MEMORIAL UNIVERSITY

Faculty of Science
Office of the Dean
St. John's, NL, Canada A1B 3X
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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, May 20, 2026 at 1:00pm by WebEx and in-person (**Room: A-1046**).

AGENDA

1. **Approval of Agenda**
2. **Adoption of the Minutes of April 15, 2026,** (pages 2-5)
3. **Business Arising from the Minutes**
4. **Reports of Standing Committees:**
   - **A. Undergraduate Studies Committee**
     a) Department of Earth Sciences; Calendar Changes, Amended Course, EASC 2917 *Gems: The Science and Politics,* Paper 4.A.a. (Pages 32 to 38)
     b) Department of Ocean Science; Calendar Changes, Ocean Science and Marine Biology admission requirements, Paper 4.A.b. (Pages 39 to 47)
     c) Faculty of Science; Calendar Changes, Dietetics Calendar Change, Paper 4.A.c. (Pages 48 to 54)
     d) Faculty of Science; Calendar Changes, New Course Approval, Science 2155 *Indigenous Astronomies and Worldviews,* Paper 4.A.d. (Pages 55 to 66)
     e) Faculty of Science; Calendar Changes, New Course Approval, Science 3155 *Outer Space and Society,* Paper 4.A.e. (Pages 67 to 77)
   - **B. Graduate Studies Committee:**
     a) Master of Data Science; Proposed Changes to Degree of Master of Data Science, Paper 4.B.a. (Pages 78 to 113)
   - **C. Library Committee: no business**
5. **Report of the Dean**
6. **Question Period**
7. **Adjournment**

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FACULTY OF SCIENCE
FACULTY COUNCIL OF SCIENCE
Minutes of Meeting of April 15, 2026

A meeting of the Faculty Council of the Faculty of Science was held on Wednesday, April 15 2026, at 1:00 p.m. using a hybrid model of WebEx and in-person (A-1046).

FSC 3158 Present

Biology
T. Chapman, A. Chaulk, C. Graves, D. Harvey, D. Marshall

Human Biosciences
M. Berry, J. Brunton, R. Bertolo, S. Smith

Chemistry
C. Bottaro, L. Cahill, H. Grover, K. Hattenhauer, E. Merschrod, B. Power

Computer Science
S. Bungay, A. Fiech, C. Hyde, C. Milley, T. Tricco

Earth Sciences
A. Malcolm

Mathematics & Statistics
J. Alam, B. Austin, T. Baird, I. Booth, D. Dyer, R. Haynes, K. Nirmalkanna, D. Pike, D. Silvesan, T. Sheel, T. Stuckless, S. Sullivan

Ocean Sciences
D. Boyce, I. Fleming, J. Greening, J. Wroblweski,

Physics & Physical Oceanography
Q. Chen, D. Coombs, E. Hayden, H. Neilson, K. Poduska, I. Saika-Voivod, S. Wallin, L. Zedel

Psychology
S. Blandford, K. Hourihan, C. Sullivan, A. Swift-Gallant, C. Thorpe, C. Walsh, D. Wilson

Dean of Science Office
D. Bennett, J. Blundell, J. Bowering, J. Ceha, M. Fitzpatrick, T. Fridgen, L. Frizzell, S. Garasym, J. Gauld, C. Hussey, P. MacCallum, T. Mackenzie, R. Newhook, N. Squires

Student Representatives
M. LaSaga, M. Kocela

Other Departments
B. Misiuk

FSC 3159 Approval of the Agenda

Moved: Approved.
With the minor amendment that item 4.A.c. of the agenda, *The Lou Visentin Award*—new wording around the completion of a degree in three years rather than the usual four—be moved from **Reports of Standing Committees** to **Business Arising**, as this matter was discussed at February's Faculty Council meeting and referred back to FoSUGS for revision.

(*Sullivan, Berry*) **Carried**

FSC 3160 Adoption of the Minutes of February 25, 2026

Moved: Approved. Minutes of the meeting of February 25, 2026, be adopted. 2 Abstentions
(*Sullivan, Dyer*) **Carried.**

FSC 3161 Business Arising from February Faculty Council:
Presented by Shannon Sullivan, Chair of the Undergraduate Studies Committee:

The Lou Visentin Award - New wording around completion of a degree in three years rather than the usual four years.

(*Sullivan, Fridgen*)

After a large discussion, a motion was made by M. Berry to change the criteria to the package provided to council to what D. Hallet's suggested: "Students who finish their degree in less than 4 years. But who have achieved deans or director's list of status for all years of their program can apply for consideration to receive the lou visiten award award by emailing science@mun.ca." this motion was passed with a vote of 5 opposed, 10 abstentions and 14 in favor. A motion was then made and passed to amend the main motion.

Motion:
Amend wording in the criteria to the package provided.

(Berry Hallet)
Vote: 14 in favour, 5 opposed, 10 abstained – **Carried.**

Motion to Amend the Main Motion:
Revise the wording to allow for the completion of a degree within three years, as an alternative to the traditional four-year timeframe.

(*Berry, Hallett)*
Vote: 5 abstained **Carried.**

FSC 3162 Reports of Standing Committees:

A. Undergraduate Studies Committee:

Presented by Shannon Sullivan, Chair of the Undergraduate Studies Committee:

a) Department of Mathematics and Statistics, Calendar Changes, Amended course: MATH 2260 Ordinary Differential Equations I, MATH 3161 Ordinary Differential Equations II, MATH 4160 Partial Differential Equations I.,

(*Sullivan, Haynes*) **Carried.**

b) Dean's List, Criteria Edits,

A discussion happened around the criteria presented; a friendly amendment was suggested.

Add terminology to the bullet "A student who completed the co-op work term offered by the faculty of science during the nomination period."

(Sullivan, Fridgen) **Carried.**

B. Graduate Studies Committee: No business

C. Library Committee: No business

FSC 3163 Dean's Report

Departmental Highlights

BIOLOGY

Awards:
Biology MSc student Amanda Turpin (co-supervised by Drs. Linda Jewell and Dawn Bignell) for placing 2nd at the 2026 MUN School of Graduate Studies 3-Minute Thesis Competition!!
Biology Postdoc, Natalia Ruiz Vargas, (supervised by Dr. Julissa Roncal) won the Irene Manton Prize from the Linnean Society: An award for the best doctoral thesis in botany. Her thesis was conducted at the Univ of Illinois in Chicago, USA.

CHEMISTRY

Congratulations to chemistry graduate student Padmapriya Srinivasan (Co-Supervised by Chris Kozak and Fran Kerton, Department of Chemistry), on her first place finish in the 2026 SEA Gong Show!

Congratulations to Linsday Cahill and her team of students for her continued outreach program about microplastics to communities all around the province!

Congratulations to PhD candidate Mikhailey Wheeler (supervised by Fran Kerton, Department of Chemistry) will receive one of two Joseph Breen Memorial Fellowship to attend the 2026 ACS Green Chemistry & Engineering conference. Sarah Boudreau received this fellowship last year so Memorial is getting widely recognized for our work in the field of Green Chemistry

Congratulations to Jane Stockmann for winning the Terra Nova award.

HUBI

Graduate student Fatema Elgammal (Berry lab) won the MUN 3-minute thesis and will be representing MUN at the Atlantic regional competition. Jacob Hearty (Faranak lab) was third. Hannah White (Farahnak lab) won the 1st place award for graduate student oral presentation at the Science Atlantic Nutrition & Foods Conference;

PHYSICS

Research:
Lev Tarasov received a $3M NSERC Alliance Grant partnering with Equinor (studying offshore structures associated with deglaciation) …. Congratulations Lev!

Outreach:
Hilding Neilson served as one of the Canadian Association of Physics lecture tour speakers: Space is part of the Land: Moving from colonialism and space exploitation to Indigenous models of operating in space.

Undergraduate:
The Physics and Physical Oceanography Society (PAPOS) is planning a casino night. This is taking place in the next few weeks but I don't have the details.

The Dean presented a slideshow outlining the budget (attached).

FSC 3164 Questions

A question was raised regarding the President's comments during the Town Hall. She indicated that she has no clear information about what will be included in the budget, yet a figure of $10–12 million has been mentioned—prompting the question of where this estimate would come from. The Dean explained that, without knowing the government's final budget allocations, the impact could ultimately be either higher or lower. The $10–12 million estimate is based on projected enrolment declines and ongoing inflationary pressures. At this stage, deans have been advised that the minimum reduction across the university assumes no additional or increased funding from the provincial government.

A question was raised about whether it would actually benefit the Faculty of Science to have more students declare their majors, given that any decisions based on this would depend on the unit costs assigned. The Dean explained that the situation would become clearer once the shadow budget is available.

A question was raised about the number of buildings the university plans to sell and whether the revenue will be applied to the deficit. The Dean indicated that he will follow up on this matter.

Shannon Sullivan shared that he is uncertain whether his employment at Memorial University will continue this year. He expressed his sincere gratitude to everyone he has worked with throughout his 15-year career at Memorial. He noted that serving as Chair of the Undergraduate Studies Committee was an absolute pleasure and a role he looked forward to each academic year. His remarks were met with applause from those in attendance.

Motion:
A formal motion of official thanks to Shannon Sullivan for his dedicated service and the significant contributions he has made to the Faculty of Science Undergraduate Committee over the past 15 years.

(*Berry/Haynes)*

Amended Motion:
Additional language notes that, given the Chair's contributions, it is concerning and indeed shameful that Shannon Sullivan is unaware of whether he will continue in his role.

(Merschrod,Haynes) **Carried.**

FSC 3165 Adjournment:

Meeting adjourned at 2:37 p.m.

Faculty of Science (FoS) Budget Update

April 15, 2026

MEMORIAL UNIVERSITY

SCIENCE

Challenges Facing Memorial and Canada Post-Secondary Education

- Provincial governments implemented and have since continued a **multi-year reduction of the block grant**.

- Simultaneously, **undergraduate enrolment** (and UG tuition revenue) **has been falling** for many years.

- **Undergraduate tuition has been frozen**.

- Federal government has implemented several changes including to **visa caps and related visa criteria**, impacting brand Canada and more.

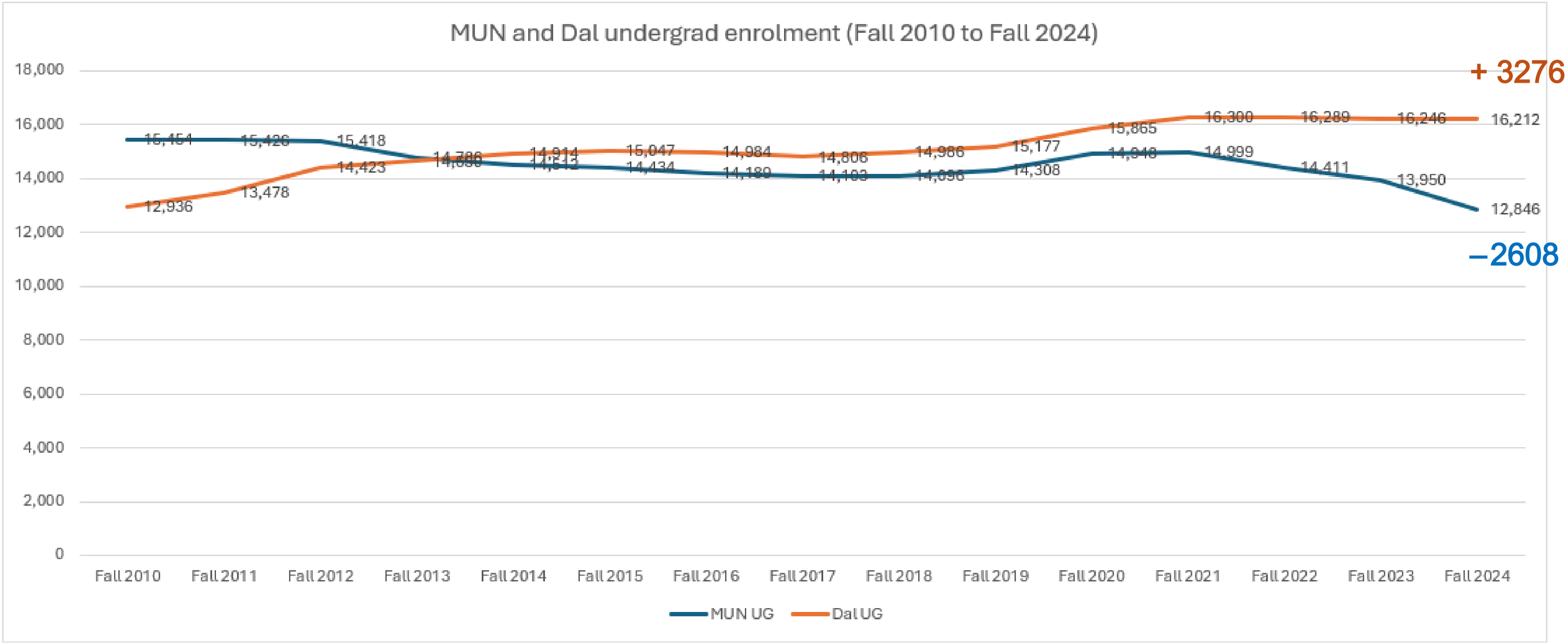
- In the **2025-2026 fiscal year**, Memorial University faced its largest ever **single-year funding reduction: $20+M**, and this came after years of reductions, and there are more to come.

Enrollment Trends

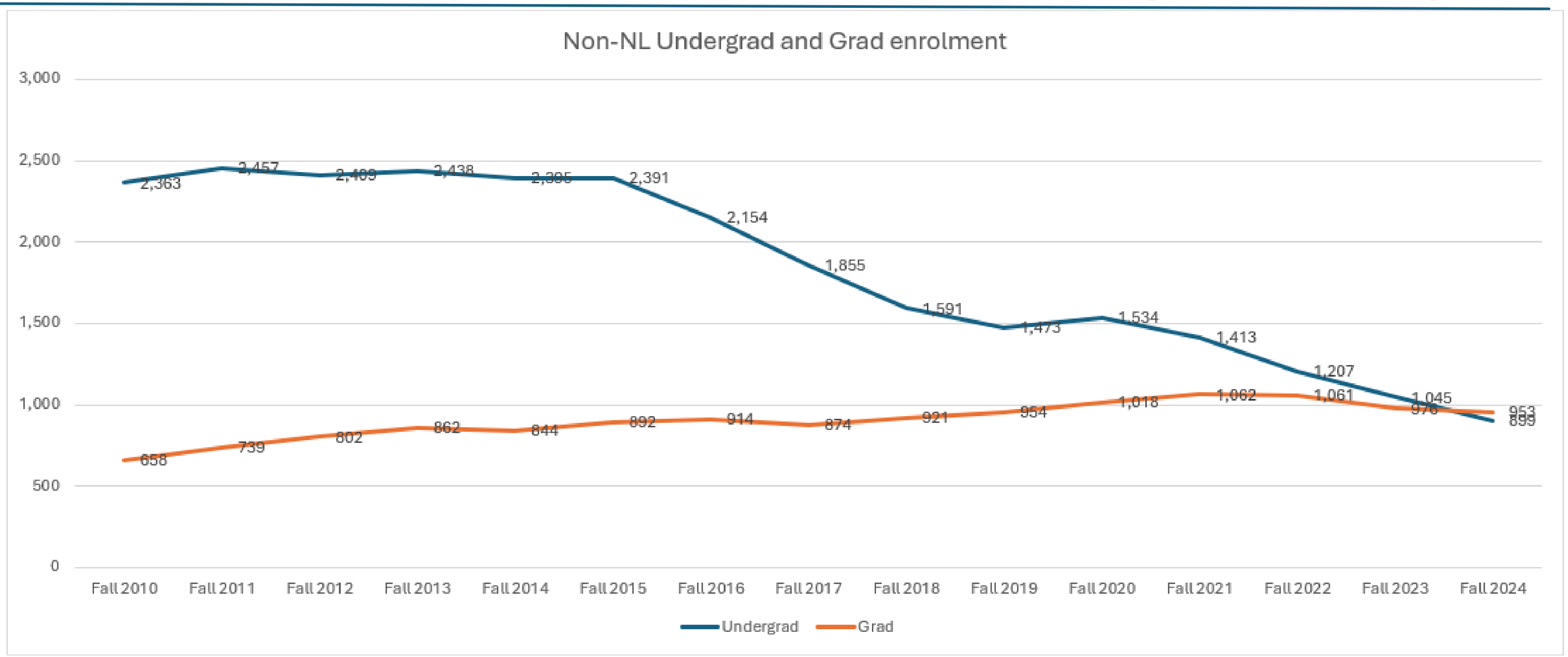
MEMORIAL UNIVERSITY

SCIENCE

Memorial vs. Dalhousie UG Enrolment (2010-2024)



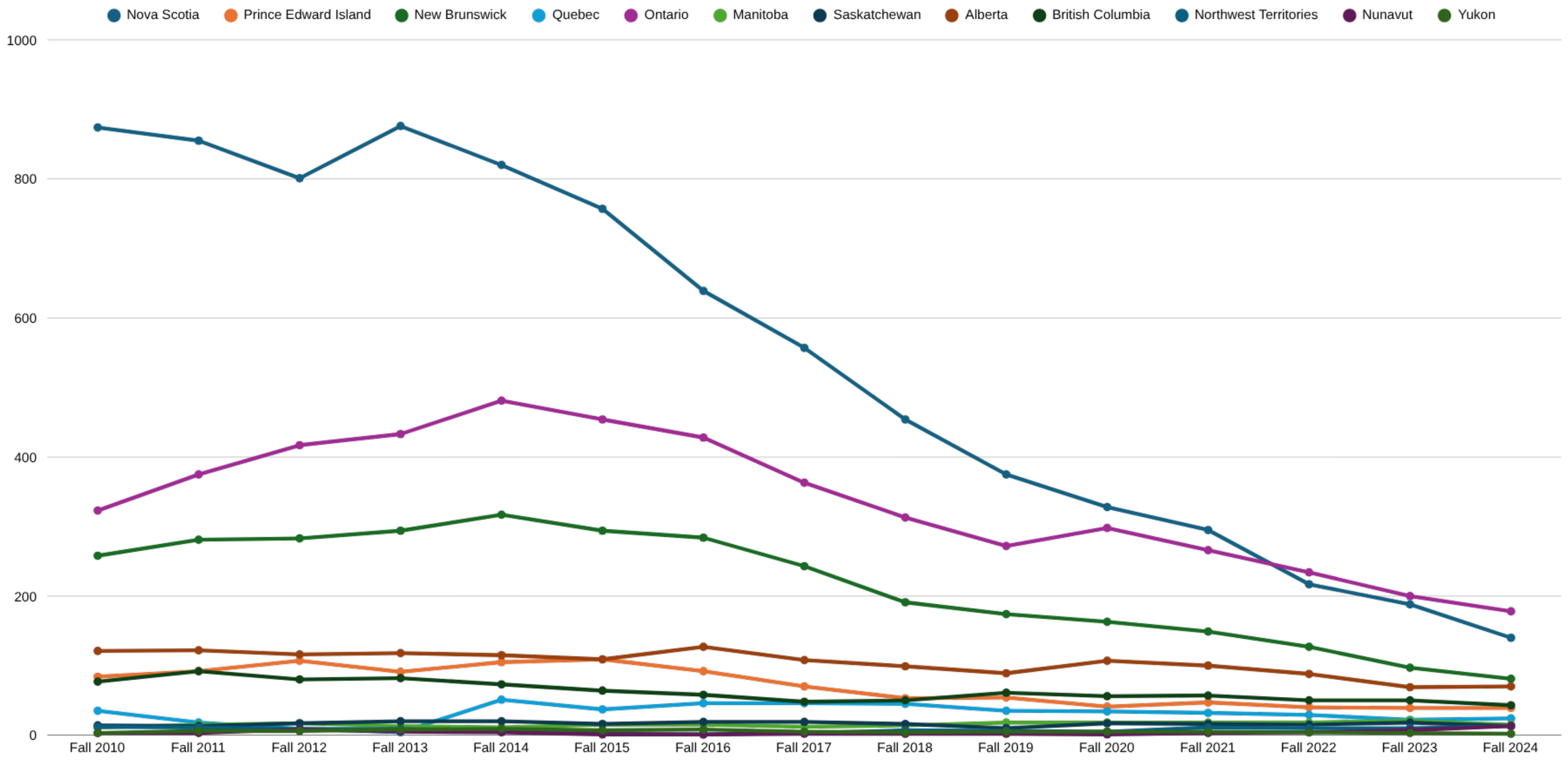
Non-NL Undergrad and Grad Enrolment (2010-2024)



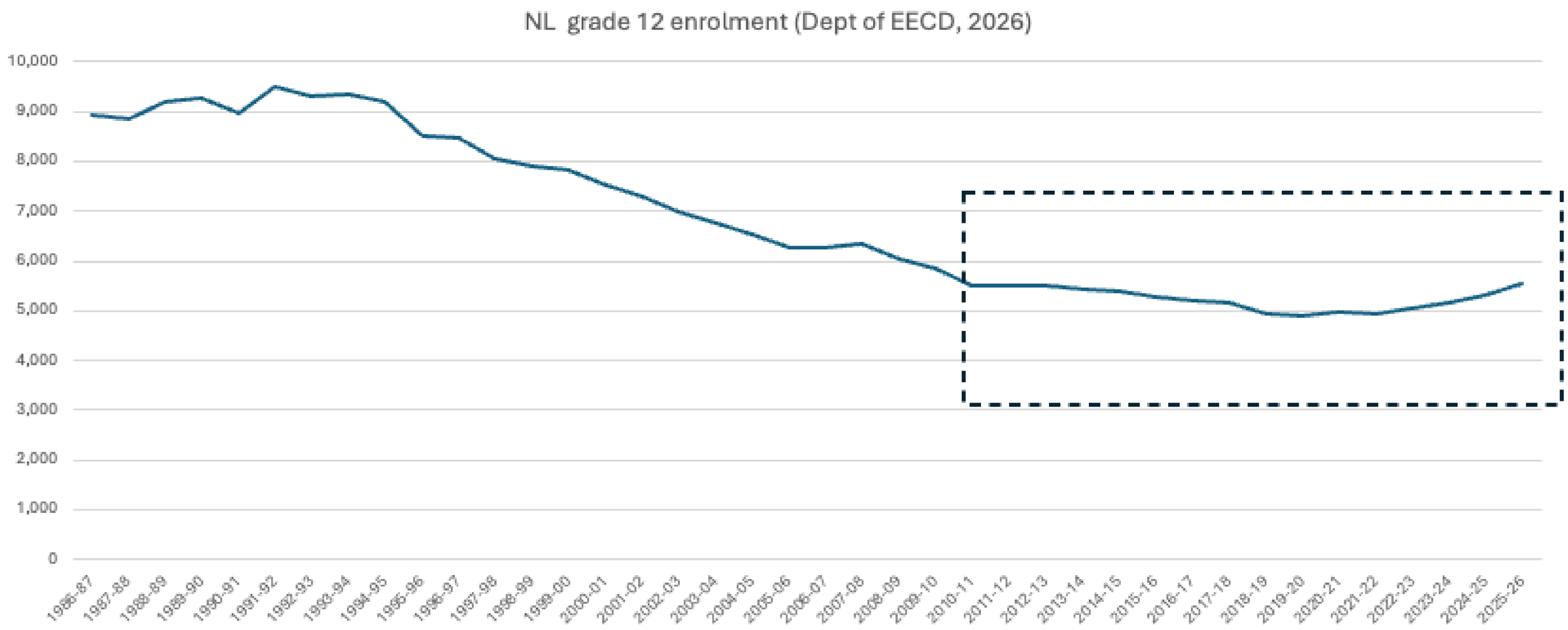
Signal49 and MUN: “expect to see enrollment continue to decline through to 2030”
Signal49: “gradual decline in university enrollment of 6.5% through 2030”

McGowan, S. University Affairs March 24, 2026.

Full-time Undergrad Enrolment by Province at Memorial (2010-2024)



NL Grade 12 Enrolments (NL Dept. of EECD, 2026)



Undergrad Enrolment by Academic Unit (2020-2025)

Academic unit	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025	change	% change
Business Administration	**2167**	**2076**	**2026**	**1910**	**1721**	**1533**	**-634**	**-29%**
Education	**515**	**524**	**502**	**491**	463	**504**	**-11**	**-2%**
Engineering and Applied Science	**1182**	**1172**	**1100**	**1162**	**1143**	**1157**	**-25**	**-2%**
Human Kinetics and Recreation	374	381	379	404	372	344	-30	-8%
Humanities and Social Sciences	**2367**	**2161**	**1919**	**1838**	**1784**	**1789**	**-578**	**-24%**
Marine Institute	**406**	**420**	**366**	**275**	**344**	**274**	**-132**	**-33%**
Medicine	**311**	**322**	**318**	**319**	**327**	**358**	**47**	15%
Music	137	131	114	104	90	86	-51	-37%
Nursing	974	1000	1064	1117	1192	1250	276	28%
Pharmacy	247	272	263	264	256	277	30	12%
Science	**3420**	**3523**	**3554**	**3415**	**3184**	**2988**	**-432**	**-13% (-16%)**
Social Work	177	225	234	252	246	240	63	36%
Grenfell Campus	**1129**	**1089**	**973**	**943**	**854**	**834**	**-295**	**-26%**
Labrador Campus	**0**	**0**	**0**	**0**	**0**	**6**	**6**	**n/a**

Budget

MEMORIAL UNIVERSITY

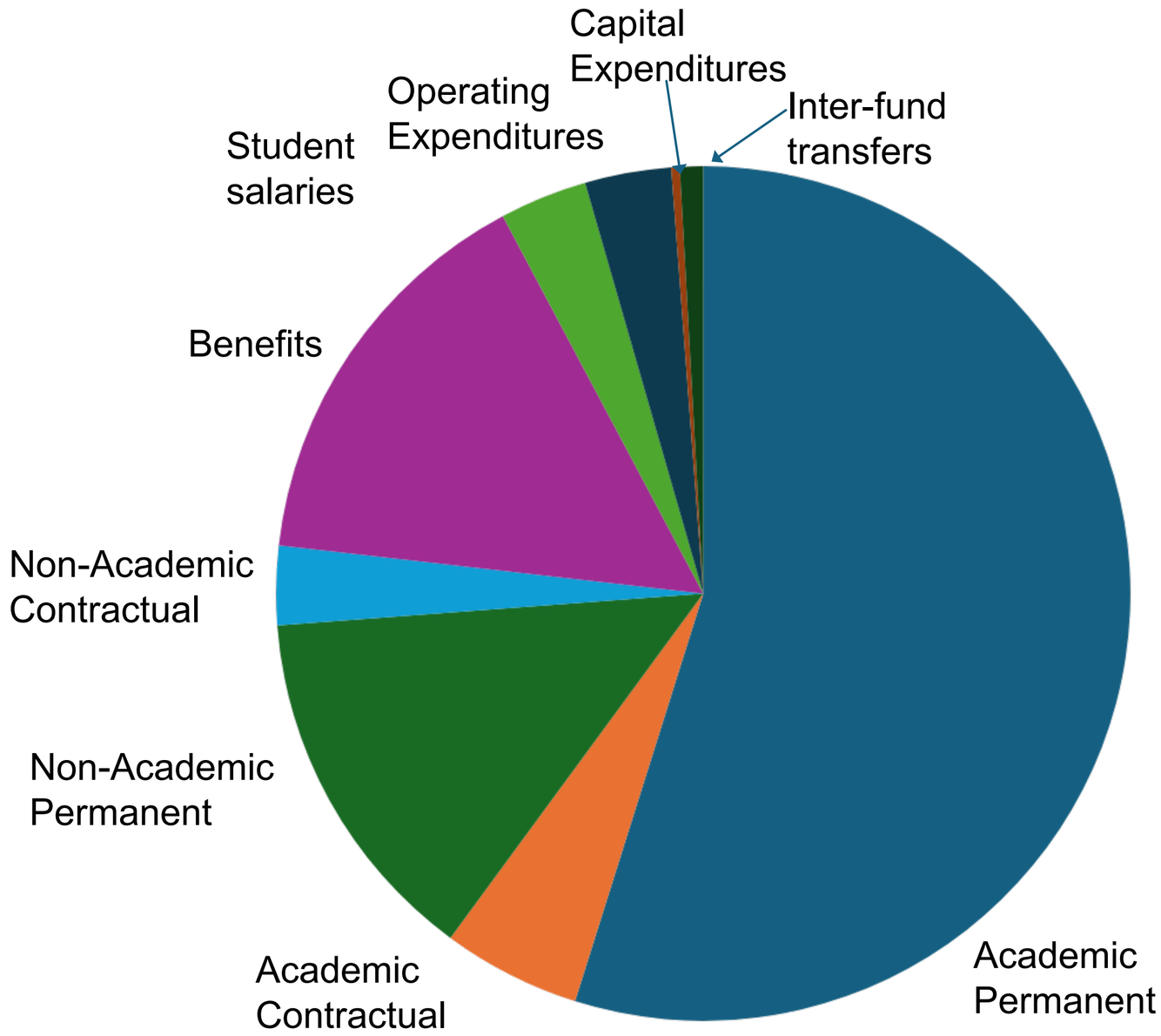
SCIENCE

Faculty of Science Budgets (2024-2025)

Operating Allocation 2024-2025:
$45,187,994 (base)
+ $1,816,877
(one time)
Total: $47,004,871

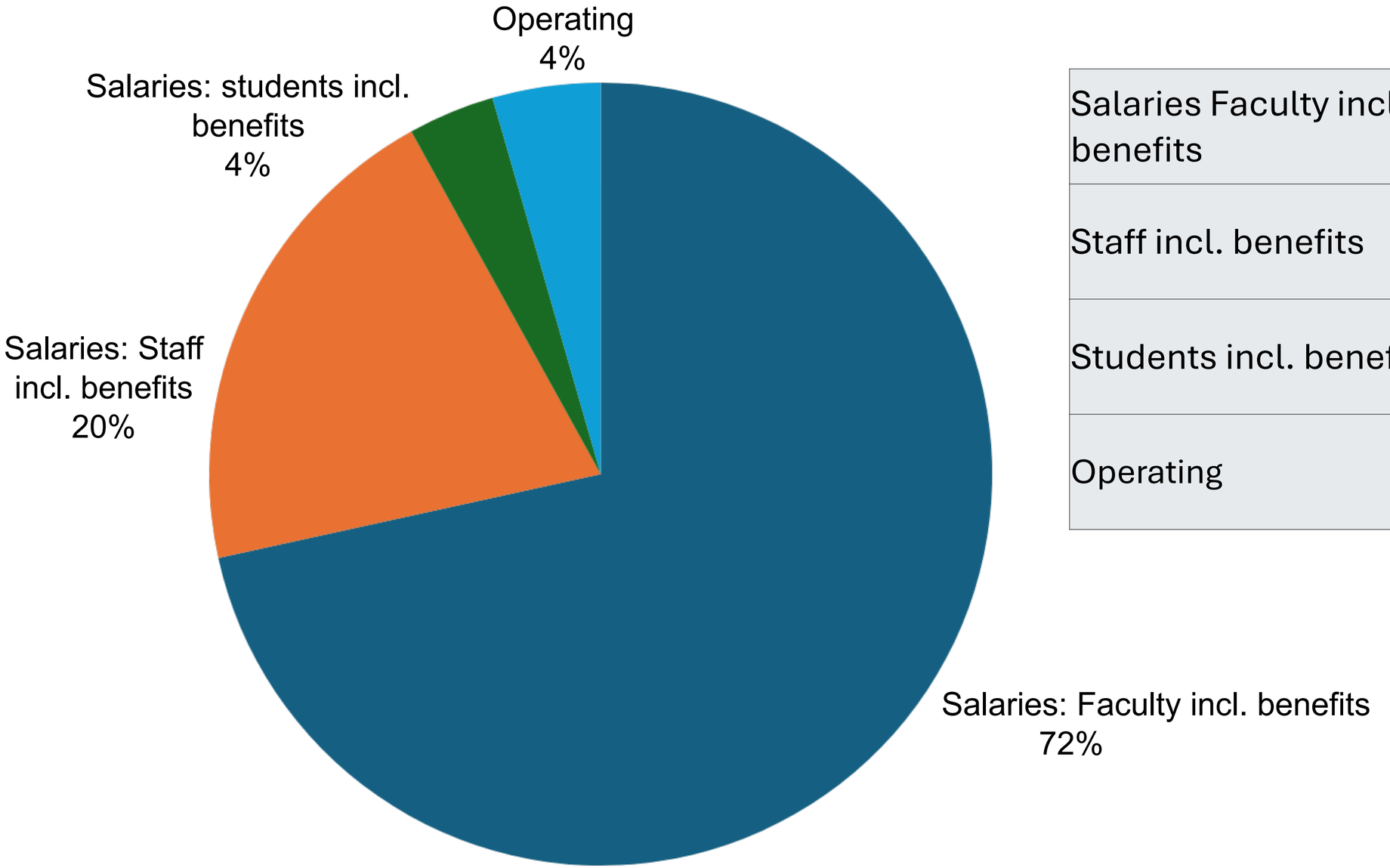
- **Revenue ($927,406K)**
  (Special Fees. For 2025-2026 expect decrease of ~$200K)
- **Overhead – contracts**
  (varies each year)
- **Fund-C: Research Support Fund**
  (NSERC; part of allocated one-time)
- **Other one-time funds**
  (e.g., Nursing, one-off opportunities.)
- ? **Banked time – liability ~$1M**

Expenditures (2024-2025)



Academic Permanent	$26,054,603
Academic Contractual	$2,484,479
Non-academic Permanent	$6,523,003
Non-academic Contractual	$1,418,533
Benefits	$7,326,151
Student Salaries (e.g., TA's, UG)	$1,573,771
Operating Expenditures	$1,550,091
Capital Expenditures	$152,119
Inter-Fund Transfers	$416,536
Total Expenditures	$47,499,286
Net Expenditures	$46,571,880

Expenditures: Broad Overview (2024-2025)



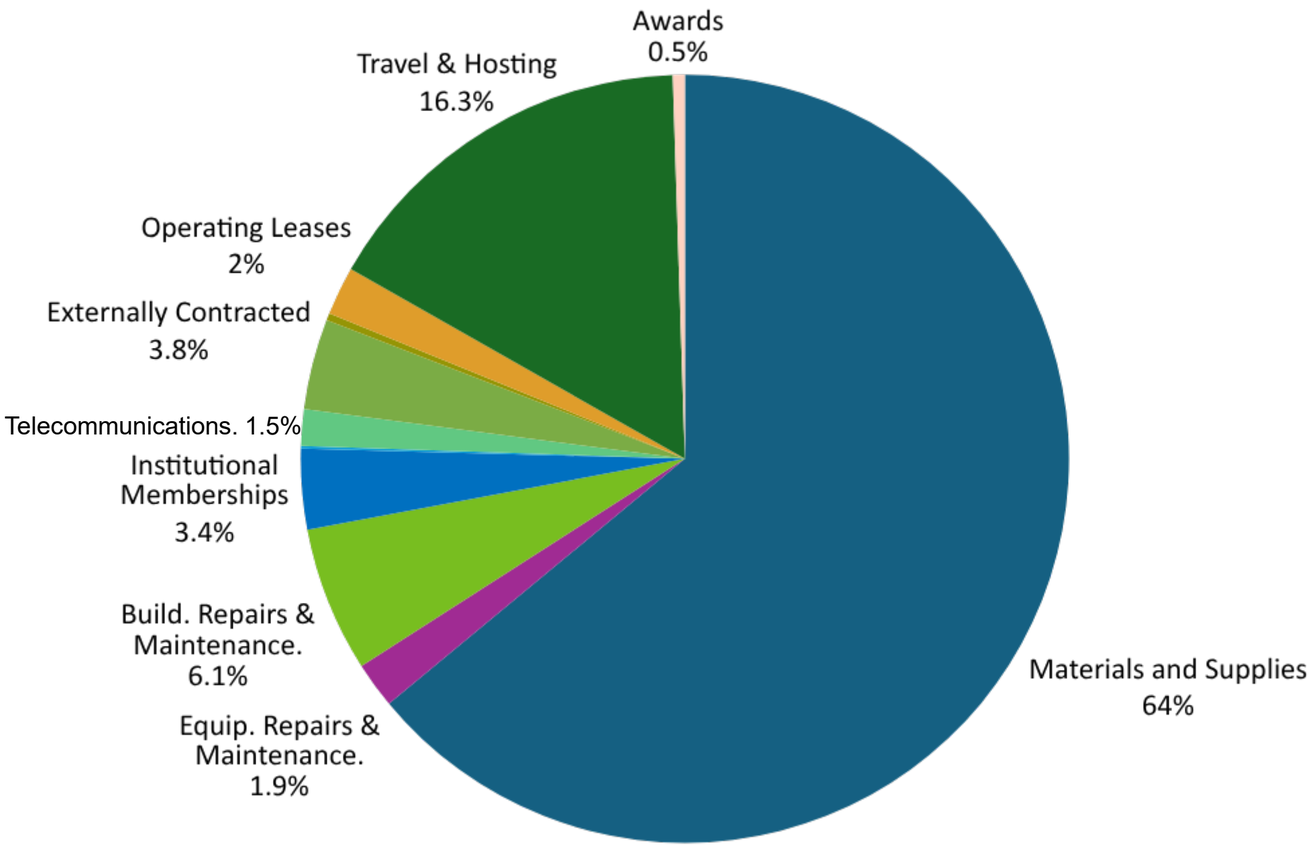
Salaries Faculty incl. benefits	$33,990,047
Staff incl. benefits	$9,688,674
Students incl. benefits	$1,699,673
Operating	$2,118,747

Total Expenditures Per Department (2024-2025)

Department	Total Expenditures
Biology	$ 5,694,259
Chemistry	$ 4,451,369
Computer Science	$ 4,302,197
Earth Sciences	$ 4,630,453
Human Biosciences	$ 3,441,658
Maths and Statistics	$ 7,648,833
Ocean Sciences	$ 3,416,367
Physics & Physical Oceanography	$ 4,258,378
Psychology	$ 6,120,791
Total:	**$ 43,964,305***

Remainder: ~$3.5M for Faculty of Science Office, Research Support Fund, FoS Procurement, Co-op

Operating Expenditures (2024-2025)



Materials and Supplies	$ 991,507
Equip. Repairs & Maintenance	$30,038
Building Repairs & Maintenance	$94,698
Institutional Memberships	52,350
Ref. Materials/Books	$ 1,699
Telecommunications	$ 23,755
Externally Contracted	$ 59,077
Professional Fees	$ 4,659
Operating Leases	$ 31,589
Travel & Hosting	$ 252,170
Awards	$ 7,836
Total:	**$1.5M**

Required Reductions For the 2025-2026 Fiscal Year

Reduction to base budget: 5.4% ($2,444,374)

+

IUGS no longer received: $1,450,000

=

Total reduction in budget: - $3,894,374

(base + one-time)

(reduction may end up being greater if special fee program revenue decreases)

Est. base savings from 2024-2025: ~$1.3M

Required reduction in base budget expenditures: ~$2.6M

Faculty of Science Budgets (2025-2026)

Operating Allocation 2025-2026:
$43,763,753 (base)
+ $374,061 (one time)
(Total: $44,137,814)

- **Revenue (~$700K)**
- **Overhead – contracts**
  (varies each year)
- **Fund-C: Research Support Fund**
  (NSERC; has been decreasing; limits on its use)
- **Other one-time funds**
  (e.g., Nursing, co-op, one-off opportunities.)
- **Banked time – liability ~$1M**

Update On Fiscal Year 2025-2026 (Completed)

Estimated total budget loss for fiscal year 2025-2026: $2.6M (assuming minimum previous savings = $1.3M)

Base budget savings in 2025-2026: ~$200K
(~$2.4M structural deficit from 2025-2026)

One-time funds: ~$1M
(e.g., Provost one-time strategic funds for contractual teaching, RIS, Nursing)

Miscellaneous non-permanent savings: $800+K
(e.g., unfilled positions due to resignations, sick leaves etc., fewer TA-ships needed, lower materials and supplies costs, faculty recruitment, etc.)

We will carry a debt into fiscal year 2026-2027: amount unclear (fiscal year just closed) – possibly a few $100Ks.

Steps to Address Present Structural Deficit ($2.4M), and Forward

There are limited levers available to address our new budget reality, and on the required timeline.

What we do know: status quo is not an option.

- **Reducing operational expenditures.**
- **Maintaining or growing current revenue streams.**
- **Working on delivering our current programs more cost-efficiently** by better aligning resources and considering enrolment realities.
- **Using expertise across departments.**
- **Sharing courses across programs.**

Town Hall: This Year's Additional Announced Budget Reductions

Minimum University-wide budget reduction: $10-12M
Maximum University-wide budget reduction: upwards of $50M

Faculties and Schools have been directed to model potential actions to achieve and measure impacts of, **a 5% and a 10% reduction to their 2025-2026 base budget allocations.**

For our Faculty of Science **(on top of the ~$2.4M from 2025-2026):**
5% = ~$2.15M
10% = ~$4.3M

Department Head's have been informed, and we are asking for ideas and suggestions.

Please note: shadow budget will not be available until **mid-August.**

Enrolment by Program (Fall 2025)

Department	Grad Registrations (From Major Report)		UG Majors
BIOL	BIOL:67, BMRN:1	68	141
CHEM	CHEM: 69	69	89
COMP	COMP	81	327 (324+3)
EASC	EASC, ESGL, ESGP	64	70
HUBI	BIOC:47, FOOD:6	53	322
MATHS & STATS	MATH:39, STAT:20, THPH:3, SCCM:13	75	162 (160+2)
OCSC	MNBL:44, AQUA:2	46	11
			44 MNBL (50:50 split Biol:OCSC)
PHYS	PHYO:5, PHYS:24	29	57
PSYC	MAPS:16, CABE: 18, PSYD:27, EXPS: 46, APSC:16	123	310 (214+96)
	ENVS:15	15	
TOTAL		623	1533
	Other Course Based DSCI:17, MAI:16, ENVS:4	37	3 DIET
			32 ECON
			21 GEOG

Declared vs. Undeclared Undergraduate Students

- **>50%** of new undergrad students are undeclared in their first semester.
- **71%** of undeclared students are enrolled in general B.Sc.
- Only **20-30%** ultimately declare a science major.
- Undeclared students consistently have **higher failure rates, lower retention rates, and lower graduation rates.**

New Full-time Students by Declaration				
	Declared	Undeclared		Total
		B.Sc.	Other	
Fall 2022	818	584	334	1,736
Fall 2023	828	592	296	1,716
Fall 2024	800	663	266	1,729
Fall 2025	783	645	258	1,686

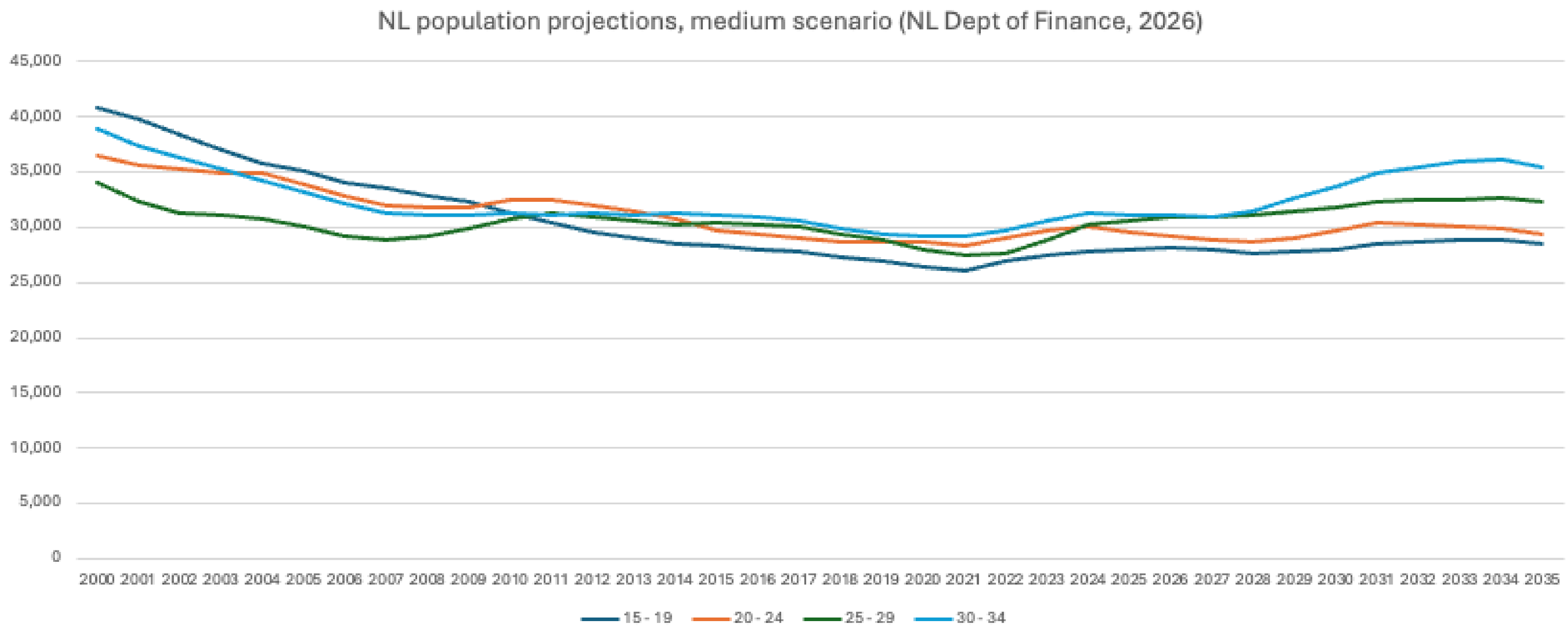
1533 B.Sc students with declared majors + 1251 B.Sc's with undeclared majors.

Using the Major Report Grad Numbers:

if we only include declared undergrads our grad/undergrad ratio is: **41%**

if we also include undeclared undergrads our grad/undergrad ratio is: **22.4%**

NL Population Projection, Medium Scenario (NL Dept. Finance, 2026)



Responding to the Additional Reductions and Our New Reality

Programming:

- Identify and eliminate program roadblocks, evaluate course and program requirements.
- Innovative programming.
- Reimagining the 1st year Science experience (e.g., three or four 1st year gateways).

Faculty and Department organizational structures:

- Review Faculty-level processes and policies.
- Ask if our current structure aligned and/or suited to best support program needs and goals in this new reality.
- Look at physical organization and space.

Strengthen and enhance student supports and increase number of current students declaring

Revenue generation

Research support, building supports and sustainability

Upcoming Discussions on the Future Faculty of Science

We will hold 2 – 3 sessions (May 12, 9:30-11:30am; June 16, 9:30-11:30am; and tentatively July) where we will come together **to generate ideas and possible actions** for the Faculty of Science – an initial step towards a new Strategic Plan.

Programming

Faculty and Department organizational structures

Student recruitment and retention

Revenue generation

Research support

Employee engagement and Faculty of Science culture

Other suggestions?

Upcoming Workshop Discussions

Anonymous Qualitrics Survey :

https://mun.yul1.qualtrics.com/jfe/form/SV_09AM4JHjBwPlyAe

MEMORIAL UNIVERSITY

Faculty of Science

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

May 12, 2026

To: All Members of Faculty Council, Faculty of Science
From: Melanie Fitzpatrick, Secretary, Faculty of Science Committee on Undergraduate Studies
Subject: Transmission of Documents to Faculty Council

At a virtual meeting held on 5 May 2026, the Faculty of Science Committee on Undergraduate Studies agreed that the following item(s) should be forwarded to Faculty Council for approval:

Dietetics Calendar Change
EASC 2917 – Undergraduate Course Change
OSCS-MNBL – Admission Requirements
SCI 2155 Syllabus_Astronomy_and_Indigenous_Worldviews
SCI 3155 Syllabus_space_and_society

All documents are attached in both MS Word and pdf versions.

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:

- ☐ New course(s):
- X Amended or deleted course(s): Amended, EASC 2917
- ☐ 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
EASC 2917 Gems: The Science and Politics

REVISED COURSE NUMBER AND TITLE
EASC 2917 Gems: Science & Exploration

ABBREVIATED COURSE TITLE
Gems: Science & Exploration

RATIONALE AND EXECUTIVE SUMMARY
The new title and description better reflect the course which focuses on geology and the mineral sciences as they pertain to gems, with less than 9% of the content relating to politics. The course has been modernized and now contains numerous case studies at the cutting edge of gem deposit science and exploration method development which reinforce learning of core geoscience concepts and their real-world application. The description has been brought to the Senate's standard of 75 words.

ANTICIPATED EFFECTIVE DATE
2026 Fall

CALENDAR CHANGES
~~introduces students to precious and semi-precious stones both from the perspective of their nature and origin and from the perspectives of geography and the socio-political issues of mining, recovery, trade and cartels. The properties that confer value upon gems (colour, clarity, cut and carat), the techniques used to enhance, fake and imitate gems and the techniques used to detect fraudulent "gems" will be covered. The course will include discussion of the diamond industry in Canada and consideration of some famous gems. This course is designed for students taking Earth Sciences as an elective subject. This course complements traditional disciplines such as history, economics, and political science and should be of particular interest to teachers.~~

is intended for students in all fields. It introduces students to the world of gemstones, exploring their mineralogy, optics, chemistry, geology, history, mining, economics, and political implications. The course features numerous case studies on scientific expeditions to gem deposits around the world, highlighting the intricacies of conducting field-based research and examining the relationship between large-scale geological processes and gemstone deposit formation.

UL: not acceptable as one of the required courses for the Minor, Major or Honours programs in Earth Sciences.

CALENDAR ENTRY AFTER CHANGES

is intended for students in all fields. It introduces students to the world of gemstones, exploring their mineralogy, optics, chemistry, geology, history, mining, economics, and political implications. The course features numerous case studies on scientific expeditions to gem deposits around the world, highlighting the intricacies of conducting field-based research and examining the relationship between large-scale geological processes and gemstone deposit formation.

UL: not acceptable as one of the required courses for the Minor, Major or Honours programs in Earth Sciences.

Memorial University of Newfoundland
Undergraduate Calendar Change Proposal Form
Appendix Page

CONSULTATIONS SOUGHT	RESPONSE	DATE
Business	Yes/No	
Education	Yes/No	7Apr26
Engineering	Yes/No	9Apr26
Grenfell Campus School of Arts & Social Science	Yes/No	
Human Kinetics and Recreation	Yes/No	
Humanities and Social Sciences	Yes/No	
Labrador Institute	Yes/No	
Library	Yes/No	22Apr26
Marine Institute	Yes/No	
Medicine	Yes/No	
Music	Yes/No	
Nursing	Yes/No	8Apr26
Pharmacy	Yes/No	6Apr26
Registrar's Office	Yes/No	
Science	Yes/No	
Social Work	Yes/No	

LIBRARY REPORT

The proposed name change for EASC 2917, "Gems: The Science and Politics" to "Gems: Science & Exploration" does not affect the library holdings for the course. In fact, by doing a quick keyword search in the Catalogue looking for books about gems or minerals and politics, you get 150+ hits, but books about gems or minerals and exploration, you get 500+ hits. And of course, users have access to the major databases, such as GeoRef, Scopus, and Web of Science, to avail of the periodical literature in the field.

If you have any questions, please do not hesitate to contact me – dduda@mun.ca or 709-864-3198.

RESOURCE IMPLICATIONS

None.

Check box as applicable (☑)

Courses that are part of load	*YES*	*NO*	*N/A*
Q1. Will the course be taught by a tenured or tenure track Academic Staff Member as part of load? *(if yes, complete 1a to 1c; if no, proceed to Q2)*	X		
a) Required course: will it be taught every year?			X
b) Elective course: will it be taught on a regular rotation depending on the academic unit's teaching plan?	X		
c) Elective course: will it hinder the academic unit's ability to offer its core program?		X	
Proceed to Q3.			

Q2. If the course will be taught as overload by an Academic Staff Member, or by a per-course instructor (PCI) or by any other contractual instructor, please answer each of the following.

a) Approximately how often will the course be taught?

b) Why can't the course be offered by a tenured or tenure track Academic Staff Member as part of normal load?

Q3. If the course is planned as a distance course, does DELTS support it and has DELTS confirmed that it will offer financial and administrative support?

N/A

Q4. Will the course require any further resources (e.g. extra administrative supports)? Please explain and justify.

No.

CONSULTATION FEEDBACK

Pharmacy

Thank you for the opportunity to review the proposed changes to EASC 2917 Gems: The Science and Politics. There is no impact on the School of Pharmacy.

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

709-864-2013

Education

No impact expected for the Faculty of Education.

Regards,

GARRETT MARTIN, B.Sc.

MANAGER OF ACADEMIC PROGRAMS

Office of Academic Programs

Faculty of Education

G.A. Hickman Building, ED 2020

Memorial University

St. John's NL A1B 3X8

Canada

T 709 864 7554

Nursing

Dr. April Pike, our dean at the Faculty of Nursing, has reviewed the proposed calendar change. She tells me that she does not see any implications for our faculty.

Thanks for your time, wishing you a great day!

Jane

Engineering

Thank you for the invitation to comment on the proposed Calendar change for the course EASC 2917 "Gems: Science & Exploration". The next meeting of the Committee on Undergraduate Studies of the Faculty of Engineering and Applied Science is scheduled for May 20. As chair of the committee, I note that this change will have no impact on our programs.

I am happy to support this Calendar change.

Yours sincerely,

Dr. Glyn George, Chair

Committee on Undergraduate Studies

Faculty of Engineering and Applied Science

Memorial University of Newfoundland

St. John's NL A1B 3X5

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):
- **X** Amended or deleted program(s): **Ocean Sciences & Marine Biology admission requirements**
- ☐ 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
10.1.10 Marine Biology Joint Major

11.10 Ocean Sciences

RATIONALE AND EXECUTIVE SUMMARY
In an effort to reduce barriers to student success and retention, the departments of Ocean Sciences and Biology have worked to modify entrance requirements for the Ocean Sciences and Joint Marine Biology major programs.

The below adjustments allow students much more flexibility when working towards declaration in these programs.

ANTICIPATED EFFECTIVE DATE
Fall 2027

CALENDAR CHANGES

10.1.10.1 Admission Requirements

Admission to the program is based on academic standing. To be considered for admission to the program, students will normally have successfully completed the following courses (or their equivalents) with an overall average of at least 60%:

1. Biology 1001 and 1002 with an average grade of 65%;
2. ~~Chemistry 1050 and 1051 (or 1200 and 1001)~~
3. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses;
4. Mathematics 1000 or 1006;
5. Ocean Sciences 1000 with a minimum grade of 65%;
6. Two additional 1000-level courses offered by the Faculty of Science; Chemistry 1050 and 1051 are strongly recommended to help complete the program in a timely manner (see note below).

~~7. Physics 1020 (or 1050); and~~

~~8. Physics 1021 (or 1051) or one Ocean Sciences course at the 2000 level.~~

Students are advised to consult with the Academic Program Officer at the earliest opportunity to prepare adequately for program admission. Students should be aware that delaying common prerequisite courses ~~some of the above courses~~, ~~particularly~~ for example Chemistry 1050 and 1051, until second year may make it difficult to complete the program in the normal four years.

11.10.3.1 Admission Requirements for the Major in Ocean Sciences or the Major in Ocean Sciences (Environmental Systems)

Admission to the Ocean Sciences Major Programs is based on academic standing. To be considered for admission, students must normally have completed ~~30~~24 credit hours with ~~a minimum of 24 credit hours in Science, and~~ an overall average of at least 65%. It is recommended that the following courses be successfully completed before admission:

1. Biology 1001 and 1002;
2. ~~Chemistry 1050 and 1051 (or 1200 and 1001);~~
3. ~~Earth Sciences 1000;~~
4. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses;
5. Mathematics 1006 (or 1000);
6. Ocean Sciences 1000 with a minimum grade of 65%; and
7. Two additional 1000-level courses offered by the Faculty of Science; Chemistry 1050 and 1051 are strongly recommended to help complete the program in a timely manner (see note below).
8. ~~Physics 1020 or (1050) or 3 credit hours in Ocean Sciences courses at the 2000 level.~~

Students are advised to consult with the ~~department~~ Academic Program Officer at the earliest opportunity to prepare adequately for program admission. ~~Each student majoring in Ocean Sciences will be assigned an advisor who should be consulted on academic issues, including course selection.~~ Students should be aware that delaying common prerequisite courses, for example Chemistry 1050 and 1051, until second year may make it difficult to complete the program in the normal four years.

CALENDAR ENTRY AFTER CHANGES

10.1.10.1 Admission Requirements

Admission to the program is based on academic standing. To be considered for admission to the program, students will normally have successfully completed the following courses (or their equivalents) with an overall average of at least 60%:

1. Biology 1001 and 1002 with an average grade of 65%;
2. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses;
3. Mathematics 1000 or 1006;
4. Ocean Sciences 1000 with a minimum grade of 65%;
5. Two additional 1000-level courses offered by the Faculty of Science; Chemistry 1050 and 1051 are strongly recommended to help complete the program in a timely manner (see note below).

Students should be aware that delaying common prerequisite courses, for example Chemistry 1050 and 1051, until second year may make it difficult to complete the program in the normal four years.

11.10.3.1 Admission Requirements for the Major in Ocean Sciences or the Major in Ocean Sciences (Environmental Systems)

Admission to the Ocean Sciences Major Programs is based on academic standing. To be considered for admission, students must normally have completed 24 credit hours with an overall average of at least 65%. It is recommended that the following courses be successfully completed before admission:

1. Biology 1001 and 1002;
2. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses;
3. Mathematics 1006 (or 1000);
4. Ocean Sciences 1000 with a minimum grade of 65%; and
5. Two additional 1000-level courses offered by the Faculty of Science; Chemistry 1050 and 1051 are strongly recommended to help complete the program in a timely manner (see note below).

Students are advised to consult with the Academic Program Officer at the earliest opportunity to prepare adequately for program admission. Students should be aware that delaying common prerequisite courses, for example Chemistry 1050 and 1051, until second year may make it difficult to complete the program in the normal four years.

Memorial University of Newfoundland
Undergraduate Calendar Change Proposal Form
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CONSULTATIONS SOUGHT	RESPONSE	DATE
Business	Yes/No	
Education	Yes/No	
Engineering	Yes/No	9 Apr 2026
Grenfell Campus School of Arts & Social Science	Yes/No	
Human Kinetics and Recreation	Yes/No	
Humanities and Social Sciences	Yes/No	
Labrador Institute	Yes/No	
Library	Yes/No	14 Apr 2026
Marine Institute	Yes/No	
Medicine	Yes/No	7 Apr 2026
Music	Yes/No	
Nursing	Yes/No	8 Apr 2026
Pharmacy	Yes/No	6 Apr 2026
Registrar's Office	Yes/No	
Science	Yes/No	
Biochemistry	Yes/No	
Biology	Yes/No	
Chemistry	Yes/No	
Computer Science	Yes/No	
Earth Sciences	Yes/No	
Mathematics & Statistics	Yes/No	
Ocean Sciences	Yes/No	
Physics & Physical Oceanography	Yes/No	
Psychology	Yes/No	
Co-op office	Yes/No	
Social Work	Yes/No	

RESOURCE IMPLICATIONS

Q1. Will the program changes require any further resources or rely on non-tenured or non-tenure track ASMs (e.g. extra administrative supports, additional teaching/technical staff, or TA supports, equipment or facilities, consumables, per course instructors, extra teaching, contractual teaching)? Please explain each with anticipated expenses and a justification for those expenses.

No implications resources stem from the proposed changes. If anything, these changes reduce administrative load related to processing applications from students who have difficulty completing the required courses.

OTHER CONSIDERATIONS

Q2. In developing this program or program changes, how has consideration been given to considering the best practices and principles of EDI-AR, including content, perspectives, or material into the curriculum?

Yes, the proposed changes allow students more flexibility. In particular, the previous admission requirements prevented anyone requiring foundations math or chemistry (e.g., MATH 1090, CHEM 1010) from declaring these majors by the end of their first year. These changes eliminate this issue.

Title of Proposal: Adjustment of admission requirements for Ocean Sciences and Marine Biology major programs

Checklist for Faculty of Science Course/Program Proposals

This checklist helps faculty to avoid errors and omissions in calendar change proposals. The completed checklist will be reviewed by the Dean's office in the Faculty of Science before being sent out for University-wide (and Faculty-wide) consultations. Proposals received after the deadline set (October 12, 2026) risk not making next year's University Calendar.

Check boxes as applicable

	YES	N/A
1. Has the completed proposal been approved by your academic unit's undergraduate committee and/or by the unit as a whole, including the Head?		
2. Will the change impact the calendar entry of another unit/department, **including Grenfell Campus and/or interdisciplinary programs**? If so, this is identified in the "secondary change" section, and written consent should be appended.		
3. Has a Word version of the proposal been submitted, not a pdf? (so that the Dean's Office can make edits as appropriate, if applicable. Authors will be consulted about any edits)		
4. Does the title on the front page of the proposal identify the name of the course/program?		
5. Is an executive summary, rationale or similar topline information included? (during formal consultations coordinated by the Dean's office, this summary will be circulated electronically so that recipients can quickly grasp key aspects before reviewing the proposal itself).		
6. Are proposed deletions to existing Calendar language identified using strikethroughs, ~~like this~~, and proposed Calendar additions identified by underlining, like this?		
7. Does the proposal avail of the opportunity to use the "Secondary Changes" section to delete inactive courses that have not been offered in many years?		

The person that the Dean's office should contact with any questions about the attached proposal:

_____ _____

Name (print) Phone / email

Departmental Head Signature: _____

LIBRARY REPORT

These proposed changes will not have any impact on Memorial University Libraries. We will continue to support students and faculty involved in the Ocean Sciences and Joint Marine Biology programs.

Kathryn

CONSULTATION FEEDBACK

Pharmacy

Thank you for the opportunity to review the changes to the Ocean Sciences and Marine Biology admissions requirements. There is no impact on the School of Pharmacy.

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

709-864-2013

Medicine

Thank you for the opportunity to review and comment on these calendar changes.

The Faculty of Medicine does not have any feedback on the proposed changes.

Best regards,

Tracey Pittman

(on behalf of Dean Stuart Carney)

Nursing

Dr. April Pike, our dean at the Faculty of Nursing, has reviewed the proposed calendar change. She tells me that she does not see any implications for our faculty.

Thanks again

Jane

Engineering

Thank you for the invitation to comment on the proposed Calendar changes for admission to the majors of Ocean Sciences and Joint Marine Biology. The next meeting of the Committee on Undergraduate Studies of the Faculty of Engineering and Applied Science is scheduled for May 20. As chair of the committee, I note that this change will have no impact on our programs.

I agree with the rationale and I am happy to support these Calendar changes.

Yours sincerely,

Dr. Glyn George, Chair

Committee on Undergraduate Studies

Faculty of Engineering and Applied Science

Memorial University of Newfoundland

St. John's NL A1B 3X5

Library

These proposed changes will not have any impact on Memorial University Libraries. We will continue to support students and faculty involved in the Ocean Sciences and Joint Marine Biology programs.

Kathryn

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):
- X Amended or deleted program(s): **Dietetics**
- ☐ 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 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)
- X General Academic Regulations (Undergraduate)
- ☐ Faculty of:
- ☐ School of:
- ☐ Department of:
- ☐ Other:

RATIONALE

In discussion with Acadia, the Dietetics program does not require calculus. Therefore we are removing that requirement for the Dietetics program and replacing it with a science elective. We are also making a slight modification to the wording, requiring HUBI 2001 but accepting the equivalent Pharmacy 2004.

ANTICIPATED EFFECTIVE DATE

Immediately.

CALENDAR CHANGES

Under the terms of the MOU, the following 17 courses, 51 credit hours at Memorial University of Newfoundland must be completed with a minimum 60% overall average before being admitted to the third year of Acadia University's program:

Biology 1001

Chemistry 1050 and 1051 (or Chemistry 1200, 1001)

Chemistry 2400

English 1090 or the former English 1080, 1110 (or equivalent)

Mathematics 1090 ~~and~~ or 1000 ~~(or Mathematics 1000 and one elective)~~

Pharmacy 2002, 2003, and ~~one of Pharmacy 2004,~~ Human Biosciences 2001~~,~~ (or Pharmacy 2004 or the former Biochemistry 2101 or 2201) (only students who are selected for this program will be permitted to register for these Pharmacy courses)

Psychology 1000, 1001

Statistics 2500, 2501

Two Humanities and Social Sciences electives

One Science elective

CALENDAR ENTRY AFTER CHANGES

5.3.1 Memorial University of Newfoundland Courses

Under the terms of the MOU, the following 17 courses, 51 credit hours at Memorial University of Newfoundland must be completed with a minimum 60% overall average before being admitted to the third year of Acadia University's program:

Biology 1001

Chemistry 1050 and 1051 (or Chemistry 1200, 1001)

Chemistry 2400

English 1090

One CRW

Mathematics 1090 or 1000

Pharmacy 2002, 2003, and Human Biosciences 2001 (or Pharmacy 2004 or the former Biochemistry 2101 or 2201) (only students who are selected for this program will be permitted to register for these Pharmacy courses)

Psychology 1000, 1001

Statistics 1500, 2500

Two Humanities and Social Sciences electives

One Science elective

SECONDARY CALENDAR CHANGES

None

Memorial University of Newfoundland
Undergraduate Calendar Change Proposal Form
Appendix Page

CONSULTATIONS SOUGHT	RESPONSE	DATE
Business	Yes/No	
Education	Yes/No	
Engineering	Yes/No	18Mar26
Grenfell Campus School of Arts & Social Science	Yes/No	
Human Kinetics and Recreation	Yes/No	
Humanities and Social Sciences	Yes/No	
Labrador Institute	Yes/No	
Library	Yes/No	
Marine Institute	Yes/No	
Medicine	Yes/No	
Music	Yes/No	
Nursing	Yes/No	19Mar26
Pharmacy	Yes/No	
Registrar's Office	Yes/No	
Science	Yes/No	
Biochemistry	Yes/No	
Biology	Yes/No	
Chemistry	Yes/No	
Computer Science	Yes/No	
Earth Sciences	Yes/No	
Mathematics & Statistics	Yes/No	30Mar26
Ocean Sciences	Yes/No	
Physics & Physical Oceanography	Yes/No	
Psychology	Yes/No	
Co-op office	Yes/No	
Social Work	Yes/No	

LIBRARY REPORT

None.

RESOURCE IMPLICATIONS

Q1. Will the program changes require any further resources or rely on non-tenured or non-tenure track ASMs (e.g. extra administrative supports, additional teaching/technical staff, or TA supports, equipment or facilities, consumables, per course instructors, extra teaching, contractual teaching)? Please explain each with anticipated expenses and a justification for those expenses.

Resource implications expected.

OTHER CONSIDERATIONS

Q2. In developing this program or program changes, how has consideration been given to considering the best practices and principles of EDI-AR, including content, perspectives, or material into the curriculum?

No considerations given for this calendar change.

Consultation Feedback

Engineering

Thank you for the opportunity to comment on the proposed Calendar changes to the Dietetics program.

At its meeting on 2026 March 18, the Committee on Undergraduate Studies for the Faculty of Engineering and Applied Science found no impact on our programs.

Yours sincerely,

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

Nursing

Dr. Pike, our dean at the Faculty of Nursing, has reviewed the calendar change. She tells me that she sees no implications for our Faculty of Nursing.

Thank you for your time,
Jane

Mathematics & Statistics

The Undergraduate Studies Committee of the Department of Mathematics and Statistics considered this proposal on March 30 and would like to suggest that the Statistics requirements, currently listed in the proposal as STAT 2500 and 2501, should include more options, as shown on the program's web page (https://www.mun.ca/science/undergraduates/programs-and--application/dietetics-program/program-information/):
1) STAT 2550 as an alternative to 2500 and 2) STAT 2530 or 2560 as alternatives to 2501. The second point is especially important, since STAT 2501 is being discontinued.

Sincerely,
Mikhail Kotchetov
Deputy Head (Undergraduate)

Paper 4.A.d.

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): **Science 2155: Indigenous Astronomies & Worldviews**
- ☐ 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
Science 2155: Indigenous Astronomies & Worldviews

ABBREVIATED COURSE TITLE
Indigenous Astronomies

RATIONALE AND EXECUTIVE SUMMARY
As part of our commitment to Indigenization at the university, we are creating a course that integrates Indigenous methods and ways of knowing with western methods for astronomy and astrophysics. This course will serve to help build inclusion in physics and sciences and build ethical views of how we do science. This course will allow students to connect with Indigenous Studies and other humanities programs to engage with science.

ANTICIPATED EFFECTIVE DATE
Fall 2026

CALENDAR CHANGES
2155: Indigenous Astronomies & Worldviews is about understanding the night sky and our relationship with the Universe. Indigenous peoples have observed the sky, motions of the planets and more since time immemorial. There is no one prospective of the night sky and the goal of this course is to learn about the sky and Universe from the perspectives of Indigenous peoples along with Western Sciences and to learn how Indigenous cultures relate to the sky.

PR: Successful completion of at least 18 credit hours.

CALENDAR ENTRY AFTER CHANGES
2155: Indigenous Astronomies & Worldviews is about understanding the night sky and our relationship with the Universe. Indigenous peoples have observed the sky, motions of the planets and more since time immemorial. There is no one prospective of the night sky and the goal of this course is to learn about the sky and Universe from the perspectives of Indigenous peoples along with Western Sciences and to learn how Indigenous cultures relate to the sky.

PR: Successful completion of at least 18 credit hours.

SECONDARY CALENDAR CHANGES
"1. Including the courses which comprise the Core Requirements and the Program of Study, the student shall successfully complete courses from subject areas listed under Programs in the Faculty of Science, or those from the Science subject area, with a total number of credit hours as follows:

a. at least 78 credit hours in the case of a candidate for the General Degree of Bachelor of Science, or
b. at least 90 credit hours in the case of a candidate for the Honours Degree of Bachelor of Science."

SECONDARY CALENDAR ENTRY AFTER CHANGES

"1. Including the courses which comprise the Core Requirements and the Program of Study, the student shall successfully complete courses from subject areas listed under Programs in the Faculty of Science, or those from the Science subject area, with a total number of credit hours as follows:

a. at least 78 credit hours in the case of a candidate for the General Degree of Bachelor of Science, or
b. at least 90 credit hours in the case of a candidate for the Honours Degree of Bachelor of Science."

Memorial University of Newfoundland
Undergraduate Calendar Change Proposal Form
Appendix Page

CONSULTATIONS SOUGHT	RESPONSE	DATE
Business	Yes/No	
Education	Yes/No	
Engineering	Yes/No	20Feb26
Grenfell Campus School of Arts & Social Science	Yes/No	
Human Kinetics and Recreation	Yes/No	
Humanities and Social Sciences	Yes/No	
Labrador Institute	Yes/No	
Library	Yes/No	24Feb26
Marine Institute	Yes/No	
Medicine	Yes/No	
Music	Yes/No	
Nursing	Yes/No	20Feb26
Pharmacy	Yes/No	
Registrar's Office	Yes/No	
Science	Yes/No	
Biochemistry	Yes/No	
Biology	Yes/No	
Chemistry	Yes/No	
Computer Science	Yes/No	
Earth Sciences	Yes/No	
Mathematics & Statistics	Yes/No	12Mar26
Ocean Sciences	Yes/No	
Physics & Physical Oceanography	Yes/No	
Psychology	Yes/No	
Co-op office	Yes/No	
Social Work	Yes/No	

LIBRARY REPORT

Upon review of the new course proposal for Science 3155 and Science 2155, I have determined that Memorial University Libraries does have sufficient resources to support the objectives of this course.

The majority of titles listed in the preliminary bibliography are held in the QE2 Library, and the remaining item can be purchased within existing budget allocations. We have collected for astronomy and physics over the years and are able to support research in this area. We will continue to support astronomy and indigenous perspectives within existing budgetary allocations.

MUN Libraries holds ample resources to support student research assignments and provides access to a number of indexes and databases to help students discover the scholarly literature (such as Web of Science, Scopus, iNSPIRE, alongside other humanities databases like Proquest Central and Humanities Source Ultimate). The university also has an excellent document delivery service which will, upon request, assist faculty, staff and students access resources that are not available locally.

RESOURCE IMPLICATIONS

None.

Check box as applicable (☑) and *make any comments as necessary.* Use as much space as necessary.	*YES*	*NO*
Q1. Will the course be taught by a tenured or tenure track ASM as part of load? *(if yes, complete 1a to 1d; if no, proceed to Q2)*	x	
a) Is this a required course?		x
b) Is this an elective course?	x	
c) Will this be taught every year?		x
d) Elective course: will it hinder the academic unit's ability to offer its core program?		x

Q2. If the course is not planned to be taught by a tenured or tenure track ASM, what is the plan for teaching?

N/A

Q3. Will the course require any further resources (e.g. extra administrative supports, additional teaching/technical staff, or TA supports, equipment or facilities, consumables)? Please explain each with anticipated expenses and a justification for those expenses.

NO. There are NO resource implications

Q4.What is the projected demand for the course in the first five years?

Year 1	Year 2	Year 3	Year 4	Year 5
25	25	25	25	25

Q5. What is(are) the primary mode(s) of delivery for this course, for reference see https://www.mun.ca/regoff/registration-and-final-exams/course-offerings/undergraduate-modes-of-delivery/ .

In-person	x
Independent study	
Flexible	
Blended	x
Remote	
Online	

Q6. Impact of new course on enrolment in existing courses.

none

OTHER CONSIDERATIONS

Q7. In developing this new course, how has consideration been given to considering the best practices and principles of EDI-AR, including content, perspectives, or material into the curriculum?

This course is centred on Indigenous knowledges and methods.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS

Syllabus for Science 2155: Astronomy & Indigenous Worldviews
Prerequisites: one 1000-level Science course or greater.

Astronomy is about understanding the sky and everything beyond the Earth: from the Sun to stars, planets to dark matter, cosmology to black holes and so on. Everyone on Earth has access to the night sky and every culture has their own perspectives. Indigenous peoples have observed the sky, the motions of the planets and so on since time immemorial. There is no one homogeneous prospective of the night sky and the goal of this course is to learn about the sky and Universe from the perspectives of different Indigenous peoples and to learn how Indigenous cultures relate to the sky.

Indigenous peoples have shared stories that explain observations of the sky and relating them to the peoples and phenomena around them on the land, water and sky. These stories written in the sky share knowledges and lessons for peoples and are intimately related to them. In this course, we will study astronomy and the sky from this framework. We will also explore the connections between astronomy and colonization in the Americas and in the Pacific. Colonization has and continues to negatively impact Indigenous peoples around the world, and astronomy has been, and is today used as a tool for colonization. This has been done through placements of telescopes and other facilities, through the erasure of Indigenous sky knowledges, through light pollution and

artificial satellites, etc. In summary the purpose of this course is to seek ways to confront colonization in the field, to see the Indigenous in the sky, and to develop tools to be truly inclusive of Indigenous knowledges and peoples.

Instructor: Hilding Neilson, Department of Physics & Physical Oceanography

Learning Outcomes that you should accomplish by taking this course:
L1: Acquire basic astronomical knowledge as seen by Indigenous peoples and by traditional western science: be able to describe, assess, and appreciate what the Universe consists of and some of the axioms of traditional western astronomy;
L2: Be able to explain how we use the scientific method to develop new scientific knowledge, in particular applied to astronomy and to understand some of the limitations of this methodology differs;
L3: Be able to understand some of the methodologies of Indigenous peoples to understand nature and the sky;
L4: Demonstrate critical thinking, the ability to extrapolate ideas, reasoning in developing ideas, and critical reflection. Develop critical assessment of reference sources. Learn to criticize constructively and perform peer review.
L5: To critically view how traditional western astronomy benefits from historical and ongoing colonization of Indigenous lands
L6: Show clear and coherent communication skills, both orally and in writing.
L7: Demonstrate research skills.

Course Evaluation
The course will be evaluated based on a combination of paper writing, presentations, reflections/assignments, and participation.

Item	Fraction of Grade
Paper 1	30% (or 20% if Paper 2 has higher grade)
Paper 2	20% (or 30% if Paper 1 has higher grade))
Presentation 1	18% (or 12% if Presentation 2 has higher grade)
Presentation 2	12% (or 18% if Presentation 1 has higher grade)
Reflection journal	10%
Oral Final Exam	10%

Papers:
There will be two papers for this course, each one will be 4 pages, single-spaced, 11-point font. The first paper will be on a topic related to Astronomy & Colonization and the second on a topic exploring how Indigenous methods and knowledges can be applied to understanding phenomena in astronomy. Each paper should include citations and references. The references can include web resources, but should also include books, popular

articles, etc. For one of the papers, students are allowed to propose alternative media (podcast, art work, etc.) for their work. Students will be required to obtain permission beforehand.

Paper 1: Astronomy & Colonization: As we will see in this course, astronomy as a science has benefited from and contributed to colonization of Indigenous lands and elsewhere. This can be seen in history and today. For example, James Cook was sent to the Pacific Ocean to observe the Transit of Venus and to "discover" Australia. Today, there are issues with how to address colonization with respect to locations of current and proposed astronomical telescopes and facilities. The goal of the first paper is for you to explore and understand some of the ways astronomy contributions to colonization through discussions of specific topics. The topic could be related to a facility, could be related to how we do science in the traditional western model, or could be related to way to be anti-colonial in the astronomy community. You should discuss your ideas for topics with the instructor.

Paper 2: Indigenous methods and knowledges applied to astronomy: One of the themes in this course is to explore how we as scientists can learn from Indigenous knowledges and knowledges from other cultures. In this paper, you are asked to explore the stories of Indigenous groups and communities (although you may select stories from cultures that are not traditionally considered to be Indigenous) and describe what knowledges about astronomy you obtain. OR. The topic could be an exploration of a current challenge in astronomy and astrophysics but applying Indigenous principles and axioms to the discussion. We will be discussing some Indigenist axioms for conducting science that differ from traditional western methods. In doing your research, you should consider the following questions: 1) Do the lessons you take from the stories agree or disagree with western perspectives? It is okay if they disagree, as we will learn that many Indigenous peoples have their own perspectives towards nature and the Universe. 2) Are the authors of the resources that you use, Indigenous or non-Indigenous? How does the background of the authors appear to influence how they discuss the knowledges?

Please note that for the second paper, part of your evaluation will be based on showing that you learned from mistakes in the first paper.

Presentations:
Similarly, students will be asked to give two presentations. Each presentation should be 5-10 minutes using some sort of presentation software to the students in the class. The presentation should be a summary or one part of your research papers. That is, the first talk is a discussion of Astronomy & Colonization and the second on the topic for paper 2. Students are welcome to present on another related topic, but will need to discuss this with the instructor first. Presentations will be evaluated on the following rubric: a) 4 points for clarity and presentation style; 5 points for science and understanding of the material; and 1 point is discretionary for presenters doing something memorable, etc. More details on this grading will be included later.

Weekly Journal:
There will be 10 mini-assignments - effectively one each week. Each mini-assignment is a journaled reflection on the readings for the week. In the reflection, you should answer what is called a 3-2-1. In this case - you should write 3 things that you learn from the reading and can explain in your own words. Ideally, you would only require a few sentences for each idea show that you understand each idea. Next, you would follow that by asking 2 questions that arise from the reading, that is what are 2 things that you have difficulty understanding or 2 ideas that build upon the readings. The third part of the assignment is to select one of your questions for follow-up research. The research should take about an hour of worth of review and your response should be about one paragraph with references. These will be posted on the discussion board and will be evaluated by the TA based on showing sufficient effort. An example is given at the end.

Readings:
This is a unique course for there is no one textbook that we can use. You should, however have an introductory textbook on hand to learn and understand astronomy from the perspective of western sciences. There is no ideal book for this, but I would suggest "The Cosmic Perspective", and there are a number of open-source textbooks that available. Readings will be posted online (either directly or as links). The content will be built from the following books for those who are interested:

Readings and Resources

Cajete, Gregory, and Leroy Little Bear. *Native science: Natural laws of interdependence*. Vol. 315. Santa Fe, NM: Clear Light Publishers, 2000.
Smith, Linda Tuhiwai. *Decolonizing methodologies: Research and indigenous peoples*. Zed Books Ltd., 2021.
Battiste, Marie. *Decolonizing education: Nourishing the learning spirit*. UBC press, 2017.
Wilson, Shawn. *Research is ceremony: Indigenous research methods*. Fernwood Publishing, 2008.
Kovach, Margaret. *Indigenous methodologies: Characteristics, conversations, and contexts*. University of Toronto Press, 2010.
Shapin, Steven. *The scientific revolution*. University of Chicago Press, 2018.
Prescod-Weinstein. The Disordered Cosmos: A journey Into Dark Matter, Spacetime, & Dreams Deferred. Bold Type Books 2021
Joseph A. Salazar, "Multicultural Settler Colonialism and Indigenous Struggle in Hawai'i: the Politics of Astronomy on Mauna a Wākea", 2014, PhD Dissertation[1], https://scholarspace.manoa.hawaii.edu/handle/10125/101135
Hamacher, D. "The First Astronomers: how Indigenous Elders read the Stars", 2023, Allen & Unwin
Cannon, C. "In the footsteps of the traveller: the astronomy of Northern Dene", 2025, University of Manitoba Press
+ additional readings.

Topics for each week:
Week 1: Introduction Lecture, Science and Colonization, Outline of Course
Week 2: The Scientific Method, its history and impact on Indigenous knowledges
Week 3: The Scientific Method, Indigenous knowledges and the rise of "Ancient Aliens" pseudo-science
Week 4: Colonization of knowledge and limitations of astronomy and the scientific method (Fermi Paradox, Drake Equation, Anthropic principle)
Week 5: Shifting from Western methodology to Two-Eyed Seeing. Exploring time-domain astronomy through the Indigenous lens
Week 6: Indigenous astronomy knowledge through stories I
Week 7: Indigenous astronomy knowledge through stories II
Week 8: Indigenous Astronomy as place
Week 9: Indigenous Astronomies in the past through structures
Week 10: Exploring research through Indigenous lenses
Week 11: Astronomy facilities and colonization
Week 12: Astronomy, colonization and the specific case of Mauna Kea
Week 13: Indigenous Futurisms in Astronomy

[1]There may be a published manuscript by the time the course starts.

Sample story and reflection:

https://folkrealmstudies.weebly.com/paiute-mythology-the-legend-of-the-north-star.html

Things to think about - who is sharing the story? Do the authors have a perspective or bias that impacts how the story is shared?

For the story about the North Star:

Three things I understand from the story:
1) The north star does not move. This is consistent with the spin of the Earth being aligned with the north star
2) The north star is the trapped son of an Elder designed to be a guide for those on Earth
3) The equivalent constellations of the big and little dipper (approximately?) are mountain sheep trying to climb to the top of the mountain by going around the mountain in the same way that the constellations go around the North Star

Two questions that arose from the story
1) Na-gah wasn't always the North Star. Was the North Star always the North Star?
2) How does the story reflect the land? Is the mountain Na-gah climbed a specific mountain on Paiute lands?

Research question: Was the North Star always the North Star?

Title of Proposal: **Science 2155: Indigenous Astronomies & Worldviews**

Checklist for Faculty of Science Course/Program Proposals

This checklist helps faculty to avoid errors and omissions in calendar change proposals. The completed checklist will be reviewed by the Dean's office in the Faculty of Science before being sent out for university-wide (and Faculty-wide) consultations. Proposals received after the deadline set (October 12, 2026) risk not making next year's University Calendar.

Faculty member: check boxes as applicable

	YES	N/A
1. Has the completed proposal been approved by your academic unit's undergraduate committee and/or by the unit as a whole, including the Head?	X	
2. Will the change impact the calendar entry of another unit/department, **including Grenfell Campus and/or interdisciplinary programs**? If so, this is identified in the "secondary change" section, and written consent should be appended.	x	
3. Has a Word version of the proposal been submitted, not a pdf? (so that the Dean's Office can make edits as appropriate, if applicable. Authors will be consulted about any edits)	x	
4. Does the title on the front page of the proposal identify the name of the course/program?	x	
5. Are proposed deletions to existing Calendar language identified using strikethroughs, ~~like this~~, and proposed Calendar additions identified by underlining, like this?	x	
6. Have marks for all parts of the evaluation, and the approximate dates of evaluation, been identified? At least 20% of the final grade must be returned before the last day to drop courses without academic prejudice (roughly 2 weeks after the midterm break).	x	
7. If a special topics course: has a course number been identified on the cover page of the proposal? (a number should be assigned by the Assistant Registrar for Science)	X	

The person that the Dean's office should contact regarding questions about the attached proposal:

Hilding Neilson — (709) 864-7631 / hneilson@mun.ca

Name (print) — Phone / email

Departmental Head Signature: _____

CONSULTATION FEEDBACK

Engineering

As chair of the Committee on Undergraduate Studies of the Faculty of Engineering and Applied Science, I will be happy to offer comments on the proposed new PHYS courses after they have been supported at either the department or faculty level.

Yours sincerely,

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

Nursing

Dr. April Pike, our dean at the Faculty of Nursing, has reviewed the course proposals. She tells me that she does not see any implications for the Faculty of Nursing.

Wishing you a great weekend!

Jane

Mathematics & Statistics

On March 9, the Undergraduate Studies Committee of the Department of Mathematics and Statistics discussed the proposal and expressed support for the creation, by the Department of Physics and Physical Oceanography, of new courses Science 2155 and Science 3155. However, we have some concern that the suggested evaluation, especially in the case of the 3rd-year course, is too light in comparison with other courses in the Faculty of Science.

It was also noted that departments should have input on how "Science" as a subject will fit with the core degree requirement that students do two pairs of courses in two different sciences other than MATH and STAT.

Best regards,
Mikhail
Mathematics and Statistics
Undergraduate Studies Committee
Chair: Mikhail Kotchetov, 7947, HH-2002

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): **Science 3155: Outer Space & Society**
- ☐ 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
Science 3155: Outer Space & Society

ABBREVIATED COURSE TITLE
Outer Space & Society

RATIONALE AND EXECUTIVE SUMMARY
Arguably, the launch of Sputnik, the first orbit of the Earth by Yuri Gagarin and the later landing of a human on the Moon changed how we interact and view Outer Space. The growth of human travel to space and launches both played a part in the Cold War between the Soviet Union and the United States while also being a regime of cooperation. National and International perspectives of space culminated in the Outer Space Treaty. Today, more and more nations, including Canada, are developing space launch capabilities whether it be through national agencies or private enterprise. Furthermore, companies and nations are launching greater and greater numbers of satellites in various orbits around the Earth. There plans to build and exploit on the Moon as part of the Artemis Accords or led by other nations. There are evens desires to colonize Mars. In this course, we review some of the current and historical political and legal issues with human activity in Outer Space. We will discuss the colonial underpinnings of space exploration and the ethical challenges with the modern commercialization of Outer Space along with the future governance of Outer Space activities. We will also discuss how the current process in Space is built on colonial and western perspectives and discuss how applying Indigenous methods can change this viewpoint. This will be continued with discussions about the impacts of the evolving space economy in Newfoundland and in Canada. The federal government, in the November 2025 budget, committed almost $200 million to develop sovereign launch capacities and Newfoundland wll be one of only a few regions for the this. It is important to develop education and courses around outer space and aerospace to connect and work with this growing industry.

ANTICIPATED EFFECTIVE DATE

Fall 2026

CALENDAR CHANGES

3155 Outer Space and Society considers how we work in and relate with Outer Space. We review some of the political and legal issues with human activity in Outer Space, how the current narrative is built on colonial and western perspectives and how applying Indigenous methods can change this viewpoint. There will be discussions about the impacts of the evolving space economy in Canada as well as the impacts of outer space activities on the terrestrial and orbital environment.

PR: Successful completion of at least 18 credit hours.

CALENDAR ENTRY AFTER CHANGES

3155 Outer Space and Society considers how we work in and relate with Outer Space. We review some of the political and legal issues with human activity in Outer Space, how the current narrative is built on colonial and western perspectives and how applying Indigenous methods can change this viewpoint. There will be discussions about the impacts of the evolving space economy in Canada as well as the impacts of outer space activities on the terrestrial and orbital environment.

PR: Successful completion of at least 18 credit hours.

SECONDARY CALENDAR CHANGES

"1. Including the courses which comprise the Core Requirements and the Program of Study, the student shall successfully complete courses from subject areas listed under Programs in the Faculty of Science, or those from the Science subject area, with a total number of credit hours as follows:

a. at least 78 credit hours in the case of a candidate for the General Degree of Bachelor of Science, or
b. at least 90 credit hours in the case of a candidate for the Honours Degree of Bachelor of Science."

SECONDARY CALENDAR ENTRY AFTER CHANGES

"1. Including the courses which comprise the Core Requirements and the Program of Study, the student shall successfully complete courses from subject areas listed under Programs in the Faculty of Science, or those from the Science subject area, with a total number of credit hours as follows:

a. at least 78 credit hours in the case of a candidate for the General Degree of Bachelor of Science, or
b. at least 90 credit hours in the case of a candidate for the Honours Degree of Bachelor of Science."

Memorial University of Newfoundland
Undergraduate Calendar Change Proposal Form
Appendix Page

CONSULTATIONS SOUGHT	RESPONSE	DATE
Business	Yes/No	
Education	Yes/No	
Engineering	Yes/No	20Feb26
Grenfell Campus School of Arts & Social Science	Yes/No	
Human Kinetics and Recreation	Yes/No	
Humanities and Social Sciences	Yes/No	
Labrador Institute	Yes/No	
Library	Yes/No	24Feb26
Marine Institute	Yes/No	
Medicine	Yes/No	
Music	Yes/No	
Nursing	Yes/No	20Feb26
Pharmacy	Yes/No	
Registrar's Office	Yes/No	
Science	Yes/No	
Biochemistry	Yes/No	
Biology	Yes/No	
Chemistry	Yes/No	
Computer Science	Yes/No	
Earth Sciences	Yes/No	
Mathematics & Statistics	Yes/No	12Mar26
Ocean Sciences	Yes/No	
Physics & Physical Oceanography	Yes/No	
Psychology	Yes/No	
Co-op office	Yes/No	
Social Work	Yes/No	

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LIBRARY REPORT

Upon review of the new course proposal for Science 3155 and Science 2155, I have determined that Memorial University Libraries does have sufficient resources to support the objectives of this course.

The majority of titles listed in the preliminary bibliography are held in the QE2 Library, and the remaining item can be purchased within existing budget allocations. We have collected for astronomy and physics over the years, and are able to support research in this area. We will

continue to support astronomy and indigenous perspectives within existing budgetary allocations.

MUN Libraries holds ample resources to support student research assignments and provides access to a number of indexes and databases to help students discover the scholarly literature (such as Web of Science, Scopus, iNSPIRE, alongside other humanities databases like Proquest Central and Humanities Source Ultimate). The university also has an excellent document delivery service which will, upon request, assist faculty, staff and students access resources that are not available locally.

RESOURCE IMPLICATIONS

None.

Check box as applicable (☑) and *make any comments as necessary.* Use as much space as necessary.	*YES*	*NO*
Q1. Will the course be taught by a tenured or tenure track ASM as part of load? *(if yes, complete 1a to 1d; if no, proceed to Q2)*	x	
a) Is this a required course?		x
b) Is this an elective course?	x	
c) Will this be taught every year?		x
d) Elective course: will it hinder the academic unit's ability to offer its core program?		x

Q2. If the course is not planned to be taught by a tenured or tenure track ASM, what is the plan for teaching?

N/A

Q3. Will the course require any further resources (e.g. extra administrative supports, additional teaching/technical staff, or TA supports, equipment or facilities, consumables)? Please explain each with anticipated expenses and a justification for those expenses.

No. There are NO resource implications.

Q4.What is the projected demand for the course in the first five years?

Year 1	Year 2	Year 3	Year 4	Year 5
25	25	25	25	25

Q5. What is(are) the primary mode(s) of delivery for this course, for reference see https://www.mun.ca/regoff/registration-and-final-exams/course-offerings/undergraduate-modes-of-delivery/ .

In-person	x
Independent study	
Flexible	
Blended	x
Remote	
Online	

Q6. Impact of new course on enrolment in existing courses.
None

OTHER CONSIDERATIONS

Q7. In developing this new course, how has consideration been given to considering the best practices and principles of EDI-AR, including content, perspectives, or material into the curriculum?

The goal of this course is connect human issues and accessibility for people in an evolving and rapidly changing industry that is built to support the rich world or 'global north'. The goal of this course is to bring diverse and important perspectives on Space from Indigenous and underrepresented voices to help build a more ethical interaction with Outer Space.

ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSALS
ADDITIONAL INFORMATION REQUIRED FOR NEW COURSE PROPOSAL

Syllabus for Science 3155: Outer Space & Society
Prerequisites: Any 1 1000-level courses in science.

Instructor: Hilding Neilson, Department of Physics & Physical Oceanography

Arguably, the launch of Sputnik, the first orbit of the Earth by Yuri Gagarin and the later landing of a human on the Moon changed how we interact and view Outer Space. The growth of human travel to space and launches both played a part in the Cold War between the Soviet Union and the United States while also being a regime of cooperation. National and International perspectives of space culminated in the Outer Space Treaty. Today, more and more nations, including Canada, are developing space launch capabilities whether it be through national agencies or private enterprise. Furthermore, companies and nations are launching greater and greater numbers of satellites in various orbits around the Earth. There plans to build and exploit on the Moon as part of the Artemis Accords or led by other nations. There are evens desires to colonize Mars. In this course, we review some of the current and historical political and legal issues with human activity in Outer Space. We will discuss the colonial underpinnings of space exploration and the ethical challenges with the modern commercialization of Outer Space along with the future governance of Outer Space activities. We will also discuss how the current process in Space is built on colonial and western perspectives and discuss how applying Indigenous methods can change this viewpoint. This will be continued with discussions about the impacts of the evolving space economy in Newfoundland and in Canada. Finally, we conclude with a discussion of the impacts of outer space activities on the terrestrial environment and the orbital environment.

Learning Outcomes that you should accomplish by taking this course:
L1: Develop an understanding of the history of space activities and the current activities in Outer Space.
L2: Demonstrate critical thinking, the ability to extrapolate ideas, reasoning in developing ideas, and critical reflection. Develop critical assessment of reference sources. Learn to criticize constructively and perform peer review.
L3: Develop an understanding of the colonial history and present in the Space Industry.
L4: Develop an understanding of the ethics of space exploration through national, international and private means.
L5: Consider the impacts of Outer Space activities on environments on Earth and in orbital space.
L6: Show clear and coherent communication skills, both orally and in writing.
L7: Demonstrate research skills.

Course Evaluation
The course will be evaluated based on a combination of paper writing, presentations, reflections/assignments, and participation.

Item	Fraction of Grade
Paper 1	30% (or 20% if Paper 2 has higher grade)
Paper 2	20% (or 30% if Paper 1 has higher grade))
Presentation 1	18% (or 12% if Presentation 2 has higher grade)
Presentation 2	12% (or 18% if Presentation 1 has higher grade)
Reflection journal	10%
Oral Final Exam	10%

Papers:
There will be two papers for this course, each one will be 4 pages, single-spaced, 11-point font. The first paper will be on a topic related to the history and politics of space exploration and the second on a topic exploring how anti-colonial perspectives and non-western futurisms in space exploration. Each paper should include citations and references. The references can include web resources, but should also include books, popular articles, etc. Please note that the papers will be submitted via turnitin.com. For one of the papers, students are allowed to propose alternative media (podcast, art work, etc.) for their work. Students will be required to obtain permission beforehand.

Please note that for the second paper, part of your evaluation will be based on showing that you learned from mistakes in the first paper.

Presentations:
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assignment is to select one of your questions for follow-up research. The research should take about an hour of review and your response should be about one paragraph with references. These will be posted on the discussion board and will be evaluated by the TA based on showing sufficient effort. An example is given at the end.

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This is a unique course for there is no one textbook that we can use. You should, however have an introductory textbook on hand to learn and understand astronomy from the perspective of western sciences. There is no ideal book for this, but I would suggest "The Cosmic Perspective", and there are a number of open-source textbooks that available. Readings will be posted online (either directly or as links). The content will be built from the following books for those who are interested:

Lai, A., "The Cold War, the Space Race, and the Law of Outer Space, 2021, Routledge
White, F "The Overview Effect: Space Exploration and Human Evolution", AIAA, 1998
De Napoli, K. "First Knowledges Astronomy: Sky Country"
Masson-Zwaan, T. "Introduction to Space Law", Kluwer Law International, 2024
Gorman, A. "Dr. Space Junk vs the Universe" Penguin, 2020
Ellis, J. & Humble, N. "Mythologies of Outer Space" University of Calgary Press, 2025
Neilson, H "Overview of Indigenous rights and outer space for the IAU-CPS Policy Hub", 2024
https://arxiv.org/abs/2412.06675
Neilson, H. "Indigenous knowledges and kinship as a model for our future in outer space" 2024,
https://arxiv.org/abs/2412.06669
Neilson, H. & Ćirković, E. "Indigenous rights, peoples, and space exploration: A response to the Canadian Space Agency (CSA) Consulting Canadians on a framework for future space exploration activities" 2021,
https://arxiv.org/abs/2104.07118
Trevino, N. "The cosmos is not finished", 2020, PhD Thesis, The University of Western Ontario,

Topics for each week:
Week 1: Introduction Lecture, Space is the Place, Outline of Course
Week 2: The Space Race and the Cold War
Week 3: Early Space Law and the Outer Space Treaty
Week 4: The Colonial Fantasies of Outer Space Exploration
Week 5: The Privatization of Space
Week 6: Artemis Accords
Week 7: Canada and Newfoundland & Labrador at part of the Outer Space Industry
Week 8: Indigenous Methods and decolonizing space I
Week 9: Indigenous Methods and decolonizing space II
Week 10: Environmental issues in Outer Space I: space junk and Kessler syndrome and satellite re-entries
Week 11: Environmental issues in Outer Space II: Impacts of exploitation on the Moon, Mars, and asteroid mining
Week 12: Bringing Space Law, environment and rights together.
Week 13: Space Futurisms and science fiction

Title of Proposal: **Science 3155: Outer Space & Society**

Checklist for Faculty of Science Course/Program Proposals

This checklist helps faculty to avoid errors and omissions in calendar change proposals. The completed checklist will be reviewed by the Dean's office in the Faculty of Science before being sent out for University-wide (and Faculty-wide) consultations. Proposals received after the deadline set (October 12, 2026) risk not making next year's University Calendar.

Faculty member: check boxes as applicable

	YES	N/A
1. Has the completed proposal been approved by your academic unit's undergraduate committee and/or by the unit as a whole, including the Head?		x
2. Will the change impact the calendar entry of another unit/department, **including Grenfell Campus and/or interdisciplinary programs**? If so, this is identified in the "secondary change" section, and written consent should be appended.	x	
3. Has a Word version of the proposal been submitted, not a pdf? (so that the Dean's Office can make edits as appropriate, if applicable. Authors will be consulted about any edits)	x	
4. Does the title on the front page of the proposal identify the name of the course/program?	x	
5. Are proposed deletions to existing Calendar language identified using strikethroughs, ~~like this~~, and proposed Calendar additions identified by underlining, like this?	x	
6. Have marks for all parts of the evaluation, and the approximate dates of evaluation, been identified? At least 20% of the final grade must be returned before the last day to drop courses without academic prejudice (roughly 2 weeks after the midterm break).	x	
7. If a special topics course: has a course number been identified on the cover page of the proposal? (a number should be assigned by the Assistant Registrar for Science)		x

The person that the Dean's office should contact with any questions about the attached proposal:

Hilding Neilson — Name (print)

(709) 864-7631 / hneilson@mun.ca — Phone / email

Departmental Head Signature: _____

CONSULTATION FEEDBACK

Engineering

As chair of the Committee on Undergraduate Studies of the Faculty of Engineering and Applied Science, I will be happy to offer comments on the proposed new PHYS courses after they have been supported at either the department or faculty level.

Yours sincerely,

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

Nursing

Dr. April Pike, our dean at the Faculty of Nursing, has reviewed the course proposals. She tells me that she does not see any implications for the Faculty of Nursing.

Wishing you a great weekend!

Jane

Mathematics & Statistics

On March 9, the Undergraduate Studies Committee of the Department of Mathematics and Statistics discussed the proposal and expressed support for the creation, by the Department of Physics and Physical Oceanography, of new courses Science 2155 and Science 3155. However, we have some concern that the suggested evaluation, especially in the case of the 3rd-year course, is too light in comparison with other courses in the Faculty of Science.

It was also noted that departments should have input on how "Science" as a subject will fit with the core degree requirement that students do two pairs of courses in two different sciences other than MATH and STAT.

Best regards,
Mikhail

Mathematics and Statistics
Undergraduate Studies Committee
Chair: Mikhail Kotchetov, 7947, HH-2002

Paper 4.B.a.

Master of Data Science Proposal

Summary of Changes:

We are proposing to increase the program length from 12 to 16 or 20 months (3 to 4/5 terms). The program will include 1 extra elective course. A co-op option will be added (DSCI 690W and DSCI 691W) for work-terms of 4 or 8 months.

The capstone project courses DSCI 695A/B will be removed so that the capstone project can be a single 3-credit hour course instead of two 2-credit hour courses. DSCI 6901 is the replacement capstone project course. DSCI 6900 is also added, whereby capstone projects are coordinated by a single instructor. Students must complete one of DSCI 6900, 6901 or 690W.

The total number of credit hours for the program changes from 27 to 29 credit hours. The program would normally be completed in 4 terms, except in the case of a student completing an 8-month work-term (DSCI 690W and DSCI 691W), in which case the program would take 5 terms.

Current Program Structure (27 credit hours)	
Fall (11 credit hours)	
DSCI 6619	Regression models
DSCI 6601	Practical machine learning
DSCI 6607	Programmatic data analysis using R and Python
DSCI 6690	Data science case study series
Winter (11 or 14 credit hours)	
DSCI 6659	Statistical exploration of data
DSCI 6602	Deep learning and artificial intelligence
DSCI 695A	Capstone Project 1
XXXX	Elective 1
XXXX	Elective 2 (or Spring)
Spring (2 or 5 credit hours)	
DSCI 695B	Capstone Project 2
XXXX	Elective 2 (if not completed in Winter)

Proposed Structure (Capstone)		**Proposed Structure (Work-term)**		
Fall (9 credit hours)		**Fall (9 credit hours)**		
DSCI 6619	Regression models	DSCI 6619	Regression models	
DSCI 6601	Practical machine learning	DSCI 6601	Practical machine learning	
DSCI 6607	Programmatic data analysis using R and Python	DSCI 6607	Programmatic data analysis using R and Python	
Winter (8 or 11 credit hours)		**Winter (11 credit hours)**		
DSCI 6659	Statistical exploration of data	DSCI 6659	Statistical exploration of data	
DSCI 6602	Deep learning and artificial intelligence	DSCI 6602	Deep learning and artificial intelligence	
DSCI 6690	Data science case study series	DSCI 6690	Data science case study series	
XXXX	Elective 1 (or Spring)	XXXX	Elective 1	
Spring (3 or 6 credit hours)		**Spring (3 credit hours)**		
DSCI 690X	Capstone project (DSCI 6900 or 6901)	DSCI 690W	Work-term	
XXXX	Elective 1 (if not completed in Winter)			
Fall (6 credit hours)		**Fall (6 credit hours)**		**Fall (3 credit hours)**
XXXX	Elective 2	XXXX	Elective 2	DSCI 691W Work-term
XXXX	Elective 3	XXXX	Elective 3	
				Winter (3 credit hours)
				XXXX Elective 3

Rationale for Changes:

Extending the program to 16 or 20 months smooths out the courseload. The table above shows the respective credit hours per term. For example, in current program structure, students have a potential courseload of 14 credit hours in the Winter term if they enrol in 2 elective courses, which approximately half of the students currently do. The proposed changes mean this term would have one fewer course for a total of 11 credit hours, representing the two core courses (DSCI 6659, DSCI 6602), an elective course, and the 2-credit hour Case Study Series.

The current structure of the program does not allow for students to enrol in elective courses in the Fall term. Extending the length of the program allows students to enrol in electives in all 3 terms (Fall, Winter, Spring). There are many valuable courses offered in the Fall term, such as COMP 6936, Advanced Machine Learning, and STAT 6509, Statistical Inference.

A co-op internship is highly desired and often requested by our students. Having a co-op option will provide data science training in industry environments that is difficult to replicate inside the university. The co-op option would be limited and competitive. The co-op course, DSCI 690W, would satisfy the requirement of the capstone project. The course DSCI 691W allows for 8-month work-terms and counts as an elective course.

Capstone projects are moved to a single term (Spring). In past years, students have been too busy with coursework in the Winter term to make tangible progress in DSCI 695A. In practice, students have almost exclusively worked on their project in DSCI 695B during the Spring term.

DSCI 695A/B (4 credit hours total) is replaced by DSCI 6900 and DSCI 6901, which are two new 3-credit hour capstone project courses. In DSCI 6901, students would undertake a project under the supervision of a faculty member (current model), whereas DSCI 6900 would be coordinated by a single instructor. Students would complete one of DSCI 6900 or 6901 (or 690W). There are multiple reasons to replace the capstone project with two course options.

1. It preserves the existing model of students supervised individually by a faculty member (DSCI 6901). This (arguably) provides the highest quality training opportunity.
2. When enrolment is high, it is difficult to secure supervisors and projects for all students. A single instructor for DSCI 6900 will allow the program to scale to large numbers of students. If enrolment is low, then DSCI 6900 does not need to be offered and the capstone projects can be run as before through DSCI 6901 only.
3. It is an option that if a student completes DSCI 6900 to satisfy their capstone project requirement, then they could also take the DSCI 6901 project course as an elective.
4. DSCI 6901 can also be offered in the Fall term since moving to a 16-month program and a single 3-credit hour capstone course increases offering flexibility.

The Special Fee for the program of $15,302 for Canadian students and $20,282 for International students would change from equal payments over 3 terms to equal payments over 4 terms. The base tuition fee would change from 3-semester Master's Payment Plan C to the 4-semester Master's Payment Plan D. This is a change of $1707 to $1859 for Canadian students and $2218 to $2417 for International students per term.

Proposed MDSc Regulation Changes

16 Regulations Governing the Degree of Master of Data Science

In this section

- 16.1 Qualifications for Admission
- 16.2 Program of Study
- 16.3 Evaluation
- 16.4 Co-operative Education Work Term Courses
- 16.54 Courses

The Degree of Master of Data Science (MDSc.) is a highly structured program incorporating 24~~1~~ credit hours in courses, a case study series, ~~and~~ and a capstone project or work-term. The Degree is offered in the Departments of Computer Science and Mathematics and Statistics, St. John's Campus, by full-time study.

16.1 Qualifications for Admission

Admission to the program is limited and competitive. The program is open to applicants from a wide range of undergraduate backgrounds. In addition to meeting the General Regulations of the School of Graduate Studies, the minimum requirements for the Degree are outlined below.

1. To be eligible for consideration of admission to the Master of Data Science program, an applicant shall hold a minimum second class 4-year bachelor's degree in a relevant area from a recognized university.
2. The applicant is required to provide evidence of at least one college-level course or equivalent knowledge in multivariate calculus, statistical inference and computer programming in a high- level programming language, like R, Python, C, C++, or Java~~, or Lisp~~.
3. Admission to the program shall be upon acceptance by the Dean of Graduate Studies after recommendation by the Chair of the Program or either Head of the Departments of Computer Science or Mathematics and Statistics or delegate, along with a tentative program of study ~~and a provisional academic adviser~~.

16.2 Program of Study

The minimum requirements for the Degree of Master of Data Science are the successful completion of the following:

1. 17 credit hours in the graduate courses DSCI 6601, DSCI 6602, DSCI 6607, DSCI 6619, DSCI 6659 and DSCI 6690 (core courses);
~~1.~~2. 9 credit hours in ~~, plus two~~ three additional 3-credit hour courses from the list of Data Science Elective Courses or courses from other academic units approved by the Dean of Graduate Studies (elective courses); and

~~2.~~3.3 credit hours from ~~DSCI 6690 and DSCI 695A/B and a final project report.~~one of DSCI 6900, DSCI 6901 or DSCI 690W. DSCI 6901 cannot satisfy both the capstone project requirement and an elective course requirement. ~~The report must demonstrate a satisfactory general mastery of data science knowledge.~~

16.3 Evaluation

1. In order to continue in the Master of Data Science degree program, a student shall obtain an 'A' or 'B' for all regular program courses. In order to be considered for graduation, a student shall also pass DSCI 6690 and one of DSCI 6900, DSCI 6901 or DSCI 690W.~~DSCI 695A/B and successfully complete the final project report requirement.~~

~~1.~~2. The work term courses DSCI 690W and DSCI 691W will be graded as Pass with Distinction (PWD), Pass (PAS) or Fail (FAL).

~~2. DSCI 695A/B progress after each semester will be evaluated by the student's academic adviser. The final applied data science project report will be evaluated by the student's academic adviser.~~

16.4 Co-operative Education Work Term Courses

1. The work term courses (DSCI 690W and DSCI 691W) provide students with a work-integrated learning opportunity that combines in-class learning with paid industry experience.
2. Students can complete one full-time continuous paid work term with a single employer for four months (DSCI 690W) or eight months (DSCI 690W and DSCI 691W).
3. DSCI 690W and DSCI 691W each represent a full course load. Students are not expected to take additional courses during the work term.
4. Access to the work term courses is limited and competitive.
5. The primary criteria used in evaluating applications to complete work term courses are academic performance in Memorial University graduate level courses, relevant experience, and motivation.
6. The work term normally begins in the student's third semester and after completion of 17 credit hours of program courses. Students are recommended to have at least 3 credit hours of program courses remaining after the work term.
7. The work term search takes place throughout the semester prior to the start of the intended work term.
8. Students are ultimately responsible for securing a work term and placement is not guaranteed.
9. Students are not permitted to drop a work term without prior approval from an ASM-CE. Students who drop a work term without permission, who fail to honour an agreement to work with an employer, or who conduct themselves in such a manner as to cause their

discharge from the work term, will normally be awarded a grade of fail for the work term course.

10. General management of the work term courses is the responsibility of Academic Staff Member(s) in Co-operative Education (ASM-CE). ASMs-CE are responsible for evaluating applications to complete the work term courses, developing employment opportunities, organizing competitions for work term employment, co-operative education data management, monitoring students during work terms, and evaluating work terms.

~~**16.3 Evaluation**~~

~~4. In order to qualify for the on-campus course enrolment, a student shall provide a self-declaration statement on successful completion of the three propaedeutic courses.~~
~~5. In order to continue in the Master of Data Science degree program, a student shall obtain an 'A' or 'B' for all regular program courses. In order to be considered for graduation, a student shall also pass DSCI 6690 and DSCI 695A/B and successfully complete the final project report requirement.~~

~~DSCI 695A/B progress after each semester will be evaluated by the student's academic adviser while the final applied data science project report will be evaluated by a faculty member other than the adviser appointed by the Chair of the MDSc. program.~~

16.5~~4~~ Courses

16.5~~4~~.1 Data Science Core ~~Required~~ Courses

Data Science

- ~~DSCI 5001 Statistical Inference for Data Science *(propaedeutic)*~~
- ~~DSCI 5002 Basics of Python and R *(propaedeutic)*~~
- ~~DSCI 5003 Linear Algebra for Regression Analysis *(propaedeutic)*~~
- DSCI 6601 Practical Machine Learning
- DSCI 6602 Deep Learning and Artificial Intelligence
- DSCI 6607 Programmatic Data Analysis Using Python and R
- DSCI 6619 Regression Models (cross listed with STAT 6519)
- DSCI 6659 Statistical Exploration of Data (cross listed with STAT 6559)
- DSCI 6690 Data Science Case Study Series *(2 credit hours)*
- DSCI ~~695A/B Capstone Project *(2 credit hours)*~~6900 Capstone Project
- DSCI 6901 Data Science Project
- DSCI 690W Data Science Work Term I
- DSCI 691W Data Science Work Term II

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16.54.2 Data Science Elective Courses

Business

- BUSI 8025 Information Systems
- BUSI 9021 Data Management
- BUSI 9022 Information Systems Analysis and Design
- BUSI 9912 Probabilistic Models

Computer Science

- COMP 6907 Data Mining Techniques and Methodology
- COMP 6908 Database Technology and Applications
- COMP 6910 Services Computing, Semantic Web and Cloud Computing
- COMP 6917 Complex Networks
- COMP 6934 Introduction to Data Visualization
- COMP 6936 Advanced Machine Learning
- COMP 6980 Algorithmic Techniques in Artificial Intelligence
- COMP 6981 Data Preparation Techniques
- COMP 6982 Computer Vision

Data Science

- DSCI 6650 Reinforcement Learning
- DSCI 6901 Data Science Project
- DSCI 691W Data Science Work Term II

Mathematics

- MATH 6100 Dynamical Systems
- MATH 6201 Numerical Methods for Time-Dependent Differential Equations
- MATH 6202 Nonlinear and Linear Optimisation
- MATH 6204 Iterative Methods in Numerical Linear Algebra
- MATH 6210 Numerical Solutions of Differential Equations
- MATH 6351 Advanced Linear Algebra

Medicine

- MED 6260 Applied Data Analysis for Clinical Epidemiology
- MED 6278 Advanced Biostatistics for Health Research

Scientific Computing

- CMSC 6950 Computer Based Tools and Applications

Statistics

- STAT 6503 Stochastic Processes
- STAT 6505 Survival Analysis
- STAT 6509 Statistical Inference
- STAT 6530 Longitudinal Data Analysis
- STAT 6545 Computational Statistics
- STAT 6561 Categorical Data Analysis
- STAT 6563 Sampling Theory
- STAT 6564 Experimental Designs
- STAT 6571 Financial and Environmental Time Series
- STAT 6573 Statistical Genetics

Current MDSc Regulations

16 Regulations Governing the Degree of Master of Data Science

In this section

- 16.1 Qualifications for Admission
- 16.2 Program of Study
- 16.3 Evaluation
- 16.4 Courses

The Degree of Master of Data Science (MDSc.) is a highly structured program incorporating 21 credit hours in courses, a case study series, and a capstone project. The Degree is offered in the Departments of Computer Science and Mathematics and Statistics, St. John's Campus, by full-time study.

16.1 Qualifications for Admission

Admission to the program is limited and competitive. The program is open to applicants from a wide range of undergraduate backgrounds. In addition to meeting the General Regulations of the School of Graduate Studies, the minimum requirements for the Degree are outlined below.

1. To be eligible for consideration of admission to the Master of Data Science program, an applicant shall hold a minimum second class 4-year bachelor's degree in a relevant area from a recognized university.
2. The applicant is required to provide evidence of at least one college-level course or equivalent knowledge in multivariate calculus, statistical inference and computer programming in a high- level programming language, like R, Python, C, C++, Java, or Lisp.
3. Admission to the program shall be upon acceptance by the Dean of Graduate Studies after recommendation by the Chair of the Program or either Head of the Departments of Computer Science or Mathematics and Statistics or delegate, along with a tentative program of study and a provisional academic adviser.

16.2 Program of Study

The minimum requirements for the Degree of Master of Data Science are the successful completion of the following:

1. the graduate courses DSCI 6601, DSCI 6602, DSCI 6607, DSCI 6619, DSCI 6659, plus two additional 3-credit hour courses from the list of Data Science Elective Courses or courses from other academic units approved by the Dean of Graduate Studies; and
2. DSCI 6690 and DSCI 695A/B and a final project report. The report must demonstrate a satisfactory general mastery of data science knowledge.

16.3 Evaluation

1. In order to continue in the Master of Data Science degree program, a student shall obtain an 'A' or 'B' for all regular program courses. In order to be considered for graduation, a student shall also pass DSCI 6690 and DSCI 695A/B and successfully complete the final project report requirement.
2. DSCI 695A/B progress after each semester will be evaluated by the student's academic adviser. The final applied data science project report will be evaluated by the student's academic adviser.

16.4 Courses

On this page

- 16.4.1 Data Science Required Courses
- 16.4.2 Data Science Elective Courses

16.4.1 Data Science Required Courses

Data Science

- DSCI 6601 Practical Machine Learning
- DSCI 6602 Deep Learning and Artificial Intelligence
- DSCI 6607 Programmatic Data Analysis Using Python and R
- DSCI 6619 Regression Models (cross listed with STAT 6519)
- DSCI 6659 Statistical Exploration of Data (cross listed with STAT 6559)
- DSCI 6690 Data Science Case Study Series *(2 credit hours)*
- DSCI 695A/B Capstone Project *(2 credit hours)*

16.4.2 Data Science Elective Courses

Business

- BUSI 8025 Information Systems
- BUSI 9021 Data Management
- BUSI 9022 Information Systems Analysis and Design
- BUSI 9912 Probabilistic Models

Computer Science

- COMP 6907 Data Mining Techniques and Methodology
- COMP 6908 Database Technology and Applications

- COMP 6910 Services Computing, Semantic Web and Cloud Computing
- COMP 6917 Complex Networks
- COMP 6934 Introduction to Data Visualization

Data Science

- DSCI 6650 Reinforcement Learning

Mathematics

- MATH 6100 Dynamical Systems
- MATH 6201 Numerical Methods for Time-Dependent Differential Equations
- MATH 6202 Nonlinear and Linear Optimisation
- MATH 6204 Iterative Methods in Numerical Linear Algebra
- MATH 6210 Numerical Solutions of Differential Equations
- MATH 6351 Advanced Linear Algebra

Medicine

- MED 6260 Applied Data Analysis for Clinical Epidemiology
- MED 6278 Advanced Biostatistics for Health Research

Scientific Computing

- CMSC 6950 Computer Based Tools and Applications

Statistics

- STAT 6503 Stochastic Processes
- STAT 6505 Survival Analysis
- STAT 6530 Longitudinal Data Analysis
- STAT 6545 Computational Statistics
- STAT 6561 Categorical Data Analysis
- STAT 6563 Sampling Theory
- STAT 6564 Experimental Designs
- STAT 6571 Financial and Environmental Time Series
- STAT 6573 Statistical Genetics

Friday, April 10, 2026 at 2:11:41 PM Newfoundland Daylight Time

Subject: Re: Graduate Course Approval Forms
Date: Friday, April 10, 2026 at 2:11:41 PM Newfoundland Daylight Time
From: datasciencechair
To: Newhook, Rebecca, Kavanagh, Julie
CC: Mackenzie, Theresa

From: Newhook, Rebecca <rnewhook@mun.ca>
Date: Friday, April 10, 2026 at 11:32 AM
To: datasciencechair <datasciencechair@mun.ca>, Kavanagh, Julie <julie.kavanagh@mun.ca>
Cc: Mackenzie, Theresa <tmackenz@mun.ca>
Subject: RE: Graduate Course Approval Forms

Thanks Terry, this looks good. We are happy for you to proceed to the board of studies with this.
Best,
Rebecca

From: datasciencechair <datasciencechair@mun.ca>
Sent: Friday, April 10, 2026 10:40 AM
To: Newhook, Rebecca <rnewhook@mun.ca>; Kavanagh, Julie <julie.kavanagh@mun.ca>
Cc: Mackenzie, Theresa <tmackenz@mun.ca>
Subject: Re: Graduate Course Approval Forms

Hi Rebecca,

Here's the updated draft with the changes you suggested.

Thanks for actioning all of this so quickly.

Terry

From: Newhook, Rebecca <rnewhook@mun.ca>
Date: Thursday, April 9, 2026 at 4:18 PM
To: datasciencechair <datasciencechair@mun.ca>, Kavanagh, Julie <julie.kavanagh@mun.ca>
Cc: Mackenzie, Theresa <tmackenz@mun.ca>
Subject: RE: Graduate Course Approval Forms

Hi Terry,

Here are a couple of sample syllabus for DSCI 690W and DSCI691W (basically new course numbers and some minor changes on the COMP 611W and COMP 612W syllabus). We can adjust later if necessary but this should do for the time being. I'll wait to hear from you about the feedback that we sent on the proposal, I've blocked out some time tomorrow morning to review another draft.

Thanks,
Rebecca

From: datasciencechair <datasciencechair@mun.ca>
Sent: Thursday, April 9, 2026 3:55 PM
To: Newhook, Rebecca <rnewhook@mun.ca>; Kavanagh, Julie <julie.kavanagh@mun.ca>
Cc: Mackenzie, Theresa <tmackenz@mun.ca>
Subject: Re: Graduate Course Approval Forms

Hi Rebecca,

I would like to get this to the board ASAP so that it can make it to the May faculty of science council meeting. Waiting until May would mean that we would miss that meeting. Sorry for the tight timeline on this, I did not realize you were going to be away so soon.

Terry

From: Newhook, Rebecca <rnewhook@mun.ca>
Date: Thursday, April 9, 2026 at 2:49 PM
To: datasciencechair <datasciencechair@mun.ca>, Kavanagh, Julie <julie.kavanagh@mun.ca>
Cc: Mackenzie, Theresa <tmackenz@mun.ca>
Subject: RE: Graduate Course Approval Forms
Hi Terry,

Please find attached your proposal, with our comments for your consideration. FYI Julie and I are both away from the end of this week for the remainder of April so we're down to the wire on time here. When do you intend to bring this to the board of studies, and assuming they approve, FoS Grad Studies? We can mock up a course syllabus quickly if necessary, but if it can wait until May, even better.

Thanks,
Rebecca

Friday, April 10, 2026 at 1:32:57 PM Newfoundland Daylight Time

Subject: Re: Master's of Data Science Proposal
Date: Wednesday, April 1, 2026 at 3:54:00 PM Newfoundland Daylight Time
From: Math Head
To: datasciencechair

Hello Terry,

Sorry for the slow reply - crazy times right now (though maybe not so crazy as for you - I can't remember exactly when the baby was due!).

I think that this looks good - from other discussions that I've heard, the switch from 3-4 terms is a good idea and if work terms could be done that'd great.

My only caution would be that it's not guaranteed that a year or two from now we will be able to offer Spring courses. The teaching capacity on the Stats side is quite tight. So, if we were to have someone else leave (or retire) or if one of our Stats teaching term positions gets eliminated, then we might have trouble offering a Spring elective course. I don't have any indication that that is about to happen, but Alex leaving took almost all the flexibility that we had on the Stats side out of the system and I think that there are a couple of people starting to think about retirement.

That said, we will continue to support MDSc as best we can and offer a Spring course if at all possible. And if something happened to Spring course offerings in the future, the 4-semester version would probably be better able to accommodate it then the current 3-semester one.

Best,
Ivan

From: datasciencechair <datasciencechair@mun.ca>
Date: Friday, March 27, 2026 at 14:49
To: Math Head <math-head@mun.ca>
Subject: Master's of Data Science Proposal

Hi Ivan,

I know it's a busy time for you right now, but I have a proposal here from the Master's of Data Science board that I would appreciate your feedback on.

The major elements of the proposal are changing the program length from 3 to 4 terms and introducing a work-term option. Can you please let me know if you have any feedback, suggestions or concerns about the attached. I will include your feedback as part of the proposal submission to the Faculty of Science Graduate Studies Committee.

Thanks,
Terry

Friday, April 10, 2026 at 1:31:01 PM Newfoundland Daylight Time

Subject: Re: Master's of Data Science Proposal
Date: Friday, April 10, 2026 at 1:09:01 PM Newfoundland Daylight Time
From: cs-chair
To: datasciencechair

Hi Terry,

Following up from our meeting today, I am happy with the current version of the proposed changes to the MDSc program.

Sharene.

Sharene Bungay
Department Head
Department of Computer Science
Memorial University

From: cs-chair <cs-chair@mun.ca>
Date: Tuesday, April 7, 2026 at 9:39 PM
To: datasciencechair <datasciencechair@mun.ca>
Subject: Re: Master's of Data Science Proposal

Hi Terry,

I've added a few questions and comments to the document (attached). Happy to chat further if you wish.

Sharene.

Sharene Bungay
Department Head
Department of Computer Science
Memorial University

From: datasciencechair <datasciencechair@mun.ca>
Date: Tuesday, April 7, 2026 at 1:26 PM
To: cs-chair <cs-chair@mun.ca>
Subject: Re: Master's of Data Science Proposal

Hi Sharene,

Appreciated, thanks!

Terry

From: cs-chair <cs-chair@mun.ca>
Date: Tuesday, April 7, 2026 at 12:51 PM
To: datasciencechair <datasciencechair@mun.ca>
Subject: Re: Master's of Data Science Proposal

Hi Terry,

I will take a look at this today. My apologies for the delay.

Sharene.

Sharene Bungay
Department Head
Department of Computer Science
Memorial University

From: datasciencechair <datasciencechair@mun.ca>
Date: Monday, April 6, 2026 at 10:28 AM
To: cs-chair <cs-chair@mun.ca>
Subject: Re: Master's of Data Science Proposal

Hi Sharene,

I just wanted to follow-up about my consultation on the draft proposal for the Master of Data Science.

Thanks,
Terry

From: datasciencechair <datasciencechair@mun.ca>
Date: Friday, March 27, 2026 at 2:50 PM
To: cs-chair <cs-chair@mun.ca>
Subject: Master's of Data Science Proposal

Hi Sharene,

I have a draft proposal from the Master's of Data Science board that I would appreciate your feedback on.

The major elements of the proposal are changing the program length from 3 to 4 terms and introducing a work-term option. Can you please let me know if you have any feedback, suggestions or concerns about the attached. I will include your feedback as part of the proposal submission to the Faculty of Science Graduate Studies Committee.

Thanks,
Terry

Request for Approval of a Graduate Course

Adobe Reader, minimum version 8, is required to complete this form.
Download the latest version: http://get.adobe.com/reader.

MEMORIAL UNIVERSITY

SCHOOL OF GRADUATE STUDIES

(1) Fill out the form completely and accurately, and save the form in PDF format. Make sure you specify the save location, e.g. Desktop.
(2) Review https://www.mun.ca/sgs/how-to-create-and-insert-a-digital-signature/ for instructions on how to digitally sign the form.
(3) Send the completed form and attachments to the appropriate faculty/school council in the first instance. If approved, they will forward to the School of Graduate Studies.

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

Course No.: DSCI 6900

Course Title: Capstone Project

I. To be completed for all requests:

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

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

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

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

E. Credit hours for this course: 3

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

Students must complete an application-oriented project in the area of data science. A project report must be submitted at the end of the course.

G. Method of evaluation:

		Percentage	
		Written	**Oral**
Class tests			
Assignments			
Other (specify):	Report	100	
Final examination:			
Total	100 (Pass / Fail)		

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

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

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

	Instructor's initials
1. duplication of thesis work	
2. double credit	
3. work that is a faculty research product	
4. overlap with existing courses	

Recommended for offering in the: ☐ Fall ☐ Winter ☑ Spring 20 28

Length of session if less than a semester: (i.e. accelerated timeframe)

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

_____	_____
Course instructor	Date
Veronica Tucci	April 10, 2026
Approval of the head of the academic unit	Date

IV. I certify that this course proposal was approved by the Faculty or School Council.

_____	_____
Secretary, Faculty/School Council	Date

Revised: May 15, 2025.

Course Syllabus - Spring 2028

DSCI 6900: Capstone Project

Instructor: Terrence Tricco (he/him)
Email: tstricco@mun.ca
Office Hours: By appointment.

Course Summary

The capstone project allows students to gain hands-on experience in data science. The goal is to solve an application-oriented problem using data science techniques. Capstone projects are skills focused, where students have the opportunity to apply the data science skills they have learned in their coursework to a new domain or to gain further data science skills.

There are no formal lectures, but frequent meetings with the instructor. A final report must be completed.

Evaluation

The course is Pass or Fail. The final grade will be based on the project report submitted at the end of the term.

Academic Misconduct

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.

Accessibility Services

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.

MEMORIAL UNIVERSITY

SCHOOL OF GRADUATE STUDIES

Request for Approval of a Graduate Course

Adobe Reader, minimum version 8, is required to complete this form.
Download the latest version: http://get.adobe.com/reader.

(1) Fill out the form completely and accurately, and save the form in PDF format. Make sure you specify the save location, e.g. Desktop.
(2) Review https://www.mun.ca/sgs/how-to-create-and-insert-a-digital-signature/ for instructions on how to digitally sign the form.
(3) Send the completed form and attachments to the appropriate faculty/school council in the first instance. If approved, they will forward to the School of Graduate Studies.

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

Course No.: DSCI 6901

Course Title: Data Science Project

I. To be completed for all requests:

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

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

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

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

E. Credit hours for this course: 3

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

Students must complete an application-oriented project in the area of data science under the supervision of a faculty supervisor. A project report must be submitted at the end of the course.

G. Method of evaluation:

	Percentage	
	Written	**Oral**
Class tests		
Assignments		
Other (specify): Report	100	
Final examination:		

Total 100 (Pass / Fail)

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

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

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

	Instructor's initials
1. duplication of thesis work	
2. double credit	
3. work that is a faculty research product	
4. overlap with existing courses	

Recommended for offering in the: Fall ☐ Winter ☑ Spring 20 28

Length of session if less than a semester: (i.e. accelerated timeframe)

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

Course instructor — Date

Approval of the head of the academic unit — April 10, 2026

IV. I certify that this course proposal was approved by the Faculty or School Council.

Secretary, Faculty/School Council — Date

Revised: May 15, 2025.

Course Syllabus - Spring 2028

DSCI 6901: Data Science Project

Instructor: Terrence Tricco (he/him)
Email: tstricco@mun.ca
Office Hours: By appointment.

Course Summary

The Data Science Project allows students to gain hands-on experience in data science in collaboration with a faculty advisor. The goal is to solve an application-oriented problem using data science techniques. Capstone projects are skills focused, where students have the opportunity to apply the data science skills they have learned in their coursework to a new domain or to gain further data science skills.

Students should meet regularly with their faculty advisor. A final report must be completed.

Evaluation

The course is Pass or Fail. The final grade will be based on the project report submitted at the end of the term in consultation between the faculty advisor and the Chair of the program.

Academic Misconduct

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.

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Request for Approval of a Graduate Course

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MEMORIAL UNIVERSITY

SCHOOL OF GRADUATE STUDIES

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

Course No.: DSCI 690W

Course Title: Data Science Work Term I

I. To be completed for all requests:

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

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

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

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

E. Credit hours for this course: 3

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

This course offers a co-op internship to provide applied data science training in industry environments.

G. Method of evaluation:

	Percentage	
	Written	**Oral**
Class tests		
Assignments	50	
Other (specify): Job Performance	50	
Final examination:		

Total 100 (PWD / Pass / Fail)

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

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

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

	Instructor's initials
1. duplication of thesis work	
2. double credit	
3. work that is a faculty research product	
4. overlap with existing courses	

Recommended for offering in the: Fall ☐ Winter ☑ Spring 20 28

Length of session if less than a semester: (i.e. accelerated timeframe)

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

Course instructor — Date

Approval of the head of the academic unit — April 10, 2026

Date

IV. I certify that this course proposal was approved by the Faculty or School Council.

Secretary, Faculty/School Council — Date

Revised: May 15, 2025.

CO-OPERATIVE EDUCATION
FACULTY OF SCIENCE | FACULTY OF HUMANITIES & SOCIAL SCIENCES

DSCI 690W
Course Syllabus

Course Number/Name	DSCI 690W Data Science Work Term I		
Course Instructors	To be determined, one of Rebecca Newhook, Theresa Mackenzie or Julie Kavanagh Academic Staff Members in Co-operative Education (ASM-CE)		
Office	General office SN1060	**Email**	coopscihss@mun.ca
Telephone number	General office 709.864.8239	**Office Hours**	Monday 9-11am or by appointment
Course Description	DSCI 690W Data Science Work Term I is a full-time, paid work-integrated learning opportunity related to the discipline of data science. Students explore how concepts in data science translate into and inform workplace activities and competency development during full-time work for a host employer. CH: 3 PR: admission to the work term courses. **A work term requires the same level of commitment as an academic course. Students are expected to approach the work term in a serious manner and take advantage of all opportunities for personal and professional learning.**		
Course Objectives	Through this course students will: • develop an understanding of critical reflection[1] • set learning objectives appropriate to the workplace and personal/professional goals • learn, develop and practice high standards of professional behavior and performance in the workplace • observe, apply, analyse and/or evaluate concepts from courses in the workplace • connect theory to experience • further their understanding of concepts and themes in data science • critically reflect on the process and results of the work term as they relate to learning and development • articulate and document learning		
Expectations	Students are expected to: • submit all required documentation to the co-op office • maintain regular communication with the co-op office through @mun.ca email, telephone and/or in-person • respond promptly (within 24 hours) to email notices sent from the co-op office • behave professionally and in a manner that ensures continued employment and enhances opportunities for future employment • abide by the deadlines established by the co-op office		
Required Readings	There are no required readings for this course.		

[1] Critical reflection focused on well-articulated learning objectives is an effective method for students to understand and document learning in an applied setting. Critical reflection generates and deepens learning by articulating questions, acknowledging bias, examining cause and effect, contrasting theory with practice and challenging assumptions. It is an examination of how your experience impacts your ways of thinking and understanding.

Resources	All resources for this course, work term forms, assignment guidelines and other relevant information, are available via Brightspace in Co-op 1000.
Method of Evaluation	Students are evaluated on two components: a series of written assignments and on- the-job performance. **Component 1: Assignments** Assignments must be completed according to the description and schedule provided in the Assignment Guidelines (in Brightspace) and must be uploaded to the Dropbox for Co-op 1000. Assignments will be evaluated an ASM-CE from the co-op office. Each assignment is evaluated based on four criteria: fulfilling the brief (3 points maximum), clarity of expression (3 points maximum), reflection & thoughtfulness (3 points maximum) and meeting the submission deadline (1 point maximum) for a total of a maximum of 10 points per assignment. A detailed evaluation rubric for the assignments can be found in the guidelines. Assignments are marked on a scale of pass with distinction (9-10 points), pass (5- 8), Fail (<5). A single overall grade of PASS WITH DISTINCTION, PASS or FAIL will be assigned for all assignments collectively at the end of the work term. A grade of PASS WITH DISTINCTION will be awarded if at least half of the graded assignments are graded as PASS WITH DISTINCTION and the other half are graded as PASS. A grade of PASS will be awarded if more than half of the graded assignments are graded as PASS. A grade of FAIL will be awarded if more than half of the graded assignments receive a grade of FAIL. **Component 2: On-the-job Student Performance** Student on-the-job performance is assessed by the ASM-CE using information gathered during the work term and written input from the employer. Evaluation of the job performance will result in one of the following classifications: PASS WITH DISTINCTION, PASS or FAIL. **Overall evaluation** Overall evaluation of the work term will result in one of the following final grades being awarded: An overall grade of PASS WITH DISTINCTION means that the student has received a PASS WITH DISTINCTION on both the job performance and the assignments (i.e. PWD/PWD). An overall grade of PASS means that the student has received at least a grade of PASS on one or both the job performance and the assignments (i.e. PASS/PASS or PWD/PASS). FAIL means that the student has received a grade of FAIL on either or both the job performance and the assignments (i.e. PASS/FAIL or PWD/FAIL or FAIL/FAIL).

Co-op Policies and Procedures	
Email Policy	All communication between students and the co-op office will be through the @mun.ca domain. Students are expected to check their @mun.ca email daily while on the work term. Students can expect a prompt reply to any correspondence during normal business hours.
Workplace Disruption	In the case of an work term disruption for reasons unrelated to student performance, students are advised to communicate immediately with the co-op office. We will work with your supervisor to determine next steps.
Workplace Policies	Students are responsible for understanding the policies of their employer and for acting in accordance with those policies. Students must abide by company/organization rules and regulations, particularly with respect to safety, work habits and work hours.
Work Schedule	Your work term schedule is assigned by your employer. Please communicate with your supervisor regarding your work schedule, workflow and assigned tasks.
Problems on the Job	If you encounter difficulties during your work term, you should initially try to solve the problem in consultation with your employer. If these difficulties cannot be resolved, then you should contact the co-op office for advice.
Labour Disputes and Other Work Disruptions	In the event of a labour dispute or other work disruption please contact the co-op office.
Harassment	If you experience any form of harassment at work please contact the co-op office immediately to discuss the issue and a course of action. Please refer to Co-op 1000 for more information.
Quitting a Job	University regulations state that a student quitting a job without permission from the co-op office normally fails the work term (see Memorial University calendar)
Accommodation of Students with Special Needs	Memorial University is committed to facilitating and promoting an accessible, inclusive, and mutually respectful learning environment. Students requiring special accommodation are asked to communicate firstly with the Glenn Roy Blundon Centre (www.mun.ca/blundon) at the earliest opportunity. University policies and procedures pertaining to accommodations for students with disabilities can be found at www.mun.ca/policy/site/policy.php?id=239.
Academic Misconduct, Plagiarism and Generative AI	Work term students are expected to maintain a high level of scholarly integrity. You are encouraged to review Memorial's policies on Academic Misconduct http://www.mun.ca/regoff/calendar/sectionNo=REGS-0748. The use of generative AI to write assignments for this course, in part or in full, is not permitted. Work term Assignments represent original work written and submitted for this course only. Academic offenses will not be tolerated. Students are reminded of the definition of plagiarism from the University Calendar: *plagiarism is the act of presenting the ideas or works of another as one's own. This applies to all material such as essays, laboratory*

	assignments, laboratory reports, work term reports, design projects, seminar presentations, statistical data, computer programs, research results, and theses. The properly acknowledged use of sources is an accepted and important part of scholarship. Use of such material without acknowledgment is contrary to accepted norms of academic behaviour.
Academic Advice	The course instructor(s) would be happy to answer questions about this course and related matters. If you need information about your program requirements and course selections, first consult the University Calendar (http://www.mun.ca/regoff/calendar/). We can also put you in touch with an academic advisor.
University Policies and Support	• The Commons (QEII library) provides access to print, electronic and technology resources. • The Counselling Centre (UC-5000) helps students develop their personal capabilities, ranging from study strategies to assisting distressed students. • The Glenn Roy Blundon Centre (UC-4007) serves students whose disabilities involve conditions affecting mobility, vision, hearing, learning (disabilities), chronic illness, or mental health; support is also provided to students with documented temporary illnesses and injuries. • Student Life (ASK, UC-3005) answers questions about such things as courses, housing, books, financial matters and health. The Centre for Innovation in Teaching and Learning offers Writing Services to help students, at any level of writing proficiency, become better writers and critical thinkers, see https://www.mun.ca/citl/student-learning-solutions/writing-services/

Request for Approval of a Graduate Course

Adobe Reader, minimum version 8, is required to complete this form.
Download the latest version: http://get.adobe.com/reader.

MEMORIAL UNIVERSITY

SCHOOL OF GRADUATE STUDIES

(1) Fill out the form completely and accurately, and save the form in PDF format. Make sure you specify the save location, e.g. Desktop.
(2) Review https://www.mun.ca/sgs/how-to-create-and-insert-a-digital-signature/ for instructions on how to digitally sign the form.
(3) Send the completed form and attachments to the appropriate faculty/school council in the first instance. If approved, they will forward to the School of Graduate Studies.

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

Course No.: DDSCI 691W

Course Title: Data Science Work Term II

I. To be completed for all requests:

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

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

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

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

E. Credit hours for this course: 3

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

This course offers a co-op internship to provide applied data science training in industry environments. It is the follow-up course from DSCI 690W.

G. Method of evaluation:

	Percentage	
	Written	**Oral**
Class tests		
Assignments	50	
Other (specify): Job Performance	50	
Final examination:		

Total 100 (PWD / Pass / Fail)

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

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

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

	Instructor's initials
1. duplication of thesis work	
2. double credit	
3. work that is a faculty research product	
4. overlap with existing courses	

Recommended for offering in the: Fall ☐ Winter ☐ Spring 20 28

Length of session if less than a semester: (i.e. accelerated timeframe)

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

_____ _____

Course instructor Date

Florence Piccie April 10, 2026

Approval of the head of the academic unit Date

IV. I certify that this course proposal was approved by the Faculty or School Council.

_____ _____

Secretary, Faculty/School Council Date

Revised: May 15, 2025.

CO-OPERATIVE EDUCATION
FACULTY OF SCIENCE | FACULTY OF HUMANITIES & SOCIAL SCIENCES

DSCI 691W
Course Syllabus

Course Number/Name	DSCI 691W Data Science Work Term II		
Course Instructors	To be determined, one of Rebecca Newhook, Theresa Mackenzie or Julie Kavanagh Academic Staff Members in Co-operative Education (ASM-CE)		
Office	General office SN1060	**Email**	coopscihss@mun.ca
Telephone number	General office 709.864.8239	**Office Hours**	Monday 9-11am or by appointment
Course Description	DSCI 691W Data Science Work Term II is a full-time, paid work-integrated learning opportunity related to the discipline of data science. Students explore how concepts in data science translate into and inform workplace activities and competency development during full-time work for a host employer. CH: 3 PR: DSCI 690W **A work term requires the same level of commitment as an academic course. Students are expected to approach the work term in a serious manner and take advantage of all opportunities for personal and professional learning.**		
Course Objectives	Through this course students will: • develop an understanding of critical reflection[1] • set learning objectives appropriate to the workplace and personal/professional goals • learn, develop and practice high standards of professional behavior and performance in the workplace • observe, apply, analyse and/or evaluate concepts from courses in the workplace • connect theory to experience • further their understanding of concepts and themes in data science • critically reflect on the process and results of the work term as they relate to learning and development • articulate and document learning		
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Required Readings	There are no required readings for this course.		

[1] Critical reflection focused on well-articulated learning objectives is an effective method for students to understand and document learning in an applied setting. Critical reflection generates and deepens learning by articulating questions, acknowledging bias, examining cause and effect, contrasting theory with practice and challenging assumptions. It is an examination of how your experience impacts your ways of thinking and understanding.

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Work Schedule	Your work term schedule is assigned by your employer. Please communicate with your supervisor regarding your work schedule, workflow and assigned tasks.
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Academic Misconduct, Plagiarism and Generative AI	Work term students are expected to maintain a high level of scholarly integrity. You are encouraged to review Memorial's policies on Academic Misconduct http://www.mun.ca/regoff/calendar/sectionNo=REGS-0748. The use of generative AI to write assignments for this course, in part or in full, is not permitted. Work term Assignments represent original work written and submitted for this course only. Academic offenses will not be tolerated. Students are reminded of the definition of plagiarism from the University Calendar: *plagiarism is the act of presenting the ideas or works of another as one's own. This applies to all material such as essays, laboratory*

	assignments, laboratory reports, work term reports, design projects, seminar presentations, statistical data, computer programs, research results, and theses. The properly acknowledged use of sources is an accepted and important part of scholarship. Use of such material without acknowledgment is contrary to accepted norms of academic behaviour.
Academic Advice	The course instructor(s) would be happy to answer questions about this course and related matters. If you need information about your program requirements and course selections, first consult the University Calendar (http://www.mun.ca/regoff/calendar/). We can also put you in touch with an academic advisor.
University Policies and Support	• The Commons (QEII library) provides access to print, electronic and technology resources. • The Counselling Centre (UC-5000) helps students develop their personal capabilities, ranging from study strategies to assisting distressed students. • The Glenn Roy Blundon Centre (UC-4007) serves students whose disabilities involve conditions affecting mobility, vision, hearing, learning (disabilities), chronic illness, or mental health; support is also provided to students with documented temporary illnesses and injuries. • Student Life (ASK, UC-3005) answers questions about such things as courses, housing, books, financial matters and health. The Centre for Innovation in Teaching and Learning offers Writing Services to help students, at any level of writing proficiency, become better writers and critical thinkers, see https://www.mun.ca/citl/student-learning-solutions/writing-services/