

If you miss a midterm, a make-up midterm will only be provided if you contact me with an approved extenuating circumstance (e.g., severe illness), preferably in advance of the midterm <u>but at least within 24</u> <u>hours after the scheduled test</u>. This policy applies to other course components as well.

FINAL PAPER

- The final paper is a long-term project that will be divided into several intermediate stages. It will touch on themes that are complementary to the lectures and readings. The paper will be equivalent to **40%** of the entire grade, of which 20% will be allocated to the team evaluation and 20% allocated to the individual evaluation.
- The objectives of this work are:
 - o to familiarize yourself with the discipline of interpersonal relationships through
 - available periodic resources
 - models and theories relating to specific themes
 - the research methodologies used
 - application contexts
 - o to exercise a critical point of view
 - to put into practice certain theoretical notions seen in class through experimentation in a small working group
 - o to stimulate effective knowledge-sharing
 - to vary teaching strategies by integrating research, analysis, communication and peer teaching work
- No change of oral presentation date will be granted without supporting medical documentation indicating that a student member of the team was unable to attend class.
- The proposed themes for teamwork are:
 - Relationships and the Internet
 - Sexuality
 - Jealousy and betrayal
 - Relationships at work

STEP 1: IDENTIFYING, PRESENTING AND CHOOSING AN ITEM

• Teams of 4 to 5 people will be formed in the first class and the themes assigned to each team. From the first week, each member of the team will have to identify **4 articles** related to your theme in

specialized journals dealing with interpersonal relationships. You will have to read the articles that you have identified and choose one to propose to the group.

- You will have to present one of these articles to your team during the second class, on **DATE HERE.** Each team member will then have 5 minutes to summarize the article to his or her colleagues and present the strengths and limitations noted. The presentations of each team member should allow the informed choice of one of the proposed articles to develop *your session project together*.
- Keep the notices of the articles that you have identified. As a team, you will pool your resources to create a bibliography that will eventually be appended to your final work.
- Step 1 of the work is not assessed.

STEP 2: ARTICLE SUMMARY

- The article chosen by the team will be summarized. Each team member will submit their own abstract of the article. The abstract will be 2-3 pages long, double-spaced. It will be accompanied by a title page, and a reference page for the articles you have identified. Make sure that one member of the group submits a copy of the chosen article with their abstract.
- The summary of the article will be worth **10%** of the final grade.
- The due date for the summary is **DATE HERE**.
- The correction criteria for the summaries will be:
 - **8%** quality of the synthesis (presentation of essential concepts, correct understanding of concepts, theories, methodology, results, discussion)
 - **2% -** compliance with instructions:
 - Word file, APA standards for text and references (Times New Roman font, 12 point, double spaced, 1 inch margins)
 - Title page with your name and registration number, the date of submission, the reference of the summary article, as well as the names of the team members
 - APA reference page for the 4 articles you found and the summary article.

STEP 3: SUMMARY DOCUMENT

- The team will produce **a** summary document for the team, which must be submitted on the same day as the oral presentation, i.e. **DATE HERE**.
- The document will be subject to team evaluation and worth **10%** of the final grade.
- The final 8-10 page document (excluding the inclusion of acetates and the bibliography) will follow the same guidelines as the article summary and will address the following elements:
 - **8% -** Analysis and synthesis of the article:
 - General summary of the article

- How the article topic applies to everyday life
- Critique of the study and suggestions for future research
- Presentation of two studies that would allow future research to be addressed
- **2%** Presentation material and bibliography:
 - Transparencies of the oral presentation (e.g. PowerPoint document 6 per page)
 - APA reference page for articles referenced by all group members.

STEP 4: ORAL PRESENTATION

- Finally, the paper will be the subject of a 30-minute oral presentation in front of the class, followed by a 5-10 minute question period. Oral presentations will take place on **DATE HERE.**
- The oral presentation will be worth **20%** of the final grade. The share allocated to the team evaluation will be worth **10%**.
- The evaluation criteria for oral presentations are:
 - quality of the synthesis (presentation of essential concepts, correct understanding of concepts, theories, methodology, results, discussion)
 - o relevance of the examples and the links made with everyday life
 - o rigorous and relevant critiques of the study, suggestions for future research
 - o originality and creativity of the proposed studies
 - o communication effectiveness (clarity, style, structure, visual support, language)
 - compliance with instructions (compliance with the plan, time management, sharing of speaking time)

Late policy

Any assignment submitted after the deadline will be marked down 10% each day for which it is late, up to a maximum of 5 days. Assignments submitted more than 5 days late will not be marked and will receive 0.

COURSE EXPECTATIONS

Academic Integrity Plagiarism or any other type of unethical academic behaviour will not be tolerated. All coursework (e.g., critical analysis, research proposal) must be based on your own ideas and thoughts. Whenever you use ideas that are not your own, give credit where due and cite accordingly.

Plagiarism is a major academic offence. For a full definition, please see the following document: http://www.mun.ca/psychology/undergrad/Plagiarism.pdf

Memorial Policy: 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.

How NOT to plagiarize:

Direct quotes should be used rarely, if at all, but are permissible. In general, describe other people's research results, theories, or arguments in your own words, and include a citation to the original source. For example, do not quote one or two sentences describing a study's results. Instead, if the finding is important to include, provide your understanding of the study result in your own words and cite the authors of the original ideas. If you must use a direct quote, put the text in quotation marks and include a page number in your citation.

To be clear: cite the source of any research finding, theory, or argument, even if you have rewritten it significantly using your own words. Simply changing the wording or replacing a few words with synonyms *is not acceptable*. Sometimes it may be unclear whether a source is directly responsible for your thinking/writing. It is best to double-check your source. When in doubt, err on caution by citing the source.

Accommodations

According to University Regulations, students needing accommodations should contact me to make arrangements for course materials and assigned work. If accommodations are needed, please speak with me within the first couple of weeks of class or before any due date. Failure to do so may result in my inability to respond in a timely manner. All discussions will remain confidential.

Memorial Policy: 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).

Generative AI and AI-assisted technologies

Generative AI and AI-assisted technologies, such as chat GPT, are allowed in this course for writing assignments. However, it is the student's responsibility to ensure that the written work submitted 1) addresses the goals of the writing assignment, 2) contains reliable information with sound sources, and 3) is well written for clarity, format, organization of thoughts and transitions between ideas.

Should a student use AI and/or AI-assisted technologies, the following declaration should be inserted in the document. Failure to do so could result in a grade reduction (to be determined based on the severity of the case) due to academic dishonesty. Please note that this declaration does not excuse the use of inaccurate or false citations/references or the inclusion of plagiarized materials.

Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work, [NAME TOOL / SERVICE] was used to [REASON]. After using this tool/service, the content was reviewed and edited as needed, and I take full responsibility for the content of the written work.
Course S	Schedule
----------	----------

Date	Course content	Reading
Week 1	 Course 1: Introduction to Interpersonal Relationships Presentation of the course plan Presentation of the discipline Interpersonal, proximal and intimate relationships Team formation and theme selection 	Chapter 1
Week 2	 Lesson 2: The Science of Interpersonal Relationships Developing the research question Correlational, experimental and developmental methods Data Types Interpretation and integration of results *** Presentation of the articles to the group	Chapter 2
Week 3	 Lesson 3: Interpersonal Attraction Situational and psychological determinants of attraction: familiarity, reciprocity, similarity, and physical appearance 	Chapter 3
Wee k4	 Lesson 4: Social perception Formation of impressions of others and attributions Authenticity and effectiveness of social perceptions: the role of prejudices, biases and errors perception , schemas, self-esteem, self-concept confirmation, self-presentation 	Chapter 4
Week 5	 Lesson 5: Interpersonal Communication Verbal and non-verbal communication Functional and dysfunctional communication. ***Submission of the article summary 	Chapter 5
Week 5	 Lesson 6: Growing and Maintaining a Relationship Interdependence Theory 	Chapter 6

	Self-disclosures, trust, commitment and conflictInfluence of environmental factors	
Week 7	Lesson 7: MIDTERM 1	Chap. 1 - 6
Week 8	 Lesson 8: Friendship Attributes of friendship Rules of friendship Developmental perspective 	Chapter 7
Week 9	 Lesson 9: Love Love versus friendship Triangular Theory of Love ***Oral presentations: relationships and the internet 	Chapter 8
Week 10	 Lesson 10: Conflicts Conflict, breakup, separation and divorce Violence, harassment and assault ***Oral presentations, 2 groups: sexuality and betrayal 1 	Chapter 11
Week 11	 Lesson 11: Control, Power and Social Influence Reciprocity and fairness Bases of power and consequences of power Types of social influence ***Oral presentations, 2 groups: jealousy and betrayal 2 	Chapter 12
Week 12	 Lesson 12: Acceptance and Jealousy Relational evaluation , "hurt feelings", ostracism , jealousy ***Oral presentations: relationships at work 	Chapter 10
Week 13	 Lesson 13: Securing the Future of a Relationship Satisfaction in the couple 	Chapter 14

	Therapeutic intervention	
	FINAL EXAM	Chap. 7 - 14

*Please note that the schedule or the readings may be adjusted as the term progresses. If changes are made, they will be announced, and an updated schedule will be posted on the course website.

BIBLIOGRAPHY

- Berger, CR, Gardner, RR, Parks, MR, Schulman, L., Miller, GR (1976). Interpersonal epistemology and interpersonal communication. In G. R. Miller (Ed.) *Explorations in Interpersonal Communication*.
 Beverly Hills: Sage Publications.
- Bersheid, E & Regan, P. (2005). *The Psychology of Interpersonal Relationships*. Upper Saddle River, NJ: Pearson Education.
- Miller, R. S. Perlman, D. & Brehm, S. S. (2008). Intimate Relations , 5th edition. NY: McGraw-Hill.
- Brehm, S. (1984). Intimate relationships. In S. Moscovici (Ed.) *Social Psychology*, pp. 169 191. Paris: Presses Universitaires de France.
- Cuber, J.F. & Harroff, P.B. (1980). Five types of marriage. In J. M. Henslin (Ed.) *Marriage and Family in a Changing Society*. NY: The Free Press.
- Dragon, W. & Duck, S. (2005). Understanding Research in Personal Relationships: A Text with Readings . London: Sage Publications.
- Duck, S. (2007). *Human Relationships*, 4th ^{ed}. London: Sage Publications.
- Feldman, L.B. (1980). Depression and marital interaction. In J. M. Henslin (Ed.) *Marriage and Family in a Changing Society*. NY: The Free Press.
- Gelles, R. J. (1980). Abused wives: Why do they stay? In J. M. Henslin (Ed.) *Marriage and Family in a Changing Society*. NY: The Free Press.
- Gilbert, S. J. (1976). Empirical and theoretical extensions of self-disclosure. In G. R. Miller (Ed.) *Explorations in Interpersonal Communication*. Beverly Hills: Sage Publications.

Hendrick, C. & Hendrick, S. (1983). Liking, Loving & Relating . Monterrey, CA: Brooks/Cole.

Myers, GE & Myers, NT (1990). Fundamentals of Human Communication, 2nd ed. Montreal: McGraw-Hill.

Satir, V. (1965). *Couple and family therapy*. Paris: Presses Universitaires de France.

- Sternberg, R. J. (1988). Triangulating love. In R. J. Sternberg & M. L. Barnes (Eds.) *The Psychology of Love* . New Haven: Yale University Press.
- Vallerand, RJ (Ed.) (2006). *The Foundations of Social Psychology*, 2nd ^{edition}. Boucherville, Quebec: Gaëtan Morin.
- Watzlawick, P., Helmick-Beavin, J. & Jackson, D. (1972). *A Logic of Communication*. Paris: Éditions du Seuil.
- Wiseman, R.S. (1980). Crisis theory and the process of divorce. In J. M. Henslin (Ed.) *Marriage and Family in a Changing Society*. NY: The Free Press.

iii. PSYC 3452: Cognitive Neuroscience

ABBREVIATED COURSE TITLE

Cognitive Neuroscience

CALENDAR CHANGES

13.12.2 Majors Courses

PSYC 3452 Cognitive Neuroscience

is an introduction to the experimental study of how the brain gives rise to the mind. We will explore the neural mechanisms that support the various cognitive processes covered in Introduction to Human Cognition, such as selective attention and perception, language, decision making, and consciousness. There will be a particular focus on the experimental techniques that allow us to make observations about the brain and make connections between the brain, cognition, and behaviour.

PR: PSYC 2421, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience

CALENDAR ENTRY AFTER CHANGES

PSYC 3452 Cognitive Neuroscience

is an introduction to the experimental study of how the brain gives rise to the mind. We will explore the neural mechanisms that support the various cognitive processes covered in Introduction to Human Cognition, such as selective attention and perception, language, decision making, and consciousness. There will be a particular focus on the experimental techniques that allow us to make observations about the brain and make connections between the brain, cognition, and behaviour.

PR: PSYC 2421, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience

LIBRARY REPORT

Extracted from Part V.5 Library Report.

"PSYC 3452: Cognitive Neuroscience

The topics in this course are well represented in the holdings of MUN Libraries. I was very impressed with the Research Report pre-registration document assignment. Great to expose students at this level to that approach. "

RESOURCE IMPLICATIONS

None. As part of our larger set of program revisions, this course would be offered on a rotation basis along with other similarly structured courses (i.e., lecture courses of ~40 students who are Psychology or Behavioural Neuroscience majors), potentially in one semester in alternate years. Offering this course would not require any additional teaching resources, but would be assigned to the regular teaching load for department faculty.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS

This course can be taught by Blaire Dube, Heath Matheson, Jonathan Fawcett, but could potentially be taught by other cognition faculty or instructors with the relevant background.

A proposed syllabus is below.

PSYC 3452 – Cognitive Neuroscience

Date/Time/Location

Instructor:

Name Email: Office: Office Hours: Prerequisites: PSYC 2910, PSYC 2911, PSYC 2930, PSYC 2421, and admission to a Major in Psychology or Behavioural Neuroscience

TA:

Important Dates

Course Overview and Objectives

Cognitive Neuroscience is a rapidly growing field that sits at the intersection of psychology and neuroscience, fusing studies of human cognition and behavior with an interest in understanding the inner workings of the brain. The goal of this course is to provide an introduction to this fascinating field. Students will be introduced to the wide array of cutting-edge methodological techniques used in cognitive neuroscience, including neuroimaging (e.g., fMRI, EEG, TMS), patient studies, and behavioral approaches. We will explore how these approaches have enriched our understanding of human cognition, examining topics such as perception, object recognition, attention, memory, language, and social cognition.

Format

The course will be delivered in person, with lecture slides posted before each class. The lectures will cover content from the assigned textbook chapter, with a particular emphasis on concepts deemed especially important or relevant. Lectures will also cover other topics, like discussing a relevant research article or study, examining research methods in Cognitive Neuroscience, looking at and understanding data, and discussing real issues in the field of Cognitive Neuroscience.

Class Cancellations: Please consult official MUN communications (e.g., www.mun.ca, MUNSafe app, Twitter, etc.) for updates on weather-related campus closures. If class is cancelled due to campus closure, then class topics may be shifted to the next class; review classes may be eliminated if necessary. If campus is closed on the date of a midterm, then the midterm will be held on the next class date. For any other possible cancellations, you will be notified via an announcement on the course Brightspace page.

In the case of disruption or cancelation, and in the case of revisions to evaluation methods, the instructor or the Head of the department will notify all students registered in the course via the course shell in Brightspace. Any necessary revisions to the evaluation methods will be made in consultation with the students registered in this course. If a student demonstrates that they would be disadvantaged by the change, then, as per 6.7.4 of the University Calendar, accommodations will be made.

Textbook

The recommended textbook for this course is:

Gazzaniga, M. S., Ivry, R. B., & Mangun, G. R. (2018). *Cognitive Neuroscience: The Biology* of the Mind (5th ed.). New York: W.W.Norton

Evaluation

Research Report: Pre-Registration		40%
Exams (3):	20% each	60%
2 in class, 1 during formal exam period		
PREP Participation Bonus (up to 3%)		

Assignments & Tests



Research Report (40%): You will prepare a document called a **pre-registration**, which is a type of preliminary version of a scientific manuscript. Pre-registrations are becoming more common, particularly as Open Science initiatives start to gain traction. A scientific pre-registration allows researchers to propose and document

(or "register") an experiment they are planning on conducting. The goal is to make important decisions about the project (like detailed hypotheses) and how data will be treated *before the analysis stage*. This reduces researcher degrees of freedom, enhances science transparency, and ensures that projects are well thought-out before data collection begins.

You will propose an experiment that makes use of one of the methodologies that we cover in class. Your report will include a background section including a brief review of the existing literature and your proposed research question, detailed hypotheses, a detailed methodology section, and a section describing the implications and limitations of your work. More information about this report will be discussed in class and available on Brightspace.

Exams (60%): There will be three exams consisting of multiple choice and short answer questions. Two of these exams will be in-class, and one will be during the formal exam period scheduled by the Registrar's Office.

PREP: You may choose to participate in psychology experiments for bonus credit points. You may earn up to 3% bonus marks through PREP, but **at least 2% must come from in-person experiments** (only 1% may be obtained through online studies). You can view a list of available research experiences at http://mun.sona-systems.com. You will see a link to create a new account. Use your @mun.ca email address when you make your account. When you login for the first time, you will be provided with some background information on your rights and responsibilities as a student in PREP.

It is your choice to participate in any study. If you do not wish to participate in research, then you have the option of completing an alternative written assignment to earn the bonus credit points. Each assignment is worth one credit point, and you may choose to do as many as you wish, up to a maximum of 3. You may also choose to earn your bonus credit points with a combination of study participation and alternative written assignment(s). The choice is yours. Please contact Marilyn Simms (psych@mun.ca) for more information about the alternative assignment. Do not ask me, as I have very little to do with PREP/alternative assignments.

On that note, I have very limited access to PREP records. The only information I will get is the total number of credit points you've earned for the course. I cannot access which studies you've participated in, or whether your credit points have come from research participation or alternative assignment. Your grade cannot exceed 100% in this course.

Conduct

It is very easy to distract others in class if you are doing something that is not class related. Please keep cell phones out of sight during class (and please keep them silent). If you must take or make an important call or text, then please leave the room to do so. Laptops/tablets are permitted, but if you feel the need to use your computer for anything unrelated to class (checking e-mail, social networking, etc.), please leave the room to do so. **You will not be permitted access to cell phones or laptops during exams.** (Students who may need additional technological accommodations in class or during exams should contact the Blundon Centre and the course instructor; see below.)

Academic Integrity: Students are expected to adhere to principles of academic integrity. If you are uncertain about how to properly cite original sources in academic writing, please contact the instructor or TA for additional assistance before you submit a written assignment for evaluation. Please see the University Calendar Section 6.12 regarding policies related to academic misconduct. Cheating is not worth the risk to your academic career. If you're ever feeling so stressed that a few extra points in this course seem worth risking so much, please consider talking to me, your TA, or campus counseling services (see below).

Use of AI: The use of generative AI and AI-assisted technologies, such as chat GPT, is allowed in this course for writing assignments. However, it is the responsibility of the student to ensure that written work submitted 1) addresses the goals of the writing assignment, 2) contains

reliable information with sound sources, and 3) is well written with respect to clarity, format, organization of thoughts and transitions between ideas.

It is also required that should a student use AI and/or AI-assisted technologies that the following declaration be inserted at the beginning of the document. Failure to do so could result in a reduction of grade (to be determined based on the severity of the case) as a result of academic dishonesty. Please note that this declaration does not excuse the use of inaccurate or false citations/references, or the inclusion of plagiarized materials.

Declaration of generative AI and AI-assisted technologies in the writing process:

During the preparation of this work [NAME TOOL / SERVICE] was used to [REASON]. After using this tool/service, the content was reviewed and edited as needed and I take full responsibility for the content of the written work.

Accessibility and Equity

Memorial University of Newfoundland is committed to fostering equitable and accessible learning environments for all students. Accommodations for students with disabilities are provided in accordance with the Accommodations for Students with Disabilities Policy (www.mun.ca/policy/site/policy.php?id=239) and its related procedures. Students who feel that they may require formal academic accommodations to address barriers or challenges they are experiencing related to their learning are encouraged to contact Accessibility Services (the Blundon Centre) at the earliest opportunity to ensure any required accommodations are provided in a timely manner. You can contact Accessibility Services (Blundon Centre) by emailing blundon@mun.ca.

Please contact the course instructor privately to discuss any accommodations you may require in the classroom. Remember that the Blundon Centre requires advance registration for examwriting accommodations (at least 2 weeks prior to mid-terms and 4 weeks prior to final exams), and you will be expected to write exams at the regular class location for the standard duration if you do not register to write with the Blundon Centre.

Additional Supports: Memorial University offers a broad range of supports, many of which are listed at www.mun.ca/currentstudents/student/ and https://munsu.ca/resource-centres/. In particular, you might want to make use of:

- *The Commons* (QEII library) provides access to print, electronic and technology resources (including free internet access).
- The Counselling Centre (UC-5000) helps students develop their personal capabilities, ranging from study strategies to assisting distressed students.
- *Student Life* (ASK, UC-3005) answers questions about such things as courses, housing, books, financial matters and health.
- *The Writing Centre* (SN-2053, https://www.mun.ca/writingcentre/) is a free facility for students and helps them become better writers and critical thinkers.

- The MUN Campus Food Bank (Global Learning Centre) is open for all MUN students, employees, and pensioners dealing with food insecurity (https://www.mun.ca/campusfoodbank/About_Us.php)
- Free *Microsoft Office 365* download (https://my.mun.ca/)
- *NL Public Libraries* (https://nlpl.ca/use-the-library/free-internet-and-computers.html) also provide off-campus access to print, electronic and technology resources (including free internet access).

Tentative Schedule of Lecture Topics and Readings

Date	Торіс	Reading
September		
Weds, Sept 4	Introduction & Assignment Review	Syllabus
Fri, Sept 6	Overview of the brain	Chapter 2
Mon, Sept 9	Methods	Chapter 3
Weds, Sept 11	Methods	Chapter 3
Fri, Sept 13	Methods	Chapter 3
Mon, Sept 16	Perception	Chapter 5
Weds, Sept 18	Perception	Chapter 5
Fri, Sept 20	Object Recognition	Chapter 6
Mon, Sept 23	Object Recognition	Chapter 6
Weds, Sept 25	Review for Midterm 1	
Fri, Sept 27	MIDTERM 1	
Mon, Sept 30	No classes	
October		
Weds, Oct 2	Attention	Chapter 7
Fri, Oct 4	Attention	Chapter 7
Mon, Oct 7	Learning and Memory	Chapter 9
Weds, Oct 9	Learning and Memory	Chapter 9
Fri, Oct 11	Learning and Memory	Chapter 9
Mon, Oct 14	No classes	
Weds, Oct 16	Motor Control	Chapter 8
Fri, Oct 18	Motor Control	Chapter 8
Mon, Oct 21	Motor Control	Chapter 8
Weds, Oct 23	Emotion	Chapter 10
Fri, Oct 25	Emotion	Chapter 10
Mon, Oct 28	Review for Midterm 2	
Weds, Oct 30	MIDTERM 2	
November		
Fri, Nov 1	Language	Chapter 11
Mon, Nov 4	Language	Chapter 11
Weds, Nov 6	No classes	
Fri, Nov 8	Language and Hemispheric Specialization	Chapter 4
Mon, Nov 11	Cognitive Control	Chapter 12
Weds, Nov 13	Cognitive Control	Chapter 12
Fri, Nov 15	Cognitive Control	Chapter 12
Mon, Nov 18	Social Cognition	Chapter 13
Weds, Nov 20	Social Cognition	Chapter 13
Fri, Nov 22	Consciousness	Chapter 14
Mon, Nov 25	Consciousness	Chapter 14
Weds, Nov 27	Consciousness	Chapter 14
Fri, Nov 29	Final Exam review	
Mon, Dec 2	Last day of classes	

Please Note: The instructor reserves the right to make changes to the schedule for any reason.

ABBREVIATED COURSE TITLE

Clinical Psychology

CALENDAR CHANGES

13.12.2 Majors Courses

PSYC 3651 Clinical Psychology

provides an exploration into the foundational principles, theories, and practices that define the field of clinical psychology. This course offers students an overview of the theoretical frameworks and practical applications used in understanding and treating psychological disorders. Specific emphasis will be placed on current evidence-based practices in the field as well as clinical psychology's role within the broader context of mental health care.

PR: PSYC 2621, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience

CALENDAR ENTRY AFTER CHANGES

PSYC 3651 Clinical Psychology

provides an exploration into the foundational principles, theories, and practices that define the field of clinical psychology. This course offers students an overview of the theoretical frameworks and practical applications used in understanding and treating psychological disorders. Specific emphasis will be placed on current evidence-based practices in the field as well as clinical psychology's role within the broader context of mental health care.

PR: PSYC 2621, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience

SECONDARY CALENDAR CHANGES

n/a

LIBRARY REPORT

Extracted from Part V.5 Library Report.

"PSYC 3651: Clinical Psychology The topics in this course are well represented in the holdings of MUN Libraries.

In this case I would include mention of the Health Sciences Library, though the reliance on print literature would be minimal when compared with our online holdings.

We have specialized holdings that would be useful in this area, more specifically *Counselling and Psychotherapy Transcripts* and *Mental Measurements Yearbook with Tests in Print.* We would welcome conversations on how these and other resources could be helpful to students."

RESOURCE IMPLICATIONS

None. As part of our larger set of program revisions, this course would be offered on a rotation basis along with other similarly structured courses (i.e., lecture courses of ~40 students who are Psychology or Behavioural Neuroscience majors), potentially in one semester in alternate years. Offering this course would not require any additional teaching resources, but would be assigned to the regular teaching load for department faculty.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS

This course is being proposed as a 3000-level small enrollment course. There will be an assigned textbook. Instructors can be Clinical Faculty members in the Psychology Department, or clinicians in the community who are Registered Psychologists (i.e., Per Course Instructors).

A proposed syllabus is below:

Course Title: Introduction to Clinical Psychology Course Code: PSYC 3651 Semester: Winter 2026 Mode of Delivery: In-person

Course description: PSYC 3651 Introduction to Clinical Psychology provides an exploration into the foundational principles, theories, and practices that define the field of clinical psychology. This course offers students an overview of the theoretical frameworks and practical applications used in understanding and treating psychological disorders. Specific emphasis will be placed on current evidence-based practices in the field as well as clinical psychology's role within the broader context of mental health care.

Grading system: Students will be graded according to the grading scheme outlined in the University Calendar. Specifically, a numeric grading system will be used in this course (i.e., a value between 0% and 100% will be submitted to the Registrar).

Learning Objectives:

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

- 1. **Understand** the historical development and core concepts of clinical psychology.
- 2. **Identify** various psychological disorders and their diagnostic criteria.
- 3. **Apply** basic principles of psychological assessment and treatment.
- 4. **Evaluate** ethical issues and professional standards in clinical practice.
- 5. **Develop** critical thinking skills in analyzing clinical research and case studies

Required Text:

- Title: "Clinical Psychology "
- Author: Jonathan S. Abramowitz et al.
- Edition: 9th Edition; year 2023

Course Evaluation:

Assessments:

- 1. Midterm Exam: 25%
- 2. Final Exam: 35%
- 3. Case Study Analysis: 10%

- 4. Group presentation: 10%
- 5. Participation and Attendance: 10%
- 6. Research Article Critique: 10%

Use of AI: Academic integrity means taking full responsibility for the academic work you submit in this course, so that I can evaluate you on the basis of your own knowledge and effort. If generative AI tools have been used in the preparation of any course work, it should be appropriately acknowledged and cited as per the specific citation style used in this course.

The Memorial University Code states that "students, faculty, and staff shall treat others with respect and fairness, be responsible and honest, and uphold the highest standards of academic integrity." (Memorial University of Newfoundland, University Calendar, Section 2.0).

Instructor Feedback: Instructor feedback is welcome and informal suggestions encouraged at any time. Mid way through the course, you will be asked to provide feedback on what you think is going well and what may need changing in order to improve the class functioning and learning environment.

Additional Policies: The instructor for this class is committed to student equity and the provision of a safe learning environment regardless of race, colour, nationality, ethnic origin, social origin, religious creed, religion, age, disability, disfigurement, sex (including pregnancy), sexual orientation, gender identity, gender expression, marital status, family status, source of income or political opinion. Please discuss any concerns you may have with the instructor directly.

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.

Support for Students: Academic supports are available including, but not limited to:

Memorial University Libraries, The Commons (QEII Library), The Glenn Roy Blundon Centre, The Writing Centre, Center for Innovation in Teaching and Learning, Information Technology Services, Academic Advising, and specific departmental help centres.

Student life supports are available including, but not limited to: Student Wellness and Counselling Centre, Student Support and Crisis Management, MUN Chaplaincy, Sexual Harassment Office, The Circle: First Nations, Inuit & Métis Students Resource Centre, Disability Information Support Centre, International Students Resource Centre, Sexuality and Gender Advocacy, Student Parent Assistance & Resource Centre,

Students Older Than Average, Intersections – A Resource Centre for Marginalized Genders, and specific departmental societies.

Course Structure:

Week 1: Introduction to Clinical Psychology

- **Topics:** History, scope, and roles of clinical psychologists
- **Readings:** Chapters 1 & 2 of textbook
- Activity: Course overview and introduction to basic concepts

Week 2: Ethics in Clinical Psychology

- **Topics:** General Principles and Ethical Standards in Clinical Psychology
- Readings: Chapter 3
- Activity: Ethical dilemma and ethical decision making process

Week 3: Psychological Assessment and Clinical Interviewing

- **Topics:** Psychological testing and clinical interviews
- Readings: Chapters 4, 5,
- Activity: Workshop on conducting a clinical interview

Week 4: Psychological Assessment and Psychological Testing

- **Topics:** Psychological Testing
- Readings: Chapter 6
- Activity: Case study analysis

Week 5: Treatment Approaches

- **Topics:** Cognitive-behavioral therapy (CBT), psychodynamic therapy, and other therapeutic modalities
- Readings: Chapter 9, 10
- Activity: Role-play CBT and other therapies

Week 6: Treatment Approaches continued

- **Topics:** Cognitive-behavioral therapy (CBT), psychodynamic therapy, and other therapeutic modalities
- Readings: Chapters 11, 12
- Activity: Role-play CBT and other therapies

Week 7: Special Topics in Clinical Psychology

- **Topics:** Child and adolescent psychology and medial health
- **Readings:** Chapter 16
- Activity: Group presentation on special topics

Week 8: Research Methods in Clinical Psychology

- **Topics:** Research design, statistical methods, and evidence-based practice
- **Readings:** Assigned research article
- Activity: Critique of a clinical psychology research article

Week 9: Clinical Psychology in Practice

- **Topics:** Day in the life of a clinical psychologist, professional development
- **Readings:** Assigned reading will be provided by guest speaker
- Activity: Guest speaker

Week 10: Review and Exam Preparation

- **Topics:** Comprehensive review of course material
- Activity: Review session and Q&A

Week 11: Final Exam

ABBREVIATED COURSE TITLE

Animal Communication

CALENDAR CHANGES

PSYC 3751 Animal Communication

uses an interdisciplinary approach, grounded in theory, to explore the different sensory modalities used by animals to communicate, and how signals mediate interactions between individuals and in social networks. In addition to presenting classic and modern studies in animal communication, students will be guided towards developing critical thinking skills and improving their ability to synthesize and apply the concepts they learn.

PR: PSYC 2910, 2911, 2930, and PSYC 2721 or Biology 2721, which can be waived with instructor permission, and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 3751 Animal Communication

uses an interdisciplinary approach, grounded in theory, to an interdisciplinary approach and grounded in theory, the course will explore the different sensory modalities used by animals to communicate, and how signals mediate interactions between individuals and in social networks. In addition to presenting classic and modern studies in animal communication, students will be guided towards developing critical thinking skills and improving their ability to synthesize and apply the concepts they learn.

PR: PSYC 2910, 2911, 2930, and PSYC 2721 or Biology 2721, which can be waived with instructor permission, and admission to a Major in Psychology or Behavioural Neuroscience.

LIBRARY REPORT

Extracted from Part V.5 Library Report.

"PSYC 3751: Animal Communication The topic is well supported by Memorial Libraries under existing budget allocations."

RESOURCE IMPLICATIONS

None. As part of our larger set of program revisions, this course would be offered on a rotating basis along with other similarly structured courses (i.e., lecture courses of ~40 students who are Psychology or Behavioural Neuroscience majors), potentially in one semester in alternate years. Offering this course would not require any additional teaching resources, but would be assigned to the regular teaching load for department faculty.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS

Potential instructors include Pierre-Paul Bitton (Psychology) and David Wilson (Psychology).

A proposed syllabus is below.

Animal Communication (PSYC 3751)

Prerequisites PSYC 2910, 2911, 2930; PSYC 2721 or BIOL 2721; and admission to a major in Psychology or Behavioural Neuroscience

Instructor Dr. Pierre-Paul Bitton; Department of Psychology, e-mail: pbitton@mun.ca; Office hours: TBD 2 hours a week, or by appointment

Course synopsis

This third-year course will introduce students to animal communication, one of the most active areas of research in behavioral ecology, neurobiology, and evolutionary biology. Using an interdisciplinary approach and grounded in theory, the course will explore the different sensory modalities used by animals to communicate, and how signals mediate interactions between individuals and in social networks. In addition to presenting classic and modern studies in animal communication, students will be guided towards developing critical thinking skills and improving their ability to synthesize and apply the concepts they learn.

Topics

Signals and communication; Sound signal production; Sound signal reception; Visual signal production; Visual signal reception; Chemical signals; Short range modalities – Touch, Electroreception; Economics of communication; Signal evolution; Conflict resolution, Social integration; Communication networks

Resources

1) Textbook: Bradbury and Vehrencamp (2011). Principles of Animal Communication. This is still the best general animal communication textbook.



2) Web Resources:

Brightspace course website: Online information for this course will be shared through the website Brightspace. When you log in to Brightspace (https://online.mun.ca/) with your MUN log-in username and password you should see an icon for PSYC####. The course website will contain material that I will upload throughout the semester. Specifically, look for the "Course Content" tab on the main page. There, you will see several folders including 'Lectures'. I will always post these before class meetings. There is also an announcement section on the main page of the course website. This will be used to make any necessary announcements such as class cancellations or changes to test dates, etc. This will be my main mode of communication with you outside of the class meetings.

Lecture slides: Lecture slides are uploaded as a courtesy to assist your note taking, and have been edited to contain most but not all information presented in class. Therefore, they are not a substitute for attending class. You are responsible for taking your own notes in class.

3) Other resources

Memorial University has many services that provide support to students. These include the Counselling Centre (workshop on study tips, test taking, etc...), International Students Office, QEII Library, Writing Centre, and Psych Society Help Centre (AS 348). If there are areas in which you are struggling, or need extra assistance please contact me. If I cannot help you, I will refer you to someone who should be able.

Course Evaluation

Term Exam – Covers 1st half of material	25%
Final exam – Date determined by Registrar's office - Comprehensive	25%
Assignments – Five assignments throughout semester worth 5% each	25%
Term Project -	

Policy regarding missed tests

A missed term exam will not be re-scheduled. If an acceptable excuse is provided within 48 hours of the scheduled exam, the mark from the missed test will be added to the final exam.

Only valid reasons for missing a test:

1) A medical condition*.

2) Death of a family member*

3) A special circumstance discussed with and approved by the Instructor prior to the test or exam (e.g. representing the university at a sporting event).

If you miss a test or the final exam for a non-valid reason (e.g., sleeping in, forgetting the exam time, etc.) you will receive a grade of zero for that test or exam.

*Note: You must provide written documentation for a missed test by email to the instructor within 48 hours of a missed test. This does not mean a doctor's note, but at least an email indicating that you could not make the test due to being sick.

For a missed final exam, you will have to contact the Department of Psychology immediately and comply with university and departmental regulations concerning a missed final exam.

General Policies

All students are encouraged to consult the current MUN calendar concerning drop and add dates, general undergraduate regulations, and academic offenses. The University diary can be found at: https://www.mun.ca/regoff/calendar/sectionNo=GENINFO-0086. Please note that any violation of "proper conduct" (e.g. cheating, etc.) will result in your removal from the course and possible additional academic penalties (see following section).

Code of conduct

Memorial University of Newfoundland expects that students will conduct themselves in compliance with University Regulations and Policies, Departmental Policies, and Federal, Provincial and Municipal laws, as well as codes of ethics that govern students who are members of regulated professions. The Student Code of Conduct outlines the behaviors which the University considers to be non-academic misconduct offences, and the range of remedies and/or penalties which may be imposed. Academic misconduct is outlined in UNIVERSITY REGULATIONS - Academic Misconduct in the University Calendar.

For more information about the Student Code of Conduct, see www.mun.ca/student. Also, a document is available on the Department's web site to inform students about plagiarism (http://www.mun.ca/psychology/undergrad/Plagiarism.pdf).

Accommodation of students with disabilities

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 should identify themselves to the instructor as soon as possible so that provisions can be made to help facilitate the learning experience, and are asked to initiate the request with the Glenn Roy Blundon Centre at the earliest opportunity (www.mun.ca/blundon).

Email policy

To contact me by e-mail, use pbitton@mun.ca, not the internal email in Brightspace. Every effort will be made to respond within 24h, with the exceptions of weekends and holidays. When emailing me you must use your MUN assigned email address. Also, please include in your email the course (PSYC####) preferably in the subject line. Also, check D2L and this syllabus for general information about the course (test dates, etc.) before emailing me.

ABBREVIATED COURSE TITLE

Animal Cognition

CALENDAR CHANGES

PSYC 3752 Animal Cognition

will use a comparative approach to teach students about how animals acquire, process, and use information. Early lectures will cover mechanisms such as perception, learning, memory, and recognition. Later lectures will consider how cognition enables animals to interact with their physical and social environments by facilitating navigation, counting, planning, tool use, communication, cooperation, social learning, teaching, and other abilities. A focus will be on why these abilities evolve in some animal groups but not others.

PR: PSYC 2910, 2911, 2930, and PSYC 2721 or Biology 2721, which can be waived with instructor permission, and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 3752 Animal Cognition

will use a comparative approach to teach students about how animals acquire, process, and use information. Early lectures will cover mechanisms such as perception, learning, memory, and recognition. Later lectures will consider how cognition enables animals to interact with their physical and social environments by facilitating navigation, counting, planning, tool use, communication, cooperation, social learning, teaching, and other abilities. A focus will be on why these abilities evolve in some animal groups but not others.

PR: PSYC 2910, 2911, 2930, and PSYC 2721 or Biology 2721, which can be waived with instructor permission, and admission to a Major in Psychology or Behavioural Neuroscience.

LIBRARY REPORT

Extracted from Part V.5 Library Report.

"PSYC 3752: Animal Cognition

The topic is well supported by Memorial Libraries under existing budget allocations."

RESOURCE IMPLICATIONS

None. As part of our larger set of program revisions, this course would be offered on a rotating basis along with other similarly structured courses (i.e., lecture courses of ~40 students who are Psychology or Behavioural Neuroscience majors), potentially in one semester in alternate years. Offering this course would not require any additional teaching resources, but would be assigned to the regular teaching load for department faculty.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS

Potential instructors include Carolyn Walsh (Psychology) and David Wilson (Psychology).

A proposed syllabus is below.

Animal Cognition (PSYC 3752)

Semester and section details TBD; 3 credit hours

Lectures	In-person; date, time, and location TBD
Prerequisites	PSYC 2910, 2911, 2930; PSYC 2721 or BIOL 3750; and admission to a major in Psychology or Behavioural Neuroscience
Instructor	Dr. David Wilson; Department of Psychology, SN-3085; phone: 709-864-8291; email: dwilson@mun.ca; office hours: TBD, by appointment, or by dropping in whenever my door is open
Teaching assistant	TBD; office hours by appointment
Course communications	Notifications about the course will be posted to students via Brightspace; students wishing to contact the instructor should email dwilson@mun.ca; every effort will be made to respond to emails within 24 hours

Course synopsis

This course will use a comparative approach that integrates theory from psychology, ecology, and evolution to teach students about how and why animals acquire, process, and use information. Early lectures will cover fundamental mechanisms of cognition, such as perception, learning, memory, and recognition. The second part of the course will consider how cognition enables animals to interact with their physical and social environments. For example, how do animals navigate, do they comprehend time, can they count, plan, and use tools? When interacting with others, do they learn from them, communicate, cooperate, and teach? Do animals have culture, theory of mind, and language. A major focus will be on why these abilities evolve and why they are limited to certain animal groups.

Topics

categorization; cognitive evolution; communication; cooperation; episodic memory; human versus nonhuman cognition; learning; memory; metacognition; numerical cognition; perception; social knowledge; social learning; spatial cognition; temporal cognition; tool use **Required textbook:** Shettleworth SJ (2009). Cognition, Evolution, and Behaviour, 2nd edition. Oxford University Press, USA. pp. 720.

Supporting material available on Brightspace (http://online.mun.ca)

- 1. Lecture slides: most lecture material will be available
- 2. Assignments
- 3. Materials for group and class discussions



Evaluation (grades will be posted on Brightspace; assignments will be returned when marked)	
Assignments (4 assignments x 10 marks each)	40%
Writing project and oral presentation on chosen topic	20%
Midterm test	20%
Final exam	20%

....

Notes about grades

You are expected to take the tests at the scheduled times. If a test is missed for an acceptable reason, then a make-up test will need to be written at a time agreed upon by the student and instructor. If a time cannot be agreed upon, then the missed test will be written immediately following the final exam. If a test is scheduled for a date when class is cancelled, it will be deferred to the following class. Assignments 1–4 and the writing project must be submitted to Brightspace by their due dates or will incur a penalty of 10% per day (including weekends) that they are late. The oral presentation must be given during the assigned class or will incur a penalty of 10% per class that it is not given.

Method of instructional continuity

In the case of a class disruption or cancellation, and in the case of revisions to evaluation methods, the instructor or the Head of the Department will notify all students registered in the course via Brightspace. Any necessary revisions to evaluation methods will be made in consultation with the students registered in this course. If a student demonstrates that they would be disadvantaged by the change, then, as per 6.7.4 of the University Calendar, accommodations will be made.

If Memorial University campus operations are required to change because of health concerns related to the COVID-19 pandemic or any other public health concern, it is possible that this course will rapidly move to a fully online delivery format. Remote lectures will be held synchronously via Webex, and

recordings of the lectures will be posted afterwards on Brightspace. Notification of remote learning methods, including Webex connection details and any changes to course materials, will be communicated via Brightspace. All assignments for the course can be completed remotely and uploaded to Brightspace, so no changes are necessary if we transition to remote learning. Midterm and final exams that are normally held in person will be completed online. Instructions for exams will be communicated via Brightspace.

Policy on professionalism

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.

Students with disabilities

Memorial University of Newfoundland is committed to fostering equitable and accessible learning environments for all students. Accommodations for students with disabilities are provided in accordance with the Accommodations for Students with Disabilities Policy

(www.mun.ca/policy/site/policy.php?id=239) and its related procedures. Students who feel that they may require formal academic accommodations to address barriers or challenges they are experiencing related to their learning are encouraged to contact Accessibility Services (the Blundon Centre) at the earliest opportunity to ensure any required academic accommodations are provided in a timely manner. You can contact Accessibility Services (Blundon Centre) by emailing blundon@mun.ca.

vii. PSYC 4471: Research Experience in Cognitive Neuroscience

ABBREVIATED COURSE TITLE

Res Exp Cog Neuro

CALENDAR CHANGES

13.12.2 Majors Courses

PSYC 4471 Research Experience in Cognitive Neuroscience

allows students to gain experience in cognitive neuroscience research techniques.

PR: PSYC 2910, 2911, 2930, 3452, and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4471 Research Experience in Cognitive Neuroscience

allows students to gain experience in cognitive neuroscience research techniques.

PR: PSYC 2910, 2911, 2930, 3452, and admission to a Major in Psychology or Behavioural Neuroscience.

LIBRARY REPORT

Extracted from Part V.5 Library Report.

"PSYC 4471: Research Experience in Cognitive Neuroscience The topic is well supported by Memorial Libraries under existing budget allocations."

RESOURCE IMPLICATIONS

None. As part of our larger set of program revisions, this course would be offered on a rotating basis along with other similarly structured courses (i.e., research experience courses of ~20 students who are Psychology or Behavioural Neuroscience majors), potentially in one semester in alternate years. Offering this course would not require any additional teaching resources, but would be assigned to the regular teaching load for department faculty.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS

This course can be taught by Blaire Dube, Heath Matheson, Jonathan Fawcett, but could potentially be taught by other cognition faculty or instructors with relevant background.

A proposed syllabus is below.

PSYC 4471 – Research Experience in Cognitive Neuroscience

Classes: Mondays/Wednesdays/Fridays 12:00pm-12:50pm

Location: SN 3071

Instructor: Dr. Jonathan Fawcett Email: jfawcett@mun.ca Phone: 864-8020 Office: SN 3073 Office Hours: Thursdays 10am-12pm (or by appointment)

TA:

Email:

Office Hours: (by appointment)

Course Overview

Prerequisites: PSYC 3452 and admission to a Major in Psychology or Behavioural Neuroscience

This course is designed to provide hands-on research experience in cognitive neuroscience and related research areas. This year, we will be focusing on the application of electroencephalography (EEG) to the study of human attention or memory. In the first part of the course, we will be reading some primary research articles and discussing topics related to the acquisition and analysis of EEG data.

The first part of this course will focus on the nature of EEG data, its processing and analysis. Based on these lectures, students will process and analyze a sample data set provided to them, producing a results section detailing those analyses. In the second part of the course, students will work in groups to formulate their own experiment for their Research Project. Students will work together to generate an idea, design and program the experiment, and complete an ethics proposal. Students will collect data and analyze the results and will present their findings in a group presentation at the end of the semester. Each student will also submit an independently written research report based on their experiment.

Assignment	Due Date (11:59pm)	Percentage
Data Processing and Analysis	October 16	20%
Project		
Group Ethics Proposal	October 21	5%
Group Data Analysis Plan	October 28	15%
Group Project Presentation	November 25, 27, 29	15%
Group Project Participation		5%
Final Research Paper	December 8	40%

Evaluation

General Assignment Policies

All assignments should be submitted online in the appropriate folder on the course Brightspace page. Feedback (commented documents) will be provided in response to your submissions here. Late assignments will be penalized 5% per day late and will not be accepted one week after the original due date. If you are unable to submit an assignment on its scheduled due date, please contact the instructor *before* the due date.

Software Requirements

There is no textbook required for this class: all readings are available online. For our group experiments, we will be learning how to program in PsychoPy. PsychoPy is free software that allows you to build Python code-based experiments, but in a more user-friendly environment (i.e., you are not required to learn how to code, although coding can help improve the complexity of your experiment). You are encouraged to download the latest version of PsychoPy and begin watching some of the recommended tutorials (below) early in the semester. In addition, this course will make use of Matlab (or Octave, a free variant of that program) to process your data. You will need to download this software from the MUN website.

Computer Requirement

Research in cognitive neuroscience relies heavily on computer use; nearly all experiments are programmed and run on computers. A significant component of this course will therefore involve using a computer to work on programming an experiment for the group research project (see below). The required software for this course is available for both Windows and Apple operating systems, and is all available free of charge. If you do not have a computer available to you for regular use, please contact the course instructor regarding use of one of the desktop computers in the lab room.

Class Delivery

Classes will be held in the 3rd floor Psychology computer lab. However, given that most MUN students have and prefer using their own laptops, the computer lab space no longer includes a desktop computer for each student in the class. Students are asked to bring their own laptop to class. If you do not have a

laptop available for working in class, then please contact the course instructor to discuss arrangements, as a limited number of desktop computers will be available for use during class.

Health and Accommodations

To protect yourself and those around you, it is important to stay home if you feel unwell or if you are under quarantine because you have potentially been exposed to a virus. Please keep me informed so we can work together to allow you to keep up with the course materials should you need to miss classes. You will not be penalized if you need to stay home for quarantine. Memorial University has recognized the importance of academic leniency as we work to keep our campus safe for all. Whenever possible, I can add a WebEx live stream of class to the in-person delivery to help you stay connected when you need to stay home.

Please note that I may also need to cancel in person classes from time to time for health reasons, either my own or my family's. If I do need to cancel a class (or switch to remote delivery), I will try to give you as much advance notice as possible, via Brightspace announcement. If possible, I will provide material via recorded content or make up the material in subsequent classes. Group participation can readily accommodate students working remotely during class time.

Memorial University of Newfoundland is committed to fostering equitable and accessible learning environments for all students. Accommodations for students with disabilities are provided in accordance with Accommodations for Students with Disabilities Policy (www.mun.ca/policy/site/policy.php?id=239) and its related procedures. Students who feel that they may require formal academic accommodations to address barriers or challenges they are experiencing related to their learning are encouraged to contact Accessibility Services (the Blundon Centre) at the earliest opportunity to ensure any required academic accommodations are provided in a timely manner. You can contact Accessibility Services (Blundon Centre) by emailing blundon@mun.ca.

Please contact the course instructor privately to discuss any accommodations you may require in the classroom or regarding completion of assignments.

Evaluation

The use of generative AI and AI-assisted technologies, such as ChatGPT, is allowed in this course for writing assignments. However, it is the responsibility of the student to ensure that written work submitted: 1) addresses the goals of the writing assignment; 2) contains reliable information with sound sources; and 3) is well written with respect to clarity, format, organization of thoughts and transitions between ideas.

It is also required that should a student use AI and/or AI-assisted technologies that the following declaration be inserted in the document. Failure to do so could result in a reduction of grade (to be determined based on the severity of the case) as a result of academic dishonesty. Please note that this declaration does not excuse the use of inaccurate or false citations/references, or the inclusion of plagiarized materials.

Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work [NAME TOOL / SERVICE] was used in order to [REASON]. After using this tool/service, the content was reviewed and edited as needed and I take full responsibility for the content of the written work.

Paper 1: Data Processing and Analysis Tutorial (20%)

Following hands-on instruction concerning the processing of EEG data, students will be provided with a data set to process independently. You will then independently write an APA-style Results section of a research report for this experiment, as if it were one you were conducting the experiment, including a figure or table.

Research Project

Students will work in groups of five or six to complete a Research Project over the semester. The project must be in the realm of cognitive neuroscience, and we specifically recommend a simple paradigm, such as the production effect (discussed in class). In the project, students will perform additional background research and generate an experiment to test a hypothesis that has not previously been tested in the literature. Although we will work in class to learn how to use the PsychoPy Builder software, you will likely need to spend some time outside of class watching tutorial videos. We will also work in groups in class on programming your own experiment, and on collecting and analyzing data. Groups should have a good idea of what they will be examining by the mid-October, in time to prepare the ethics proposal. Details of group experiments will be finalized in class discussions on October 7 and 9.

Ethics Proposal (5%)

Prior to completing your group ethics proposal, you are required to complete an online tutorial in research ethics in Canada, the Tri-Council Policy Statement (TCPS 2). You can complete this tutorial online anytime before October 1 (and you may have already completed this tutorial—there is no need to re-do it if you have already completed it); there is a link to the tutorial available on Brightspace. You can obtain a .pdf certificate of completion for the course; submit this in the dropbox on Brightspace by October 6 at 11:59pm.

In class, we will discuss how to write an ethics proposal for your experiment. Students will work in their Research Project groups to write a proposal that will be reviewed by the Departmental Ethics Review Committee. An initial draft of this proposal is due on October 18 at 11:59pm. You will receive prompt feedback, and your final version is due on October 23 at 11:59pm so that it can be submitted to the review committee in time for data collection.

Group Data Analysis Plan (15%)

To ensure that groups are planning appropriately, a data analysis plan (and predictions) will be submitted prior to data collection. Groups will identify their experiment's independent and dependent variables, describe the planned statistical analyses, and make predictions about the pattern they expect to see. More details will be available on Brightspace. The data analysis plan is due on October 28 at 11:59pm.

Group Presentation (15%)

In the final week of classes of the semester, students will give group presentations on their Research Projects. You should cover the background, rationale, method, results, and discussion of your Research Project. Students in a group are expected to contribute equally to the presentation. Presentations should take <u>approximately 20 minutes</u>.

Group Participation (5%)

Everyone in a research project group is expected to contribute to the project. There will be plenty of class time to work on the group project, but you may require additional time outside of class to work on the project. Not everyone needs to contribute *equally* to every component of the project, but there are many aspects to consider, such that everyone can contribute *equitably*. That is, the group must select a general research project topic and a specific experiment. Stimuli must be found, the experiment programmed, and the data analyzed (and sometimes coded first). The ethics application must be completed and submitted, and the group presentation slides must be completed, etc.

Different individuals will likely have strengths in different areas; groups are expected to work together to determine how each member will contribute equitably to the project. At the end of the semester, you will be asked to suggest a participation grade for your group members (out of 5) via survey on Brightspace. The survey will be available during the final week of class and will close when the final papers are due (December 8).

Final Research Paper (40%)

Although students will work in groups on their Research Project, each student should work independently on their own final paper. Although I expect to see some overlap in the general outline of the paper (and of course the Methods and Results sections are likely to be highly similar), students should write their own papers. Final papers are due after the end of classes, Sunday, December 8 at 11:59pm.

Conduct

This is a small class, which means that it is very easy to distract others if you are doing something that is not class-related. Please keep cell phones out of sight during class (and certainly keep them silent). If you must take or make an important call (or text), then please leave the room to do so.

Students are expected to be aware of and adhere to principles of academic integrity. **If you are uncertain** about how to properly cite original sources in academic writing, please **contact the instructor or TA** for additional assistance **before you submit a written assignment** for evaluation. Please see the University Calendar Section 6.12 regarding regulations related to academic misconduct.

Topic Readings

Some readings may be posted on Brightspace if they are not currently available from the library.

Class Topics and Timeline

Week	General Content
Sept. 1	Introduction
Sept. 8	ERPs and Common Components
Sept. 15	ERP Experimental Design and the Principles of ERP Recording
Sept. 22	Artifacts and Fourier Analysis
Sept. 29	Averaging and Quantifying ERPs
Oct. 6	Statistical Analysis of ERPs
Oct. 13	Experiment Design and Experiment Building
Oct. 20	Experiment Building
Oct. 27	Experiment Building
Nov. 3	Data Collection
Nov. 10	Data Collection
Nov. 17	Data Analysis and Interpretation
Nov. 24	Group Presentations
Dec. 1	Group Presentations
3. Appendix: Consultations, Responses, Resource Implications

1. CONSULTATIONS SOUGHT

As per standard Appendix Page. See Part V.

Specific to this section, consultation was sought with the library via the following request:

requesting library report for new course proposals - Psychology					
DH	Deputy Head, Department of Psychology <psychdeputyhead@mun.ca< td=""><td>← Reply</td><td>🏀 Reply All</td><td>→ Forward</td><td></td></psychdeputyhead@mun.ca<>	← Reply	🏀 Reply All	→ Forward	
	To Libraries Hiring Panel Cc Student Advisor Department of Psychology; Head Psychology; Blandford, Stephanie Nic			Thu 2024-10-03	9:11 AM
	PSYC New Course Proposals Oct 2024.docx 2 MB				

Hello,

The Department of Psychology is proposing a large series of calendar changes (to be sent for consultation separately), including proposals for several new courses. These include two larger, non-restricted, lecture-based courses and seven smaller, majors-restricted courses at upper year levels.

Please see the attached document that includes the senate forms and example syllabi for the new course proposals only. We would like to request library reports for these new course proposals by Friday, November 15, 2024 (six weeks from tomorrow).

Please let me know if you have any questions.

Best, -Kathleen Hourihan -------Kathleen L. Hourihan, PhD (she/her) Associate Professor Deputy Head Department of Psychology Memorial University of Newfoundland (709) 864-8771

2. RESPONSES RELEVANT TO THIS SECTION

None as of 05 November 2024

3. RESOURCE IMPLICATIONS

None. Please see **Part V.4** for full rationale.

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form Cover Page

Part III: Amended Courses

- 1. Amendments to PSYC Courses Being Renumbered
- 2. Amendments to PSYC Courses Having PRs Renumbered
- 3. Amendments to PSYC Courses Being Renumbered, PRs Revised
- 4. Amendments to PSYC Courses Being Renumbered and Now Allowed for PSYC Major
- 5. Amendments to PSYC Courses Changing to 2000 Level and Changing PRs
- 6. Amendments to PSYC Courses Changing to 3000 Level and Updating PRs
- Amendments to PSYC Courses Removing PSYC 2520/2521 as PRs
- 8. Amendments to PSYC Courses Adding PSYC 2910, 2911, 2X21, and 2930 to PR
- 9. Amendment to PSYC 2010 Biological and Cognitive Development
- 10. Unique Amendment to PSYC Courses
- 11. Appendix Page

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:

- \Box New course(s):
- X Amended course(s):
- \Box New program(s):
- \Box 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)
- □ 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: _____

1.Amendments to PSYC Courses Being Renumbered

COURSE NUMBER AND TITLE

- i. PSYC 2520 Introduction to Behavioural Neuroscience
- ii. PSYC 2521 Introduction to Behavioural Neuroscience for Behavioural Neuroscience Majors

REVISED COURSE NUMBER AND TITLE

- i. PSYC 2821 Introduction to Behavioural Neuroscience
- ii. PSYC 2822 Introduction to Behavioural Neuroscience for Behavioural Neuroscience Majors

RATIONALE

As part of our larger set of program revisions, these courses are being renumbered to be consistent with our course numbering system. For PSYC 2520, we are also removing the requirement to be a Psychology or Behavioural Neuroscience Major.

ANTICIPATED EFFECTIVE DATE

2025-2026 University Calendar

i. PSYC 2520 Introduction to Behavioural Neuroscience

CALENDAR CHANGES

PSYC 2520 2821 Introduction to Behavioural Neuroscience

is based on the idea that psychological and neuroscience research efforts are synergistic. Neuroscience research can reveal mechanisms that help explain the mind and behavior, while concepts developed by psychological research often define the topics that neuroscience investigates. The course will survey a broad range of topics that include the fundamentals of neuroanatomy, neurophysiology, and neurodevelopment, as well as higher level functions such as motivation, emotion, sleep, memory, language, and mental illness.

CR: PSYC 2521, 2822, 2810, 2825, the former 2521the former PSYC 3801 PR: PSYC 1000 1001 and admission to a Major in Psychology or Behavioural Neuroscience; minors may be permitted to take this course if space permits EQ: the former PSYC 2520

UL: not applicable for credit towards the Major in Behavioural Neuroscience

CALENDAR ENTRY AFTER CHANGES

PSYC 2821 Introduction to Behavioural Neuroscience

is based on the idea that psychological and neuroscience research efforts are synergistic. Neuroscience research can reveal mechanisms that help explain the mind and behavior, while concepts developed by psychological research often define the topics that neuroscience investigates. The course will survey a broad range of topics that include the fundamentals of neuroanatomy, neurophysiology, and neurodevelopment, as well as higher level functions such as motivation, emotion, sleep, memory, language, and mental illness.

CR: PSYC 2822, 2810, 2825, the former 2521 PR: PSYC 1000 EQ: the former PSYC 2520 UL: not applicable for credit towards the Major in Behavioural Neuroscience

ii. PSYC 2521 Introduction to Behavioural Neuroscience for Behavioural Neuroscience Majors

CALENDAR CHANGES

PSYC 2521 2822 Introduction to Neuroscience for Behavioural Neuroscience Majors

is a comprehensive survey of the different domains of behavioural neuroscience, with an emphasis on systems level. It will cover a broad range of topics including the fundamentals of neuroanatomy, neurophysiology, and neurodevelopment, as well as higher level functions such as sleep, emotion, language, consciousness and mental illness. Students will be able to describe the basic mechanisms involved in neural system function and how they affect behaviour and several forms of neuroplasticity.

CR: PSYC 2520, <u>2821</u>, 2810, 2825, <u>the former 2520</u>, <u>the former 3801</u> LH: one 3-hour laboratory period weekly PR: PSYC 1000, 1001, admission to a Major in Behavioural Neuroscience, and Science 1807 and 1808. <u>EQ: the former PSYC 2521</u> UL: not applicable for credit towards the Major in Psychology

CALENDAR ENTRY AFTER CHANGES

PSYC 2822 Introduction to Neuroscience for Behavioural Neuroscience Majors

is a comprehensive survey of the different domains of behavioural neuroscience, with an emphasis on systems level. It will cover a broad range of topics including the fundamentals of neuroanatomy, neurophysiology, and neurodevelopment, as well as higher level functions such as sleep, emotion, language, consciousness and mental illness. Students will be able to describe the basic mechanisms involved in neural system function and how they affect behaviour and several forms of neuroplasticity.

CR: PSYC 2821, 2810, 2825, the former 2520 LH: one 3-hour laboratory period weekly PR: PSYC 1000, admission to a Major in Behavioural Neuroscience, and Science 1807 and 1808 EQ: the former PSYC 2521 UL: not applicable for credit towards the Major in Psychology

2.Amendments to PSYC Courses Having PRs Renumbered

COURSE NUMBER AND TITLE

- i. PSYC 3800 Cellular and Molecular Neuroscience
- ii. PSYC 4753 Selected Topics in Animal Behaviour: Visual Ecology

REVISED COURSE NUMBER AND TITLE

n/a

RATIONALE

As part of our larger set of program revisions, these courses will have their prerequisites revised to account for revisions to the numbering of those pre-requisites. The ordering of the pre-requisites will be revised slightly to improve readability. PSYC 4753 will also be cross-listed with Biology.

ANTICIPATED EFFECTIVE DATE

2025-2026 University Calendar

i. PSYC 3800 Cellular and Molecular Neuroscience

CALENDAR CHANGES

PSYC 3800 Cellular and Molecular Neuroscience

addresses the structure and function of neurons and neural circuits and examines principles of electrochemical neural communication at the macroscopic, microscopic and molecular level. The relevance of this knowledge to understanding brain mechanisms of normal and diseased brain functions will be touched upon. The molecular basis of the formation of some types of memories will be explored.

LH: one laboratory period weekly

OR: Animal Care Online Training and Animal Handling Training must be completed prior to start of this course

PR: PSYC: 2520 or 2521, Biology BIOL 1001 and 1002; 2910, 2911, and 2930, or the former 2570, Biology 1001 and 1002;; and admission to a Major in Psychology or Behavioural Neuroscience and Science 1807 and 1808.

PR: PR: PSYC 2821 or 2822; Biology 1001 and 1002; Science 1807 and 1808; either PSYC 2910 and PSYC 2911 and PSYC 2930 and admission to a Major in Psychology or Behavioural Neuroscience, or Statistics 2550 and permission of the instructor.

CALENDAR ENTRY AFTER CHANGES

PSYC 3800 Cellular and Molecular Neuroscience

addresses the structure and function of neurons and neural circuits and examines principles of electrochemical neural communication at the macroscopic, microscopic and molecular level. The relevance of this knowledge to understanding brain mechanisms of normal and diseased brain functions will be touched upon. The molecular basis of the formation of some types of memories will be explored.

LH: one laboratory period weekly

OR: Animal Care Online Training and Animal Handling Training must be completed prior to start of this course

PR: PR: PSYC 2821 or 2822; Biology 1001 and 1002; Science 1807 and 1808; either PSYC 2910 and PSYC 2911 and PSYC 2930 and admission to a Major in Psychology or Behavioural Neuroscience, or Statistics 2550 and permission of the instructor.

ii. PSYC 4753 Selected Topics in Animal Behaviour: Visual Ecology

CALENDAR CHANGES

PSYC 4753 Seminar in Visual Ecology

will examine the properties of light relevant to understanding animal communication, the origin and evolution of animal vision, the role of vision in communication, how visual systems and animal colouration coevolve with light environments, the detection of motion and polarization, visual modelling and more.

EQ: Biology 4753

PR: PSYC <u>2721 or Biology 37502721</u>, and admission to a Major in Psychology or Behavioural Neuroscience

CALENDAR ENTRY AFTER CHANGES

PSYC 4753 Seminar in Visual Ecology

will examine the properties of light relevant to understanding animal communication, the origin and evolution of animal vision, the role of vision in communication, how visual systems and animal colouration coevolve with light environments, the detection of motion and polarization, visual modelling and more.

EQ: Biology 4753 PR: PSYC 2721 or Biology 2721, and admission to a Major in Psychology or Behavioural Neuroscience

SECONDARY CALENDAR CHANGES

BIOL 4753 Seminar in Visual Ecology

will examine the properties of light relevant to understanding animal communication, the origin and evolution of animal vision, the role of vision in communication, how visual systems and animal colouration coevolve with light environments, the detection of motion and polarization, visual modelling and more.

EQ: Psychology 4753 PR: Psychology 2721 or BIOL 2721

LIBRARY REPORT N/A RESOURCE IMPLICATIONS None ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS N/A

3.Amendments to PSYC Courses Being Renumbered, PRs Revised

COURSE NUMBER AND TITLE

- i. PSYC 3810 Neurobiology of Learning and Memory
- ii. PSYC 3820 Research Techniques in Behavioural Neuroscience
- iii. PSYC 3830 Hormones and Behaviour
- iv. PSYC 3840 Neurobiology of Stress
- v. PSYC 3860 Neuropsychopharmacology

REVISED COURSE NUMBER AND TITLE

- i. PSYC 3850 Neurobiology of Learning and Memory
- ii. PSYC 3802 Research Techniques in Behavioural Neuroscience
- iii. PSYC 3851 Hormones and Behaviour
- iv. PSYC 3852 Neurobiology of Stress
- v. PSYC 3853 Neuropsychopharmacology

RATIONALE

As part of our larger set of program revisions, these courses will have their prerequisites revised to account for revisions to the numbering of their pre-requisites, and will be renumbered for consistency with our numbering system. The ordering of the prerequisites will be revised slightly to improve readability.

ANTICIPATED EFFECTIVE DATE

2025-2026 University Calendar

i. PSYC 3810 Neurobiology of Learning and Memory

CALENDAR CHANGES

PSYC 38150 Neurobiology of Learning and Memory

examines how organisms adjust their behaviour to regularities in the environment as a result of experience. Experience changes behavior by modifying the nervous system. We will take a multidisciplinary approach, combining information from psychology and neuroscience to study learning and memory. Students will gain an understanding of sensitization, habituation, and classical and operant conditioning using animal models, with a particular emphasis on the synaptic and molecular changes that occur with learning and memory.

CR: PSYC 2825

EQ: the former PSYC 3250, the former PSYC 3810

PR: PSYC <u>2821 or 2822, PSYC 3800;</u> 2520 or 2521 <u>either PSYC 2910 and</u> 2911, 2930 or the former 2570,PSYC 3800, and admission to a Major in Psychology or Behavioural Neuroscience, or Biology 1001 and Biology 1002 and Statistics 2550 and permission of the instructor.

CALENDAR ENTRY AFTER CHANGES

PSYC 3850 Neurobiology of Learning and Memory

examines how organisms adjust their behaviour to regularities in the environment as a result of experience. Experience changes behavior by modifying the nervous system. We will take a multidisciplinary approach, combining information from psychology and neuroscience to study learning and memory. Students will gain an understanding of sensitization, habituation, and classical and operant conditioning using animal models, with a particular emphasis on the synaptic and molecular changes that occur with learning and memory.

CR: PSYC 2825 EQ: the former PSYC 3250, the former PSYC 3810 PR: PSYC 2821 or 2822; PSYC 3800; either PSYC 2910 and PSYC 2911 and admission to a Major in Psychology or Behavioural Neuroscience, or Biology 1001 and Biology 1002 and Statistics 2550 and permission of the instructor. **SECONDARY CALENDAR CHANGES** N/A **LIBRARY REPORT** N/A **RESOURCE IMPLICATIONS** None **ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS** N/A

ii. PSYC 3820 Research Techniques in Behavioural Neuroscience

CALENDAR CHANGES

PSYC 382002 Research Techniques in Behavioural Neuroscience

allows students to increase their understanding of how knowledge is generated in the study of neuroscience and behavior. Students will visit various on-campus laboratories that are engaged in research relevant to these fields. In addition to observations and hands-on tutorials, readings, discussions, and writing assignments will strengthen students' understanding of the techniques used to answer specific research questions in neuroscience and behaviour.

OR: Animal Care Online Training and Animal Handling Training must be completed prior to start of this course

PR: Science 1807; PSYC <u>2822, 2910</u>, 2520 or 2521, 2911, and 2930, or the former 2570; Biology 1001 and 1002; <u>Science 1807</u>; and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 3802 Research Techniques in Behavioural Neuroscience

allows students to increase their understanding of how knowledge is generated in the study of neuroscience and behavior. Students will visit various on-campus laboratories that are engaged in research relevant to these fields. In addition to observations and hands-on tutorials, readings, discussions, and writing assignments will strengthen students' understanding of the techniques used to answer specific research questions in neuroscience and behaviour.

OR: Animal Care Online Training and Animal Handling Training must be completed prior to start of this course

PR: PSYC 2822, 2910, 2911, and 2930, Biology 1001 and 1002, Science 1807, and admission to a Major in Behavioural Neuroscience.

PSYC 383051 Hormones and Behaviour

explores the behavioural effects of hormones and the question of how hormones act on the brain to influence behaviour. Topics include: basic concepts in neuroendocrinology, reproductive behaviour (sexual and parental), sexual differentiation of the brain and behaviour, aggressive behaviour, and the neuroendocrinology of stress, including the effects of stress on the brain and behaviour.

PR: PSYC <u>2821 or 2822; Biology 1001 and 1002; 2520 or 2521, <u>either PSYC 2910 and</u> 2911, and <u>PSYC 2930 or the former 2570, Biology 1001 and 1002;</u> and admission to a Major in Psychology or Behavioural Neuroscience, or <u>Statistics 2550 and permission of the instructor</u>.</u>

CALENDAR ENTRY AFTER CHANGES

PSYC 3851 Hormones and Behaviour

explores the behavioural effects of hormones and the question of how hormones act on the brain to influence behaviour. Topics include: basic concepts in neuroendocrinology, reproductive behaviour (sexual and parental), sexual differentiation of the brain and behaviour, aggressive behaviour, and the neuroendocrinology of stress, including the effects of stress on the brain and behaviour.

PR: PSYC 2821 or 2822; Biology 1001 and 1002; either PSYC 2910 and PSYC 2911 and PSYC 2930 and admission to a Major in Psychology or Behavioural Neuroscience, or Statistics 2550 and permission of the instructor.

PSYC 384052 Neurobiology of Stress

will cover topics including the effects of stress on the immune system, <u>hypothalamicpituitary-adrenal</u> <u>hypothalamic-pituitary-adrenal</u> axis, neurogenesis and neuroplasticity, neurotransmitter and neuropeptide release, cognition and emotional processing, and in utero and early postnatal development. The relationship between stress and mental disorders such as depression, posttraumatic stress disorder, anxiety disorders, schizophrenia, bipolar disorder, substance abuse and addiction, dementia and age-related cognitive decline as well as resilience to stress will be discussed.

PR: PSYC <u>2821 or 2822</u>; 2520 or 2521 <u>either</u> 2910, <u>and</u> 2911 and 2930, or the former 2570, and admission to a Major in Psychology or Behavioural Neuroscience, or Biology 1001 and Biology 1002 and Statistics 2550 and permission of the instructor.

CALENDAR ENTRY AFTER CHANGES

PSYC 3852 Neurobiology of Stress

will cover topics including the effects of stress on the immune system, hypothalamicpituitary-adrenal axis, neurogenesis and neuroplasticity, neurotransmitter and neuropeptide release, cognition and emotional processing, and in utero and early postnatal development. The relationship between stress and mental disorders such as depression, posttraumatic stress disorder, anxiety disorders, schizophrenia, bipolar disorder, substance abuse and addiction, dementia and age-related cognitive decline as well as resilience to stress will be discussed.

PR: PSYC 2821 or 2822; either PSYC 2910 and PSYC 2911 and PSYC 2930 and admission to a Major in Psychology or Behavioural Neuroscience, or Biology 1001 and Biology 1002 and Statistics 2550 and permission of the instructor

PSYC 386053 Neuropsychopharmacology

introduces students to the neurochemical and molecular underpinnings of behavior, with special emphasis on the biological principles underlying the etiology, pathophysiology and treatment of mental disorders. As a broad subdiscipline of neuroscience, it is ideal for those seeking to integrate neuroanatomy, neurophysiology, pharmacology and the behavioural sciences. It will provide a thorough understanding and appreciation about how basic and clinical research can be synthesized and used for the development of various forms of therapies.

PR: PSYC <u>2821 or 2822</u>; 2520 or 2521, <u>either PSYC 2910</u> and <u>PSYC</u> 2911, and <u>PSYC</u> 2930 or the former 2570, and 2821 or 2822 and admission to a Major in Psychology or Behavioural Neuroscience, <u>or Biology 1001 and Biology 1002 and Statistics 2550 and permission of the instructor</u>.

CALENDAR ENTRY AFTER CHANGES

PSYC 3853 Neuropsychopharmacology

introduces students to the neurochemical and molecular underpinnings of behavior, with special emphasis on the biological principles underlying the etiology, pathophysiology and treatment of mental disorders. As a broad subdiscipline of neuroscience, it is ideal for those seeking to integrate neuroanatomy, neurophysiology, pharmacology and the behavioural sciences. It will provide a thorough understanding and appreciation about how basic and clinical research can be synthesized and used for the development of various forms of therapies.

PR: PSYC 2821 or 2822; either PSYC 2910 and PSYC 2911 and PSYC 2930 and admission to a Major in Psychology or Behavioural Neuroscience, or Biology 1001 and Biology 1002 and Statistics 2550 and permission of the instructor.

4.Amendments to PSYC Course Being Renumbered and Now Allowed for PSYC Major

COURSE NUMBER AND TITLE

- i. PSYC 2150 Introduction to Forensic Psychology
- ii. PSYC 2151 Health Psychology
- iii. PSYC 2740 Domestic Animal Behaviour
- iv. PSYC 3533 Sexual Behaviour
- v. PSYC 4810 Human Neuropsychology

REVISED COURSE NUMBER AND TITLE

- i. PSYC 3120 Forensic Psychology
- ii. PSYC 3121 Health Psychology
- iii. PSYC 3720 Domestic Animal Behaviour
- iv. PSYC 3520 Sexual Behaviour
- v. PSYC 3821 Human Neuropsychology

RATIONALE

As part of our larger set of program revisions, these courses are being renumbered to be consistent with our course numbering system, and some courses' pre-requisites will be updated. The name of one course is also being revised. We will also be allowing these courses to be counted for certain program requirements for the Psychology Major.

One aspect of our revised program is grouping similar types of courses at the same level, with "similar" focusing on both course offering format as well as level of specificity of content. In the new program, the 2000 level represents area-specific introductory/foundational topics, both in the specific areas of psychology represented in our department and in general methodology and statistics. The 3000 level represents more advanced or specific topics within one or more foundational areas of Psychology. For example, Forensic Psychology is primarily considered social psychology, but also represents contributions from cognitive, clinical, and developmental psychology. Therefore, these courses will all be grouped at the 3000 level to represent their broader or more applied psychology content.

ANTICIPATED EFFECTIVE DATE

2025-2026 University Calendar

i. PSYC 2150 Introduction to Forensic Psychology

Abbreviated Course Title

Forensic Psychology

CALENDAR CHANGES

PSYC 2150 3120 Introduction to Forensic Psychology

will provide an in-depth overview of the relationship between psychology and the law. A variety of topics will be discussed and critically evaluated, including the use and misuse of psychology-based investigative methods such as offender and geographic profiling, detection of deception, investigative interviewing, eyewitness testimony, jury decision-making, corrections and treatment, risk assessment, and criminal responsibility.

PR: PSYC 1001 EQ: the former PSYC 2150 UL: cannot be used towards the Psychology major

CALENDAR ENTRY AFTER CHANGES

PSYC 3120 Forensic Psychology

will provide an in-depth overview of the relationship between psychology and the law. A variety of topics will be discussed and critically evaluated, including the use and misuse of psychology-based investigative methods such as offender and geographic profiling, detection of deception, investigative interviewing, eyewitness testimony, jury decision-making, corrections and treatment, risk assessment, and criminal responsibility.

PR: PSYC 1001 EQ: the former PSYC 2150

Health Psychology

CALENDAR CHANGES

PSYC 2151 3121 Health Psychology

will explore the history, aims and future of health psychology. Topics covered will consider the contributions of a wide range of psychological theory within the context of psychosocial risk factors for illness, illness prevention, health promotion, and the health care system itself. These theories extend from rather individualistic notions of health and wellness (e.g., personality, attitudes, and behaviour) to concepts associated with characteristics of the broader social environment (e.g., social support, economic challenges, and organizational factors). An overall bio-psycho-social approach to health and wellness is explored.

PR: PSYC 1001 EQ: the former PSYC 2151 UL: cannot be used towards the Psychology major

CALENDAR ENTRY AFTER CHANGES

PSYC 3121 Health Psychology

will explore the history, aims and future of health psychology. Topics covered will consider the contributions of a wide range of psychological theory within the context of psychosocial risk factors for illness, illness prevention, health promotion, and the health care system itself. These theories extend from rather individualistic notions of health and wellness (e.g., personality, attitudes, and behaviour) to concepts associated with characteristics of the broader social environment (e.g., social support, economic challenges, and organizational factors). An overall bio-psycho-social approach to health and wellness is explored.

PR: PSYC 1001 EQ: the former PSYC 2151

iii. PSYC 2740 Domestic Animal Behaviour

NOTE: Although there is an existing calendar entry for PSYC 2740, we did not include an explicit equivalency because PSYC 2740 has not been offered since it was added to the calendar, so no students will have ever obtained credit for PSYC 2740.

ABBREVIATED COURSE TITLE

Domestic Animal Behaviour

CALENDAR CHANGES

PSYC 2740 3720 Domestic Animal Behaviour

focuses on behaviour in domestic animals, with a particular emphasis on dogs. Although dogs are one of the oldest domesticated species, canine science is just beginning to reveal insights into dog behaviour. Course topics will include the process of domestication, animal cognition, social behaviour and organization, human-animal interactions, and behaviour as an animal welfare indicator. When appropriate, the behaviour of other species will be examined for comparison.

PR: PSYC 1000 or permission from instructor for students with relevant experience

CALENDAR ENTRY AFTER CHANGES

PSYC 3720 Domestic Animal Behaviour

focuses on behaviour in domestic animals, with a particular emphasis on dogs. Although dogs are one of the oldest domesticated species, canine science is just beginning to reveal insights into dog behaviour. Course topics will include the process of domestication, animal cognition, social behaviour and organization, human-animal interactions, and behaviour as an animal welfare indicator. When appropriate, the behaviour of other species will be examined for comparison.

PR: PSYC 1000 or permission from instructor for students with relevant experience

SECONDARY CALENDAR CHANGES N/A

LIBRARY REPORT N/A RESOURCE IMPLICATIONS None ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS N/A

Sexual Behaviour

CALENDAR CHANGES

PSYC 3533 3520 Sexual Behaviour

covers the most important aspects of human sexuality with a psychology theory and research framework. The course will examine the biological, behavioural and sociocultural bases of the human sexual response. Topics include sexual interaction and communication, contraception, sexually transmitted infections, reproduction, sexual orientation, transgender and intersex, variations in sexual behaviour, sex and gender, sexual dysfunction and therapy, and sexual coercion.

PR: PSYC 1001 EQ: the former PSYC 3533 UL: cannot be used towards the Psychology major

CALENDAR ENTRY AFTER CHANGES

PSYC 3520 Sexual Behaviour

covers the most important aspects of human sexuality with a psychology theory and research framework. The course will examine the biological, behavioural and sociocultural bases of the human sexual response. Topics include sexual interaction and communication, contraception, sexually transmitted infections, reproduction, sexual orientation, transgender and intersex, variations in sexual behaviour, sex and gender, sexual dysfunction and therapy, and sexual coercion.

PR: PSYC 1001 EQ: the former PSYC 3533

v. PSYC 4810 Human Neuropsychology

NOTE: The course delivery and evaluation format for this course will be revised substantially as it changes from PSYC 4810 (a smaller Majors-restricted course) to PSYC 3821 (a larger non-restricted course). We therefore have intentionally not set equivalency to the former PSYC 4810 for PSYC 3821, as we do not feel it would be appropriate for a Psychology Major already in the current program to be able to take PSYC 3821 and have it count as a 4000-level credit via equivalency

CALENDAR CHANGES

PSYC 4810 3821 Human Neuropsychology

covers clinical disorders of sensation, perception, movement, memory, language and emotion that have resulted from brain damage or disease from the perspective of current knowledge of brain structure and function. Lateralization of function, disconnection syndromes, and mechanisms of recovery of function following brain damage will also be covered. Related experimental studies of brain structure and function in non-humans will be discussed.

Prerequisite: One of Psychology 2810, 3800 or 3801 (formerly 2850). PR: PSYC 1000

CALENDAR ENTRY AFTER CHANGES

PSYC 3821 Human Neuropsychology

covers clinical disorders of sensation, perception, movement, memory, language and emotion that have resulted from brain damage or disease from the perspective of current knowledge of brain structure and function. Lateralization of function, disconnection syndromes, and mechanisms of recovery of function following brain damage will also be covered. Related experimental studies of brain structure and function in non-humans will be discussed.

PR: PSYC 1000

5.Amendments to PSYC Courses Changing to 2000 Level and Changing PRs

COURSE NUMBER AND TITLE

- i. PSYC 3100 Social Psychology
- ii. PSYC 3450 Human Cognition
- iii. PSYC 3650 Abnormal Psychology
- iv. PSYC 3750 Animal Behaviour

REVISED COURSE NUMBER AND TITLE

- i. PSYC 2121 Introduction to Social Psychology
- ii. PSYC 2421 Introduction to Human Cognition
- iii. PSYC 2621 Introduction to Abnormal Psychology
- iv. PSYC 2721 Introduction to Animal Behaviour

RATIONALE

As part of our larger set of program revisions, these courses will undergo several changes: move to the 2000 level; remove the requirement to be a Psychology/Behavioural Neuroscience major; remove the statistics requirements; replace the 2000 level pre-requisites with Psychology 1000 and/or 1001 (and Biology 1001, for Introduction to Animal Behaviour) only. The courses will be equivalent to their former numbering for program requirements.

One aspect of our revised program is grouping similar types of courses at the same level with other "similar" courses, focusing on both course offering format as well as level of specificity of content. In the new program, the 2000 level represents area-specific introductory/foundational topics. Placing these courses at the 2000 level also aligns with the majority of Psychology programs at other universities in Canada. These changes will allow students to gain area-specific introductory knowledge sooner, which will then better facilitate further study of more specific and advanced topics (including new courses proposed as part of these changes) as they progress through the program.

Although we will reserve seats for Majors, we are also opening up the courses to nonmajors with appropriate introductory pre-requisites. This will help diversify the offerings in Psychology available to more students across campus.

ANTICIPATED EFFECTIVE DATE

2025-2026 University Calendar

i. PSYC 3100 Social Psychology

ABBREVIATED COURSE TITLE

Intro to Social Psychology

CALENDAR CHANGES

PSYC 3100 2121 Introduction to Social Psychology

is an examination of the concepts and principles involved in social behaviour. Topics covered will include attitudes, social cognition, interpersonal relations, and group processes.

CR: <u>the former PSYC 2100</u>, the former PSYC 2125 <u>EQ: the former PSYC 3100</u> PR: PSYC 2520 or 2521, 2911, and 2930 or the former 2570, and admission to a Major in Psychology or Behavioural Neuroscience <u>PSYC 1000 and 1001</u>

CALENDAR ENTRY AFTER CHANGES

PSYC 2121 Introduction to Social Psychology

is an examination of the concepts and principles involved in social behaviour. Topics covered will include attitudes, social cognition, interpersonal relations, and group processes.

CR: the former PSYC 2100, the former PSYC 2125 EQ: the former PSYC 3100 PR: PSYC 1000 and 10001

Intro to Human Cognition

CALENDAR CHANGES

PSYC 3450- 2421 Introduction to Human Cognition

is an introduction to the experimental study of the mental representations and processes involved in human cognition. Topics such as attention, perception and pattern recognition, concepts and the organization of knowledge, language processes, mental imagery, reasoning, problem solving, decision making and skilled performance will be covered with an emphasis on experimental analysis and techniques.

CR: PSYC 2440, PSYC 2425 <u>EQ: the former PSYC 3450</u> PR: PSYC 2520 or 2521, 2911, and 2930 or the former 2570, and admission to a Major in Psychology or Behavioural Neuroscience PSYC 1000 and 1001

CALENDAR ENTRY AFTER CHANGES

PSYC 2421 Introduction to Human Cognition

is an introduction to the experimental study of the mental representations and processes involved in human cognition. Topics such as attention, perception and pattern recognition, concepts and the organization of knowledge, language processes, mental imagery, reasoning, problem solving, decision making and skilled performance will be covered with an emphasis on experimental analysis and techniques.

CR: PSYC 2440, PSYC 2425 EQ: the former PSYC 3450 PR: PSYC 1000 and 1001

Intro to Abnormal Psychology

CALENDAR CHANGES

PSYC-3650 2621 Introduction to Abnormal Psychology

is an examination of the nature, explanation and treatment of psychological disorders with an emphasis on research methods and current findings.

CR: PSYC 3626 <u>EQ: the former PSYC 3640 and the former PSYC 3650</u> PR: PSYC 2520 or 2521, 2911, and 2930 or the former 2570, and admission to a Major in Psychology or Behavioural Neuroscience PSYC 1000 and 1001

CALENDAR ENTRY AFTER CHANGES

PSYC 2621 Introduction to Abnormal Psychology

is an examination of the nature, explanation and treatment of psychological disorders with an emphasis on research methods and current findings.

CR: PSYC 3626 EQ: the former PSYC 3640 and the former PSYC 3650 PR: PSYC 1000 and 1001

Intro to Animal Behaviour

CALENDAR CHANGES

PSYC 3750 2721 Introduction to Animal Behaviour

is an introduction to the mechanisms, development, function and evolution of behaviour in animals. Topics include the history of ethology and comparative psychology, and behavioural ecology; methods of animal behaviour study, behaviour of animals in relation to physiology, learning, communication, mating systems, and other areas in Biology and Psychology.

EQ: Biology 3750 2721, the former Psychology 3750 PR:-Biology 1001, 1002 and PSYC 1000 2520 or 2521, 2911, and 2930 or the former 2570, and admission to a Major in Psychology or Behavioural Neuroscience

CALENDAR ENTRY AFTER CHANGES

PSYC 2721 Introduction to Animal Behaviour

is an introduction to the mechanisms, development, function and evolution of behaviour in animals. Topics include the history of ethology and comparative psychology, and behavioural ecology; methods of animal behaviour study, behaviour of animals in relation to physiology, learning, communication, mating systems, and other areas in Biology and Psychology.

EQ: Biology 2721, the former Psychology 3750 PR: Biology 1001 and PSYC 1000

SECONDARY CALENDAR CHANGES

BIOL 3750 2721 Animal Behaviour

is an introduction to the mechanisms, development, function and evolution of behaviour in animals. Topics include the history of ethology and comparative psychology, and behavioural ecology; methods of animal behaviour study, behaviour of animals in relation to physiology, learning, communication, mating systems, and other areas in Biology and Psychology.

EQ: Psychology 2721, the former PSYC Psychology 3750, the former BIOL 3750 **PR:** BIOL1001 and 1002; Statistics 2550 or any of the courses listed in the credit restrictions of Statistics 2550 LIBRARY REPORT N/A RESOURCE IMPLICATIONS None ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS N/A

6.Amendments to PSYC Courses Changing to 3000 Level and Updating PRs

COURSE NUMBER AND TITLE

- i. PSYC 4462 Human Memory
- ii. PSYC 4910 History of Psychology
- iii. PSYC 4920 Psychological Testing

REVISED COURSE NUMBER AND TITLE

- i. PSYC 3451 Human Memory
- ii. PSYC 3550 History of Psychology
- iii. PSYC 3551 Psychological Testing

RATIONALE

As part of our larger set of program revisions, these courses will undergo several changes: They will move to the 3000 level, their pre-requisites will be updated to reflect new numbering of relevant courses, and slight edits to the specific description will be made. PSYC 4920 and 4910 will be updated to explicitly include PSYC 2910, 2911, and 2930 as PRs. The courses will be equivalent to their former numbering for program requirements.

These courses are being moved to the 3000 level to help identify the type of course format expected by the course level. These majors-restricted courses will have 40 seats, while 4000-level courses will be small (~20 students) research experience courses and seminar courses in the revised program. Moving these courses to the 3000 level will also help emphasize that Majors have some flexibility in whether the courses could be taken in their third or fourth year of study.

ANTICIPATED EFFECTIVE DATE

2025-2026 University Calendar

PSYC 4462 Human Memory

CALENDAR CHANGES

PSYC 4462 3451 Human Memory

i.

surveys theories and research about how humans remember information and why they forget. Topics <u>may</u> include research on sensory memory, short-term <u>and</u> working memory, amnesia, forgetting, <u>autobiographical memory</u> memory development, and semantic memory <u>metamemory</u>, as well as practical issues such as how to improve memory.

PR: PSYC 3450 2421, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience. EQ: the former PSYC 4462

CALENDAR ENTRY AFTER CHANGES

PSYC 3451 Human Memory

surveys theories and research about how humans remember information and why they forget. Topics may include research on short-term and working memory, amnesia, forgetting, autobiographical memory and metamemory, as well as practical issues such as how to improve memory.

PR: PSYC 2421, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience. EQ: the former PSYC 4462

ii. PSYC 4910 History of Psychology

CALENDAR CHANGES

PSYC 3550 4910 History of Psychology

is a study of paradigms and explanations in contemporary psychology in the context of their historical antecedents.

CR: PSYC 4910

CO: at the St. John's campus only: PSYC 3900 or 3950, or permission of instructor PR: 30 credit hours in Psychology courses required in a Majors program. At the Grenfell Campus only, this must include PSYC 2950. PSYC 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience

CALENDAR ENTRY AFTER CHANGES

PSYC 3550 History of Psychology

is a study of paradigms and explanations in contemporary psychology in the context of their historical antecedents.

CR: PSYC 4910 PR: PSYC 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

SECONDARY CALENDAR CHANGES

Grenfell Campus 13.26.3 Senior Courses

PSYC 4910 History of Psychology is a study of paradigms and explanations in contemporary psychology in the context of their historical antecedents.

CR: PSYC 3550

CO: At the St. John's campus only: PSYC 3900 or 3950, or permission of instructor PR: 30 credit hours in Psychology courses required in a Majors program. At the Grenfell Campus only, this must include PSYC 2950.

LIBRARY REPORT N/A RESOURCE IMPLICATIONS None ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS N/A

PSYC 4920 3551 Psychological Testing

focuses on the principles of psychological testing, relevant psychometric properties, and methods by which tests are developed. The course is designed to review the nature and use of psychological tests and will cover topics such as test norms, interpretability, reliability, item analysis, validity, and test development. This course includes a survey development and data management component where students will create and validate their own psychological survey.

CR: PSYC 3628 PR: <u>PSYC 2910, 2911, 2930,</u> 6 CH <u>credit hours</u> in any <u>other</u> <u>32</u>000-level restricted Psychology courses, and admission to a Major in Psychology or Behavioural Neuroscience. EQ: the former PSYC 4920

CALENDAR ENTRY AFTER CHANGES

PSYC 3551 Psychological Testing

focuses on the principles of psychological testing, relevant psychometric properties, and methods by which tests are developed. The course is designed to review the nature and use of psychological tests and will cover topics such as test norms, interpretability, reliability, item analysis, validity, and test development. This course includes a survey development and data management component where students will create and validate their own psychological survey.

CR: PSYC 3628 PR: PSYC 2910, 2911, 2930, 6 credit hours in any other 2000-level Psychology courses and admission to a Major in Psychology or Behavioural Neuroscience. EQ: the former PSYC 4920

Page 356 of 436

7.Amendments to PSYC Courses Removing PSYC 2520/2521 and Adding PSYC 2910 as PRs

COURSE NUMBER AND TITLE

- i. PSYC 3251 Learning
- ii. PSYC 3350 Perception

REVISED COURSE NUMBER AND TITLE

n/a

RATIONALE

As part of our larger set of program revisions, these courses will have their prerequisites revised to remove the requirement for PSYC 2520/2521, and to add PSYC 2910.

ANTICIPATED EFFECTIVE DATE

2025-2026 University Calendar

i.

CALENDAR CHANGES

PSYC 3251 Learning

introduces students to topics of learning phenomena and learning theories. Topics to be studied include the evolutionary context of learning, habituation and sensitization, Pavlovian conditioning, operant conditioning, and generalization and discrimination in learning. Applications of learning principles to topics such as child rearing, education, drug use and rehabilitation, as well as to other topics of contemporary interest, will also be discussed.

CR: PSYC 2225 PR: PSYC 2520 or 2521,2910, 2911, and 2930 or the former 2570, and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 3251 Learning

introduces students to topics of learning phenomena and learning theories. Topics to be studied include the evolutionary context of learning, habituation and sensitization, Pavlovian conditioning, operant conditioning, and generalization and discrimination in learning. Applications of learning principles to topics such as child rearing, education, drug use and rehabilitation, as well as to other topics of contemporary interest, will also be discussed.

CR: PSYC 2225 PR: PSYC 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

ii. PSYC 3350 Perception

CALENDAR CHANGES

PSYC 3350 Perception

is a broad survey of theory and research in sensation and perception.

PR: PSYC 2520 or 2521, the former 2570, and <u>2910</u>, 2911, and 2930 or the former 2570, and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 3350 Perception

is a broad survey of theory and research in sensation and perception.

PR: PSYC 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

8.Amendments to PSYC Courses Adding PSYC 2910, 2911, 2X21, and 2930 to PR

COURSE NUMBERS AND TITLES

 PSYC 4050 Selected Topics in Developmental Psychology I ii. PSYC 4051 Selected Topics in Developmental Psychology II iii. PSYC 4052 Seminar in Mathematical Cognition iv. PSYC 4053 Seminar in Childhood Memories and Forensic Implications v. PSYC 4054 Seminar in Media Use Across Development vi. PSYC 4070 Research Experience in Development Psychology vii. PSYC 4150 Selected Topics in Social Psychology I viii. PSYC 4151 Selected Topics in Social Psychology II ix. PSYC 4152 Seminar in Skeptical Thinking x. PSYC 4153 Seminar in Romantic Relationships xi. PSYC 4154 Seminar in Social Psychology in Everyday Life xii. PSYC 4170 Research Experience in Social Psychology xiii. PSYC 4450 Selected Topics in Cognition I xiv. PSYC 4451 Selected Topics in Cognition II xv. PSYC 4452 Seminar in Metacognition xvi. PSYC 4453 Seminar in Embodied Cognition xvii. PSYC 4454 Seminar in Applied Cognition xviii. PSYC 4470 Research Experience in Cognition xix. PSYC 4500 Selected Topics in Psychology I xx. PSYC 4501 Selected Topics in Psychology II xxi. PSYC 4650 Selected Topics in Abnormal Behaviour I xxii. PSYC 4651 Selected Topics in Abnormal Behaviour II xxiii.PSYC 4652 Seminar in Substance Use and Behavioural Addiction in Youth xxiv.PSYC 4653 Seminar in Health Psychology xxv. PSYC 4654 Seminar in Obsessive-Compulsive and Related Disorders xxvi.PSYC 4750 Selected Topics in Animal Behaviour I xxvii. PSYC 4751 Selected Topics in Animal Behaviour II xxviii. PSYC 4752 Domestic Animal Behaviour and Interactions with Humans xxix. PSYC 4850 Selected Topics in Behavioural Neuroscience I xxx. PSYC 4852 Selected Topics in Behavioural Neuroscience (Neurobiology of Time and Space) xxxi.PSYC 4853 Selected Topics in Behavioural Neuroscience (Neurobiology of Sex)
xxxii. PSYC 4854 Selected Topics in Behavioural Neuroscience (Neurobiological Diseases and Disorders)

RATIONALE

As part of our larger set of program revisions, these courses will have their prerequisites revised to reflect new numbering of relevant courses and to explicitly include relevant PSYC 2X21 introductory courses, and 2910, 2911, and 2930. Outdate equivalencies will also be removed from some courses (4450,4451).

ANTICIPATED EFFECTIVE DATE

2025-2026 University Calendar

i. PSYC 4050 Selected Topics in Developmental Psychology I

REVISED COURSE NUMBER AND TITLE N/A

CALENDAR CHANGES

PSYC 4050 Selected Topics in Developmental Psychology I

is an intensive examination of a specific topic in developmental psychology.

PR: PSYC 3050 2021, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4050 Selected Topics in Developmental Psychology I

is an intensive examination of a specific topic in developmental psychology.

PR: PSYC 2021, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

ii. PSYC 4051 Selected Topics in Developmental Psychology II

REVISED COURSE NUMBER AND TITLE N/A

CALENDAR CHANGES

PSYC 4051 Selected Topics in Developmental Psychology II

is an intensive examination of a specific topic in developmental psychology.

PR: PSYC 3050 2021, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4051 Selected Topics in Developmental Psychology II

is an intensive examination of a specific topic in developmental psychology.

PR: PSYC 2021, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

iii. PSYC 4052 Seminar in Mathematical Cognition

CALENDAR CHANGES

PSYC 4052 Seminar in Mathematical Cognition

examines the latest research regarding children's early learning of numbers and later learning of mathematics. Topics may include infants' numerical ability, counting, subitizing, basic arithmetic, fractions, conceptual versus procedural knowledge, individual differences in mathematics, gender differences, and selected topics in mathematics education. These specific topics will be related to developmental theory in order to explore the ways in which cognitive and developmental mechanisms are at play in mathematical learning.

PR: PSYC <u>2021</u>, <u>2910</u>, <u>2911</u>, <u>2930</u>, <u>3050</u> and admission to a Major in Psychology or Behavioural Neuroscience.</u>

CALENDAR ENTRY AFTER CHANGES

PSYC 4052 Seminar in Mathematical Cognition

examines the latest research regarding children's early learning of numbers and later learning of mathematics. Topics may include infants' numerical ability, counting, subitizing, basic arithmetic, fractions, conceptual versus procedural knowledge, individual differences in mathematics, gender differences, and selected topics in mathematics education. These specific topics will be related to developmental theory in order to explore the ways in which cognitive and developmental mechanisms are at play in mathematical learning.

PR: PSYC 2021, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

iv. PSYC 4053 Seminar in Childhood Memories and Forensic Implications

CALENDAR CHANGES

PSYC 4053 Seminar in Childhood Memories and Forensic Implications

is an overview of issues related to children's memory for, and ability to talk about, real life events that they have experienced. Topics covered include autobiographical memories, children's earliest memories and childhood amnesia, and the implications in forensic psychology.

PR: PSYC <u>2021, 2910, 2911, 2930, 3050</u> and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4053 Seminar in Childhood Memories and Forensic Implications

is an overview of issues related to children's memory for, and ability to talk about, real life events that they have experienced. Topics covered include autobiographical memories, children's earliest memories and childhood amnesia, and the implications in forensic psychology.

PR: PSYC 2021, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

v. PSYC 4054 Seminar in Media Use Across Development

CALENDAR CHANGES

PSYC 4054 Seminar in Media Use Across Development

examines media's impacts on our social and cognitive development, focusing on how the use of various forms of media impact infants, young children, adolescents, and emerging adults. The aim is to discuss both the positive and negative consequences media has on our development.

PR: <u>PSYC 2910, 2911, 2930, 6 credit hours in any PSYC 2X2X,</u> two 3000-level majors courses (other than 3900) and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4054 Seminar in Media Use Across Development

examines media's impacts on our social and cognitive development, focusing on how the use of various forms of media impact infants, young children, adolescents, and emerging adults. The aim is to discuss both the positive and negative consequences media has on our development.

PR: PSYC 2910, 2911, 2930, 6 credit hours in any PSYC 2X2X, and admission to a Major in Psychology or Behavioural Neuroscience.

vi. PSYC 4070 Research Experience in Development Psychology

CALENDAR CHANGES

PSYC 4070 Research Experience in Developmental Psychology

allows students to gain research experience in selected areas of developmental psychology.

PR: PSYC <u>2021</u>, <u>2910</u>, <u>2911</u>, <u>2930</u>, 3050 and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4070 Research Experience in Developmental Psychology

allows students to gain research experience in selected areas of developmental psychology.

PR: PSYC 2021, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

vii. PSYC 4150 Selected Topics in Social Psychology I

CALENDAR CHANGES

PSYC 4150 Selected Topics in Social Psychology I

is an intensive examination of a specific topic in social psychology.

PR: PSYC <u>2121, 2910, 2911, 2930, 3100 and admission to a Major in Psychology or Behavioural Neuroscience.</u>

CALENDAR ENTRY AFTER CHANGES

PSYC 4150 Selected Topics in Social Psychology I

is an intensive examination of a specific topic in social psychology.

PR: PSYC 2121, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

viii. PSYC 4151 Selected Topics in Social Psychology II

CALENDAR CHANGES

PSYC 4151 Selected Topics in Social Psychology II

is an intensive examination of a specific topic in social psychology.

PR: PSYC <u>2121, 2910, 2911, 2930, 3100 and admission to a Major in Psychology or Behavioural Neuroscience.</u>

CALENDAR ENTRY AFTER CHANGES

PSYC 4151 Selected Topics in Social Psychology II

is an intensive examination of a specific topic in social psychology.

PR: PSYC 2121, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

ix. PSYC 4152 Seminar in Skeptical Thinking

CALENDAR CHANGES

PSYC 4152 Seminar in Skeptical Thinking

will teach you how to identify pseudoscientific ideas that appear in the popular media. Among the issues covered will be the cognitive, motivational, and social determinants of questionable beliefs and controversial therapeutic techniques. Students will be armed with a "Baloney Detection Kit" that will help them distinguish between scientific and pseudoscientific claims.

PR: PSYC <u>2121, 2910, 2911, 2930, 3100 and admission to a Major in Psychology or Behavioural Neuroscience.</u>

CALENDAR ENTRY AFTER CHANGES

PSYC 4152 Seminar in Skeptical Thinking

will teach you how to identify pseudoscientific ideas that appear in the popular media. Among the issues covered will be the cognitive, motivational, and social determinants of questionable beliefs and controversial therapeutic techniques. Students will be armed with a "Baloney Detection Kit" that will help them distinguish between scientific and pseudoscientific claims.

PR: PSYC 2121, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

x. PSYC 4153 Seminar in Romantic Relationships

CALENDAR CHANGES

PSYC 4153 Seminar in Romantic Relationships

will focus on one of the most impactful social experiences humans have: romantic relationships. In doing so, students will be guided through the prevailing empirical results of this diverse and interdisciplinary field. Among the topics covered will be: introduction to the science of relationships; theory of relationships research; methodology of relationships research.

PR: PSYC <u>2121, 2910, 2911, 2930, 3100 and admission to a Major in Psychology or Behavioural Neuroscience.</u>

CALENDAR ENTRY AFTER CHANGES

PSYC 4153 Seminar in Romantic Relationships

will focus on one of the most impactful social experiences humans have: romantic relationships. In doing so, students will be guided through the prevailing empirical results of this diverse and interdisciplinary field. Among the topics covered will be: introduction to the science of relationships; theory of relationships research; methodology of relationships research.

PR: PSYC 2121, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

xi. PSYC 4154 Seminar in Social Psychology in Everyday Life

CALENDAR CHANGES

PSYC 4154 Seminar in Social Psychology in Everyday Life

explores how human lives intersect with social psychological theories and ideas. The course will explore social psychological theories across many life domains – from relationships, work, finance, and behavioural and cognitive sciences to education and hobbies. Emphasis will be put on how current theories are experienced and expressed in our daily lives. Through project-based learning where science meets creativity, students will explore a variety of social psychological theories.

PR: PSYC <u>2121, 2910, 2911, 2930, 3100 and admission to a Major in Psychology or Behavioural Neuroscience.</u>

CALENDAR ENTRY AFTER CHANGES

PSYC 4154 Seminar in Social Psychology in Everyday Life

explores how human lives intersect with social psychological theories and ideas. The course will explore social psychological theories across many life domains – from relationships, work, finance, and behavioural and cognitive sciences to education and hobbies. Emphasis will be put on how current theories are experienced and expressed in our daily lives. Through project-based learning where science meets creativity, students will explore a variety of social psychological theories.

PR: PSYC 2121, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

xii. PSYC 4170 Research Experience in Social Psychology

CALENDAR CHANGES

PSYC 4170 Research Experience in Social Psychology

will provide research experience in a selection of areas typically studied by social psychologists such as attitudes, prejudice, groups and social cognition. Students will acquire experience with research methods that are used to advance the body of knowledge in social psychology.

PR: PSYC <u>2121, 2910, 2911, 2930, 3100</u> and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4170 Research Experience in Social Psychology

will provide research experience in a selection of areas typically studied by social psychologists such as attitudes, prejudice, groups and social cognition. Students will acquire experience with research methods that are used to advance the body of knowledge in social psychology.

PR: PSYC 2121, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

xiii. PSYC 4450 Selected Topics in Cognition I

CALENDAR CHANGES

PSYC 4450 Selected Topics in Cognition I

is an intensive examination of a specific topic in cognition.

EQ: the former PSYC 4400 PR: PSYC 2421, 2910, 2911, 2930, 3100 and admission to a Major in Psychology or Behavioural Neuroscience. CALENDAR ENTRY AFTER CHANGES

PSYC 4450 Selected Topics in Cognition I

is an intensive examination of a specific topic in cognition.

PR: PSYC 2421, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

xiv. PSYC 4451 Selected Topics in Cognition II

CALENDAR CHANGES

PSYC 4451 Selected Topics in Cognition II

is an intensive examination of a specific topic in cognition.

EQ: the former PSYC 4401 PR: PSYC 3450 2421, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4451 Selected Topics in Cognition II

is an intensive examination of a specific topic in cognition.

PR: PSYC 2421, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

LIBRARY REPORT N/A

RESOURCE IMPLICATIONS None

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS N/A

CALENDAR CHANGES

PSYC 4452 Seminar in Metacognition

examines a wide variety of topics in the study of metacognition including judgements of learning, influences on judgements of learning, cognitive offloading, metacognitive illusions, predicting memory effects, multi-tasking, and responsible remembering. The focus of this course is on students' ability to understand and communicate the contents of research articles, as well as how to provide constructive feedback.

PR: PSYC 3450 2421, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4452 Seminar in Metacognition

examines a wide variety of topics in the study of metacognition including judgements of learning, influences on judgements of learning, cognitive offloading, metacognitive illusions, predicting memory effects, multi-tasking, and responsible remembering. The focus of this course is on students' ability to understand and communicate the contents of research articles, as well as how to provide constructive feedback.

PR: PSYC 2421, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

xvi. PSYC 4453 Seminar in Embodied Cognition

CALENDAR CHANGES

PSYC 4453 Seminar in Embodied Cognition

builds on an understanding of fundamental cognitive mechanisms, this course provides further exploration of the mechanisms of cognition. Examples of topics to be studied include: What is cognition? What does the brain tell us about cognition? How do scientists study cognition? What is the role of the body in cognition?

PR: PSYC 3450 2421, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4453 Seminar in Embodied Cognition

builds on an understanding of fundamental cognitive mechanisms, this course provides further exploration of the mechanisms of cognition. Examples of topics to be studied include: What is cognition? What does the brain tell us about cognition? How do scientists study cognition? What is the role of the body in cognition?

PR: PSYC 2421, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

xvii. PSYC 4454 Seminar in Applied Cognition

CALENDAR CHANGES

PSYC 4454 Seminar in Applied Cognition

explores how cognitive processes contribute to real-world activities such as driving, music, eyewitness memory or reading. The focus throughout this course is on how to consume and present these topics to a research audience.

PR: PSYC 3450 2421, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4454 Seminar in Applied Cognition

explores how cognitive processes contribute to real-world activities such as driving, music, eyewitness memory or reading. The focus throughout this course is on how to consume and present these topics to a research audience.

PR: PSYC 2421, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

xviii. PSYC 4470 Research Experience in Cognition

CALENDAR CHANGES

PSYC 4470 Research Experience in Cognition

allows students to gain research experience in selected areas of cognition.

PR: PSYC <u>2421</u>, <u>2910</u>, <u>2911</u>, <u>2930</u>, <u>3450</u> and admission to a Major in Psychology or Behavioural Neuroscience</u>.

CALENDAR ENTRY AFTER CHANGES

PSYC 4470 Research Experience in Cognition

allows students to gain research experience in selected areas of cognition.

PR: PSYC 2421, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

xix. PSYC 4500 Selected Topics in Psychology I

CALENDAR CHANGES

PSYC 4500 Selected Topics in Psychology I

is an intensive examination of a specific topic in psychology that crosses traditional subdisciplines.

PR: two 3000-level majors courses (other than 3900) PSYC 2910, 2911, 2930, 6 credit hours in any PSYC 2X2X courses, and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4500 Selected Topics in Psychology I

is an intensive examination of a specific topic in psychology that crosses traditional subdisciplines.

PR: PSYC 2910, 2911, 2930, 6 credit hours in any PSYC 2X2X courses, and admission to a Major in Psychology or Behavioural Neuroscience.

xx. PSYC 4501 Selected Topics in Psychology II

CALENDAR CHANGES

PSYC 4501 Selected Topics in Psychology II

is an intensive examination of a specific topic in psychology that crosses traditional subdisciplines.

PR: two 3000-level majors courses (other than 3900) PSYC 2910, 2911, 2930, 6 credit hours in any PSYC 2X2X courses and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4501 Selected Topics in Psychology II

is an intensive examination of a specific topic in psychology that crosses traditional subdisciplines.

PR: PSYC 2910, 2911, 2930, 6 credit hours in any PSYC 2X2X courses, and admission to a Major in Psychology or Behavioural Neuroscience.

xxi. PSYC 4650 Selected Topics in Abnormal Behaviour I

CALENDAR CHANGES

PSYC 4650 Selected Topics in Abnormal Behaviour I

is an intensive examination of a specific topic in abnormal behaviour.

PR: PSYC 3650 <u>2621,2910, 2911, 2930,</u> and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4650 Selected Topics in Abnormal Behaviour I

is an intensive examination of a specific topic in abnormal behaviour.

PR: PSYC 2621, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

xxii. PSYC 4651 Selected Topics in Abnormal Behaviour II

CALENDAR CHANGES

PSYC 4651 Selected Topics in Abnormal Behaviour II

is an intensive examination of a specific topic in abnormal behaviour.

PR: PSYC 3650 2621, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4651 Selected Topics in Abnormal Behaviour II

is an intensive examination of a specific topic in abnormal behaviour.

PR: PSYC 2621, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

xxiii. PSYC 4652 Seminar in Substance Use and Behavioural Addiction in Youth

CALENDAR CHANGES

PSYC 4652 Seminar in Substance Use and Behavioural Addiction in Youth

will focus on the development of substance use and behavioural addictions in young people. Emphasis will be placed on substances and behaviours that are currently at the forefront of much societal debate and have recently generated increased academic research and discussion. Topics reviewed may include opioids, cannabis, internet gambling, video gaming, mobile technology, and social media. These topics will be reviewed primarily within the context of adolescent and young adult development.

PR: PSYC 3650 <u>2621,2910, 2911, 2930,</u> and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4652 Seminar in Substance Use and Behavioural Addiction in Youth

will focus on the development of substance use and behavioural addictions in young people. Emphasis will be placed on substances and behaviours that are currently at the forefront of much societal debate and have recently generated increased academic research and discussion. Topics reviewed may include opioids, cannabis, internet gambling, video gaming, mobile technology, and social media. These topics will be reviewed primarily within the context of adolescent and young adult development.

PR: PSYC 2621, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

xxiv. PSYC 4653 Seminar in Health Psychology

CALENDAR CHANGES

PSYC 4653 Seminar in Health Psychology

will focus on various areas of health psychology and behavioural medicine. Topics may include eating disorders; psychological factors affecting medical conditions; chronic disease management; health behaviour changes; chronic pain; substance use and addictive disorders; sleep and health; psycho-oncology; and health promotion.

PR: PSYC 3650 2621, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4653 Seminar in Health Psychology

will focus on various areas of health psychology and behavioural medicine. Topics may include eating disorders; psychological factors affecting medical conditions; chronic disease management; health behaviour changes; chronic pain; substance use and addictive disorders; sleep and health; psycho-oncology; and health promotion.

PR: PSYC 2621, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

xxv. PSYC 4654 Seminar in Obsessive-Compulsive and Related Disorders

CALENDAR CHANGES

PSYC 4654 Seminar in Obsessive-Compulsive and Related Disorders

will review the epidemiology, onset, course, symptom presentations, comorbidity, risk factors, screening/diagnosis, and treatment of obsessive-compulsive and related disorders. These topics will be reviewed within the context of adult rather than childhood and adolescent psychopathology.

PR: PSYC 3650 2621, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4654 Seminar in Obsessive-Compulsive and Related Disorders

will review the epidemiology, onset, course, symptom presentations, comorbidity, risk factors, screening/diagnosis, and treatment of obsessive-compulsive and related disorders. These topics will be reviewed within the context of adult rather than childhood and adolescent psychopathology.

PR: PSYC 2621, 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience.

xxvi. PSYC 4750 Selected Topics in Animal Behaviour I

CALENDAR CHANGES

PSYC 4750 Selected Topics in Animal Behaviour I

is an intensive examination of a specific topic in animal behaviour.

PR: <u>PSYC 2910, 2911, and 2930</u>; PSYC 3750 <u>2721</u> or Biology 3750<u>2721</u>; and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4750 Selected Topics in Animal Behaviour I

is an intensive examination of a specific topic in animal behaviour.

PR: PSYC 2910, 2911, and 2930; PSYC 2721 or Biology 2721, and admission to a Major in Psychology or Behavioural Neuroscience.

xxvii.PSYC 4751 Selected Topics in Animal Behaviour II

CALENDAR CHANGES

PSYC 4751 Selected Topics in Animal Behaviour II

is an intensive examination of a specific topic in animal behaviour.

PR: <u>PSYC 2910, 2911, and 2930</u>; PSYC 3750 <u>2721</u> or Biology <u>2721</u>3750; and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4751 Selected Topics in Animal Behaviour II

is an intensive examination of a specific topic in animal behaviour.

PR: PSYC 2910, 2911, and 2930; PSYC 2721 or Biology 2721, and admission to a Major in Psychology or Behavioural Neuroscience.

xxviii. PSYC 4752 Domestic Animal Behaviour and Interactions with Humans

CALENDAR CHANGES

PSYC 4752 Seminar in Domestic Animal Behaviour and Interactions with Humans

examines the mechanism, development, function, and evolution of behaviour in domestic animals, with an emphasis on dogs (Canis familiaris). Topics include, but are not limited to, applied animal behaviour, domestic animal cognition, social behaviour and organization, human-animal interactions, and behaviour as a welfare indicator.

PR: PSYC 3750 or BIOL 3750 and either admission to a Major in Psychology or Behavioural Neuroscience or permission of the instructor PSYC 2910, 2911, 2930; one of PSYC 2721 or PSYC 3720 or Biology 2721 or permission of instructor; admission to a major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4752 Seminar in Domestic Animal Behaviour and Interactions with Humans

examines the mechanism, development, function, and evolution of behaviour in domestic animals, with an emphasis on dogs (Canis familiaris). Topics include, but are not limited to, applied animal behaviour, domestic animal cognition, social behaviour and organization, human-animal interactions, and behaviour as a welfare indicator.

PR: PSYC 2910, 2911, 2930; one of PSYC 2721 or PSYC 3720 or Biology 2721 or permission of instructor; admission to a major in Psychology or Behavioural Neuroscience.

xxix. PSYC 4850 Selected Topics in Behavioural Neuroscience I

CALENDAR CHANGES

PSYC 4850 Selected Topics in Behavioural Neuroscience I

is an intensive examination of a specific topic in behavioural neuroscience.

PR: one of PSYC 3800, the former 3801, 3820, or the former PSYC 3250 PSYC 2910, 2911, 2930, at least three credit hours in any PSYC 38XX, and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4850 Selected Topics in Behavioural Neuroscience I

is an intensive examination of a specific topic in behavioural neuroscience.

PR: PSYC 2910, 2911, 2930, at least three credit hours in any PSYC 38XX, and admission to a Major in Psychology or Behavioural Neuroscience.

xxx. PSYC 4852 Selected Topics in Behavioural Neuroscience (Neurobiology of Time and Space)

CALENDAR CHANGES

PSYC 4852 Selected Topics in Behavioural Neuroscience (Neurobiology of Time and Space)

will examine selected topics in timing, circadian rhythms, spatial learning and navigation.

PR: one of the former PSYC 3250, 3800, the former 3801, 3810, 3820, 3830, 3840, or 3860-PSYC 2910, 2911, 2930, at least three credit hours in any PSYC 38XX, and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4852 Selected Topics in Behavioural Neuroscience (Neurobiology of Time and Space)

will examine selected topics in timing, circadian rhythms, spatial learning and navigation.

PR: PSYC 2910, 2911, 2930, at least three credit hours in any PSYC 38XX, and admission to a Major in Psychology or Behavioural Neuroscience.

xxxi. PSYC 4853 Selected Topics in Behavioural Neuroscience (Neurobiology of Sex)

CALENDAR CHANGES

PSYC 4853 Selected Topics in Behavioural Neuroscience (Neurobiology of Sex)

will examine the development of sex differences in the brain and behaviour by considering both animal models and human studies.

PR: one of the former PSYC 3250, 3800, the former 3801, 3810, 3820, 3830, 3840, or 3860-PSYC 2910, 2911, 2930, at least three credit hours in any PSYC 38XX, and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4853 Selected Topics in Behavioural Neuroscience (Neurobiology of Sex)

will examine the development of sex differences in the brain and behaviour by considering both animal models and human studies.

PR: PSYC 2910, 2911, 2930, at least three credit hours in any PSYC 38XX, and admission to a Major in Psychology or Behavioural Neuroscience.

xxxii.PSYC 4854 Selected Topics in Behavioural Neuroscience (Neurobiological Diseases and Disorders)

CALENDAR CHANGES

PSYC 4854 Selected Topics in Behavioural Neuroscience (Neurobiological Diseases and Disorders)

will examine the neurobiology of neurodegenerative diseases/psychological disorders, and the potential of therapeutic interventions.

PR: one of the former PSYC 3250, 3800, the former 3801, 3810, 3820, 3830, 3840, or 3860 PSYC 2910, 2911, 2930, at least three credit hours in any PSYC 38XX, and admission to a Major in Psychology or Behavioural Neuroscience.

CALENDAR ENTRY AFTER CHANGES

PSYC 4854 Selected Topics in Behavioural Neuroscience (Neurobiological Diseases and Disorders)

will examine the neurobiology of neurodegenerative diseases/psychological disorders, and the potential of therapeutic interventions.

PR: PSYC 2910, 2911, 2930, at least three credit hours in any PSYC 38XX, and admission to a Major in Psychology or Behavioural Neuroscience.

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

9.Amendment to PSYC 2010 Biological and Cognitive Development

COURSE NUMBER AND TITLE

PSYC 2010 Biological and Cognitive Development

REVISED COURSE NUMBER AND TITLE

PSYC 2021 Introduction to Child Development

ABBREVIATED COURSE TITLE

Intro Child Development

RATIONALE

As part of our larger set of program revisions, this course will be revised to provide a broader overview of all areas of developmental psychology, including some topics formerly covered in PSYC 2010 and PSYC 2020. It will remain open to all students who have the relevant introductory pre-requisites, and will now be allowed to count for a Psychology or Behavioural Neuroscience Major. It is also being renumbered for consistency with our new numbering system.

ANTICIPATED EFFECTIVE DATE

2025-2026 University Calendar

CALENDAR CHANGES

PSYC 202110 Biological and Cognitive Introduction to Child Development

is a survey <u>course covering the field of developmental psychology as it relates to child</u> <u>development, focusing on development in infancy and childhood.</u> of principles <u>underlying human development from the prenatal stage to adolescence.</u> Topics <u>may</u> <u>include (but are not limited to) physical development, language learning, cognitive</u> <u>development, emotional development, social development, moral development.</u> <u>covered will include biological, physical, linguistic, sensory, cognitive and intellectual</u> <u>changes</u>.

CR: PSYC 2025, PSYC 3050 EQ: the former PSYC 2010 PR: PSYC 1000 and 1001 UL: cannot be used towards the Psychology major

CALENDAR ENTRY AFTER CHANGES

PSYC 2021 Introduction to Child Development

is a survey course covering the field of developmental psychology as it relates to child development, focusing on development in infancy and childhood. Topics may include (but are not limited to) physical development, language learning, cognitive development, emotional development, social development, moral development.

EQ: the former PSYC 2010 PR: PSYC 1000 and 1001

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

10.Unique Amendment to PSYC Courses

COURSE NUMBER AND TITLE

- i. PSYC 2800 Drugs and Behaviour
- ii. PSYC 3050 Developmental Psychology
- iii. PSYC 3900 Design and Analysis III
- iv. PSYC 4770 Research Experience in Animal Behaviour

REVISED COURSE NUMBER AND TITLE

- i. PSYC 3822 Drugs and Behaviour
- ii. PSYC 3051 Cognitive Development
- iii. PSYC 3910 Design and Analysis III
- iv. N/A

NOTE

These courses feature unique combinations of amendments that do not align exactly with other categories. Each entry retains its own statement of rationale.
ABBREVIATED COURSE TITLE

Drugs & Behaviour

RATIONALE

As part of our larger set of program revisions, this course is being renumbered to be consistent with our course numbering system. We are adding in the pre-requisite of PSYC 1000, as this course covers relevant background content, and on occasion, students may obtain transfer credit for PSYC 1001 without having taken PSYC 1000 at MUN. We will also be allowing this course to be counted for certain program requirements for the psychology major.

ANTICIPATED EFFECTIVE DATE

2025-2026 University Calendar

CALENDAR CHANGES

PSYC 2800 3822 Drugs and Behaviour is an examination of the neurophysiology of drug action, the measurable effect of drugs on experimentally controlled behaviour, and a survey of information available on common self-administered drugs and their immediate and long-term effects.

PR: PSYC 1000 and 1001

EQ: the former PSYC 2800

UL: cannot be used towards the Psychology major

CALENDAR ENTRY AFTER CHANGES

PSYC 3822 Drugs and Behaviour

is an examination of the neurophysiology of drug action, the measurable effect of drugs on experimentally controlled behaviour, and a survey of information available on common self-administered drugs and their immediate and long-term effects.

PR: PSYC 1000 and 1001 EQ: the former PSYC 2800

SECONDARY CALENDAR CHANGES N/A LIBRARY REPORT N/A RESOURCE IMPLICATIONS None ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS N/A

ABBREVIATED COURSE TITLE

Cognitive Development

RATIONALE

As part of our larger set of program revisions, this course will be revised to have more of its focus on cognitive development specifically. This is not a large change, as this course was already largely about cognitive development. Its prerequisites will be renumbered to be consistent with our course numbering system.

CALENDAR CHANGES

PSYC 30501 Cognitive Developmental Psychology

is an examination of the methods of study and an evaluation of current findings and theoretical issues of importance to an understanding of <u>cognitive</u> development. Topics will be drawn from <u>may include (but are not limited to)</u> perception, learning, cognition, social learning, memory and language development.

CR: PSYC 2010, PSYC 2025

<u>EQ: the former PSYC 3050</u> PR: PSYC <u>2520 or 2521 2021, 2910</u>, 2911, and 2930, or the former <u>2570</u>, and admission to a Major in Psychology or Behavioural Neuroscience

CALENDAR ENTRY AFTER CHANGES

PSYC 3051 Cognitive Development

is an examination of the methods of study and an evaluation of current findings and theoretical issues of importance to an understanding of cognitive development. Topics may include (but are not limited to) perception, learning, cognition, social learning, memory and language development.

EQ: the former PSYC 3050 PR: PSYC 2021 2910, 2911, 2930, and admission to a Major in Psychology or Behavioural Neuroscience

SECONDARY CALENDAR CHANGES N/A LIBRARY REPORT N/A RESOURCE IMPLICATIONS None ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS N/A

ABBREVIATED COURSE TITLE

Design & Analysis III

RATIONALE

It was recently brought to the Department of Psychology's attention that the course description for PSYC 3900 no longer met the modern calendar criteria, and had been unchanged from at least 1994. As such we are proposing amending the description to accurately conform to the current calendar style. We are also renumbering the course for consistency with the rest of our program changes, and revising the pre-requisites accordingly.

CALENDAR CHANGES

PSYC 39010 Design and Analysis III

is a course on complex and specialized research design in Psychology. Multifactor research designs that employ both between- and within-subjects independent variables. Advantages and disadvantages of using multifactor research designs to test psychological hypotheses. Hierarchical designs and incomplete factorials. The use of covariates and blocking to increase experimental precision. Problems created by missing data. Single subject designs. How to answer specific psychological questions in the context of complex designs. The design and analysis of non-experimental psychological research. Applications of such techniques as the analysis of variance and multiple linear regression to the data obtained with these research designs, with special attention to problems inherent in psychological research.

will develop students' statistical literacy, critical thinking, and their ability to design and analyse professional-quality research in psychology. Topics covered include fundamental univariate statistical tests, with an emphasis on multiple regressions and linear modelling. Concepts and theory are covered in class while laboratory exercises develop student independence by working through published datasets.

CR: PSYC 3950, Statistics 3520

LH: one laboratory period weekly

PR: PSYC 2911

EQ: the former PSYC 3900

OR: Students considering the Honours program are strongly recommended to should take PSYC 39010 in the 3rd year of their program, i.e., in the year prior to starting their Honours dissertation (PSYC 499A/B), as this course is required for admission to Honours.

CALENDAR ENTRY AFTER CHANGES

PSYC 3910 Design and Analysis III

will develop students' statistical literacy, critical thinking, and their ability to design and analyse professional-quality research in psychology. Topics covered include fundamental univariate statistical tests, with an emphasis on multiple regressions and linear modelling. Concepts and theory are covered in class while laboratory exercises develop student independence by working through published datasets.

CR: PSYC 3950, Statistics 3520

LH: one laboratory period weekly

PR: PSYC 2911

EQ: the former PSYC 3900

OR: Students considering the Honours program should take PSYC 3910 in the 3rd year of their program, i.e., in the year prior to starting their Honours dissertation (PSYC 499A/B), as this course is required for admission to Honours.

SECONDARY CALENDAR CHANGES N/A LIBRARY REPORT N/A RESOURCE IMPLICATIONS None ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS N/A

vi. PSYC 4770 Research Experience in Animal Behaviour

RATIONALE

As part of our larger set of program revisions, this course will have its pre-requisites revised to reflect new numbering of relevant courses and to explicitly include PSYC 2910. Some additional pre-requisites are revised to reflect requirements in the course considering that the course is cross-listed with Biology.

CALENDAR CHANGES

PSYC 4770 Research Experience in Animal Behaviour

allows students to gain research experience in selected areas of animal behaviour. This course may be offered in a usual 12-week semester or as a two-week field course.

EQ: Biology 4770

LC: either three hours of lecture per week or a two-week field course that embodies equivalent instructional time

PR: Science 1807 and Science 1808; <u>PSYC 2520 or 2521, 2930 or the former 2570,</u> 2911 and PSYC 3750 2721 or BIOLBiology 3750; <u>PSYC 2910 or Statistics 2550 or any</u> of the courses listed in the credit restrictions of Statistics 2550 and; admission to a major in Psychology or Behavioural Neuroscience

CALENDAR ENTRY AFTER CHANGES

PSYC 4770 Research Experience in Animal Behaviour

allows students to gain research experience in selected areas of animal behaviour. This course may be offered in a usual 12-week semester or as a two-week field course.

EQ: Biology 4770

LC: either three hours of lecture per week or a two-week field course that embodies equivalent instructional time

PR: Science 1807 and Science 1808; PSYC 2721 or Biology 3750; PSYC 2910 or Statistics 2550 or any of the courses listed in the credit restrictions of Statistics 2550; admission to a major in Psychology or Behavioural Neuroscience

SECONDARY CALENDAR CHANGES

BIOL 4770 Research Experience in Animal Behaviour

allows students to gain research experience in selected areas of animal behaviour. This course may be offered in a usual 12-week semester or as a two-week field course.

EQ: Psychology 4770

LC: either three hours of lecture per week or a two-week field course that embodies equivalent instructional time

PR: <u>Science 1807 and Science 1808</u>; BIOL <u>37502721</u> or Psychology <u>2721</u>; Psychology <u>2910 or 3750</u>; <u>Statistics 2550 or any of the courses listed in the credit restrictions of Statistics 2550</u>.

Memorial University of Newfoundland Undergraduate Calendar Change Proposal Form

11. Appendix: Consultations, Responses, Resource Implications

4. CONSULTATIONS SOUGHT

As per standard Appendix Page. See **Part V** for master list of consultees and text of their responses.

5. RESPONSES RELEVANT TO THIS SECTION None as of 05 November 2024

6. **RESOURCE IMPLICATIONS** None. Please see **Part V. 4 Resource Implications** for full rationale.

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

Part IV: Deleted Courses

- **1.** Deletion of Inactive PSYC Courses
- **2.** Deletion of Active PSYC Course
- 3. Deletion of Non-Restricted PSYC Courses Being Combined with Restricted Courses
- 4. Deletion of Now Redundant PSYC Courses
- 5. Appendix Page

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:

- \Box New course(s):
- X Deleted course(s):
- \Box New program(s):
- \Box 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)
- □ 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

1.Deletion of Inactive PSYC Courses

COURSE NUMBERS AND TITLES

- i. PSYC 2030 Adult Development
- ii. PSYC 2120 Interpersonal and Group Processes
- iii. PSYC 2240 Survey of Learning
- iv. PSYC 2440 Human Memory and Cognition
- v. PSYC 2540 Psychology of Gender
- vi. PSYC 2560 Intelligence
- vii. PSYC 2610 Personality
- viii. PSYC 2810 Brain and Behaviour
- ix. PSYC 3430 The Psychology of Thinking
- x. PSYC 3501 Industrial Psychology
- xi. PSYC 3577 Program Evaluation
- xii. PSYC 3620 Personality Theory and Research
- xiii. PSYC 4160 Psychology and the Law
- xiv. PSYC 4260 Learning Processes and Drug Effects
- xv.PSYC 4461 Psycholinguistics
- xvi. PSYC 4660 Developmental Psychopathology
- xvii. PSYC 4662 Clinical Psychology and Theories of Psychotherapy
- xviii. PSYC 4671 Research Experience in Personality
- **xix.** Appendix

REVISED COURSE NUMBERS AND TITLES

N/A

ABBREVIATED COURSE TITLES

N/A

RATIONALE

As part of our larger set of program revisions, these courses are being deleted. They have not been offered in many years, are currently inactive in the calendar, and are not consistent with our proposed program revisions.

ANTICIPATED EFFECTIVE DATE

2025-2026 University Calendar

CALENDAR CHANGES

i. PSYC 2030 Adult Development - inactive course.

ii. PSYC 2120 Interpersonal and Group Processes - inactive course.

iii. PSYC 2240 Survey of Learning - inactive course.

iv. PSYC 2440 Human Memory and Cognition - inactive course.

v. PSYC 2540 Psychology of Gender - inactive course.

vi. PSYC 2560 Intelligence - inactive course.

vii. PSYC 2610 Personality - inactive course.

viii. PSYC 2810 Brain and Behaviour - inactive course.

ix. PSYC 3430 The Psychology of Thinking -- inactive course.

x. PSYC 3501 Industrial Psychology - inactive course.

xi. PSYC 3577 Program Evaluation - inactive course.

xii. PSYC 3620 Personality Theory and Research - inactive course.

xiii. PSYC 4160 Psychology and the Law - inactive course.

xiv. PSYC 4260 Learning Processes and Drug Effects - inactive course.

xv. PSYC 4461 Psycholinguistics - inactive course. **xvi.** PSYC 4660 Developmental Psychopathology - inactive course.

xvii. PSYC 4662 Clinical Psychology and Theories of Psychotherapy - inactive course.

xviii. PSYC 4671 Research Experience in Personality - inactive course.

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

2. Deletion of Active PSYC Course

COURSE NUMBER AND TITLE

i. PSYC 4661 Family Psychology

REVISED COURSE NUMBERS AND TITLES

N/A

ABBREVIATED COURSE TITLES

N/A

RATIONALE

As part of our larger set of program revisions, this course is being deleted. It has not been offered in many years and is not consistent with our proposed program revisions.

ANTICIPATED EFFECTIVE DATE

2025-2026 University Calendar

CALENDAR CHANGES

1. PSYC 4661 Family Psychology

is a study of the reciprocal relationship between family processes and abnormal behaviour. The course will focus on the role of family dynamics in the etiology of abnormal behaviour, the impact of psychological disorders on family functioning and the application of family therapy to create therapeutic change.

PR: PSYC 3650, or all of 2520 or 2521, 2930 or the former 2570, 2911, and 3640, and admission to a Major in Psychology or Behavioural Neuroscience

CALENDAR ENTRY AFTER CHANGES N/A

SECONDARY CALENDAR CHANGES N/A

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

3.Deletion of Non-Restricted PSYC Courses Being Combined with Restricted Courses

COURSE NUMBERS AND TITLES

- i. PSYC 2100 Attitudes and Social Cognition
- ii. PSYC 3640 The Psychology of Abnormal Behaviour

REVISED COURSE NUMBERS AND TITLES

N/A

ABBREVIATED COURSE TITLES

N/A

RATIONALE

As part of our larger set of program revisions, these courses are being deleted. We have combined these courses with Majors-restricted courses with similar content, and will be only offering the one combined, non-restricted course in the future.

ANTICIPATED EFFECTIVE DATE

2025-2026 University Calendar

CALENDAR CHANGES

i. PSYC 2100 Attitudes and Social Cognition - inactive course.

ii. PSYC 3640 The Psychology of Abnormal Behaviour covers problems of definition, the history of beliefs about abnormal behaviour and the implication of a behavioural model for the understanding and control of behaviour problems.

CR: PSYC 3650, PSYC 3626 PR: any 2000 level course in Psychology UL: cannot be used towards the Psychology major

CALENDAR ENTRIES AFTER CHANGES

SECONDARY CALENDAR CHANGES

See Program Regulations Secondary Changes above

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

4.Deletion of Now Redundant PSYC Courses

COURSE NUMBER AND TITLE

PSYC 4870 Research Experience in Behavioural Neuroscience

REVISED COURSE NUMBER AND TITLE

N/A

ABBREVIATED COURSE TITLE

N/A

RATIONALE

Last year we removed this course from the program requirements for the Behavioural Neuroscience Major and Honours. We have added additional course requirements with sufficient laboratory experience that the course became redundant, and as there are no plans to offer it again; it will be deleted.

ANTICIPATED EFFECTIVE DATE

2025-2026 University Calendar

CALENDAR CHANGES

 PSYC 4870 Research Experience in Behavioural Neuroscience allows students to gain research experience in selected areas of neuroscience.
 OR: Animal Care Online Training and Animal Handling Training must be completed prior to start of this course
 PR: Science 1807 and Science 1808; PSYC 3820 or the former 3801, and admission to a Major in Psychology or Behavioural Neuroscience

CALENDAR ENTRY AFTER CHANGES N/A SECONDARY CALENDAR CHANGES N/A LIBRARY REPORT N/A RESOURCE IMPLICATIONS None ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS N/A

5. Appendix: Consultations, Responses, Resource Implications

1. CONSULTATIONS SOUGHT

As per standard Appendix Page. See **Part V** for master list of consultees and text of their responses.

- 2. RESPONSES RELEVANT TO THIS SECTION None as of 05 November 2024
- 3. RESOURCE IMPLICATIONS None. Please see Part V.4 Resource Implications for full rationale.

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

Part V: Consultations, Correspondence, And Resource Implications

- 1. Consultations Sought
- 2. Request for Feedback
- 3. Responses

1.Consultations	Sought
------------------------	--------

Academic Unit	Response Received
Humanities and Social Sciences	08 November 2024
Business Administration	01 November 2024
Education	
Engineering and Applied Science	16 October 2024
Human Kinetics and Recreation	
Marine Institute	
Medicine	
Music	
Nursing	
Pharmacy	07 October 2024
Science	
Biochemistry	
Biology	
Computer Science	
Earth Sciences	
Mathematics and Statistics	
Ocean Sciences	
Office of the Dean	
Physics and Physical Oceanography	
Psychology	
Social Work	07 October 2024
Library	
Grenfell - Arts and Social Science	07 October 2024
Grenfell - Science and the Environment	
Grenfell - Fine Arts	

2.Request for Feedback

From: Deputy Head, Department of Psychology <psychdeputyhead@mun.ca> Sent: October 4, 2024 3:45 PM

To: Faculty of Humanities and Social Sciences <hss@mun.ca>; Dean - Faculty of Business Administration <deanfba@mun.ca>; Dean of Education <educdean@mun.ca>; engrconsult@mun.ca; HKR Dean <hkrdean@mun.ca>; Dean of Medicine : McKeen, Dr. Dolores <deanofmedicine@mun.ca>; Karen Bulmer <kbulmer@mun.ca>; DeanNurse <DeanNurse@mun.ca>; pharminfo@mun.ca; Dean of Science <deansci@mun.ca>; adeanugradswk <adeanugradswk@mun.ca>; Libraries Hiring Panel <univlib@mun.ca>; GC School of Arts and Social Science <gcsass@mun.ca>; GC School of Science and the Environment <gcsse@mun.ca>; GC School of Fine Arts <gcsofa@mun.ca>; miugconsultations@mi.mun.ca; deanofsass <deanofsass@mun.ca>

Cc: psyugradadvice@mun.ca; Head Psychology <psychhead@mun.ca>; Blandford, Stephanie Nicole <snblandford@mun.ca>

Subject: Department of Psychology Calendar Change Proposals for Consultation

Hello,

The Department of Psychology has approved several proposals for changes to the Undergraduate University Calendar Sections 11.12 and 13.12 pertaining to the Program Regulations and Courses managed by the Department. We are now requesting consultation within the broader University Community. All proposed changes have been compiled into one large document.

These proposals represent substantial changes to the Psychology program that will strengthen it. This will be accomplished by redressing challenges faced by students that can delay progress through their degrees, increasing the diversity of courses being offered by the Department, improving access to specific area knowledge for both Majors and non-Majors alike, and by making more efficient use of the Department's teaching resources. Implementing this suite of changes involves revising the Calendar regulations for degrees in Psychology and Behavioural Neuroscience, the creation of new course offerings, the amending and renumbering of current course offerings, and the deletion of inactive or now redundant course offerings.

At present, the program includes some bottlenecks in requirements that can lead to significant delays in degree completion for students who experience issues with one or more courses at the 2000 level. Additionally, Majors are not exposed to most area-specific content until the 3000 level, and some interesting course offerings have usage limitations for Majors, so that they only can be taken as electives. Lastly, multiple versions of similar content are offered, including one course for Majors and one for non-Majors, a redundancy that does not make the most efficient use of the Department's teaching resources.

The revised program removes redundancies in instruction by eliminating the non-Majors version of several courses, and offering instead one combined course, which will also allow Majors to access more specific area content beginning at the 2000 level. Usage limitations on some course offerings have been

removed, allowing them to now count towards students' Majors. New course offerings have been created for Majors at the 3000 level that will be offered on a rotating basis, and that improve the diversity of offerings in all areas of Psychology. The revised program also opens up additional courses at the 2000 level to broaden the offerings for Psychology Minors, including a few specific courses that are requirements for other programs (e.g. some Linguistics students require a course in Human Cognition for eligibility for graduate programs, but we have not offered such a course for non-Majors in well over a decade).

Overall, these changes will increase the Department of Psychology's capacity to continue providing its students with excellent educational opportunities.

Simultaneously, we are also proposing an unrelated amendment to Regulations surrounding submission of honours theses to the library. This proposal was made in consultation with the library, and would standardize wording between the BA (Honours) and BSc (Honours) regulations about thesis submission procedures.

The Department is asking that responses be forwarded by email to psychdeputyhead@mun.ca no later than November 8, 2024. If you have any questions regarding the proposals included, please get in touch with Kathleen Hourihan at psychdeputyhead@mun.ca.

Best, -Kathleen Hourihan ------Kathleen L. Hourihan, PhD (she/her) Associate Professor Department of Psychology Memorial University of Newfoundland (709) 864-8771

3.Responses

Faculty of Business Administration

From: Furey, Mary A <mfurey@mun.ca> Sent: November 1, 2024 3:41 PM To: Deputy Head, Department of Psychology <psychdeputyhead@mun.ca> Subject: FW: Department of Psychology Calendar Change Proposals for Consultation

Hello Kathleen,

Please see feedback from Michelle Miskell, Manager of Academic Programs, on this proposal in the attachment.

There are no other comments from CUGS.

Thank you

Mary

My working hours may not be your working hours. Please do not feel obligated to reply outside of your normal work schedule

Mary Furey | Associate Dean, Undergraduate Programs and Accreditation

Faculty of Business Administration Memorial University of Newfoundland St. John's, Newfoundland and Labrador T 709 864 2431

From: Miskell, Michelle <mmiskell@mun.ca>

Sent: October 7, 2024 6:39 PM

To: busicugs <busicugs@mun.ca>; Furey, Mary A <mfurey@mun.ca>; Coady, Peggy <pacoady@mun.ca>; jcumby@mun.ca; skomiak@mun.ca; Lorne Sulsky <lsulsky@mun.ca>; Shannahan, Kirby <kirbys@mun.ca>; Pauline A. Downer <pdowner@mun.ca>; Registrar, Faculty of Business Administration <business_registrar@mun.ca>; Skanes, Heather <hskanes@mun.ca>; rwnoseworthy@mun.ca; kestaubitzer@mun.ca; alexandradh@mun.ca Subject: RE: Consultation request. Department of Psychology Calendar Change Proposals

Good day Committee,

I have reservations about one change in this extensive proposal, described on pages 33/34 of this document.

The author notes that regulations about submission of the honours dissertation in the Faculty of HSS are not in line with the regulations about submission of the honours dissertation in the Faculty of Science. This is an issue for the Dept of Psych as students can complete a major in psyc as either an Arts degree or a Science degree. So I can see how they want to have these regulations match.

However, they are suggesting eliminating the regulation that students must submit their dissertation no later than three weeks before the end of the final semester of the student's program. In practice, this falls on the last day of the week in the second to last week of classes. In my many years with Earth Sciences, this is the regulation that we leaned on to ensure that both students (and supervisors!) completed the thesis before the last day of classes, it was examined before the exam period began, and the student then had two weeks to make corrections and submit the final thesis on the last day of the exam period. With this practice in place, a grade would not be submitted for the student until the final, corrected version was in hand, ready to be submitted to the Center for Newfoundland Studies at the QEII Library. Almost twenty years ago we leaned on this regulation to cut down on students/supervisors going way over whatever arbitrary deadline was given, causing issues with graduation, and ensuring that students didn't end up writing masters theses. When this regulation is put into practice, it ensures that a final grade for a thesis is submitted within the deadlines prescribed by the Registrar's Office for final grades, the supervisor/department and library all have a completed copy of the thesis before the student graduates, and the volume of work that is completed is suitable for the undergraduate level. When appropriate, an INC grade can be used for students who have extenuating circumstances. Instead of removing this regulation from the Faculty of Science, it makes more sense to

me to add it to the Faculty of HSS regulations.

Furthermore, it makes sense to consult with the CNS at the QEII regarding the other part of the Faculty of Science regulation concerning when the thesis must be submitted to the library. I note that the author is proposing the part of the regulations that states it should be submitted "before the degree is conferred" should be struck. I also disagree with this or the same reasons as above. However, I have a feeling that the CNS does not put this into practice. So if they aren't actually checking this, then what's the point of having the reg in the calendar. It would be interesting to know their position on this.

Thank you for the opportunity to consider this proposal.

Best wishes, Michelle Michelle Miskell (she/her) | Manager of Academic Programs Faculty of Business Administration Memorial University of Newfoundland St. John's, Newfoundland, Canada A1B 3X5 T 709 864 2369 | Room BN 1015

Engineering and Applied Science

From: Engineering Consult <engrconsult@mun.ca> Sent: October 16, 2024 3:26 PM To: Deputy Head, Department of Psychology <psychdeputyhead@mun.ca> Cc: Ahmed, Salim <sahmed@mun.ca>; Jonathan Anderson <jonathan.anderson@mun.ca>; Garzon, Marissella <mgarzon@mun.ca>; Edmunds, Jayde <edmundsj@mun.ca> Subject: Re: Department of Psychology Calendar Change Proposals for Consultation

Thank you for the opportunity to comment on the proposed Calendar changes to the psychology program.

At its meeting on Oct. 16, the Committee on Undergraduate Studies for the Faculty of Engineering and Applied Science found no impact on our programs. We are happy to support these proposed Calendar changes.

Dr. Glyn George, Chair Committee on Undergraduate Studies Faculty of Engineering and Applied Science Memorial University of Newfoundland St. John's NL A1B 3X5

Pharmacy

From: McGrath, Gerona <geronam@mun.ca> Sent: October 7, 2024 12:48 PM To: Deputy Head, Department of Psychology <psychdeputyhead@mun.ca> Subject: calendar changes 2024

Thank you for the opportunity to review the proposed calendar changes for the Department of Psychology. There is no impact on the School of harmacy.

Gerona

Gerona McGrath MBA, M.Ed. Manager of Academic Programs School of Pharmacy

Memorial University of Newfoundland 3435 Health Sciences Centre St. John's, NL A1B 3V6 Canada

Social Work

From: adeanugradswk <adeanugradswk@mun.ca> Sent: October 7, 2024 1:21 PM To: Deputy Head, Department of Psychology <psychdeputyhead@mun.ca> Subject: RE: Department of Psychology Calendar Change Proposals for Consultation

Hello Kathleen,

Thank you for inviting comments on your proposed changes to the course offerings in the Department of Psychology. Based on the summary rationale provided in your email, I agree that these changes will bring efficiency into the teaching function of the Department. Therefore, on behalf of the School of Social Work Undergraduate Studies committee, I support the proposed changes. No additional comment is expected.

Thank you. Paul

Paul Alhassan Issahaku (PhD) Associate Professor, Acting Associate Dean of Undergraduate Programs School of Social Work Memorial University of Newfoundland St. John's, Canada Tel. 7098648688. Email: pissahaku@mun.ca

Grenfell - Social/Cultural Studies Program

From: Robinson, Angela <b57mar@mun.ca> Sent: October 16, 2024 1:19 PM To: Deputy Head, Department of Psychology <psychdeputyhead@mun.ca> Subject: RE: Department of Psychology Calendar Change Proposals for Consultation

Good afternoon

I have reviewed the proposed changes to the Psychology Program and support your endeavor to strengthen existing Program offerings for Psychology. I see no conflict or encumbrances that these proposed changes may have on the Social/Cultural Studies Program at Grenfell Campus, and consider such changes of benefit to existing and future students.

Kind Regards,

Dr. Angela Robinson (she/her) Associate Professor/Chair, Social-Cultural Studies Grenfell Campus, Memorial University PO Box 2000, Corner Brook, NL, A2H 5G4 Phone: (709) 637-6291: Fax (709) 639-8125

Faculty of Humanities and Social Science

From: assocdeancphss <assocdeancphss@mun.ca>
Sent: Friday, November 8, 2024 7:19 PM
To: Deputy Head, Department of Psychology <psychdeputyhead@mun.ca>
Cc: Simonson, Kathryn <kathryns@mun.ca>
Subject: FW: Department of Psychology Calendar Change Proposals for Consultation

Dear Colleagues,

I regret to report that technical problems with outlook email delayed the delivery of this proposal to me for review until October 28. We have taken what steps we can to help avoid such delays in the future.

Clearly, a tremendous amount of work has gone into the present proposal. HSS does have concerns:

1. On behalf of the Faculty of Humanities and Social Sciences, I must object to the changes proposed to the HSS regulations under 6.4.3. Either the department of Psychology or the Library, or both, should have brought the proposed changes to the HSS Dean's office when Psychology undertook preliminary consultations.

HSS will undertake its own review of its Honours regulations beginning as soon as possible and we will take into account the Library's recommendations and the benefits of consistency across various units' honours regulations. HSS has 15 department, most of which offer honours programs. I cannot approve changes to general regulations under these circumstances. I must, with all due respect for the work of Psychology here, insist that the proposed changes to HSS sections of the Calendar be removed from the proposal.

- I am also concerned about the impact of the proposed changes to existing courses on inprogram students and the various academic advisors and Registrar's Office staff who will have to help these students complete their degrees. There appears to be no advice for in-program students on how to navigate, for example, the shifting of 2000 level courses to 3000s and 3000s to 4000 level.
- 3. I do not know if the size of the proposal caused delays in delivery by email. Regardless, I have been operating on the assumption that Registrar's and Senate and its committees, preferred separate proposals, at least for courses, program, and regulation changes. I would ask the Senate Committee on Undergraduate Studies to clarify preferred procedures.

Thank you for the opportunity to review. Patricia Dold Patricia Dold (she/her) Associate Professor, Religious Studies Associate Dean, Curriculum and Programs Faculty of Humanities and Social Sciences St. John's Campus, Memorial University There are no resource implications for these proposed changes. As we planned our program re-design, we aimed for changes that would be feasible with our existing teaching resources. We have proposed new courses to be added to our offerings, but these will be phased in over time, and on a rotation basis.

For the first year of the new program (2025-2026 academic year), the number of courses we offer will be comparable to the current (2024-2025 academic year) to support students completing the old program as well as newly admitted majors beginning the new program. One notable change in the new program is that would be offering more larger size courses to both majors and non-majors, including combining some majors and non-majors offering on similar topics into one course offering. Another key resource factor is that the new program reduces the number of 4000 level credit hours required for Majors. Nearly all 4000 level Psychology courses are smaller in capacity (20 students), so reducing the number of these courses that are required will allow teaching resources to be allocated elsewhere.

By the third year of the new program (2027-2028 academic year), nearly all students following the current program will likely have graduated, and we can therefore offer fewer individual 4000 level small seminar courses, and instead focus teaching resources on our newly proposed 40-person Majors courses.

5. Library Report



15 November 2024

What follows is a report generated for the Department of Psychology on their *Proposed Calendar Changes October 2024* document. Memorial Libraries recognizes the significant amount of work undertaken by the department in this proposed restructuring of the Psychology program and fully supports this streamlining, improved diversity of courses at the appropriate levels, and the realigning of requirements to programs as outlined in the Calendar changes (both substantive and all those that follow through in joint programs).

With respect to new course proposals, Memorial Libraries is well positioned to support each of the new courses proposed under existing budget allocations and with minimal reliance on document delivery. Students opting to take any of these courses should have access to more than adequate primary and secondary research material where "library research" is a course requirement. Memorial Libraries highly recommends that course readings outside of those provided in the course textbooks be made available to students via our Course Reserves system to ensure that license and copyright requirements are met to provide seamless access. Consultation on reading lists and how the Library can provide research support is welcome at any time.

I) New Large Lecture-Based PSYC Courses

- PSYC 3020: Adolescent Development The topic is well supported by Memorial Libraries under existing budget allocations.
- PSYC 3420: Embodied Minds
 The topic is well supported by Memorial Libraries under existing budget allocations.
 Very much appreciate the Spongebob cake rubric, I had to mention it!

II) New Restricted PSYC Courses at Advanced Levels

- PSYC 3151: Applying Behavioural Insights Memorial Libraries holds all but two of the items on the reading list. These and any other required readings can be added to the collection under existing budget allocations.
- PSYC 3152: Interpersonal Relationships Memorial Libraries are missing seven items from this reading list. These items can be ordered if they are still in print and/or available in the North American academic bookseller market. The topics are broadly represented in other library holdings.
- PSYC 3452: Cognitive Neuroscience The topics in this course are well represented in the holdings of MUN Libraries.
- I was very impressed with the Research Report pre-registration document assignment. Great to expose students at this level to that approach.
- PSYC 3651: Clinical Psychology

The topics in this course are well represented in the holdings of MUN Libraries. In this case I would include mention of the Health Sciences Library, though the reliance on print literature would be minimal when compared with our online holdings.

We have specialized holdings that would be useful in this area, more specifically *Counselling and Psychotherapy Transcripts* and *Mental Measurements Yearbook with Tests in Print.* We would welcome conversations on how these and other resources could be helpful to students.

- PSYC 3751: Animal Communication The topic is well supported by Memorial Libraries under existing budget allocations.
- PSYC 3752: Animal Cognition The topic is well supported by Memorial Libraries under existing budget allocations.
- PSYC 4471: Research Experience in Cognitive Neuroscience The topic is well supported by Memorial Libraries under existing budget allocations.

Finally, there are a number of additional Calendar changes to existing courses where the topics in the courses have been adjusted. Each of these has been

considered and the Library finds these subjects well represented in the research literature we have in our holdings.

Erin Alcock Science Research Liaison Librarian QEII Library ekalcock@mun.ca



Collection Strategies Division

Queen Elizabeth II Library

19 November 2024

What follows is a report generated for the Department of Psychology on their *Proposed Calendar Changes October 2024* document. Memorial Libraries recognizes the significant amount of work undertaken by the department in this proposed restructuring of the Psychology program and fully supports this streamlining, improved diversity of courses at the appropriate levels, and the realigning of requirements to programs as outlined in the Calendar changes (both substantive and all those that follow through in joint programs).

With respect to new course proposals, Memorial Libraries is well positioned to support each of the new courses proposed under existing budget allocations and with minimal reliance on document delivery. Students opting to take any of these courses should have access to more than adequate primary and secondary research material where "library research" is a course requirement. Memorial Libraries highly recommends that course readings outside of those provided in the course textbooks be made available to students via our Course Reserves system to ensure that license and copyright requirements are met to provide seamless access. Consultation on reading lists and how the Library can provide research support is welcome at any time.

- I) New Large Lecture-Based PSYC Courses
 - PSYC 3020: Adolescent Development
 - The topic is well supported by Memorial Libraries under existing budget allocations.

- PSYC 3420: Embodied Minds
 - The topic is well supported by Memorial Libraries under existing budget allocations.
 - Very much appreciate the Spongebob cake rubric, I had to mention it!
- II) New Restricted PSYC Courses at Advanced Levels
 - PSYC 3151: Applying Behavioural Insights
 - Memorial Libraries holds all but two of the items on the reading list. These and any other required readings can be added to the collection under existing budget allocations.
 - PSYC 3152: Interpersonal Relationships
 - Memorial Libraries are missing seven items from this reading list. These items can be ordered if they are still in print and/or available in the North American academic bookseller market. The topics are broadly represented in other library holdings.
 - PSYC 3452: Cognitive Neuroscience
 - The topics in this course are well represented in the holdings of MUN Libraries.
 - I was very impressed with the Research Report pre-registration document assignment. Great to expose students at this level to that approach.
 - PSYC 3651: Clinical Psychology
 - The topics in this course are well represented in the holdings of MUN Libraries. In this case I would include mention of the Health Sciences Library, though the reliance on print literature would be minimal when compared with our online holdings.
 - We have specialized holdings that would be useful in this area, more specifically *Counselling and Psychotherapy Transcripts* and *Mental Measurements Yearbook with Tests in Print*. We would welcome conversations on how these and other resources could be helpful to students.
 - PSYC 3751: Animal Communication
 - The topic is well supported by Memorial Libraries under existing budget allocations.
 - PSYC 3752: Animal Cognition

- The topic is well supported by Memorial Libraries under existing budget allocations.
- PSYC 4471: Research Experience in Cognitive Neuroscience
 - The topic is well supported by Memorial Libraries under existing budget allocations.

Finally, there are a number of additional Calendar changes to existing courses where the topics in the courses have been adjusted. Each of these has been considered and the Library finds these subjects well represented in the research literature we have in our holdings.

Erin Alcock Science Research Liaison Librarian QEII Library ekalcock@mun.ca



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

November 27, 2024

TO: Registrar's Office School of Graduate Studies

FROM: Secretary, Faculty of Science Faculty Council

SUBJECT: Special Topics Courses – Faculty of Science

The special topics course listed below have been approved by the Faculty of Science Faculty Council Graduate Studies Committee:

1. CHEM 6290 Nuclear Science

The Request for Approval of a Graduate Course forms are attached. If you require more information please let me know.

Ani faction

Gina Jackson Secretary, Faculty of Science Faculty Council

cc: A. Fiech, Chair, Graduate Studies Committee M. Katz, Department of Chemistry


SCHOOL OF GRADUATE STUDIES

Request for Approval of a Page 433 of 436 Graduate Course

Adobe Reader, minimum version 8, is required to complete this form. Download the latest version: <u>http://get.adobe.com/reader</u>. (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 <u>How to create and insert a digital signature</u> webpage for step by step instructions; (5) Fill in the required data and save the file; (6) Send the completed form by email to: <u>sgs@mun.ca</u>.

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

Course No.: CHEM 6290

Course Title: NUCLEAR SCIENCE

I. To be completed for all requests:

Α.	Course Type: Lecture course Laboratory co Directed read	e Lecture cour urse ✔ Undergradua ings Other (please	se with laboratory ate course ¹ e specify)
В.	Can this course be offered by existing fac	sulty? 🖌 Yes 🗌 No	
C.	Will this course require new funding (inc payment of instructor, labs, equipment, If yes, please specify:	luding Yes 🖌 No etc.)?	
D.	Will additional library resources be requi (if yes, please contact <u>munul@mun.ca</u> fo a resource consultation)?	red Yes 🖌 No r	
E.	Credit hours for this course: 3		
F.	F. Course description (please attach course outline and reading list): Introduction to Nuclear Chemistry		
G.	Method of evaluation:	Percentage	
	Class tests	Written 15	Oral
	Assignments	20	
	Other (specify):	20	20

25

Final examination:

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 cour	ses, there	e is no evidence of:		
			Instructor's initials		
1.	duplication of thesis work		MK	_	
2. double credit			MK		
3.	work that is a faculty research product		MK	-	
4.	overlap with existing courses		MK	-	
Rec	commended for offering in the	Fall	Winter	Spring	20 <u>25</u>
Len	gth 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

Course instructor		Date	
yiza-	Digitally signed by 1b1022f8-4eb3-4587-9089-ebodb3671f44 DN: CN=1b1022f8-4eb3-4587-9089-ebodb3671f44 Reason: I have reviewed this document Location: St. John's Date: 2024.11.17 21:00:32-0330' Fordt PDF Editor Version: 12.1.2	Nov 17, 2024	
Approval of the head of the	academic unit	Date	

In factor

Secretary, Faculty/School/Council

November 27, 2024

Date

Updated March 2021

Chem 4290/6290: Introduction to Nuclear Chemistry

Instructor Information		
Instructor	Email	Office Location and Hours
Dr. Michael J. Katz	mkatz@mun.ca	CSF 3338, by appointment
General Information		
Prerequisites: Lecture Times: Labs:	Chem 2100, 2210, 2301, 2400; or permission of the course instructor 3 lecture hours / week NO LABS are associated with this course	

Course Description:

Introduction to Nuclear Chemistry will introduce students to the relationship between subatomic particles and the nucleus. The course will focus on the types of subatomic particles and how subatomic particles interact with matter. The course will introduce students to nuclear fission and fusion, and how elements are formed in the universe. The course will cover nuclear energy levels for protons and neutrons. Additionally, students will learn about nuclear medicine and other applications of nuclear techniques.

Course Material and Resources

Texts (no textbook is required for this course)

Recommended textbooks on this subject:

Radiochemistry and nuclear methods of analysis (William Ehmann)

Evaluation

The student performance in this course will be evaluated by the following scheme:

	<u>CHEM 4290</u>	<u>CHEM 6290</u>
Assignments	20%	20%
Term Paper	30%	20%
Presentation	-	20%
Midterm	20%	15%
Final Exam	30%	25%
Total Evaluation	100%	100%

<u>Evaluation notes</u>: (1) Term paper – 6000 level will be approximately double the length of 4000 level. (2) Assignments and presentations - the details will be discussed during class and instructions will be posted on Brightspace.

Course Topics (Tentative)

Introduction to Radiochemistry

- 1. A Brief History of Nuclear Chemistry
- 2. Forces in Nature
- 3. The Subatomic Particle

- 4. Nomenclature for nuclear chemistry
- 5. Types of nuclides
- 6. Chart of nuclides

Radioactive Decay

- 1. Energy of nuclear decay
- 2. Alpha decay
- 3. Beta decay
 - a. Electron decay
 - b. Positron decay
- 4. Electron capture
- 5. Gamma decay
- 6. Pair production
- 7. Other modes of decay (less common)

Description of the Nucleus

- 1. Quadrupole moment
- 2. Angular Momentum and Nuclear Spin
- 3. Nuclear Models
- 4. Mass-Energy relationship
 - a. Binding Energy
 - b. Binding Energy per nucleon
 - c. Energy changes in radioactive decay
 - d. Nuclear Energy Surface Diagram (Valley of stability)

Nuclear Reactions & Nuclear Decay

Interactions of Radiation with Matter