MEMORIAL UNIVERSITY

Faculty of Science
Office of the Dean
St. John's, NL, Canada A1B 3X
T: 709 864 8154 Fax: 709 864 3316
deansci@mun.ca www.mun.ca/science

MEETING OF THE FACULTY COUNCIL OF THE FACULTY OF SCIENCE

A regular meeting of the Faculty Council of the Faculty of Science will be held on Wednesday, September 23, 2026 at 1:00pm by WebEx and in-person (**Room: A-1043**).

Agenda

1. Approval of Agenda
2. Adoption of the Minutes of May 20, 2026 (Pages 2-4)
3. Business Arising from the Minutes
4. Reports of Standing Committees:
   A. Undergraduate Studies Committee:

      Presented by Dawn Marshall, Chair, Undergraduate Studies Committee

      a) Department of Computer Science, Calendar changes, COMP 3202-3401-4304 – Amended Course, *Paper 4.A.a. (Pages 5-13)*

      b) Department of Mathematics and Statistics, Calendar Changes, STAT 2550 Stat 2560 – Amended Course, *Paper 4.A.b. (Pages 14-28)*

      c) Department of Physics and Physical Oceanography, Calendar changes, Physics-Comp – Amended Program, *Paper 4.A.c. (Pages 29-43)*

   B. Graduate Studies Committee:

      Presented by Adrian Fiech, Chair, Graduate Studies Committee

      a) Department of Computer Science, Calendar Changes, Master of Computer Science, *Paper 5.B.a. (Pages 44-54)*

   C. Library Committee: No business
5. Update from Associate Dean (Research and Graduate)
6. Update from Interim Associate Dean (Administration and Undergraduate)
7. Report of the Dean
8. Question Period
9. Adjournment

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FACULTY OF SCIENCE
FACULTY COUNCIL OF SCIENCE
Minutes of Meeting of May 20, 2026

A meeting of the Faculty Council of the Faculty of Science was held on Wednesday, May 20, 2026, at 1:00 p.m. using a hybrid model of WebEx and in-person (A-1046).

FSC 3166 Present

Biology
D. Bignell, K. Tahlan

Human Biosciences
M. Berry, S. Harding, S. Mayengbam

Chemistry
C. Bottaro, L. Cahill, H. Grover, E. Merschrod, J. Stockmann

Computer Science
S. Bungay, J. Henderson, C. Hyde, T. Tricco

Earth Sciences
P. Morrill

Mathematics & Statistics
T. Baird, I. Booth, C. Cigsar, R. Haynes, K. Nirmalkanna

Ocean Sciences
D. Boyce, P. Gagnon, J. Wroblweski

Physics & Physical Oceanography
D. Coombs, E. Hayden, H. Neilson, K. Poduska, L. Zedel

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

Dean of Science Office
D. Bennett, J. Blundell, J. Bowering, J. Ceha, M. Fitzpatrick, L. Frizzell, S. Garasym, C. Hussey, P. MacCallum, J. Kavanagh, R. Newhook

Student Representatives
C. Cruz, M. LaSaga, M. Kocela, L. Sacrey

Other Departments

B. Misiuk

FSC 3167 Approval of the Agenda

Moved: Approved. (*Berry, Bungay*) **Carried**

FSC 3168 Adoption of the Minutes of February 25, 2026

Moved: Approved.

The motion was carried with the following minor amendments:

- Addition of M. Hatcher
- Removal of R. Newhook
- Amendment to section FSC 3162 (A.b.) the word "offered" to "approved"
- Amendment to section FSC 3164 changed "15 years" to "17 years"

(*R. Haynes, M. Berry)* **Carried.**

FSC 3169 Business Arising from Faculty Council: No business arising.

FSC 3170 Reports of Standing Committees:

A. Undergraduate Studies Committee:

J. Blundell, Associate Dean (Research and Graduate) presented the undergraduate calendar changes

a) Department of Earth Sciences; Calendar Changes, Amended Course, EASC 2917 *Gems: The Science and Politics,*

(*S. Harding, R. Haynes)* **Carried.**

b) Department of Ocean Science; Calendar Changes, Amended Course, Ocean Science and Marine Biology admission requirements,

Vote: 1 Abstention
(*S. Bungay, S. Harding)* **Carried.**

c) Faculty of Science; Calendar Changes, Dietetics Calendar Change

(S. Harding, M. Berry) **Carried.**

d) Faculty of Science; Calendar Changes, New Course Approval, Science 2155 *Indigenous Astronomies and Worldviews,*
Note: a discussion happened around the science courses

(L. Zedel, J. Stockmann) **Carried.**

e) Faculty of Science; Calendar Changes, New Course Approval, Science 3155 *Outer Space and Society,*

(M. Berry, K. Hanorhan) **Carried.**

B. Graduate Studies Committee:

T. Tricco, Faculty of Science Graduate Committee member, presented the Graduate Studies calendar changes.

a) Master of Data Science; Proposed Changes to Degree of Master of Data Science,
(T. Tricco, C. Cigsar) **Carried.**

C. Library Committee: No business

FSC 3171 Dean's Report

In the Dean's absence, J. Blundell, Associate Dean (Research and Graduate), chaired the Faculty of Science Faculty Council meeting.

J. Blundell thanked all those who contributed to supporting students at this year's SEA Conference, which featured 167 student presentations across undergraduate, graduate, and postdoctoral levels, as well as 53 awards.

A survey on research supports within the Faculty of Science will be distributed by email on May 20 and will remain open for two weeks. The survey will take approximately 3–5 minutes to complete and will assist the grants team in providing improved information and support moving forward.

J. Blundell reminded all faculty members to be considerate of Faculty of Science grant deadlines, which are established to ensure sufficient time for thorough review of applications.

The NSERC Discovery Grant deadline is August 4. The Grants team will host information sessions in mid-to-late June and again in late August to early September. Additional details will be shared via upcoming notifications.

FSC 3172 Questions

A request to include a discussion on Indigenous Science as an agenda item at the next Faculty of Science Faculty Council meeting.

An additional request was made to add an item to the next Faculty Council agenda, asking the Faculty of Science Undergraduate Studies Committee to consider whether General Science courses should be recognized as a subject area.

A question was raised about whether there had been a budget update following the release of the government budget. The Associate Dean indicated that, to her knowledge, there had been no update and advised contacting the Dean for further information.

FSC 3173 Adjournment:

Meeting adjourned at 1. 40 p.m.

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): COMP 3202, 3400, 3401, 4304
- ☐ 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
COMP 3202 Introduction to Machine Learning
COMP 3400 Data Preparation Techniques
COMP 3401 Introduction to Data Mining
COMP 4304 Data Visualization

RATIONALE

Currently there is some overlap of content between COMP3400 (Data Preparation Techniques) and COMP3401 (Introduction to Data Mining), and between COMP3400 and COMP3202 (Introduction to Machine Learning). We are proposing that COMP3400 becomes a prerequisite of COMP3202 and COMP3401, along with some adjustments to the course content. If COMP3400 becomes a required prerequisite for the other two courses then they can respectively remove the duplicated content and delve deeper into their respective fields

In addition, for COMP 4304 (Data Visualization) we propose to allow students to take one of the current prerequisite third year courses as a corequisite. This provides students with a shorter path into the course and greater flexibility in course scheduling.

ANTICIPATED EFFECTIVE DATE
Fall 2027

CALENDAR CHANGES

COMP 3202 Introduction to Machine Learning

introduces concepts and algorithms in machine learning for regression and classification tasks. The course gives the student the basic ideas and intuition behind model selection and evaluation, and selected machine learning methods such as random forests, support vector machines, and hidden Markov models.
CR: Statistics 3486
PR: COMP 2002 or the former COMP 2711,COMP 3400 and Mathematics 2050

COMP 3401 Introduction to Data Mining

introduces students to the basic concepts and techniques for data mining and knowledge discovery. Students will develop an understanding of the essential data mining technologies, and be able to design and evaluate methods for simple data mining applications.
PR: COMP 2002 or the former COMP 2711, COMP 2007 or the former COMP 3754, COMP 3400, and Statistics 2500 or Statistics 2550

COMP 4304: Data Visualization

covers interactive representation of data using a modern programming library. Topics include an introduction to the software platform and the principles for data selection, analysis, design and creation of dynamic visualizations. Students produce interactive web-based objects, addressing problems in the presentation and understanding of large data collections. The techniques discussed are applicable to different sources and types of data.

PR: COMP 2001 or the former COMP 2710, COMP 2002 or the former COMP 2711, and one of Statistics 2500 or Statistics 2550
CO: One of COMP 3202, COMP 3400 or COMP 3401

CALENDAR ENTRY AFTER CHANGES

COMP 3202 Introduction to Machine Learning

introduces concepts and algorithms in machine learning for regression and classification tasks. The course gives the student the basic ideas and intuition behind model selection and evaluation, and selected machine learning methods such as random forests, support vector machines, and hidden Markov models.
CR: Statistics 3486
PR: COMP 3400 and Mathematics 2050

COMP 3401 Introduction to Data Mining

introduces students to the basic concepts and techniques for data mining and knowledge discovery. Students will develop an understanding of the essential data

mining technologies, and be able to design and evaluate methods for simple data mining applications.
PR: COMP 2007 or the former COMP 3754, COMP 3400, and Statistics 2500 or Statistics 2550

COMP 4304: Data Visualization

covers interactive representation of data using a modern programming library. Topics include an introduction to the software platform and the principles for data selection, analysis, design and creation of dynamic visualizations. Students produce interactive web-based objects, addressing problems in the presentation and understanding of large data collections. The techniques discussed are applicable to different sources and types of data.

PR: COMP 2001 or the former COMP 2710, COMP 2002 or the former COMP 2711, and one of Statistics 2500 or Statistics 2550
CO: One of COMP 3202, COMP 3400 or COMP 3401

Memorial University of Newfoundland

Undergraduate Calendar Change Proposal Form
Appendix Page

CONSULTATIONS SOUGHT

CONSULTATIONS SOUGHT	RESPONSE	DATE
Business	Yes/No	30Apr26
Education	Yes/No	
Engineering	Yes	29Apr26
Grenfell Campus School of Arts & Social Science	Yes/No	
Human Kinetics and Recreation	Yes/No	
Humanities and Social Sciences	Yes	
Labrador Institute	Yes/No	
Library	Yes	
Marine Institute	Yes/No	
Medicine	Yes	27Apr26
Music	Yes/No	
Nursing	Yes/No	
Pharmacy	Yes	27Apr26
Registrar's Office	Yes/No	
Science	Yes/No	
Social Work	Yes/No	
Biochemistry/Human Biosciences	Yes	30Apr26
Mathematics & Statistics	Yes	30Apr26

LIBRARY REPORT

Nothing from Library

RESOURCE IMPLICATIONS

No impact on resources since no new courses or change to current course offerings.

Check box as applicable (☑) and *make any comments as necessary.* Use as much space as necessary.	*YES*	*NO*	*N/A*
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)*			
a) Is this a required course?			
b) Is this an elective course?			
c) Will this be taught every year?			
d) Elective course: will it hinder the academic unit's ability to offer its core program?			

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

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.

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

Year 1	Year 2	Year 3	Year 4	Year 5

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	
Independent study	
Flexible	
Blended	
Remote	
Online	

Consultation Feedback

Pharmacy – 27Apr26

Thank you for the opportunity to review the proposed changes to the COMP courses. There is no impact on the School of Pharmacy.

Gerona

Gerona McGrath MBA, M.Ed.
Manager of Academic Programs
School of Pharmacy

Medicine – 27Apr26

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

Thanks, Danielle

DANIELLE O'KEEFE MD CCFP FCFP MSc CCPE

Vice Dean, Education and Faculty Affairs

Associate Professor of Family Medicine

Engineering – 29Apr26

Thank you for the opportunity to comment on the proposed Calendar changes for the courses

COMP 3202 Introduction to Machine Learning,

COMP 3400 Data Preparation Techniques,

COMP 3401 Introduction to Data Mining, and

COMP 4304 Data Visualization.

Several of our students in the major of Computer Engineering do take COMP 3202 and COMP 4304 as technical electives in Academic Term 6 or later. I assume that they are granted prerequisite waivers to do so. Will our students continue to be able to register for COMP 3202 after material is moved from COMP 3202 into the new prerequisite of COMP 3400?

A possible remedy (which would reduce the need for manual course add forms) would be to add to the list of prerequisites for COMP 3202 (and perhaps for other COMP courses that our students often take):

", or completion of Academic Term 5 of the Computer Engineering program"

I do note that the cover page refers to a different set of changes (COMP 1001 & 1003).

The Committee on Undergraduate Studies for the Faculty of Engineering and Applied Science is next scheduled to meet on May 20. If any further comments arise, I will send another e-mail shortly after that meeting.

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

Biochemistry (HuBi) – 30Apr26

We have reviewed the proposed calendar changes and have no comments or concerns.

Thanks,

Janet Brunton

Deputy Head Undergraduate

Department of Human Biosciences

Business Administration – 30Apr26

We have no comment other than someone pointed out a typo: the senate cover sheet (COMP 1001, 1003) does not match the courses numbers actually being changed.

Thanks

Mary

My working hours may not be **your working hours**. Please **do not** feel obligated to **reply** outside of **your** normal **work** schedule

Mary Furey | Associate Dean, Undergraduate Programs and Accreditation

Faculty of Business Administration
Memorial University of Newfoundland
St. John's, Newfoundland and Labrador
T 709 864 2431

Math – 30Apr26

I noticed that the title page of this proposal does not correspond to its content, I guess it's a copy-paste error. I will consult on the substance of the proposal with our undergraduate studies committee and follow up if there are any comments.

Best regards,

Mikhail

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): STAT 2550 Statistics for Science Students and STAT 2560 Further Statistics for Science Students
- ☐ New program(s):
- ☐ Amended or deleted program(s):
- ☐ New, amended or deleted Glossary of Terms Used in the Calendar entries
- ☐ New, amended or deleted Admission/Readmission to the University (Undergraduate) regulations
- ☐ New, amended or deleted General Academic Regulations (Undergraduate)
- ☐ New, amended or deleted Faculty, School or Departmental regulations
- ☐ Other:

ADMINISTRATIVE AUTHORIZATION

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

Signature of Dean/Vice-President: _____

Date: _____

Date of approval by Faculty/Academic Council: _____

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

COURSE NUMBER AND TITLE

STAT 2550 Statistics for Science Students. STAT 2560 Further Statistics for Science Students

RATIONALE AND EXECUTIVE SUMMARY

Executive Summary: Title and prerequisite changes in STAT 2550 Statistics for Science Students and STAT 2560 Further Statistics for Science Students.
STAT 2550 Statistics for Science Students to be retitled **"**Introduction to Statistics I**"**
Current prerequisite: MATH 1000 or MATH 1006 or the former 1081
Proposed prerequisite: 3 credit hours in Mathematics or Statistics courses, or a combination of placement test and high school Mathematics scores acceptable to the Department
STAT 2560 Further Statistics for Science Students to be retitled "Introduction to Statistics II"
Current prerequisite: STAT 2500 or 2550, Mathematics 1000
Proposed prerequisite: STAT 2500 or 2550

Rationale:
These changes aim to improve accessibility and broaden participation in STAT 2550 and STAT 2560 by replacing the calculus prerequisite with more flexible options that still ensure that students will have adequate quantitative preparation. The revised prerequisites allow students from a wider range of academic backgrounds, including those outside the Faculty of Science, to enroll in these courses. The updated titles better reflect the roles of the courses as introductory, sequential statistics courses suitable for a broader audience.

ANTICIPATED EFFECTIVE DATE

Winter 2027

CALENDAR CHANGES under 13.9.2 Statistics Courses

STAT 2550 <u>Introduction to Statistics I</u>
is an introduction to basic statistics methods with an emphasis on applications to the sciences. Material includes descriptive statistics, elementary probability, binomial distribution, Poisson distribution, normal distribution, sampling distribution, estimation and hypothesis testing (both one and two sample cases), chi-square test, one way analysis of variance, correlation and simple linear regression.

CR: Engineering 4421, STAT 2500, the former STAT 2510

LH: one 90-minute lab per week. Statistical computer package will be used in the laboratory, but no prior computing experience is assumed.

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

STAT 2560 Introduction to Statistics II

covers estimation and hypothesis testing in the two-sample and paired sample cases, one way and two-way analysis of variance, simple and multiple linear regression, chi-square tests, non-parametric tests including sign test, Wilcoxon signed rank test and Wilcoxon rank test.

CR: STAT 2501, Psychology 2911, 2950, and the former 2901

EQ: the former STAT 2511

LH: one 90-minute lab per week. Statistical computer packages will be used in the laboratory, but no prior computing experienced is assumed.

PR: STAT 2500 or 2550

CALENDAR ENTRY AFTER CHANGES

STAT 2550 Introduction to Statistics I

is an introduction to basic statistics methods with an emphasis on applications to the sciences. Material includes descriptive statistics, elementary probability, binomial distribution, Poisson distribution, normal distribution, sampling distribution, estimation and hypothesis testing (both one and two sample cases), chi-square test, one way analysis of variance, correlation and simple linear regression.

CR: Engineering 4421, STAT 2500, the former STAT 2510

LH: one 90-minute lab per week. Statistical computer package will be used in the laboratory, but no prior computing experience is assumed.

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

STAT 2560 Introduction to Statistics II

covers estimation and hypothesis testing in the two-sample and paired sample cases, one way and two-way analysis of variance, simple and multiple linear regression, chi-square tests, non-parametric tests including sign test, Wilcoxon signed rank test and Wilcoxon rank test.

CR: STAT 2501, Psychology 2911, 2950, and the former 2901

EQ: the former STAT 2511

LH: one 90-minute lab per week. Statistical computer packages will be used in the laboratory, but no prior computing experienced is assumed.

PR: STAT 2500 or 2550

SECONDARY CALENDAR CHANGES under 13.9.2 Statistics Courses

STAT 2530 Statistical Data Analytics

builds up from the basic techniques of analysis and visualization of data presented in any of our introductory courses. It uses the programming language R as the basic computational device. Mainstream techniques of predictive analytics and statistical learning are presented in a hands-on approach.

PR: One of STAT 1500, 2500 or 2550

STAT 3530 Analysis of Observational Data

introduces sampling concepts, probability sampling designs including simple random sampling and stratified random sampling, study designs, and methods for analysis of observational data including measures of risk and association, inference for measures of association, confounding and logistic regression modeling.

PR: Mathematics 1000 and one of STAT 2530 or 2560

SECONDARY CALENDAR ENTRY AFTER CHANGES

STAT 2530 Statistical Data Analytics

builds up from the basic techniques of analysis and visualization of data presented in any of our introductory courses. It uses the programming language R as the basic computational device. Mainstream techniques of predictive analytics and statistical learning are presented in a hands-on approach.

PR: One of STAT 1500, 2500 or 2550

STAT 3530 Analysis of Observational Data

introduces sampling concepts, probability sampling designs including simple random sampling and stratified random sampling, study designs, and methods for analysis of observational data including measures of risk and association, inference for measures of association, confounding and logistic regression modeling.

PR: Mathematics 1000 and one of STAT 2530 or 2560

SECONDARY CALENDAR CHANGES under Grenfell Campus 13.22 Mathematics and Statistics

STAT 2550 ~~Statistics for Science Students~~ Introduction to Statistics I
is an introduction to basic statistics methods with an emphasis on applications to the sciences. Material includes descriptive statistics, elementary probability, binomial distribution, Poisson distribution, normal distribution, sampling distribution, estimation and hypothesis testing (both one and two sample cases), chi-square test, one way analysis of variance, correlation and simple linear regression.

CR: Engineering 4421, STAT 2500, the former STAT 2510

LH: 1.5

OR: Statistical computer package will be used in the laboratory, but no prior computing experience is assumed

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

CALENDAR ENTRY AFTER CHANGES

STAT 2550 Introduction to Statistics I

is an introduction to basic statistics methods with an emphasis on applications to the sciences. Material includes descriptive statistics, elementary probability, binomial distribution, Poisson distribution, normal distribution, sampling distribution, estimation and hypothesis testing (both one and two sample cases), chi-square test, one way analysis of variance, correlation and simple linear regression.

CR: Engineering 4421, STAT 2500, the former STAT 2510

LH: 1.5

OR: Statistical computer package will be used in the laboratory, but no prior computing experience is assumed

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

Memorial University of Newfoundland
Undergraduate Calendar Change Proposal Form
Appendix Page

CONSULTATIONS SOUGHT	RESPONSE	DATE
Business	Yes/No	
Education	Yes	11May26
Engineering	Yes	20May26
Grenfell Campus School of Arts & Social Science	Yes/No	
Human Kinetics and Recreation	Yes	4Jun26
Humanities and Social Sciences	Yes	11May26
Labrador Institute	Yes/No	
Library	Yes	13May26
Marine Institute	Yes/No	
Medicine	Yes/No	
Music	Yes/No	
Nursing	Yes/No	
Pharmacy	Yes	14May26
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	

LIBRARY REPORT
No Library report.

RESOURCE IMPLICATIONS

None.

Check box as applicable (☑) and *make any comments as necessary.* Use as much space as necessary.	*YES*	*NO*	*N/A*
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)*			
a) Is this a required course?			
b) Is this an elective course?			
c) Will this be taught every year?			
d) Elective course: will it hinder the academic unit's ability to offer its core program?			

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

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.

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

Year 1	Year 2	Year 3	Year 4	Year 5

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	
Independent study	
Flexible	
Blended	
Remote	
Online	

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

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?

Title of Proposal: _____

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:

Mikhail Kotchetov — Name (print)

709-864-7947 / mikhail@mun.ca — Phone / email

Departmental Head Signature: _____

Consultation Feedback
Sent 5May26

HSS – 11May26

No concerns from HSS.

P Dold

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Education – 11May26

No impact expected for the Faculty of Education.

Regards,

GARRETT MARTIN, B.Sc.
MANAGER OF ACADEMIC PROGRAMS

Office of Academic Programs
Faculty of Education

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These changes will have no impact on the library.

Kathryn

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Pharmacy – 14May26

Thank you for the opportunity to review the proposed changes to STAT 2550 and 2560. There is no impact on the School of Pharmacy.

Gerona

Engineering – 20May26

Thank you for the opportunity to comment on the proposed Calendar changes for the courses
STAT 2550 Statistics for Science Students,
STAT 2560 Further Statistics for Science Students and

At its meeting on May 20, the Committee on Undergraduate Studies for the Faculty of Engineering and Applied Science noted that many of our students in the Civil, Mechanical, Mechatronics and Process majors take STAT 2550 to earn an exemption from our course ENGI 4421 "Probability and Statistics" in Academic Term 4 or 5. We are currently considering amendments to our ENGI 4421 course, to add more engineering-specific applications. The removal of the calculus prerequisite increases the difference between STAT 2550 and ENGI 4421. We are also considering removal of STAT 2550 / ENGI 4421 from our course exemption policy, though a credit restriction remains between the two courses.

Yours sincerely,

Dr. Glyn George, Chair
Committee on Undergraduate Studies
Faculty of Engineering and Applied Science

Response to Engineering from Statistics – 21May26

Could you please clarify to Dr. Glyn George that the proposal only concerns the removal of the prerequisite MATH 1000 (Differential Calculus) from STAT 2550, as this prerequisite has been determined to be unnecessary for the course? The proposed change does not involve any modification to the content, level, delivery, learning outcomes, or overall structure of STAT 2550. Therefore, the removal of the calculus prerequisite will not increase the difference between STAT 2550 and current version of ENGI 4421. STAT 2550 will continue to cover the same material as it currently does.

I thought this clarification may be helpful as Engineering considers its exemption policy.

Engineering – 22May26

Thank you for the clarification.

Dr. Glyn George, Chair
Committee on Undergraduate Studies
Faculty of Engineering and Applied Science

Medicine – 26May26

Thank you for the opportunity to review the proposed changes. There are no concerns from Medicine.

Tracy

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HKR – 4Jun26

My apologies for the delay. We have had some personnel changes over here and things are running a little behind - similar in many areas I know!

CUGS in the SHKR has a number of comments and questions. I will do my best to capture all of these below. Let me know if you require any clarification.

1. The proposed change to STAT 2550 title and prerequisite has a broad impact, as so many degree programs require STAT 2550.
2. The proposal 'checklist' on the final page includes

	YES	N/A
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

   Given that the secondary changes in the proposal specifically include changes to the Grenfell section of the Calendar, is it accurate that the proposal form Math & Stats indicates NA for this checklist item?
3. If the existing course description will not change, is it realistic that students and their advisors across the university will realize/understand/believe that the change in title and pre-requisite is intended to "improve accessibility and broaden participation in STAT 2550"?
4. What is the proposed/intended "combination of placement test and high school Mathematics scores acceptable to the Department"? Will that combination be a different number than is required for STAT 2500?

Since 2018, "STAT 2550 (or equivalent)" is required for all HKR degrees. Before 2018, BKIN required "STAT 2550 or equivalent," while BPE and BREC required "STAT 2500 or equivalent." In practice, many HKR students instead complete STAT 2500 (or College of the North Atlantic MA1670).

5. Will College of the North Atlantic MA1670 continue to be recognized for the award of STAT 2550 transfer credit?
6. The proposal will mean that the new prerequisite for STAT 2550 Introduction to Statistics I will now be the same as the existing prerequisite for STAT 2500 Statistical Foundations for Data Analytics (which title and course description was changed effective 2025-01 from the previous title Statistics for Business and Arts Students). Are there implications for students and degree program requirements across the university that may need to be clarified if the prerequisites now become the same for STAT 2550 Introduction to Statistics I and STAT 2500 Statistical Foundations for Data Analytics?
7. As the prerequisites are now proposed to become the same, is it still appropriate that STAT 2500 and STAT 2550 remain credit-restricted (CR) but not Equivalent (EQ)?

8. It has been the case that some HKR students find STAT 2550 a challenge to successfully complete, even with the previous PR of MATH 1000 (or MATH 1006). Is there a risk that the proposed change will mean that HKR students with less math background (revised PR: any 3 MATH credit hours or acceptable MPT + acceptable high school math score) will now find successful completion of STAT 2550 even more of a challenge?

Thank you,
Anne-Marie

Anne-Marie Sullivan, PhD, CTRS
Professor and Dean
School of Human Kinetics and Recreation.

Response to HKR

1. The proposed change to STAT 2550 title and prerequisite has a broad impact, as so many degree programs require STAT 2550.
We agree that STAT 2550 serves many programs across the University. This is one reason why the Department undertook a careful review of the prerequisite. Based on discussions with current and recent instructors, student preparation requirements, and a review of comparable courses at other universities, we concluded that Calculus I is not required for success in STAT 2550 and that its removal will broaden access to this course without compromising academic standards. We do not foresee any need to modify programs that include STAT 2550 because of this change.
2. Given that the secondary changes in the proposal specifically include changes to the Grenfell section of the Calendar, is it accurate that the proposal form indicates N/A for this checklist item?
The proposal includes secondary calendar changes, and the checklist should have indicated that other calendar entries are affected. Consent from Grenfell was received prior to the formal consultation process, but was not appended to the proposal by mistake.
3. If the course description is unchanged, will students and advisors understand that the change is intended to improve accessibility and broaden participation?
Yes. The proposed title, *Introduction to Statistics I*, more accurately reflects the role of the course as a general introductory statistics course rather than one intended specifically for science students. More importantly, the revised prerequisite will allow students in programs that do not require Calculus I to enroll in STAT 2550. The proposed change broadens access to the course while maintaining an appropriate level of quantitative preparation.
4. What is the proposed combination of placement test and high school mathematics scores acceptable to the Department? Will it differ from STAT 2500?
The intent is to use the same prerequisite framework currently used for STAT 2500. No additional or more restrictive requirements are proposed.
5. Will College of the North Atlantic MA1670 continue to be recognized for the award of STAT 2550 transfer credit?

Yes. The proposed prerequisite change does not affect existing transfer-credit evaluations. In fact, to our knowledge, MA1670 does not require a course like Calculus I, so the revised prerequisite for STAT 2550 is more consistent with the preparation of students receiving transfer credit for that course. Transfer credit will continue to be awarded subject to the existing transfer-credit evaluation process, including the requirement for appropriate in-person examination procedures.

6. Are there implications if STAT 2500 and STAT 2550 have the same prerequisites?

The common prerequisite structure is intentional. The Department wishes to provide two introductory statistics options that are accessible to the same student population while serving somewhat different educational objectives. Departments and students may choose the course that best aligns with their needs.

7. Should STAT 2500 and STAT 2550 remain credit restricted rather than equivalent?

Yes. The courses overlap sufficiently that students should not receive credit for both courses, which justifies the credit restriction. However, they are not equivalent. STAT 2500 places greater emphasis on data analytics, data visualization, and data science concepts, while STAT 2550 places greater emphasis on traditional statistical methods and inference.

8. Is there a risk that students with less mathematics background will find STAT 2550 more difficult?

We do not expect this to happen. Success in STAT 2550 depends primarily on quantitative reasoning, basic algebraic skills, and statistical thinking rather than on differential calculus. Current and recent instructors have confirmed that Calculus I content is not required for success in the course. In addition, many comparable introductory statistics courses at other universities do not require Calculus I as a prerequisite. The revised prerequisite maintains an appropriate level of quantitative preparation while removing an unnecessary barrier to enrollment.

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):
  - 11.11.2 Major in Physics
  - 11.11.3 Honours in Physics
  - 11.11.6 Major in Ocean Physics
  - 11.11.7 Honours in Ocean Physics
- ☐ 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)
- ☐ General Academic Regulations (Undergraduate)
- ☐ Faculty of: Science
- ☐ School of:
- X Department of: Physics and Physical Oceanography
- ☐ Other:

RATIONALE

Multiple major programs in the Dept of Physics and Physical Oceanography require a first-year computer science course. This requirement is to encourage students to have some background in programming prior to second and third-year Physics courses.

It is a common occurrence for a student to start an Engineering program and then transfer to a Science program such as Physics. Students who have completed ENGI 1020 *Introduction to Programming* will have appropriate experience with programming for our major programs. It is unnecessary for these students to take a similar course to get programing experience.

The proposed amendments will allow students who have credit for ENGI 1020 to use that in place of other first year Computer Science courses. A similar requirement is already available in the Mathematics and Physics Joint programs, and we would be aligning the Physics-only programs with that requirement.

ANTICIPATED EFFECTIVE DATE

Winter 2027

CALENDAR CHANGES

11.11.2 Major in Physics

As a component of the Degree Regulations for the General Degree of Bachelor of Science, a student shall successfully complete the following requirements:

1. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses.
2. Chemistry 1050 and 1051 or (1200 and 1001).
3. Mathematics 1000 and 1001.
4. One of Computer Science 1001, Computer Science 1510, Engineering 1020, or an equivalent course in computer programming.
5. Mathematics 2000, 2050, 2260, and 3202.
6. Physics 1050 (or 1020) and 1051.
7. Physics 2053, 2055, 2750, 2820, 3220, 3400, 3500, 3750, 3820 and 3900.
8. An additional 9 credit hours in physics courses numbered 3000 or higher which shall include at least 6 credit hours selected from the courses numbered 4000 or higher (excluding 490A/B).
9. Forty-two credit hours in applicable elective courses to form a total of 120 credit hours.

Mathematics 1001, 2000 and 2050 are prerequisites to many Physics courses and should be successfully completed by the end of second year. Mathematics 2260 is co-requisite to Physics 3220 and is recommended to be successfully completed before the Winter semester of the third year. Those who intend to make a career in Physics should note that additional Physics courses are strongly recommended and interested students should consult the academic program officer.

11.11.3 Honours in Physics

As a component of the Degree Regulations for the Honours Degree of Bachelor of Science, students shall successfully complete the following requirements:

1. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses.
2. Chemistry 1050 and 1051 (or 1200 and 1001).
3. Mathematics 1000 and 1001.
4. One of Computer Science 1001, Computer Science 1510, Engineering 1020, or an equivalent course in computer programming.
5. Mathematics 2000, 2050, 2260, 3202.
6. Physics 1050 (or 1020) and 1051.
7. Physics 2053, 2055, 2750, 2820, 3220, 3230, 3400, 3500, 3750, 3820, 3900, 4500, 4820, 4850, 490A/B.
8. Physics 3800 or 4900.
9. An additional 12 credit hours in physics courses numbered 3000 or higher which shall include at least 6 credit hours selected from physics courses numbered 4000 or higher. Students are encouraged to consider Physics 3800, 4400 and 4900, and other courses depending on the focus of their thesis research.
10. Eighteen credit hours in applicable elective courses to form a total of 120 credit hours.

Notes:

Certain graduate courses may be taken in the final year of the Honours Program with the permission of the Head of the Department.

Only 6 credit hours at the 1000 level in each of Physics, Chemistry and Mathematics can be used to fulfil the 120 credit hours required for the Honours program. The inclusion of Mathematics 1090 (or 109A/B) or the sequence of Physics 1020, 1021, and 1051 will each increase the number of credit hours required for the Honours Physics program by three.

An Honours thesis is to be presented on work undertaken by the candidate under the guidance of a Department of Physics and Physical Oceanography faculty member. The thesis comprises the 6 credit hour course Physics 490A/B. Students should seek departmental advice regarding a thesis project no later than the winter preceding the semester in which the project will be started.

For specific courses and recommendations about electives, consultation with a faculty advisor in the Department is suggested.

11.11.6 Major in Ocean Physics

As a component of the Degree Regulations for the General Degree of Bachelor of Science, students shall successfully complete the following requirements:

1. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses.
2. Chemistry 1050 and 1051 (or Chemistry 1200 and 1001).
3. Mathematics 1000 and 1001.
4. One of Computer Science 1001, Computer Science 1510, Engineering 1020, or an equivalent course in computer programming.
5. Mathematics 2000, 2050, 2260, and 3202.
6. Physics 1050 (or 1020) and 1051.
7. One of Ocean Sciences 2000, 2100, or 2200.
8. Ocean Sciences 2300 or Physics 2300.
9. Physics 2053, 2055, 2750, 2820, 3220, 3400, 3500, 3820, and 3900.
10. Physics 3300, 3340, and 4300.
11. An additional 3 credit hours in physics courses numbered 3000 or higher. Students are encouraged to consider Physics 3150, 3750, 3800, 4205, or 4340.
12. Thirty-six credit hours in applicable elective courses.

Mathematics 1001, 2000 and 2050 are prerequisites to many Physics courses and should be successfully completed by the end of second year. Note that Mathematics 2260 is co-requisite to Physics 3220 and is recommended to be successfully completed before the Winter term of the third year. Statistics 2550 is a recommended elective. Note that Ocean Sciences 1000 is a prerequisite for Ocean Sciences 2000 and Earth Sciences 1000 is a prerequisite for Ocean Sciences 2200 so that interested students need to consider this if they choose either of these options for clause 7 above.

11.11.7 Honours in Ocean Physics

As a component of the Degree Regulations for the Honours Degree of Bachelor of Science, students shall successfully complete the following requirements:

1. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses.
2. Chemistry 1050 and 1051 (or Chemistry 1200 and 1001).
3. Mathematics 1000 and 1001.
4. One of Computer Science 1001, Computer Science 1510, Engineering 1020, or an equivalent course in computer programming.
5. Mathematics 2000, 2050, 2260, and 3202.
6. One of Ocean Sciences 2000, 2100, or 2200.
7. Physics 1050 (or 1020) and 1051.
8. Physics 2053, 2055, 2750, 2820, 3220, 3230, 3400, 3500, 3750, 3800, 3820, 3900, 4820, and 490A/B.
9. Ocean Sciences 2300 or Physics 2300.
10. Physics 3300, 3340, 4205, 4300, and 4340.
11. Statistics 2550.
12. Twelve credit hours in applicable elective courses.

Certain of the graduate courses may be taken in the final year of the Honours Program with the permission of the Head of the Department.

Only 6 credit hours at the 1000 level in each of Physics, Chemistry and Mathematics can be used to fulfill the 120 credit hours required for the Honours program. The inclusion of Mathematics 1090, or the sequence of Physics 1020, 1021, and 1051, will each increase the number of credit hours required for the Honours Physics program by three.

Ocean Sciences 1000 is a prerequisite for Ocean Sciences 2000 and Earth Sciences 1000 is a prerequisite for Ocean Sciences 2200 so that interested students need to consider this if they choose either of these options for clause 6 above.

An Honours thesis is to be presented on work undertaken by the student under the guidance of a Department of Physics and Physical Oceanography faculty member. The thesis comprises the 6 credit hour course Physics 490A/B. Students should see departmental advice regarding a thesis project no later than the winter preceding the semester in which the project will be started.

For specific courses and recommendations about electives, consultation with a faculty advisor in the Department is suggested.

Not all courses are offered every year. Students should check with the Department prior to registration to plan programs.

CALENDAR ENTRY AFTER CHANGES

11.11.2 Major in Physics

As a component of the Degree Regulations for the General Degree of Bachelor of Science, a student shall successfully complete the following requirements:

1. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses.
2. Chemistry 1050 and 1051 or (1200 and 1001).
3. Mathematics 1000 and 1001.
4. One of Computer Science 1001, Computer Science 1510, Engineering 1020, or an equivalent course in computer programming.
5. Mathematics 2000, 2050, 2260, and 3202.
6. Physics 1050 (or 1020) and 1051.
7. Physics 2053, 2055, 2750, 2820, 3220, 3400, 3500, 3750, 3820 and 3900.
8. An additional 9 credit hours in physics courses numbered 3000 or higher which shall include at least 6 credit hours selected from the courses numbered 4000 or higher (excluding 490A/B).
9. Forty-two credit hours in applicable elective courses to form a total of 120 credit hours.

Mathematics 1001, 2000 and 2050 are prerequisites to many Physics courses and should be successfully completed by the end of second year. Mathematics 2260 is co-requisite to Physics 3220 and is recommended to be successfully completed before the Winter semester of the third year. Those who intend to make a career in Physics should note that additional Physics courses are strongly recommended and interested students should consult the academic program officer.

11.11.3 Honours in Physics

As a component of the Degree Regulations for the Honours Degree of Bachelor of Science, students shall successfully complete the following requirements:

1. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses.
2. Chemistry 1050 and 1051 (or 1200 and 1001).
3. Mathematics 1000 and 1001.
4. One of Computer Science 1001, Computer Science 1510, Engineering 1020, or an equivalent course in computer programming.
5. Mathematics 2000, 2050, 2260, 3202.
6. Physics 1050 (or 1020) and 1051.
7. Physics 2053, 2055, 2750, 2820, 3220, 3230, 3400, 3500, 3750, 3820, 3900, 4500, 4820, 4850, 490A/B.
8. Physics 3800 or 4900.
9. An additional 12 credit hours in physics courses numbered 3000 or higher which shall include at least 6 credit hours selected from physics courses numbered 4000 or higher. Students are encouraged to consider Physics 3800, 4400 and 4900, and other courses depending on the focus of their thesis research.
10. Eighteen credit hours in applicable elective courses to form a total of 120 credit hours.

Notes:

Certain graduate courses may be taken in the final year of the Honours Program with the permission of the Head of the Department.

Only 6 credit hours at the 1000 level in each of Physics, Chemistry and Mathematics can be used to fulfil the 120 credit hours required for the Honours program. The inclusion of Mathematics 1090 (or 109A/B) or the sequence of Physics 1020, 1021, and 1051 will each increase the number of credit hours required for the Honours Physics program by three.

An Honours thesis is to be presented on work undertaken by the candidate under the guidance of a Department of Physics and Physical Oceanography faculty member. The thesis comprises the 6 credit hour course Physics 490A/B. Students should seek departmental advice regarding a thesis project no later than the winter preceding the semester in which the project will be started.

For specific courses and recommendations about electives, consultation with a faculty advisor in the Department is suggested.

11.11.6 Major in Ocean Physics

As a component of the Degree Regulations for the General Degree of Bachelor of Science, students shall successfully complete the following requirements:

1. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses.
2. Chemistry 1050 and 1051 (or Chemistry 1200 and 1001).
3. Mathematics 1000 and 1001.
4. One of Computer Science 1001, Computer Science 1510, Engineering 1020, or an equivalent course in computer programming.
5. Mathematics 2000, 2050, 2260, and 3202.
6. Physics 1050 (or 1020) and 1051.
7. One of Ocean Sciences 2000, 2100, or 2200.
8. Ocean Sciences 2300 or Physics 2300.
9. Physics 2053, 2055, 2750, 2820, 3220, 3400, 3500, 3820, and 3900.
10. Physics 3300, 3340, and 4300.
11. An additional 3 credit hours in physics courses numbered 3000 or higher. Students are encouraged to consider Physics 3150, 3750, 3800, 4205, or 4340.
12. Thirty-six credit hours in applicable elective courses.

Mathematics 1001, 2000 and 2050 are prerequisites to many Physics courses and should be successfully completed by the end of second year. Note that Mathematics 2260 is co-requisite to Physics 3220 and is recommended to be successfully completed before the Winter term of the third year. Statistics 2550 is a recommended elective. Note that Ocean Sciences 1000 is a prerequisite for Ocean Sciences 2000 and Earth Sciences 1000 is a prerequisite for Ocean Sciences 2200 so that interested students need to consider this if they choose either of these options for clause 7 above.

11.11.7 Honours in Ocean Physics

As a component of the Degree Regulations for the Honours Degree of Bachelor of Science, students shall successfully complete the following requirements:

1. Six credit hours in Critical Reading and Writing (CRW) courses, including at least 3 credit hours in English courses.
2. Chemistry 1050 and 1051 (or Chemistry 1200 and 1001).
3. Mathematics 1000 and 1001.
4. One of Computer Science 1001, Computer Science 1510, Engineering 1020, or an equivalent course in computer programming.
5. Mathematics 2000, 2050, 2260, and 3202.
6. One of Ocean Sciences 2000, 2100, or 2200.
7. Physics 1050 (or 1020) and 1051.
8. Physics 2053, 2055, 2750, 2820, 3220, 3230, 3400, 3500, 3750, 3800, 3820, 3900, 4820, and 490A/B.
9. Ocean Sciences 2300 or Physics 2300.
10. Physics 3300, 3340, 4205, 4300, and 4340.
11. Statistics 2550.
12. Twelve credit hours in applicable elective courses.

Certain of the graduate courses may be taken in the final year of the Honours Program with the permission of the Head of the Department.

Only 6 credit hours at the 1000 level in each of Physics, Chemistry and Mathematics can be used to fulfill the 120 credit hours required for the Honours program. The inclusion of Mathematics 1090, or the sequence of Physics 1020, 1021, and 1051, will each increase the number of credit hours required for the Honours Physics program by three.

Ocean Sciences 1000 is a prerequisite for Ocean Sciences 2000 and Earth Sciences 1000 is a prerequisite for Ocean Sciences 2200 so that interested students need to consider this if they choose either of these options for clause 6 above.

An Honours thesis is to be presented on work undertaken by the student under the guidance of a Department of Physics and Physical Oceanography faculty member. The thesis comprises the 6 credit hour course Physics 490A/B. Students should see departmental advice regarding a thesis project no later than the winter preceding the semester in which the project will be started.

For specific courses and recommendations about electives, consultation with a faculty advisor in the Department is suggested.

Not all courses are offered every year. Students should check with the Department prior to registration to plan programs.

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Undergraduate Calendar Change Proposal Form
Appendix Page

CONSULTATIONS SOUGHT	RESPONSE	DATE
Business	Yes/No	
Education	Yes/No	
Engineering	Yes	20May26
Grenfell Campus School of Arts & Social Science	Yes/No	
Human Kinetics and Recreation	Yes/No	
Humanities and Social Sciences	Yes	11 May26
Labrador Institute	Yes/No	
Library	Yes	31Aug26
Marine Institute	Yes/No	
Medicine	Yes	26May26
Music	Yes/No	
Nursing	Yes/No	
Pharmacy	Yes	14May26
Registrar's Office	Yes/No	
Science	Yes/No	
Social Work	Yes/No	
Computer Science	Yes	26May26

LIBRARY REPORT

This is just to confirm that the library has no concerns with the proposal.

RESOURCE IMPLICATIONS

No implications.

Check box as applicable (☑) and *make any comments as necessary.* Use as much space as necessary.	*YES*	*NO*	*N/A*
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)*			
a) Is this a required course?			
b) Is this an elective course?			
c) Will this be taught every year?			
d) Elective course: will it hinder the academic unit's ability to offer its core program?			

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

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.

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

Year 1	Year 2	Year 3	Year 4	Year 5

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	
Independent study	
Flexible	
Blended	
Remote	
Online	

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

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?

Title of Proposal: _____

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:

_____ _____

Name (print) Phone / email

Departmental Head Signature: _____

Consultation Feedback

Sent 11 May 2026

HSS – 11May26

No concerns from HSS. I do note that your anticipated date for the changes to be in effect is Winter 2027. I think that the earliest would be Fall 2028 and meanwhile a blanket waiver would be needed.

P. Dold

Patricia Dold

Associate Dean, Curriculum and Programs

Faculty of Humanities and Social Sciences

Memorial University

Pharmacy – 14May26

Thank you for the opportunity to review the proposed changes to Physics courses. There is no impact on the School of Pharmacy.

Gerona

Engineering – 20May26

Thank you for the opportunity to comment on the proposed Calendar changes to add ENGI 1020 as an alternative prerequisite to the required introductory computer science courses for the major and honours in Physics.

At its meeting on May 20, the Committee on Undergraduate Studies for the Faculty of Engineering and Applied Science expressed support for this proposed addition.

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

Medicine – 26May26

Good afternoon,

Thank you for the opportunity to review the proposed changes. There are no concerns from Medicine.

Tracy

Computer Science – 26May26

This change makes sense to me. We take ENGI 1020 as a substitute for COMP 1001, so no reason why Physics wouldn't accept the same substitution.

Regards,

Cathy Hyde, MSc | Manager of Academic Programs, MSc

This looks like a very good idea. We routinely allow engineers switching to the cs major or minor to substitute ENGI1020 for COMP1001.

Thanks,

Mark

Mark Hatcher
Deputy Head, Undergraduate Studies

Department of Computer Science

Calendar Changes – Computer Science (Master's degree)

The Computer Science Department aims to clearly distinguish between thesis-based and course-based Master's degrees.

In line with the other units (Faculty of Science, Faculty of Engineering), the degree Master of Science will be reserved for the thesis based, research-oriented program. The course-based program will be called now Master of Computer Science.

The proposed Calendar changes do not create new programs. They merely split the existing program (with two options) into two separate programs. (The numbering will have to be adjusted for one of the programs).

The other changes are minor in nature:

- Modification of entrance requirements
    - Adding related areas
    - Second class standing sufficient for Master of Computer Science (Upper Second class for Master of Science)
    - Removing the mention of GRE scores
- Reducing the standard duration of the course-based program to four semesters
- There's no explicit mention of the route change option.
- After completing Work Term courses, students no longer need the remaining 3 credit hours.
- Updated course list for both programs
    - Removal of credit restrictions (the restricted courses have not been offered in years)
    - Renaming COMP 6999 and COMP 7000 to reflect the group nature of COMP 6999.
    - COMP 690A/B (originally offered over two semesters – 1.5 credit hours each semester) is renamed to COMP 690S and offered in a single semester.

Master of Science in Computer Science is a thesis-based program.

32.9 Computer Science

32.9.1 Admission Requirements

Admission into a Master of Science program in Computer Science is restricted to students holding at least a Bachelor degree (major in Computer Science or Computer Engineering) with a minimum average of 75% overall, and/or an Upper Second Class or higher standing. When circumstances warrant, this requirement may be waived on the recommendation of the Head of the Department. Applicants should also refer to the Qualifications for Admission given under the Regulations Governing the Degree of Master of Science within the School of Graduate Studies section of the current Calendar. ~~International applicants are strongly encouraged to submit results of the (general) Graduate Record Examination (GRE) test. Applicants may apply for Option 1 or Option 2.~~

32.9.2 Program of Study~~Programs~~

~~32.9.2.1 Option 1 - Thesis Route~~

1. Students are required to complete a minimum of 15 credit hours in graduate program courses, 9 credit hours which are Computer Science courses as follows: COMP 690S~~A/B~~ and 6 additional credit hours ~~in Computer Science~~ (excluding COMP 611W, COMP 612W, COMP 6999, and COMP 7000).
2. Full-time students are expected to complete their course work within their first year of studies. Part-time students are expected to complete their course work by the end of the ~~seventh~~ sixth semester in their program.
3. Each student is required to submit an acceptable thesis. The thesis project may involve a theoretical investigation and/or the development of an original, practical system. Each student is required to present a tentative outline of the student's proposed research to the Supervisor(s), with a copy to the Department Committee on Graduate Studies, by the end of the student's third semester in the program (sixth semester for part-time students).
4. Within two weeks of submission of a thesis, students are required to present a seminar on the thesis topic, methods employed, and research results.

~~32.9.2.2 Option 2 - Course-based Route~~

~~Students are required to complete a minimum of 30 credit hours in graduate program courses, of which at least 21 credit hours must be in Computer Science, whereas the~~

~~remaining 9 could be Computer Science courses, other courses related to computer science and included in the list of Computer Science approved elective courses maintained by the Graduate Studies Committee, or other courses previously approved by the Graduate Studies Committee, or its Chair.~~

32.9.3 ~~Other Regulations~~Degree Completion

~~32.9.3.1 Degree Completion~~

1. Full-time students are expected to complete all program requirements in two years. Part-time students are expected to complete all program requirements in four years. ~~Each work-term extends these periods by one semester.~~
2. Students must obtain a grade of at least 65% in all program courses to receive credit for the course towards their program requirements. Any student who fails to receive 65% or more in a course must repeat the course (in the case of ~~core courses~~COMP 690S) or must either repeat or replace the course with another program course ~~in the case of elective courses~~. Any student who receives a grade of less than 65% in two courses or in a repeated course will be required to withdraw from the program.
3. Students taking COMP 690~~SA/690B~~ are required to present ~~one~~ a seminar in the course~~in each of these two courses~~ to obtain course credit.

~~32.9.3.2 Route Change~~

~~1. Students from either Option 1 - Thesis Route or Option 2 - Course-based Route may request to transfer to a different route once during their studies, after completing 4 courses (12 credit hours) in their original program upon admission to the School of Graduate Studies at this University.~~

~~32.9.3.3 The Co-operative Education Work Term Guidelines~~

~~1. The work term courses (COMP 611W and COMP 612W) provide course-based students with a work-integrated learning opportunity to develop practical skills and to earn three credit hours toward their degree requirements for each of these courses.~~

~~2. Students can complete one full-time continuous paid work term with a single employer for four months (COMP 611W) or eight months (COMP 611W and COMP 612W).~~

~~3. Access to work term courses is limited, competitive, and selective. Students are informed of procedures to request access and deadlines by the Department of Computer Science.~~

4. The primary criteria used in evaluating requests to participate in work term courses is academic performance in Memorial University graduate courses, relevant experience, and motivation. Students may be required to participate in an interview as part of the selection process.

5. Students must have completed 12 credit hours of program courses prior to the start of the work term. Students must have 3 credit hours of program courses remaining after the work term.

6. The work term search takes place throughout the semester prior to the start of the intended work term.

7. Students are ultimately responsible for securing the work term and placement is not guaranteed. Academic Staff Member(s) in Co-operative Education provide support for the job search and inform students of potential job opportunities.

8. COMP 611W and COMP 612W will be supervised by the student's workplace supervisor and an Academic Staff Member in Co-operative Education, who is also responsible for overall evaluation.

32.9.4 Courses

A selection of the following graduate courses will be offered to meet the requirements of students, as far as the resources of the Department will allow. Normally, students will be expected to complete their course work during the Fall and Winter semesters.

- 611W Work Term I
- 612W Work Term II
- 690SA/B Research Methods in Computer Science
- 6758-6769 Special Topics in Computer Applications
- 67706700-6790 Special Topics in Computer Science
- 6901 Applied Algorithms *(credit restricted with 6783)*
- 6902 Computational Complexity *(credit restricted with 6743)*
- 6903 Concurrent Computing
- 6904 Advanced Computer Architecture *(credit restricted with 6722)* - inactive course.
- 6905 Software Engineering *(credit restricted with 6713)*

- 6906 Numerical Methods ~~*(credit restricted with 6731)*~~
- 6907 Data Mining Techniques and Methodologies ~~*(credit restricted with 6762)*~~
- 6908 Database Technology and Applications ~~*(credit restricted with 6751)*~~
- 6909 Fundamentals of Computer Graphics ~~*(credit restricted with 6752)*~~
- 6910 Services Computing, Semantic Web and Cloud Computing
- 6911 Bio-inspired Computing - inactive course.
- 6912 Autonomous Robotics ~~*(credit restricted with 6778)*~~
- 6913 Bioinformatics - inactive course.
- 6914 3D Modelling and Rendering - inactive course.
- 6915 Machine Learning
- 6916 Security and Privacy
- 6918 Digital Image Processing ~~*(credit restricted with 6756)*~~ - inactive course.
- 6921 Syntax and Semantics of Programming Languages ~~*(credit restricted with 6711)*~~ - inactive course.
- 6922 Compiling Methods ~~*(credit restricted with 6712)*~~ - inactive course.
- 6924 Formal Grammars, Automata and Languages - inactive course.
- 6925 Advanced Operating Systems - inactive course.
- 6926 Performance Evaluation of Computer Systems ~~*(credit restricted with 6726)*~~ - inactive course.
- 6928 Knowledge-Based Systems ~~*(credit restricted with 6755)*~~
- 6929 Advanced Computational Geometry ~~*(credit restricted with 6745)*~~ - inactive course.
- 6930 Theory of Databases ~~*(credit restricted with 6742)*~~ - inactive course.
- 6931 Matrix Computations and Applications *(credit restricted with ~~6732 and~~ CMSC 6910)*
- 6932 Matrix Computations in Control ~~*(credit restricted with 6738)*~~ - inactive course.

- 6933 Nonlinear and Linear Optimization *(cross-listed with MATH 6202)* - inactive course.
- 6934 Introduction to Data Visualization ~~*(credit restricted with 6774)*~~
- 6980 Algorithmic Techniques in Artificial Intelligence
- 6981 Data Preparation Techniques
- 6982 Computer Vision *(credit may be obtained for only one of 4301, 6982, ECE 8410, and ENGI 9805)*
- 6983 Advanced Interaction Techniques
- 6984 Future Networks and Applications of Machine Learning
- ~~6985-6998 Special Topics in Computer Science~~
- ~~6999 Master's Project I~~
- ~~7000 Master's Project II~~

Master of Computer Science is a course-based program.

32.9 Master of Computer Science

32.9.1 Admission Requirements

Admission into a Master of ~~Science program in~~ Computer Science program is restricted to students holding at least a Bachelor degree (major in Computer Science or Computer Engineering or a related area such as Data Science, Scientific Computing, Bioinformatics, or Computational Chemistry) with a minimum average of 75% overall, and/or ~~an Uppera~~ Second Class or higher standing. When circumstances warrant, this requirement may be waived on the recommendation of the Head of the Department. Applicants should also refer to the Qualifications for Admission given under the Regulations Governing the Degree of Master of Science within the School of Graduate Studies section of the current Calendar. ~~International applicants are strongly encouraged to submit results of the (general) Graduate Record Examination (GRE) test. Applicants may apply for Option 1 or Option 2.~~

32.9.2 Program of Study~~Programs~~

~~32.9.2.1 Option 1 - Thesis Route~~

1. ~~Students are required to complete a minimum of 15 credit hours in graduate program courses, 9 credit hours which are Computer Science courses as follows: COMP 690A/B and 6 additional credit hours in Computer Science (excluding COMP 611W, COMP 612W, COMP 6999, and COMP 7000).~~
2. ~~Full-time students are expected to complete their course work within their first year of studies. Part-time students are expected to complete their course work by the end of the seventh semester in their program.~~
3. ~~Each student is required to submit an acceptable thesis. The thesis project may involve a theoretical investigation and/or the development of an original, practical system. Each student is required to present a tentative outline of the student's proposed research to the Supervisor, with a copy to the Department Committee on Graduate Studies, by the end of the student's third semester in the program (sixth semester for part-time students).~~
4. ~~Within two weeks of submission of a thesis, students are required to present a seminar on the thesis topic, methods employed, and research results.~~

~~32.9.2.2 Option 2 - Course-based Route~~

Students are required to complete a minimum of 30 credit hours in graduate program courses, of which at least 21 credit hours must be in Computer Science~~,~~, whereas the remaining 9 credit hours could be Computer Science courses~~,~~ or other courses to be selected from a list of approved elective courses maintained by the Computer Science Graduate Studies Committee, or other courses previously approved by the Computer Science Department Head. ~~other courses related to computer science and included in the list of Computer Science approved elective courses maintained by the Graduate Studies Committee, or other courses previously approved by the Graduate Studies Committee, or its Chair.~~

32.9.3 ~~Other Regulations~~Degree Completion

~~32.9.3.1 Degree Completion~~

1. Full-time students are expected to complete all program requirements in ~~two years~~four semesters. Part-time students are expected to complete all program requirements in ~~four years~~eight semesters. Each work-term extends these periods by one semester.
2. Students must obtain a grade of at least 65% in all program courses to receive credit for the course towards their program requirements. Any student who fails to receive 65% or more in a course ~~must repeat the course in the case of core courses or~~ must either repeat or replace the course with another program course ~~in the case of elective courses~~. Any student who receives a grade of less than 65% in two courses or in a repeated course will be required to withdraw from the program.
3. ~~Students taking COMP 690A/690B are required to present one seminar in each of these two courses to obtain course credit.~~

~~32.9.3.2 Route Change~~

1. ~~Students from either Option 1 - Thesis Route or Option 2 - Course-based Route may request to transfer to a different route once during their studies, after completing 4 courses (12 credit hours) in their original program upon admission to the School of Graduate Studies at this University.~~

32.9.3.3 The Co-operative Education Work Term Guidelines

1. The work term courses (COMP 611W and COMP 612W) provide course-based students with a work-integrated learning opportunity to develop practical skills and to earn three credit hours toward their degree requirements for each of these courses.

2. Students can complete one full-time continuous paid work term with a single employer for four months (COMP 611W) or eight months (COMP 611W and COMP 612W).
3. Access to work term courses is limited, competitive, and selective. Students are informed of procedures to request access and deadlines by the Department of Computer Science.
4. The primary criteria used in evaluating requests to participate in work term courses is academic performance in Memorial University graduate courses, relevant experience, and motivation. Students may be required to participate in an interview as part of the selection process.
5. Students must have completed 12 credit hours of program courses prior to the start of the work term. ~~Students must have 3 credit hours of program courses remaining after the work term.~~ Students are recommended to have 3 credit hours of program courses remaining after the work term.
6. The work term search takes place throughout the semester prior to the start of the intended work term.
7. Students are ultimately responsible for securing the work term and placement is not guaranteed. Academic Staff Member(s) in Co-operative Education provide support for the job search and inform students of potential job opportunities.
8. COMP 611W and COMP 612W will be supervised by the student's workplace supervisor and an Academic Staff Member in Co-operative Education, who is also responsible for overall evaluation.

32.9.4 Courses

A selection of the following graduate courses will be offered to meet the requirements of students, as far as the resources of the Department will allow. ~~Normally, students will be expected to complete their course work during the Fall and Winter semesters.~~

- 611W Work Term I
- 612W Work Term II
- ~~690A/B Research Methods in Computer Science~~
- ~~6758-6769 Special Topics in Computer Applications~~
- ~~6770~~6700-6790 Special Topics in Computer Science

- 6901 Applied Algorithms ~~*(credit restricted with 6783)*~~
- 6902 Computational Complexity ~~*(credit restricted with 6743)*~~
- 6903 Concurrent Computing
- 6904 Advanced Computer Architecture ~~*(credit restricted with 6722)*~~ - inactive course.
- 6905 Software Engineering ~~*(credit restricted with 6713)*~~
- 6906 Numerical Methods ~~*(credit restricted with 6731)*~~
- 6907 Data Mining Techniques and Methodologies ~~*(credit restricted with 6762)*~~
- 6908 Database Technology and Applications ~~*(credit restricted with 6751)*~~
- 6909 Fundamentals of Computer Graphics ~~*(credit restricted with 6752)*~~
- 6910 Services Computing, Semantic Web and Cloud Computing
- 6911 Bio-inspired Computing - inactive course.
- 6912 Autonomous Robotics ~~*(credit restricted with 6778)*~~
- 6913 Bioinformatics - inactive course.
- 6914 3D Modelling and Rendering - inactive course.
- 6915 Machine Learning
- 6916 Security and Privacy
- 6918 Digital Image Processing ~~*(credit restricted with 6756)*~~ - inactive course.
- 6921 Syntax and Semantics of Programming Languages ~~*(credit restricted with 6711)*~~ - inactive course.
- 6922 Compiling Methods ~~*(credit restricted with 6712)*~~ - inactive course.
- 6924 Formal Grammars, Automata and Languages - inactive course.
- 6925 Advanced Operating Systems - inactive course.
- 6926 Performance Evaluation of Computer Systems ~~*(credit restricted with 6726)*~~ - inactive course.
- 6928 Knowledge-Based Systems ~~*(credit restricted with 6755)*~~

- 6929 Advanced Computational Geometry ~~*(credit restricted with 6745)*~~ - inactive course.
- 6930 Theory of Databases ~~*(credit restricted with 6742)*~~ - inactive course.
- 6931 Matrix Computations and Applications *(credit restricted with ~~6732 and~~ CMSC 6910)*
- 6932 Matrix Computations in Control ~~*(credit restricted with 6738)*~~ - inactive course.
- 6933 Nonlinear and Linear Optimization *(cross-listed with MATH 6202)* - inactive course.
- 6934 Introduction to Data Visualization ~~*(credit restricted with 6774)*~~
- COMP 6936 Advanced Machine Learning
- 6980 Algorithmic Techniques in Artificial Intelligence
- 6981 Data Preparation Techniques
- 6982 Computer Vision *(credit may be obtained for only one of 4301, 6982, ECE 8410, and ENGI 9805)*
- 6983 Advanced Interaction Techniques
- 6984 Future Networks and Applications of Machine Learning
- ~~6985-6998 Special Topics in Computer Science~~
- 6999 ~~Master's~~ Capstone Project ~~I~~
- 7000 Master's Project ~~II~~