MEMORIAL UNIVERSITY OF NEWFOUNDLAND
SENATE

The regular meeting of Senate was held on November 13, 2018, at 4:00 p.m. in the Lecture Theatre in the Physical Education Building, Room 2001.

23. PRESENT

The President, Dr. N. Golfman (via Blue Jeans), Dr. N. Bose, Mr. G. Blackwood, Dr. J. Keshen (via videoconferencing), Dr. M. Abrahams, Dr. K. Anderson, Dr. S. Bugden, Ms. S. Cleyle, Dr. I. Dostaler, Ms. C. Ennis-Williams, Dr. A. Gaudine, Dr. D. Hardy-Cox, Dr. T. Hennessey (via videoconferencing), Dr. G. Naterer, Mr. T. Nault, Dr. M. Piercey-Normore (via videoconferencing), Dr. L. Robinson (via video-conferencing), Dr. L. Rohr, Dr. A. Craig (for Dr. J. Simpson), Dr. M. Steele, Dr. D. Farquharson (for Dr. A. Surprenant), Dr. T. Adey, Dr. E. Bezzina (via videoconferencing), Dr. J. Blundell, Mr. P. Brett, Mr. C. Couturier, Dr. N. Daneshtalab, Professor A. Fisher, Dr. G. George, Dr. E. Haven, Mr. D. Howse, Dr. E. Kendall, Dr. F. Kerton, Dr. K. Korneski, Dr. M. Marshall, Dr. S. Matthews, Dr. S. McConnell, Dr. J. Munroe, Dr. W. Okshevsky, Dr. K. Parsons, Ms. H. Pretty, Dr. A. Rose, Dr. A. Sankar, Dr. K. Simonsen, Dr. K. Snelgrove, Mr. M. Waller (via videoconferencing), Dr. R. Whitaker, Mr. A. Alkasasbeh.

Chair of the Senate Committee on Undergraduate Studies (Standing Invitation)

Ms. Jennifer Porter (for Dr. Shannon Sullivan)

The President welcomed all Senators to this meeting of Senate.

Land acknowledgement:

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

The President noted that Dr. Golfman was joining Senate by Blue Jeans.

Welcome:

Attending by Invitation for the Memorial University Faculty of Law Proposal

Justice Alphonsus Faour

New Senator

Ms. Alison Ambi - Library

The President noted that it would be appreciated if when you speak you use the microphone and introduce yourself and your constituency as Grenfell Campus Senators are joining by videoconferencing and otherwise will not be able to hear.

24. APOLOGIES FOR ABSENCE

Apologies were received from Dr. R. Haynes, Dr. S. MacDonald, Ms. H. Skanes, Dr. M. Woods.

25. MINUTES

It was moved by Dr. George, seconded by Dr. Okshevsky and carried that the Minutes of the regular meeting held on October 9, 2018, be taken as read and confirmed.

CONSENT AGENDA

It was moved by Dr. George, seconded by Professor Fisher and carried that the consent agenda, comprising the items listed in 26-28 below, be approved as follows.

26. Report of the Senate Committee on Undergraduate Studies

26.1 Senate Committee on Undergraduate Studies (Awarding of Transfer Credit)

Page 42, 2018-2019 Calendar, under the heading 4.4 Transfer Credit, amend the section as follows:

"**4.4 Transfer Credit**

Applicants wishing to be considered for advanced standing or transfer credit must submit, in addition to the Application for Admission/Readmission, an Application for Transfer Credit Evaluation which can be obtained online or in-person from the Office of the Registrar. Official transcript(s) and calendar descriptions and/or outlines of courses claimed for credit are also required and should be sent directly to Memorial University of Newfoundland from the institution attended.

In order to allow sufficient time for evaluation, these documents should be received at least two months prior to the commencement of the registration period for the semester to which the applicant is seeking admission. It is the student's responsibility to provide the pertinent

Senate Committee on Undergraduate Studies (Awarding of Transfer Credit) (cont'd)

documents, and until they are received, the Office of the Registrar is unable to commence an evaluation or to advise students of their standing at this University. The award of transfer credit is subject to the following regulations:

- When transfer credit is awarded for work completed at another institution, only equivalent Memorial University of Newfoundland course(s) and credit(s) are recorded on the Memorial University of Newfoundland transcript. Grades received from other institutions are not recorded nor included in averages.
- Applicants who have not received the results of a transfer credit evaluation prior to the assigned registration time for the semester in which they propose to begin studies should contact the Admissions Office for further assistance.
- Memorial University of Newfoundland will consider for transfer credit courses for which credit has been granted through a Prior Learning Assessment and Recognition process by another recognized university or college.
- Award of credit will be subject to **University Regulations** and evaluation and recommendation by the appropriate academic unit(s).
- Due to its specific or unique nature a course (e.g. capstone or clinical course) may be identified as being exempt from the transfer credit review process.
- A minimum grade may, in some circumstances, be required by a faculty/school in order to award transfer credit.
- The applicability of all transfer credits, whether specified or unspecified, is subject to appropriate program regulations.
- Information regarding course equivalencies can be obtained from the Admissions Office, Office of the Registrar.

Outlined below are the various categories for which transfer credit may be considered."

Page 236, 208-2019 Calendar, under the heading 5.3.3 Transfer Applicants, amend the section as follows:

"**5.3.3 Transfer Applicants**

- Applicants seeking admission through transfer from accredited post-secondary institutions must have achieved a minimum overall average of 60% to be considered for admission.
- A student's placement within a program, and requirements needed to complete the program, will be determined on an individual basis at the

Senate Committee on Undergraduate Studies (Awarding of Transfer Credit) (cont'd)

time of admission. No applicant will be granted placement beyond Academic Term 4.

- Transfer applicants must request that an official transcript showing any completed courses and current registrations be forwarded to the Office of the Registrar. Final transcripts must be submitted upon receipt of final grades.
- A minimum grade of 60% (or equivalent) is required in an equivalent course taken at an institution other than Memorial University in order to be considered for transfer credit for any HKR course.
- Transfer credit cannot be awarded for the following courses: HKR 3110, HKR 399W, HKR 4605, HKR 4610, HKR 4785, HKR 499W."

Page 402, 2018-2019 Calendar, under the heading 5.1 General Information, amend the section as follows:

"5.1 General Information

1. Entry to the School of Music is competitive and by audition only.
2. Admission or readmission to the University does not necessarily constitute admission or readmission to any program.
3. As part of the regular admissions quota, one seat per year is available in the Bachelor of Music program for applicants of First Nations/Aboriginal ancestry who have met the minimum academic and performance requirements for admission to the program. Applicants must provide documentation of First Nations/Aboriginal ancestry. Applicants may also, if they wish, submit a letter of request at the time of application.
4. A minimum grade of 65% is required for transfer credit to be given towards a student`s Music degree program for any course taken at an institution other than Memorial University. Transfer credit cannot be awarded for Principal Applied Music courses: these include Music 140A/B, Music 240A/B, Music 340A/B, Music 345A/B, Music 440A/B, and Music 445A/B."

Page 188, 2018-2019 Calendar, under the heading 7.4 School of Science and the Environment, add a new regulation 7.4.1 General Information as follows:

"**7.4.1 General Information**

Transfer credit cannot be awarded for the following courses:

ENSU 2200, 2201, 4950, 4960
ENVS 4000, 4950, 4951, 4959

Senate Committee on Undergraduate Studies (Awarding of Transfer Credit) (cont'd)

MATH 4950
PHYS 4100, 4880, 4950
SC 4000, 4950"

Page 185, 2018-2019 Calendar, under the heading 7.3 School of Fine Arts, add a new regulation 7.3.1 General Information as follows:

"**7.3.1 General Information**

Transfer credit cannot be awarded for the following courses:

VART 4800, 4801, 4950, 4951
THEA 4001, 4010, 4020, 4060, 4070, 4080, 4090"

Page 171, 2018-2019 Calendar, under the heading 7.2 School of Arts and Social Science, add a new regulation 7.2.1 General Information as follows:

"**7.2.1 General Information**

Transfer credit cannot be awarded for the following courses:

ENGL 4950
HIST 4950
HUMN 4950
PSYG 4950, 4951, 4959
SCCU 4000, 4100, 4950"

27. Senate Committee on Elections and Committees

27.1 Name for Membership on Senate Standing Committee (Information Only)

The Senate Committee on Senate Elections and Committees approved the following membership on a Senate Standing Committee for a term commencing immediately and expiring August 31, 2020:

Committee on Course Evaluation
Mary Furey (Business Administration)

27.2 Names for Membership on Senate Standing Committees (Information Only) – MUNSU and MISU Student Representatives

The Senate Committee on Senate Elections and Committees approved the following membership on Senate Standing Committees for a term commencing immediately and expiring April 30, 2019:

Names for Membership on Senate Standing Committees (Information Only) – MUNSU and MISU Student Representatives (cont'd)

Committee on Academic Appeals
Bailey Howard (MUNSU student representative)

University Planning and Budget Committee
Kristine Penney (MISU student representative)

Committee on Course Evaluation
Jennifer Roche (MISU student representative)

Committee on Elections and Committees
Clara Doane (MISU student representative)

Committee on Honorary Degrees and Ceremonial
Deanne Whelan (MISU student representative)

Executive Committee of Senate
Orion Batten (MISU student representative)

27.3 Names for Membership on Senate Standing Committees (Information Only)

The Senate Committee on Senate Elections and Committees approved the following membership on Senate Standing Committees for a term commencing immediately and expiring August 31, 2021:

Teaching and Learning Committee
Sadia Jahanzeb (Grenfell - School of Arts and Social Sciences [Business])
Jennifer Buckle (Grenfell - School of Arts and Social Sciences [Psychology])
Danny Dyer (Mathematics and Statistics)
Becky Smith (Library)

Committee on Undergraduate Studies
Kirby Shannahan (Business Administration)
Darrell Wells (Marine Institute - School of Ocean Technology)

Planning and Budget Committee
Kirk Anderson (Education)

Ad hoc Committees
Cathy Vardy (Medicine)

27.4 Names for Membership on Senate Standing Committees (Information Only) – GCSU Student Representatives

The Senate Committee on Senate Elections and Committees approved the following membership on Senate Standing Committees for a term commencing immediately and expiring April 30, 2019:

University Planning and Budget Committee
Nicole Falle (GCSU student representative)

Academic Unit Planning Committee
Nicole Falle (GCSU student representative)

Committee on Academic Appeals
Matthew Howse (GCSU student representative)

Committee on Course Evaluation
Mary Feltham (GCSU student representative)

Committee on Elections and Committees
Tiffany Roberts (GCSU student representative)

Committee on Honorary Degrees and Ceremonial
Mary Feltham (GCSU student representative)

Committee on Research
Kryston Munnings (GCSU student representative)

Committee on Undergraduate Scholarships, Bursaries and Awards
Hannah Jenkins (GCSU student representative)

Executive Committee of Senate
Matthew Howse (GCSU student representative)

Teaching and Learning Committee
Lucia Ibarra Torres (GCSU student representative)

Grenfell Campus Committee on Special Admissions
Alberto Nunez Teijeiro (GCSU student representative)

28. Annual Senate Committee Reports to Senate

Annual Reports to Senate were received from the following Senate Committees:

- Senate Committee on Undergraduate Studies
- Grenfell Campus Committee on Special Admissions
- Senate Committee on Academic Appeals

Annual Senate Committee Reports to Senate (cont'd)

- Senate Committee on Research
- Senate Committee on Course Evaluation
- University Committee on Admissions
- Planning and Budget Committee

REGULAR AGENDA

29. Report of the Senate Committee on Undergraduate Studies

29.1 School of Science and the Environment – Core Program Requirements

Page 188, 2018-2019 Calendar, under the heading 7.4 School of Science and the Environment, amend the numbering and add a new subsection as follows:

"**7.3~~7.4~~ School of Science and the Environment**

7.3.1 Core Program Requirements

Students completing the Bachelor of Environment and Sustainability or Bachelor of Science degree programs offered by the School of Science and the Environment must complete at least 120 credit hours, including 24 credit hours to meet the requirements outlined below.

(a) One of:

i. six credit hours in English courses;

ii. three credit hours in English and three credit hours in another language;

iii. six credit hours in Critical Reading and Writing (CRW) courses, including at least three credit hours in English courses.

(b) Six credit hours in Mathematics or Statistics courses.

(c) Six credit hours in courses drawn from the following: Biochemistry, Biology, Chemistry, Computer Science, Earth Sciences, Environmental Science, Ocean Sciences or Physics.

(d) Six credit hours in courses drawn from the following: Economics, Environment and Sustainability, Geography or Political Science.

7.3.1.1 Notes

1. The same course cannot be used to meet more than one of requirements (a) to (d).

2. Critical Reading and Writing (CRW) courses are regulated by the Faculty of Humanities and Social Sciences, St. John's campus. Full details, along with a list of eligible courses, can be found in this Calendar under **Faculty of Humanities and Social Sciences**."

Page 169, 2018-2019, from 7 Program Regulations – General and Honours Degrees, transfer section 7.1 Grenfell Campus Core Program

School of Science and the Environment – Core Program Requirements (cont'd)

Requirements to a subsection of 7.1~~7.2~~School of Arts and Social Science, as subsection 7.1.1 Core Program Requirements, as follows:

"7.1.1 Core Program Requirements
Students completing the Bachelor of Arts~~, Bachelor of Environment and Sustainability, and~~ or Bachelor of Science degree programs ~~at Grenfell Campus~~ offered by the School of Arts and Social Science must complete the requirements as outlined below under **Breadth of Knowledge Requirement**, **Literacy Requirement**, and **Quantitative Reasoning and Analysis Requirement**.

7.1.1.1 Breadth of Knowledge Requirement
Six credit hours from each of the three groups identified below for a total of 18 credit hours. The courses chosen can be any courses within the disciplines identified. However, students are not permitted to use these courses to meet the Quantitative Reasoning and Analysis requirement nor the first-year English requirements.

7.1.1.1.1 Breadth of Knowledge Requirement - Group A
Art History, Classics, English, History, Humanities, Languages, Philosophy, Religious Studies, Theatre, Visual Arts

7.1.1.1.2 Breadth of Knowledge Requirement - Group B
Anthropology, Business, Economics, Education, Environment and Sustainability, Folklore, Gender Studies, Geography, Human Kinetics and Recreation, Political Science, Psychology, Sociology, Tourism Studies

7.1.1.1.3 Breadth of Knowledge Requirement - Group C
~~Biology,~~ Biochemistry, Biology, Chemistry, Computer Science, Earth Sciences, Environmental Science, Mathematics, Physics, Science

7.1.1.2 Literacy Requirement
Thirty credit hours in Writing courses which must include 6 credit hours in first-year English. Up to 6 credit hours in languages other than English may be used to satisfy the literacy requirement. Courses in this group are identified with the designation W and are listed in **Table 1 Designated Writing Courses (W)**.

Courses in this category must either be completed through on-campus offerings at Grenfell Campus or be demonstrated to be equivalent to Grenfell writing courses.

School of Science and the Environment – Core Program Requirements (cont'd)

7.1.1.3 Quantitative Reasoning and Analysis Requirement

Six credit hours in Quantitative Reasoning and Analysis courses. Courses in this group are identified with the designation QRA and are listed in **Table 2 Designated Quantitative Reasoning and Analysis Courses (QRA)**.

7.1.1.4 Designated Writing Courses (W)

Courses will be designated Writing courses by the ~~Academic Studies Committee~~ Committee on Academic Programming. A Writing course is a course in which a minimum of 30 percent of the course grade involves a specific component consisting of written work on which students will receive feedback. For the purpose of this regulation, the final examination will not be counted as part of the evaluated Writing component.

Table 1 Designated Writing Courses (W)

Anthropology: 2230, 2240, 2300, 2412, 2414, 2500, 3080, 3083, 3140, 3314, 3520, 3525, 4072, 4440	~~Human Kinetics and Recreation: 2300, 3330, 3340, 3350, 3410~~
Biology: 2040, 2041, 2122, 2600	Humanities: 1001, 1002, 2000, 2001, 2002, 2010, 3001, 3002, 3010, 3020, 3021, 4001, 4010, 4950
Business: 2020, 3010, 3600, 4010, 4080, 5010, 5020, 5030, 5040, 5050	Mathematics: 2130~~, 4950~~
~~Chemistry: 2210~~	Philosophy: 1002 or the former 1200, 1005 or the former 1000 or the former 1600, 2020 or the former 2220, 2030 or the former 2210, 2040 or the former 2230, 2100 or the former 2551, 2130 or the former 2561, 2140 or the former 2582, 2201 or the former 2701, 2215 or the former 2702, 2340 or the former 2581, 2360 or the former 3620, 3010 or the former 3730, 3220 or the former 3830, 3230 or the former 3850, 3310 or the former 3860, 3400, 3430 or the former 3940, 3450 or the former 3120, 3460 or the former 3150, 3610, 4000 or the former 4250, 4005 or the former 4200
Classics: 1100, 1120, 1121, 1200, 2010, 2015, 2020, 2035, 2040, 2055, the former 2060, 2701, 2800, 2801, 3010, 3020, 3110, 3111, 3130	~~Physics: 4100, 4950~~
~~Earth Sciences: 2914, 2915~~	Political Science: 1010, 1020, 2200, 2600, 3351 or the former 3550, 3631 or the former 3731
Economics: 3085	Psychology: 4910, 4925, 4950, 4951, 4959
English: All English courses listed with the Grenfell Campus English Program and English 2010	Religious Studies: 1000, 2013, 2050, 2051, 2610, 2830, 3010, 3020, 3200, 3401, 3500, 3820, 3831, 3840, 3880
Environmental Science: 1000, 2370, ~~2371,~~ 3131, ~~3210, 3211, 3260, 4000, 4133, 4950, 4951, 4959~~	~~Science: 3000, 3001, 4000, 4950, 4951, 4959~~
Environment and Sustainability: 4201~~, 4950, 4960~~	Social/Cultural Studies: 4000, 4100, 4950
Folklore: 1000, 1050, 2100, 2230, 2300, 2401, 2500, 2600, 3130, 3200, 3300, 3606, 4440	Sociology: 2100, 2120, 2230, 2240, 2610, 3140, 3150, 3160, 3290, 3314, 3395, 4072
French: 2100, 2101, 2601, 2602, 3100, 3101	Theatre: 1000, 1001

Gender Studies: 2001	Tourism: 1100, 2000, 3240, 3800, 4010, 4950
Geography: 2001, 2302	Visual Arts: 2700, 2701, 3620, 3700, 3701, 3702-3721, 3820, 4700-4729, 4730, 4731, 4740, 4741
History: All History courses listed with the Grenfell Campus Historical Studies Program	University: 1010

7.1.1.5 Designated Quantitative Reasoning and Analysis Courses (QRA)

Courses will be designated Quantitative Reasoning and Analysis by the ~~Academic Studies Committee~~ Committee on Academic Programming. The Quantitative Reasoning and Analysis (QRA) Requirement is intended to help students develop a degree of appreciation of numerical, statistical and/or symbolic modes of representation, as well as an appreciation of the analysis, interpretation and broader quantitative application of such representations.

Table 2 Designated Quantitative Reasoning and Analysis Courses (QRA)

Biochemistry 1430	Environment and Sustainability 2000, 2001, 3001, 3101, 4100
Biology 2250, 2600	Geography 3222
Business: 2100, 2110, 3100, 3110, 3120, 3500, 3510, 4120	Mathematics (All courses)
Chemistry (All courses with the exception of Chemistry 1900)	Philosophy 2030 or the former 2210, 2031 or the former 2211
Computer Science (All courses)	Physics (All courses)
Earth Sciences 2150	Psychology 2925, 2950, 3950
Economics 1010 (or the former 2010), 1020 (or the former 2020), 3150	Sociology 3040
Environmental Science (All courses with the exception of: 1000, 2360, 2370, 2371, 3072 and 4000)	Statistics (All courses)

Page 163, 2018-2019 Calendar, under the heading 5.1.7 Science Degree, amend the section as follows:

"**5.1.7 Science Degree**

Bachelor of Science degree programs are offered under the School of Arts and Social Science and the School of Science and the Environment.

The School of Science and the Environment offers the Bachelor of Science with Majors in **Computational Mathematics**, **Environmental Science** (Biology or Chemistry), **General Science**, and **Physics** general degrees. The School of Arts and Social Science offers the Bachelor of Science with Major in **Psychology**, which follows the regulations of that School.

The Bachelor of Science is a four-year program comprised of 40 courses, 120 credit hours and may be completed on a full or part-time basis. Students must complete a minimum of 120 credit hours made up of Core

School of Science and the Environment – Core Program Requirements (cont'd)

Program Requirements, an approved concentration of courses known as a Major, ~~an approved concentration of courses known as a Minor,~~ and elective courses. Students may also choose to complete an approved concentration of courses known as a Minor as part of the 120 credit hours. ~~A Minor is not required for Interdisciplinary programs or for Bachelor of Science in Computational Mathematics, Physics, or Psychology. However, students in such programs may choose to complete a Minor. A student may not use the same course to satisfy the requirements for both a Major and a Minor with the exception of Computational Mathematics. The program is available in the following five majors: Computational Mathematics, Environmental Science (Biology or Chemistry), General Science, Physics, and Psychology.~~

~~Elective courses to make up the total of 120 credit hours, other than those required for the core program and Major/Minor requirements, may be chosen according to the following guidelines: any courses in arts, social science, science and fine arts, and up to 15 credit hours in other subject areas.~~

An Articulation Agreement with the College of the North Atlantic is in place for students who have completed the three-year Environmental Technology diploma program and who wish to complete the Bachelor of Science with Major in Environmental Science degree program at Grenfell Campus. For specific admission and program requirements see **Admission/Readmission Regulations for Programs Offered by the School of Science and the Environment** and **Program Regulations - General and Honours Degree, School of Science and the Environment**."

Page 171, 2018-2019 Calendar, under the heading 7.2 School of Arts and Social Science, amend the section as follows:

"7.1~~7.2~~ School of Arts and Social Science

www.grenfell.mun.ca/school-of-arts-and-social-science

The School of Arts and Social Science offers the Bachelor of Arts Degree with majors in English Language and Literature, Historical Studies, Humanities, Psychology, and Social/Cultural Studies~~, and Tourism Studies~~. A Bachelor of Business Administration and a Bachelor of Science with Major in Psychology are also available. Minors are available in Business, Canadian Studies, Classics, English, Folklore, French, Historical Studies, Humanities, Philosophy, Psychology, ~~and~~ Religious Studies, Social/Cultural Studies, Sociology, and Tourism Studies and are outlined under ~~**Table 23**~~ **Table 21 Minor Programs**

School of Science and the Environment – Core Program Requirements (cont'd)

Offered by the School of Arts and Social Science. Students may choose the minor from ~~**Table 23**~~ **Table 21 Minor Programs Offered by the School of Arts and Social Science**, or from **Table 5 Minor Program Offered by the School of Fine Arts**, or from **Table 11 Minor Programs Offered by the School of Science and the Environment**. An **Intensive English Program (IEP-G)** and an **Intensive English Bridge Program at Grenfell (IEBP-G)** are also available.

Bachelor of Arts (Honours), Bachelor of Business Administration (Honours) and the Bachelor of Science (Honours) degree in Psychology are available."

Page 171, 2018-2019 Calendar, under the heading 7.2.1 Bachelor of Arts with major in English Language and Literature, amend as follows:

"7.1.2~~7.2.1~~ Bachelor of Arts with Major in English Language and Literature

www.grenfell.mun.ca/english

- The 120 credit hour, 40 course program may be completed on a full or part-time basis as set out under ~~**Table 1**~~ **Table 3 Bachelor of Arts with Major in English Language and Literature**.
- A student must complete Core Program Requirements as outlined under ~~**Grenfell Campus**~~ **School of Arts and Social Science Core Program Requirements**.
- A student must complete an approved concentration of courses known as a Major, an approved concentration of courses known as a Minor, and elective courses to make up the required total of 40 courses, 120 credit hours.
- A student may not use the same course to satisfy the requirements for both a Major and a Minor.
- As an alternative to a Minor, a second Major may be completed and students must meet all general and departmental or program regulations for both Majors.
- A student may devise a Major/Minor of one's own choosing in close consultation with a faculty advisor and with approval of ~~appropriate dean~~ the appropriate Dean(s). Such "open" programs must be approved by the School Committee on ~~Academic Appeals~~ Student Academic Affairs.
- Any student enrolled in the Grenfell Campus Bachelor of Arts Degree with a Major in English who has completed the Bachelor of Fine Arts (Theatre) Degree at Grenfell Campus will be considered to have fulfilled the requirements for a Minor in Theatre.

School of Science and the Environment – Core Program Requirements (cont'd)

~~Table 1~~ Table 3 Bachelor of Arts with Major in English Language and Literature

Required Courses	**Elective Courses**
Courses as outlined under **~~Grenfell Campus~~ School of Arts and Social Science Core Program Requirements, Breadth of Knowledge Requirement**, **Literacy Requirement**, and **Quantitative Reasoning and Analysis Requirement** English 1000 and 1001 or equivalent English 2005, 2006, 2007, 3205 or 3206, 3395, 4105	A minor comprised of 8 courses, 24 credit hours chosen from **~~Table 23~~ Table 21 Minor Programs Offered by the School of Arts and Social Science**, or from **Table 5 Minor Program Offered by the School of Fine Arts**, or from **Table 11 Minor Programs Offered by the School of Science and the Environment**. As an alternative to a Minor, a second Major may be completed.
18 credit hours in one of the following concentrations. Within each concentration, there must be a minimum of 6 credit hours at the 3000 level and 6 credit hours at the 4000 level. **Canadian Literature Concentration** English 2146, 4950 and 12 credit hours in Canadian Literature from the following selection: English 2155, 2156, 2905, 3145, 3147, 3148, 3149, 4307, 4825-35. **Dramatic Literature Concentration** English 2350, 2351, 4950 and 9 credit hours in Dramatic Literature from the following selection: English 3021, 3171, 3181, 3205 or 3206 (whichever course has not been used to fulfil the requirements of the English Core), 3275, 4302, 4305, 4307, 4308, 4316, 4317, 4836-44. **Modern Literature Concentration** English 3215, 3216, 4950 and 9 credit hours in Modern Literature from the following selection: English 2215, 2242, 2243, 2244, 2705, 2805, 2870, 2905, 3275, 3810, 3905, 4245, 4246, 4302, 4305, 4308, 4861-4870, 4905. **Combined Concentration** A total of 18 credit hours from English Concentration Courses which must include: At least 6 credit hours from one of three concentrations (Canadian, Dramatic, Modern) as specified below and an English 4950 project within the area chosen: Canadian Literature: 2146 and at least 3 additional credit hours in this concentration or Dramatic Literature: 2350 or 2351 and at least 3 additional credit hours in this concentration or Modern Literature: 3215 or 3216 and at least 3 additional credit hours in this concentration. At least 3 credit hours from each of the other two concentrations.	Elective courses to make up the total of 120 credit hours, other than those required for the **~~Grenfell Campus~~ School of Arts and Social Science Core Program Requirements** and Major/Minor requirements, may be chosen according to the following guidelines: Any courses in arts, social science, science and fine arts and Up to 15 credit hours in other subject areas.

School of Science and the Environment – Core Program Requirements (cont'd)

Page 172, 2018-2019 Calendar, under the heading 7.2.2 Bachelor of Arts with Major in Historical Studies, amend the section as follows:

"**7.1.3~~7.2.2~~ Bachelor of Arts with Major in Historical Studies**

www.grenfell.mun.ca/historical-studies

- The 120 credit hour, 40 course program may be completed on a full or part-time basis as set out under **~~Table 2~~ Table 4 Bachelor of Arts with Major in Historical Studies**.
- A student must complete Core Program Requirements as outlined under **~~Grenfell Campus~~ School of Arts and Social Science Core Program Requirements**.
- A student must complete an approved concentration of courses known as a Major, an approved concentration of courses known as a Minor, and elective courses to make up the required total of 40 courses, 120 credit hours.
- Applicable courses used to satisfy the Minor requirements may also be counted as Historical Studies credits.
- As an alternative to a Minor, a second Major may be completed and students must meet all general and departmental or program regulations for both Majors.
- A student may devise a Major/Minor of one's own choosing in close consultation with a faculty advisor and with approval of ~~appropriate dean~~ the appropriate Dean(s). Such "open" programs must be approved by the School Committee on ~~Academic Appeals~~ Student Academic Affairs.

~~Table 2~~ Table 4 Bachelor of Arts with Major in Historical Studies

Required Courses	**Elective Courses**
Courses as outlined under **~~Grenfell Campus~~ School of Arts and Social Science Core Program Requirements, Breadth of Knowledge Requirement**, **Literacy Requirement**, and **Quantitative Reasoning and Analysis Requirement**	A minor comprised of 8 courses, 24 credit hours chosen from **~~Table 23~~ Table 21 Minor Programs Offered by the School of Arts and Social Science**, or from **Table 5 Minor Program Offered by the School of Fine Arts**, or from **Table 11 Minor Programs Offered by the School of Science and the Environment**. As an alternative to a Minor, a second Major may be

The Major consists of a minimum of 19 courses, 57 credit hours as follows: • History 1100, 1101, 3840 and 4950 • 12 credit hours in Early Western History chosen from: Anthropology 3520 or Archaeology 3520 or History 3520, Art History 2700 or History 2700, Art History 3700 or History 3700, Art History 3701 or History 3701, Classics 2035 or History 2035, Classics 2040 or History 2040, Classics 3090 or History 3090, History 2100, 2200, 2300, 2320, 2330, 3050, 3110, 3135, 3320, 3445, 3760 • 12 credit hours in Later Western History chosen from: Anthropology 3525 or Archaeology 3525 or History 3525, Art History 2701 or History 2701, History 2120, 2210, 2310, 2500, 2510, 3030, 3060, 3120, 3250, 3330, 3440, 3460, 3490, 3675, 3770, Economics 3630 • 6 credit hours in 4000-level History courses which are in addition to History 4950 • 15 credit hours chosen from the following list of which no more than 6 credit hours from any one discipline will be counted toward Historical Studies Major: Anthropology 1031, Anthropology 2230 or Folklore 2230 or Sociology 2230, Classics 2055, Classics 3700, Economics 1010 (or the former 2010), Economics 1020 (or the former 2020), English 2005, English 2006, English 2007, Folklore 1000, Folklore 2401, French 1501 French 1502, French 2100, French 2101, French 2601, French 2602, Geography 1050, Geography 2001, Humanities 2002, Humanities 3001, Humanities 3002, Humanities 4001, Philosophy 1005 or the former 1600, Philosophy 2201 or the former 2701, Philosophy 2215 or the former 2702, Philosophy 3400, Political Science 1000, Political Science 1020, Political Science 2200, Political Science 2800, Religious Studies 2013, Religious Studies 2050, Religious Studies 2051, Sociology 1000, Sociology 2120, Sociology 3040, Sociology 3150, Sociology 3160	Elective courses to make up the total of 120 credit hours, other than those required for the ~~**Grenfell Campus**~~ **School of Arts and Social Science Core Program Requirements,** and Major/ Minor requirements, may be chosen according to the following guidelines: Any courses in arts, social science, science and fine arts and Up to 15 credit hours in other subject areas.

Page 173, 2018-2019 Calendar, under the heading 7.2.3 Bachelor of Arts with major in Humanities, amend the section as follows:'

"**7.1.4~~7.2.3~~ Bachelor of Arts with Major in Humanities**

www.grenfell.mun.ca/humanities

- The 120 credit hour, 40 course program may be completed on a full or part-time basis as set out under ~~**Table 3**~~ **Table 5 Bachelor of Arts with Major in Humanities**.

School of Science and the Environment – Core Program Requirements (cont'd)

- A student must complete Core Program Requirements as outlined under ~~**Grenfell Campus**~~ **School of Arts and Social Science Core Program Requirements**.
- A student must complete an approved concentration of courses known as a Major, an approved concentration of courses known as a Minor, and elective courses to make up the required total of 40 courses, 120 credit hours.
- A student may not use the same course to satisfy the requirements for both a Major and a Minor.
- As an alternative to a Minor, a second Major may be completed and students must meet all general and departmental or program regulations for both Majors.
- A student may devise a Major/Minor of one's own choosing in close consultation with a faculty advisor and with approval of ~~appropriate dean~~ the appropriate Dean(s). Such "open" programs must be approved by the School Committee on ~~Academic Appeals~~ Student Academic Affairs.

~~Table 3~~ Table 5 Bachelor of Arts with Major in Humanities

Required Courses	**Elective Courses**
Courses as outlined under ~~**Grenfell Campus**~~ **School of Arts and Social Science Core Program Requirements, Breadth of Knowledge Requirement**, **Literacy Requirement**, and **Quantitative Reasoning and Analysis Requirement**	A minor comprised of 8 courses, 24 credit hours chosen from ~~**Table 23**~~ **Table 21 Minor Programs Offered by the School of Arts and Social Science**, or from **Table 5 Minor Program Offered by the School of Fine Arts**, or from **Table 11 Minor Programs Offered by the School of Science and the Environment**. As an alternative to a Minor, a second Major may be completed.
The Major consists of 15 courses, 45 credit hours as follows: 36 credit hours (Humanities 1001, 1002, 2000, 2001, 2002, 2010, 3001, 3002, 3010, 4001, 4010, 4950 either 3 credit hours in other Humanities courses plus 6 credit hours in a language other than English, or 9 credit hours in other Humanities courses	Elective courses to make up the total of 120 credit hours, other than those required for the ~~**Grenfell Campus**~~ **School of Arts and Social Science Core Program Requirements** and Major/ Minor requirements, may be chosen according to the following guidelines: Any courses in arts, social science, science and fine arts and Up to 15 credit hours in other subject areas.

Page 173, 2018-2019 Calendar, under the heading 7.2.4 Bachelor of Arts with Major in Psychology, amend the section as follows:

School of Science and the Environment – Core Program Requirements (cont'd)

"7.1.5~~7.2.4~~ Bachelor of Arts with Major in Psychology

www.grenfell.mun.ca/psychology

- The 120 credit hour, 40 course program may be completed on a full or part-time basis as set out under **~~Table 4~~ Table 6 Bachelor of Arts with Major in Psychology**.
- A student must complete Core Program Requirements as outlined under **~~Grenfell Campus~~ School of Arts and Social Science Core Program Requirements**.
- A student must complete an approved concentration of courses known as a Major, an approved concentration of courses known as a Minor, and elective courses to make up the required total of 40 courses, 120 credit hours.
- A student may not use the same course to satisfy the requirements for both a Major and a Minor.
- As an alternative to a Minor, a second Major may be completed and students must meet all general and departmental or program regulations for both Majors.
- A student may devise a Major/Minor of one's own choosing in close consultation with a faculty advisor and with approval of ~~appropriate dean~~ the appropriate Dean(s). Such "open" programs must be approved by the School Committee on ~~Academic Appeals~~ Student Academic Affairs.
- Students completing this program cannot receive credit for Psychology 2920.

~~Table 4~~ Table 6 Bachelor of Arts with Major in Psychology

Required Courses	**Elective Courses**
Courses as outlined under **~~Grenfell Campus~~ School of Arts and Social Science Core Program Requirements, Breadth of Knowledge Requirement**, **Literacy Requirement**, and **Quantitative Reasoning and Analysis Requirement**	Elective courses to make up the total of 120 credit hours, other than those required for the **~~Grenfell Campus~~ School of Arts and Social Science Core Program Requirements** and Major/Minor requirements, may be chosen according to the following guidelines: Any courses in arts, social science, science and fine arts, and Up to 15 credit hours in other subject areas.

45 credit hours in Psychology as follows: Psychology 1000, 1001, 2925, 2950, 3950, 4910, 4925, and one of 4950 or 4951 At least 12 credit hours from: Psychology 2025, 2125, 2225, 2425, 2625, 2825 At least 9 credit hours chosen from the following Contemporary Issues courses: Psychology 3025, 3040, 3125, 3126, 3225, 3226, 3325, 3425, 3525, 3625, 3626, 3627, 3628, 3725, 3825	A minor comprised of 8 courses, 24 credit hours chosen from ~~**Table 23**~~ **Table 21 Minor Programs Offered by the School of Arts and Social Science**, or from **Table 5 Minor Program Offered by the School of Fine Arts**, or from **Table 11 Minor Programs Offered by the School of Science and the Environment**. As an alternative to a Minor, a second Major may be completed.

Page 174, 2018-2019 Calendar, under the heading 7.2.5 Bachelor of Arts with Major in Social/Cultural Studies, amend the section as follows:

"**7.1.6~~7.2.5~~ Bachelor of Arts with Major in Social/Cultural Studies**

www.grenfell.mun.ca/social-cultural-studies

- The 120 credit hour, 40 course program may be completed on a full or part-time basis as set out under ~~**Table 5**~~ **Table 7 Bachelor of Arts with Major in Social/Cultural Studies**.
- A student must complete Core Program Requirements as outlined under ~~**Grenfell Campus**~~ **School of Arts and Social Science Core Program Requirements**.
- A student must complete an approved concentration of courses known as a Major and elective courses to make up the required total of 40 courses, 120 credit hours. A Minor is not required for this program.

~~Table 5~~ Table 7 Bachelor of Arts with Major in Social/Cultural Studies

Required Courses	**Elective Courses**
Courses as outlined under ~~**Grenfell Campus**~~ **School of Arts and Social Science Core Program Requirements, Breadth of Knowledge Requirement**, **Literacy Requirement**, and **Quantitative Reasoning and Analysis Requirement**	Elective courses to make up the total of 120 credit hours, other than those required for the ~~core program~~ **School of Arts and Social Science Core Program Requirements** and Major/Minor requirements, may be chosen according to the following guidelines: Any courses in arts, social science, science and fine arts Up to 15 credit hours in other subject areas.
72 credit hours as follows: Anthropology 1031, 2410, and an additional 9 credit hours in Anthropology Folklore 1000, 2100, and an additional 9 credit hours in Folklore History 1100, 1101 Social/Cultural Studies 2000, 4000, 4100, 4950 Sociology 1000, 3040, 3150, and an additional 6 credit hours in Sociology 9 credit hours at the 3000 or 4000 level chosen from Anthropology, Folklore, Sociology, or Social/Cultural Studies	If a student decides to complete a minor, it must be comprised of 8 courses, 24 credit hours chosen from ~~**Table 23**~~ **Table 21 Minor Programs Offered by the School of Arts and Social Science**, or from **Table 5 Minor Program Offered by the School of Fine Arts**, or from **Table 11 Minor Programs Offered by the School of Science and the Environment**.

School of Science and the Environment – Core Program Requirements (cont'd)

Page 174, 2018-2019 Calendar, delete the section 7.2.6 Bachelor of Arts with Major in Tourism Studies and all subsections along with the associated Articulation Agreements and Advanced Diploma, which was approved at the April 2018 meeting of Senate.

Page 176, 2018-2019 Calendar, renumber "7.2.7 Bachelor of Business Administration" as "7.1.7 Bachelor of Business Administration". Renumber **Table 10** through **Table 21** as **Table 8** through **Table 19**. Renumber subsections **7.2.7.1** through **7.2.7.11** as **7.1.7.1** through **7.1.7.11**.

Page 182, 2018-2019 Calendar, renumber "7.2.8 Bachelor of Education (Primary/Elementary) as a Second Degree" as "7.1.8 Bachelor of Education (Primary/Elementary) as a Second Degree".

Page 182, 2018-2019 Calendar, under the heading 7.2.9 Bachelor of Science with Major in Psychology, amend the section as follows:

"**7.1.9~~7.2.9~~ Bachelor of Science with Major in Psychology**

www.grenfell.mun.ca/psychology

- The 120 credit hour, 40 course program may be completed on a full or part-time basis as set out under **~~Table 22~~ Table 20 Bachelor of Science with Major in Psychology**.
- A student must complete Core Program Requirements as outlined under **~~Grenfell Campus~~ School of Arts and Social Science Core Program Requirements**.
- A student must complete an approved concentration of courses known as a Major and elective courses to make up the required total of 40 courses, 120 credit hours. A Minor is not required for this program.
- Students completing this program cannot receive credit for Psychology 2920.

~~Table 22~~ Table 20 Bachelor of Science with Major in Psychology

Required Courses	**Elective Courses**
Courses as outlined under **~~Grenfell Campus~~ School of Arts and Social Science Core Program Requirements, Breadth of Knowledge Requirement**, **Literacy Requirement**, and **Quantitative Reasoning and Analysis Requirement**	Elective courses to make up the total of 120 credit hours, other than those required for the **~~Grenfell Campus~~ School of Arts and Social Science Core Program Requirements** and Major/Minor requirements, may be chosen according to the following guidelines: Any courses in arts, social science, science and fine arts, and Up to 15 credit hours in other subject areas.

45 credit hours in Psychology as follows: Psychology 1000, 1001, 2925, 2950, 3950, 4910, 4925, and one of 4950 or 4951 At least 12 credit hours from: Psychology 2025, 2125, 2225, 2425, 2625, 2825 At least 9 credit hours chosen from the following Contemporary Issues courses: Psychology 3025, 3040, 3125, 3126, 3225, 3226, 3325, 3425, 3525, 3625, 3626, 3627, 3628, 3725, 3825 **36 credit hours as follows:** 6 credit hours in Mathematics, which must include Mathematics 1000 Biology 1001 and 1002 Chemistry 1200 and 1001 or Physics 1020 (or 1050) and 1021 (or 1051) 9 credit hours at the 2000 level or above (two courses must be laboratory courses) in one of the following subjects: Biochemistry, Biology, Chemistry, Earth Science, Environmental Science, Physics 9 additional credit hours chosen in any combination from the following subjects: Biochemistry, Biology, Chemistry, Computer Science, Earth Science, Environmental Science, Mathematics, Physics, Statistics	If a student decides to complete a minor, it must be comprised of 8 courses, 24 credit hours chosen from ~~**Table 23**~~ **Table 21 Minor Programs Offered by the School of Arts and Social Science**, or from **Table 5 Minor Program Offered by the School of Fine Arts**, or from **Table 11 Minor Programs Offered by the School of Science and the Environment**.

Page 183, 2018-2019 Calendar, renumber "7.2.10 Intensive English Program at Grenfell (IEP-G)" as "7.1.10 Intensive English Program at Grenfell (IEP-G)". Renumber subsection "7.2.10.1" as "7.1.10.1".

Page 183, 2018-2019 Calendar, renumber "7.2.11 Intensive English Bridge Program at Grenfell (IEBP-G)" as "7.1.11 Intensive English Bridge Program at Grenfell (IEBP-G)". Renumber subsection "7.2.11.1" as "7.1.11.1".

Page 184, 2018-2019 Calendar, renumber "7.2.12 Minor Programs Offered by the School of Arts and Social Science" as "7.1.12 Minor Programs Offered by the School of Arts and Social Science". Renumber "Table 23" as "Table 21".

Page 185, 2018-2019 Calendar, under the heading 7.3 School of Fine Arts, amend the section as follows:

"**7.2~~7.3~~ School of Fine Arts**

www.grenfell.mun.ca/school-of-fine-arts

The School of Fine Arts offers Bachelor of Fine Arts degrees in Theatre and in Visual Arts. ~~Students completing a Fine Arts degree are not required to follow the **Grenfell Campus Core program requirements**.~~ The Minor Program is available in Art History."

School of Science and the Environment – Core Program Requirements (cont'd)

Page 185, 2018-2019 Calendar, renumber "7.3.1 Bachelor of Fine Arts (Theatre)" as "7.2.1 Bachelor of Fine Arts (Theatre)".

Page 187, 2018-2019 Calendar, renumber "7.3.2 Bachelor of Fine Arts (Visual Arts)" as "7.2.2 Bachelor of Fine Arts (Visual Arts)".

Page 187, 2018-2019 Calendar, renumber "7.3.3 Minor Program Offered by the School of Fine Arts" as "7.2.3 Minor Program Offered by the School of Fine Arts".

Page 188, 2018-2019 Calendar, under the heading 7.4 School of Science and the Environment, amend the section as follows:

"**7.37.4 School of Science and the Environment**

www.grenfell.mun.ca/school-of-science-and-the-environment

The School of Science and the Environment offers the Bachelor of Environment and Sustainability with **Majors** in **Environmental Studies** or **Resource Management** and the Bachelor of Science with Majors in **Computational Mathematics**, **Environmental Science**, **General Science**, and **Physics** general degrees.

A Bachelor of Science (Honours) degree is available in **Environmental Science**.

Minors are available in Economics, Environment and Sustainability, Environmental Science, Environmental Science Biology, Environmental Science Chemistry, Geography, Mathematics, Physics, and Science. Students for the Bachelor of Science degree offered by the School of Science and the Environment may complete a minor offered by the School of Science and the Environment, ~~or~~ the School of Arts and Social Science, or the School of Fine Arts. See **Table 19 Minor Programs Offered by the School of Arts and Social Science, Table 5 Minor Program Offered by the School of Fine Arts** and **Table 11 Minor Programs Offered by the School of Science and the Environment**.

An articulation agreement has been established with the College of the North Atlantic for those students who have completed the three- year Environmental Technology diploma program and who wish to obtain a Bachelor of Science degree with a Major in Environmental Science. Articulation agreements have been established with the College of the North Atlantic for students who have completed the **Two-Year Fish and Wildlife Technician Diploma Program** and the **Two-Year Forest**

School of Science and the Environment – Core Program Requirements (cont'd)

Resources Technician Diploma Program who wish to obtain the Bachelor of Environment and Sustainability degree.

Students previously admitted to the Bachelor of Arts, Major in Environmental Studies program and the Bachelor of Resource Management, Major in Sustainable Resource Management program must complete all program requirements by June 2021. Students currently completing the requirements of either of these programs must follow the Calendar regulations for the academic year in which they were admitted to the Major. Memorial University of Newfoundland calendars by academic year can be read at www.mun.ca/regoff/calendar.php."

Page 188, 2018-2019 Calendar, under the heading 7.4.1 Bachelor of Environment and Sustainability with Majors in Environmental Studies or Resource Management, amend the section as follows:

"7.3.2~~7.4.1~~ Bachelor of Environment and Sustainability with Majors in Environmental Studies or Resource Management

- The 120 credit hour, 40 course Bachelor of Environment and Sustainability with specialization in Environmental Studies or Resource Management program may be completed on a full or part-time basis as set out under **Table 1 Bachelor of Environment and Sustainability with Majors in Environmental Studies or Resource Management**.
- A student must complete Core Program Requirements as outlined under **School of Science and the Environment Core Program Requirements**.
- The program consists of a common set of ~~core~~ courses which provides an interdisciplinary understanding of environmental studies and resource management issues within the context of the physical, social and economic environments and two sets of courses that provide specialized training in either Environmental Studies or Resource Management.
- A Minor is required for this program.

Table 1 Bachelor of Environment and Sustainability with Majors in Environmental Studies or Resource Management

Required Common Courses	Major in Environmental Studies	Major in Resource Management	Additional Requirements

42 credit hours in the following courses: Economics 1010, 3080 3 credit hours in first year English Environment and Sustainability 1000, 2000, 2001, 3000, 3001, 4000, 4010 Environmental Science 1000 Geography 1050, 3222 Political Science 3631 or the former 3731	Economics 2550, 3085 Environment and Sustainability 2200 or 2201, 4200, 4201, 4950 Political Science 2600, 3351 or the former 3550 Sociology 3040 One of: Historical Studies 3030, Humanities 3020, Philosophy 2130 or the former 2561, Religious Studies 3880	Biology 1001, 1002, 2600 Environment and Sustainability 3100, 3101, 4100, 4960 Environmental Science 4132, 4140 (or equivalent field course from Biology, Earth Science or Geography)	Courses as outlined under **School of Science and the Environment** ~~**Grenfell Campus**~~ **Core Program Requirements**~~**, Breadth of Knowledge Requirement, Literacy Requirement,** and **Quantitative Reasoning and Analysis Requirement**~~. A minor comprised of 8 courses, 24 credit hours chosen from ~~**Table 23**~~ **Table 21 Minor Programs Offered by the School of Arts and Social Science**, or from **Table 5 Minor Program Offered by the School of Fine Arts**, or from **Table 11 Minor Programs Offered by the School of Science and the Environment**. Elective courses to make up the total of 120 credit hours.

Page 188, 2018-2019 Calendar, renumber "7.4.1 Bachelor of Environment and Sustainability with Majors in Environmental Studies or Resource Management" as "7.3.2 Bachelor of Environment and Sustainability with Majors in Environmental Studies or Resource Management". Renumber subsections **7.4.1.1** and **7.4.1.2** as **7.3.2.1** and **7.3.2.2**.

Page 191, 2018-2019 Calendar, under the heading 7.4.2 Bachelor of Science with Major in Computational Mathematics, amend the section as follows:

"**7.3.3~~7.4.2~~ Bachelor of Science with Major in Computational Mathematics**

www.grenfell.mun.ca/computational-mathematics

This Mathematics Major covers the essential undergraduate topics in mathematics, develops rigorous logical thinking, and equips students with computational techniques to model and solve real-world problems. Courses used to complete the requirements of this major may be used to meet the requirements of a minor or second major in a different subject area excluding a minor in Science and a major in General Science.

School of Science and the Environment – Core Program Requirements (cont'd)

- The 120 credit hour, 40 course program may be completed on a full or part-time basis as set out under **Table 5 Bachelor of Science with Major in Computational Mathematics**.
- A student must complete Core Program Requirements as outlined under ~~**Grenfell Campus**~~ **School of Science and the Environment Core Program Requirements**.
- A student must complete an approved concentration of courses known as a Major and elective courses to make up the required total of 40 courses, 120 credit hours. A Minor is not required for this program.

Table 5 Bachelor of Science with Major in Computational Mathematics

Required Courses	**Elective Courses**
Courses as outlined under ~~**Grenfell Campus**~~ **School of Science and the Environment Core Program Requirements~~, Breadth of Knowledge Requirement, Literacy Requirement~~**, and ~~**Quantitative Reasoning and Analysis Requirement**~~	Elective courses to make up the total of 120 credit hours~~, other than those required for the **Grenfell Campus Core Program Requirements** and Major/Minor requirements, may be chosen according to the following guidelines: Any courses in arts, social science, science and fine arts and Up to 15 credit hours in other subject areas~~.
3 credit hours in a computer programming course Mathematics 1000, 1001, 2000, 2050, 2051, 2130, 2320, 3000, 3132, 3240, 4242, 4950 Philosophy 2030 or the former 2210 3 credit hours in Physics chosen from Physics 1020, 1050, 2151, or 2400 Statistics 2550 (or equivalent) 12 further credit hours in Mathematics and Statistics including 3 credit hours at the 2000 level or higher; 6 credit hours at the 3000 level or higher; and 3 credit hours at the 4000 level (Computer Science 2510 and 2710, and Physics 2820 and 3820 may be used in place of an equivalent level Mathematics course)	If a student decides to complete a minor, it must be comprised of 8 courses, 24 credit hours chosen from ~~**Table 23**~~ **Table 21 Minor Programs Offered by the School of Arts and Social Science**, or from **Table 5 Minor Program Offered by the School of Fine Arts**, or from **Table 11 Minor Programs Offered by the School of Science and the Environment**.

Page 192, 2018-2019 Calendar, under the heading 7.4.3 Bachelor of Science with Major in Environmental Science, amend the section as follows:

"7.3.4~~7.4.3~~ Bachelor of Science with Major in Environmental Science

www.grenfell.mun.ca/environmental-science

The Major consists of an Environmental Science Core which provides a broad appreciation of the interrelationships inherent in any study of the

School of Science and the Environment – Core Program Requirements (cont'd)

environment and one of two possible streams which provide the depth and focus for the degree program.

- The 120 credit hour, 40 course program may be completed on a full or part-time basis as set out under **Table 6 Bachelor of Science with Major in Environmental Science**.
- A student must complete Core Program Requirements as outlined under ~~**Grenfell Campus**~~ **School of Science and the Environment Core Program Requirements**.
- A student must complete an approved concentration of courses known as a Major and elective courses to make up the required total of 40 courses, 120 credit hours. A Minor is not required for this program.

Table 6 Bachelor of Science with Major in Environmental Science

Required Courses	**Elective Courses**
Courses as outlined under ~~**Grenfell Campus**~~ **School of Science and the Environment Core Program Requirements~~, Breadth of Knowledge Requirement, Literacy Requirement~~**, and ~~**Quantitative Reasoning and Analysis Requirement**~~	Elective courses to make up the total of 120 credit hours~~, other than those required for the **Grenfell Campus Core Program Requirements** and Major/Minor requirements, may be chosen according to the following guidelines:~~ ~~Any courses in arts, social science, science and fine arts and~~ ~~Up to 15 credit hours in other subject areas~~.
Environmental Science Core 45 credit hours as follows: Biology 1001, 1002, 2600 Earth Sciences 1000 Mathematics 1000 (or 1080 and 1081), Statistics 2550 or equivalent One of Physics 1020 or 1050 and one of Physics 1021 or 1051 Environmental Science 4000 Environmental Science 4950 (or 4951) a minimum of 6 credit hours chosen from Anthropology 3083, Economics 1010 (or the former 2010), 3080, Environment and Sustainability 4201, Philosophy 2130 or the former 2561, Political Science 3351 or the former 3550, 3631 or the former 3731, Religious Studies 3880 a minimum of 9 credit hours chosen from Environmental Science 2261, Environmental Science 2360, Environmental Science 2370, Environmental Science 2371, Environmental Science 2430, Environmental Science 2450, Environmental Science 3072, Environmental Science 3470, Environment and Sustainability 2000 (this course is strongly recommended for the Biology Stream of the Environmental Science program) It is strongly recommended that students considering the Chemistry stream of the Environmental Science program complete Mathematics 1000, Physics 1020 or 1050 and one of Physics 1021 or 1051 in their first year.	If a student decides to complete a minor, it must be comprised of 8 courses, 24 credit hours chosen from ~~**Table 23**~~ **Table 21 Minor Programs Offered by the School of Arts and Social Science**, or from **Table 5 Minor Program Offered by the School of Fine Arts**, or from **Table 11 Minor Programs Offered by the School of Science and the Environment**.

Environmental Science Streams 39 credit hours in one of the following streams**:** **Biology stream** Biology 2010, 2122 Chemistry 1200/1001 sequence or Chemistry 1050/1051 sequence, and one of Chemistry 2210 or Chemistry 2301 or 2440 or 2400/2401 sequence, or Chemistry 1010/1011 sequence and Chemistry 2440 Environmental Science 3110, 3130 3131, 4132, 4140 (or equivalent field course) Two of Environmental Science 4069, 4131, 4133, 4240, 4369, 4479 one additional laboratory (Science/Statistics/GIS) course beyond the first year level excluding Environmental Science Core courses. ~~A course used to fulfill a stream requirement cannot also be used as a Group C course in the Environmental Science Core.~~ **Chemistry stream** Chemistry 1200/1001 sequence or Chemistry 1050/1051 sequence. It is strongly recommended that students complete one of these sequences of Chemistry courses in their first year. Chemistry 2210, 2301/2302, Chemistry 2400/2401 or equivalent Environmental Science 2261, 3210, 3211, 3260, 3261, 4230 Two of Environmental Science 4069, 4131, 4240, 4249, 4369, 4479 Mathematics 1001 which should be completed in the first year of studies	

7.3.4.1 ~~7.4.3.1~~ Articulation Agreement - Bachelor of Science with Major in Environmental Science for Graduates of the Three-Year Environmental Technology Diploma Program Offered by the College of the North Atlantic

- The program may be completed on a full or part-time basis as set out under **Table 7 Bachelor of Science with Major in Environmental Science for Graduates of the Three-Year Environmental Technology Diploma Program Offered by the College of the North Atlantic**.
- An articulation agreement has been established with the College of the North Atlantic for those students who have completed the three-year Environmental Technology diploma program and who wish to obtain a Bachelor of Science degree (Major in Environmental Science). Students who have graduated from the three-year Environmental Technology Diploma Program offered by the College of the North Atlantic, or who are in their final semester of this program, can apply for entry with advanced standing into the Environmental Science Degree Program offered at Grenfell Campus. Upon admission to the university, such students will enter the second year of either stream of the Environmental Science Degree Program.
- Students will be given unspecified credit for 45 credit hours towards the 120 credit-hour degree program. ~~Included in these 45 credit hours will be 9 credit hours for unspecified writing courses, of which 6 credit hours will be at the 1000 level and three will be at the 2000 level. In addition, 6 of these credit hours will be for unspecified credit at the 2000 level satisfying Group B, breadth of knowledge requirement.~~

School of Science and the Environment – Core Program Requirements (cont'd)

- Students gaining entry into the Environmental Science Degree Program at Grenfell Campus will need to satisfy ~~all other core program requirements specified for Grenfell Campus degree programs~~ the School of Science and the Environment Core Program Requirements. As well, they will need to satisfy all other course requirements specified for their specific stream in Environmental Science and meet the requirements outlined under **Table 7 Bachelor of Science with Major in Environmental Science for Graduates of the Three-Year Environmental Technology Diploma Program Offered by the College of the North Atlantic**.

Table 7 Bachelor of Science with Major in Environmental Science for Graduates of the Three-Year Environmental Technology Diploma Program Offered by the College of the North Atlantic

Required Courses
~~6 credit hours from **Group A Breadth of Knowledge Requirement** and 21 credit hours in additional designated **Writing** courses which may include Environmental Science core and stream courses~~
Environmental Science Core Biology 2600 Environmental Science 4000 Environmental Science 4950 Statistics 2550 or equivalent 6 credit hours from Anthropology 3083, Economics 1010 (or the former 2010), 3080, Philosophy 2130 or the former 2561, Political Science 3351 or the former 3550, Political Science 3631 or the former 3731, Religious Studies 3880 9 credit hours from Environmental Science 2261, 2360, 2370, 2371, 2430, 2450, 3072, 3470, Environment and Sustainability 2000 or equivalent
One of the following streams**:** **Biology Stream** Biology 2010, 2122 the former Chemistry 2300 or 2440 or 2400/2401 Environmental Science 3110, 3130, 3131, 4132, 4140 (or an equivalent field course) 6 credit hours from Environmental Science 4069, 4131, 4133, 4240, 4479 3 credit hours in an additional science or statistics laboratory course at the 2000 level or higher, excluding Environmental Science core courses **Chemistry Stream** Chemistry 2210, the former 2300, 2400, 2401 Environmental Science 2261, 3210, 3211, 3260, 3261, 4230 6 credit hours from Environmental Science 4069, 4131, 4240, 4249, 4479

Page 194, 2018-2019 Calendar, under the heading 7.4.4 Bachelor of Science with Major in General Science, amend the section as follows:

"**7.3.5~~7.4.4~~ Bachelor of Science with Major in General Science**

www.grenfell.mun.ca/science

Students completing the Major in General Science will complete a General Science Core. In addition, they will complete a minimum of 24 credit hours (or 18 credit hours in the case of Mathematics) in each of

School of Science and the Environment – Core Program Requirements (cont'd)

three streams chosen from Biology, Chemistry, Earth Systems, Mathematics or Physics. A student may not use the same course to satisfy the requirements of more than one stream. Students planning their course selection should be aware of the fact that most senior level science courses have one or more specified prerequisites.

- The 120 credit hour, 40 course program may be completed on a full or part-time basis as set out under **Table 8 Bachelor of Science with Major in General Science**.
- A student must complete Core Program Requirements as outlined under ~~**Grenfell Campus**~~ **School of Science and the Environment Core Program Requirements**.
- A student must complete an approved concentration of courses known as a Major and elective courses to make up the required total of 40 courses, 120 credit hours. A Minor is not required for this program.

Table 8 Bachelor of Science with Major in General Science

Required Courses	**Elective Courses**
Courses as outlined under ~~**Grenfell Campus**~~ **School of Science and the Environment Core Program Requirements~~, Breadth of Knowledge Requirement~~, ~~Literacy Requirement~~**, and ~~**Quantitative Reasoning and Analysis Requirement**~~	Elective courses to make up the total of 120 credit hours~~, other than those required for the **Grenfell Campus Core Program Requirements** and Major/Minor requirements, may be chosen according to the following guidelines:~~ ~~Any courses in arts, social science, science and fine arts and~~ ~~Up to 15 credit hours in other subject areas~~.
General Science Core Mathematics 1000, 1001 Physics 1050 (or 1020), 1051 (or 1021). Students in the Physics Stream require Physics 1050, 1051 Science 4000, 4950	If a student decides to complete a minor, it must be comprised of 8 courses, 24 credit hours chosen from ~~**Table 23**~~ **Table 21 Minor Programs Offered by the School of Arts and Social Science**, or from **Table 5 Minor Program Offered by the School of Fine Arts**, or from **Table 11 Minor Programs Offered by the School of Science and the Environment**.

General Science Streams 24 credit hours in each of three streams, chosen from the following list of courses: **Biology:** Biology 1001, 1002 Eighteen credit hours from Biology 2010, 2122, 2210, 2250, 2600, 3053, Environmental Science 3072, 3110, 3130, 3131, 4140 (or equivalent field course) where at least 6 credit hours must be beyond the 2000 level. **Chemistry:** Chemistry 1001, and 1200 (or equivalents), 2210, 2301 or 2302, 2400 and 2401, another 6 credit hours from Environmental Science 3210, 3211, 4240 **Earth Systems:** Earth Sciences 1000, 1001 or 1002 Any 18 credit hours (six courses) from the following list, at least 6 credit hours of which are beyond the 2000 level: Environment and Sustainability 2000, 3001, Environmental Science 2360, 2369, 2370, 2371, 2430, 2450, 3072, 3470, 4069, 4369, 4479, Earth Sciences 2150, 3811. **Mathematics:** Mathematics 1000, 1001, 2000, 2050, 2320 Nine additional credit hours beyond the 1000 level chosen from Mathematics or Statistics, at least 6 which must be beyond the 2000 level. **Physics:** Physics 1050, 1051, 2056, 2820, 3060, 3220 Two of Physics 2053, 2151, 2400, 2553, 3160, 3180, Earth Sciences 2150, Environmental Science 2430, 2450, 3470, 4479	

Page 195, 2018-2019 Calendar, under the heading 7.4.5 Bachelor of Science with Major in Physics, amend the section as follows:

"7.3.6~~7.4.5~~ Bachelor of Science with Major in Physics

www.grenfell.mun.ca/physics

- The 120 credit hour, 40 course program may be completed on a full or part-time basis as set out under **Table 9 Bachelor of Science with Major in Physics** and **Table 10 Suggested Program of Study for the Bachelor of Science with Major in Physics**.
- A student must complete Core Program Requirements as outlined under ~~**Grenfell Campus**~~ **School of Science and the Environment Core Program Requirements**.
- A student must complete an approved concentration of courses known as a Major and elective courses to make up the required total of 40 courses, 120 credit hours.
- A Minor is not required for this program. However, courses used to complete the requirements of this Major may be used to meet the requirements of a Minor or second Major in a different subject area excluding a Minor in Science and a Major in General Science.

School of Science and the Environment – Core Program Requirements (cont'd)

Table 9 Bachelor of Science with Major in Physics

Required Courses	**Elective Courses**
Courses as outlined under ~~**Grenfell Campus**~~ **School of Science and the Environment Core Program Requirements~~, Breadth of Knowledge Requirement, Literacy Requirement~~**, and ~~**Quantitative Reasoning and Analysis Requirement**~~	Elective courses to make up the total of 120 credit hours~~, other than those required for the Grenfell Campus Core Program Requirements~~ and Major/Minor requirements, ~~may be chosen according to the following guidelines:~~ ~~Any courses in arts, social science, science and fine arts and~~ ~~Up to 15 credit hours in other subject areas~~.
Mathematics 1000, 1001, 2000, 2050, 2260 (or the former Mathematics 3260), 3202. Since Mathematics 2000 is required for a number of upper-year Physics and Mathematics courses, a student not completing Mathematics 1001 in first year will require more time to complete the degree. A student who has completed Mathematics 1000 and Physics 1020 with a minimum grade of 65% may enrol in Physics 1051. Taking the sequence Physics 1020, 1021, and 1051 will increase the number of credit hours needed to complete the degree. Physics 1050 (or 1020), 1051, 2053, 2056, 2400 or 2151, 2820, 3060, 3061, 3220, 3400, 3650, 4100, 4880, 4950. It is recommended that students complete Chemistry 1200 and 1001. A student who has completed Mathematics 1000 and Physics 1020 with a minimum grade of 65% may enrol in Physics 1051. Taking the sequence Physics 1020, 1021, and 1051 will increase the number of credit hours needed to complete the degree. 9 additional credit hours in Physics chosen from Physics 3160, 3180, 3250, 3230, 3820.	If a student decides to complete a minor, it must be comprised of 8 courses, 24 credit hours chosen from ~~**Table 23**~~ **Table 21 Minor Programs Offered by the School of Arts and Social Science**, or from **Table 5 Minor Program Offered by the School of Fine Arts**, or from **Table 11 Minor Programs Offered by the School of Science and the Environment**.

No changes to Table 10.

Page 196, 2018-2019 Calendar, under the heading 7.4.6 Minor Programs Offered by the School of Science and the Environment, amend the section as follows:

"7.3.7~~7.4.6~~ Minor Programs Offered by the School of Science and the Environment

www.grenfell.mun.ca/minor

Students for the Bachelor of Environment and Sustainability and Bachelor of Science degrees offered by the School of Science and the Environment may complete a minor offered by the School of Science and the Environment, the School of Arts and Social Science or the School of Fine Arts. See **Table 21 Minor Programs Offered by the School of**

School of Science and the Environment – Core Program Requirements (cont'd)

Arts and Social Science, Table 5 Minor Program Offered by the School of Fine Arts, or **Table 11 Minor Programs Offered by the School of Science and the Environment**.

Table 11 Minor Programs Offered by the School of Science and the Environment

Economics Minor Economics 1010 (or the former 2010), 1020 (or the former 2020), 3000, 3010 12 additional credit hours in Economics of which at least 6 must be at the 3000 or 4000 level
Environment and Sustainability Minor Environment and Sustainability 1000, 2000, 2001, 3000 Environmental Science 1000 9 additional credit hours in Environment and Sustainability which must be at the 3000 or 4000 level
Environmental Science Biology Minor Biology 1001, 1002, 2010, 2122, 2600 3 credit hours from Environmental Science 3110, 3130, 3131, 4131 An additional 6 credit hours in courses with the Environmental Science designation of which at least 3 credit hours must be at the 3000 or 4000 level.
Environmental Science Chemistry Minor Chemistry 1200, 1001, 2210, the former Chemistry 2300 (or 2301), Chemistry 2440 3 credit hours from Environmental Science 3210, 3261, 4240 An additional 6 credit hours in courses with the Environmental Science designation of which at least 3 credit hours must be at the 3000 or 4000 level
Environmental Science Minor Biology 1001, 1002 and 2600 or Chemistry 1200, 1001, and one of Chemistry 2440 or Environmental Science 2261 Additional 15 credit hours in science courses within the Environmental Science program of which at least 6 credit hours must be at the 3000 or 4000 level
Geography Minor Geography 1050, 2001, 2102, 2195, 2302, 2425 6 additional credit hours in Geography which must be at the 3000 or 4000 level.
Mathematics Minor Mathematics 1000, 1001 Either 18 additional credit hours from Mathematics and Statistics courses at the 2000 level or higher, at least 6 credit hours shall be in courses at the 3000 level or higher (Physics 3820 can be used in place of a Mathematics course at the 3000 level); or 15 additional credit hours from Mathematics and Statistics courses at the 2000 level or higher, at least 6 credit hours shall be in courses at the 3000 level or higher (Physics 3820 can be used in place of a Mathematics course at the 3000 level); and 3 credit hours in one of Computer Science 1510, 1710, or Engineering 1020
Physics Minor Physics 1050 (or 1020), 1051, 2053, 2056, 2820. An additional 9 credit hours in Physics at the 2000-level or above.
Science Minor The Minor in Science may be chosen in courses from the following disciplines: Biology, Chemistry, Computer Science, Earth Sciences, Environmental Science, Mathematics, Physics, Science, and Statistics. Students who have completed courses drawn from other Science disciplines must obtain approval of the ~~Head of Science~~ Committee on Student Academic Affairs, upon recommendation from the Dean. Mathematics 1000 6 additional credit hours in first year science courses (At least 3 credit hours must be in a laboratory course chosen from any science discipline except mathematics). Five science courses beyond the 1000 level, at least 6 credit hours of which must be beyond the 2000 level. (Mathematics 1001 may be substituted for one of the 2000 level science courses).

~~Students for the Bachelor of Science degree offered by the School of Science and the Environment may complete a minor offered by the School of Science and the Environment, the School of Arts and Social Science or the School of Fine Arts. See **Table 23 Minor Programs Offered by the School of Arts and Social Science**, or from **Table 5 Minor Program Offered by the School of Fine Arts**, or from **Table 11 Minor Programs Offered by the School of Science and the Environment**.~~

Page 197, 2018-2019 Calendar, renumber "7.5 Bachelor of Nursing (Collaborative)" as "7.4 Bachelor of Nursing (Collaborative)".

Page 197, 2018-2019 Calendar, under the heading 8.3 Course Requirements for Honours Bachelor of Arts or Bachelor of Science Degrees, amend the section as follows:

"Students for the Honours Degree of Bachelor of Arts or Bachelor of Science shall complete a program of studies which shall consist of not fewer than 120 credit hours subject to the following regulations:

1. All students are required to complete the Core Program Requirements ~~governing the Bachelor of Arts and Bachelor of Science degrees at Grenfell Campus~~ governing the Bachelor of Arts and Bachelor of Science degrees in either the School of Arts and Social Science (for the Honours Bachelor of Arts or Honours Bachelor of Science in Psychology) or the School of Science and the Environment (for the Honours Bachelor of Science in Environmental Science).

2. All students must also submit an Honours thesis or dissertation on an approved topic which may be followed by an oral examination thereon. Two copies of the Honours thesis/dissertation must be submitted to the University Library upon completion. All Honours theses/dissertations in the University Library shall be available for unrestricted consultation by students and faculty except under very exceptional circumstances which must be approved by the ~~Academic Studies Committee~~ relevant Committee on Student Academic Affairs. Copyright remains with the author. A signed release form must accompany a thesis or dissertation when it is submitted to the University Library.

3. Further courses shall be chosen:

a. minimum 60 credit hours in the major and, where applicable, not fewer than 24 credit hours in the minor; and
b. courses to make up a minimum of 120 credit hours, other than those required for the Core Program, major and minor, shall be chosen as follows:
i. any courses in Arts, Science, Social Science and Fine Arts
ii. up to 15 credit hours in other subject areas."

School of Science and the Environment – Core Program Requirements (cont'd)

Page 198, 2018-2019 Calendar, under the heading 8.9.1 Course Requirements for Honours in Environmental Science (B.Sc.), amend the section as follows:

"3. Students must complete 3 additional credit hours in courses at the 4000 level. These courses normally will be drawn from the student's honours stream as follows:

a. For the Honours Bachelor of Science in Environmental Science (Biology), a further course chosen from: Environmental Science 4069, 4131, 4133, 4240, 4479

b. For the Honours Bachelor of Science in Environmental Science (Chemistry), a further course chosen from: Environmental Science 4069, 4131, 4240, 4249, 4479

Students, in close consultation with a faculty advisor and the agreement of the Chair of the Program, may select fourth-year Honours requirement courses in place of those required above, so long as such selections are consistent with the Major to which they are added. Such honours selections will be subject to approval by the ~~Academic Studies Committee~~ Committee on Student Academic Affairs."

Page 200, 2018-2019 Calendar, under the heading 11.1 General Information, amend the section as follows:

- Grenfell Campus reserves the right in special circumstances to modify, alter, or waive any Grenfell Campus regulation in its application to individual students where merit and equity so warrant in the judgment of the ~~Academic Studies Committee of the Campus~~ relevant Committee on Student Academic Affairs (for the School of Arts and Social Science or School of Science and the Environment) or the Academic Studies Committee (for the School of Fine Arts).

- All requests, other than requests for waiver of a prerequisite or co-requisite of a course, must be submitted to the appropriate School Committee on ~~Academic Appeals~~ Student Academic Affairs or Academic Studies Committee for consideration. Waiver of a course prerequisite or co-requisite may be granted by the course instructor.

- Any waiver granted does not reduce the total number of credit hours required for the degree.

Page 201, 2018-2019 Calendar, under the heading 13 Course Descriptions, amend the section as follows:

"In accordance with Senate's Policy Regarding Inactive Courses, the course descriptions for courses which have not been offered in the

School of Science and the Environment – Core Program Requirements (cont'd)

previous three academic years and which are not scheduled to be offered in the current academic year have been removed from the following listing. For information about any of these inactive courses, please contact the appropriate Dean of the School.

Prerequisites may be waived by the Dean/Program Chair of the course area in question.

Upon the recommendation of the appropriate Program Chair(s), any Major requirements may be waived by the ~~appropriate School Committee on Academic Appeals~~ relevant Committee on Student Academic Affairs (for the School of Arts and Social Science or School of Science and the Environment) or the Academic Studies Committee (for the School of Fine Arts).

Some of the courses in this section of the Calendar are available only at Grenfell Campus. Students who choose to transfer from Grenfell Campus to the St. John's campus should see their faculty advisor to determine the extent to which such courses can be applied to their new program."

Page 211, 2018-2019 Calendar, under the heading 13.13 Environmental Science, amend the section as follows:

"**4950 Research Project in Environmental Science** is a course, with the guidance of a faculty member, where students will conduct a scientific study based upon original research or a critical review of extant data in an appropriate area. Students are required to submit a report and give a presentation. ~~This project fulfils the Core requirement for a fourth-year individual project in the area of specialization.~~
PR: permission of Program Chair; Science 1807"

Page 217, 2018-2019 Calendar, under the heading 13.21 Mathematics and Statistics, amend the section as follows:

"**4950 Senior Project** is a course in which, under the guidance of a faculty member, students conduct a scientific study based upon original research or a critical review of extant data in an appropriate area. Normally the project will have a computational component. Students are required to submit a report and give a presentation. ~~This project fulfils the Core requirement for a fourth-year individual project in the area of specialization. This is a Designated Writing Course.~~
PR: permission of Program Chair"

Page 220, 2018-2019 Calendar, under the heading 13.23 Physics, amend the section as follows:

School of Science and the Environment – Core Program Requirements (cont'd)

"**4100 Senior Physics Seminar** is a review of current topics in Physics discussed in a seminar format. Seminars are presented by faculty, students, and guest speakers. Topics are normally drawn from the fields of sub-atomic & nuclear physics or astronomy & cosmology. ~~This is a designated Writing course.~~
PR: normally restricted to Physics students who have completed 78 credit hours or more"

Page 224, 2018-2019 Calendar, under the heading 13.27 Science, amend the section as follows:

"**4000 Senior Science Seminar** is a review of current topics in science discussed in a seminar format. Seminars will be presented by faculty, students and guest speakers. ~~This will be a designated Writing Course.~~
PR: Permission of the Program Chair. This course is restricted to students in the General Science program who have completed 80 credit hours or more.

4950 Senior Project requires students to work either individually or in pairs on developing a poster presentation on specific scientific topics of current interest. This will require a detailed proposal, followed by the necessary relevant research in appropriate journals and Internet sources. Participants in this course will organize a mini-conference, to be held at the end of semester, at which these posters will be presented. Where appropriate, students will be encouraged to integrate knowledge from at least two different scientific disciplines in the development of this project. ~~This will be a designated Writing Course.~~
PR: This course is restricted to students in the General Science program who have completed 80 credit hours or more.

4951 Honours Project I is the preparation of a project proposal under the guidance of a faculty supervisor, including a comprehensive bibliographical review, with the aim of producing a well-annotated Bibliography. ~~This will be a designated Writing Course.~~
PR: Permission of the Program Chair. This course is restricted to students in the General Science program who have completed 80 credit hours or more.

4959 Honours Project II is a continuation of SCI 4951. Under the supervision of a Faculty Advisor, students will prepare an Honours Thesis. The preparation of this will entail some original research, and will require the student to integrate knowledge from at least two disciplines. ~~This will be a designated Writing Course.~~
PR: SCI 4951 and permission of the Program Chair"

29.2 School of Science and the Environment – Revisions to Major

Page 192, 2018-2019 Calendar, under the heading 7.4.3 Bachelor of Science with Major in Environmental Science, amend Table 6 Bachelor of Science with Major in Environmental Science as follows:

Table 6 Bachelor of Science with Major in Environmental Science

Required Courses	**Elective Courses**
Courses as outlined under **Grenfell Campus Core Program Requirements, Breadth of Knowledge Requirement**, **Literacy Requirement**, and **Quantitative Reasoning and Analysis Requirement**.	Elective courses to make up the total of 120 credit hours, other than those required for the **Grenfell Campus Core Program Requirement** and Major/Minor requirements, may be chosen according to the following guidelines: Any courses in arts, social science, science and fine arts and Up to 15 credit hours in other subject areas.
Environmental Science Core A student must complete 5~~445~~ credit hours as follows: Biology 1001, 1002, 2600 Chemistry 1200/1001 sequence or Chemistry 1050/1051 sequence. It is strongly recommended that students complete one of these sequences of Chemistry courses in their first year. Earth Sciences 1000 Mathematics 1000 ~~(or 1080 and 1081)~~, Statistics 2550 or equivalent ~~One of~~ Physics 1020 or 1050 ~~and one of Physics 1021 or 1051~~ Environmental Science 2000, 3000, 4000 Environmental Science 4950 (or 4951) Two of Environmental Science 4069, 4131, 4133, 4369, 4479, Environment and Sustainability 4201 ~~a minimum of~~ 3~~6~~ credit hours chosen from ~~Anthropology 3083, Economics 1010 (or the former 2010), 3080, Environment and Sustainability 4201,~~ Philosophy 2130 or the former 2561, Political Science 3351 or the former 3550, 3631 or the former 3731, Religious Studies 3880; students are encouraged to take additional courses from this list as electives ~~a minimum of~~ 6~~9~~ credit hours chosen from ~~Environmental Science 2261,~~ Environmental Science 2360, Environmental Science 2370, ~~Environmental Science 2371,~~ Environmental Science 2430, ~~Environmental Science 2450,~~ Environmental Science 3072, ~~Environmental Science 3470,~~ Environment and Sustainability 2000 (this course is strongly recommended for the Biology Stream of the Environmental Science program); students are encouraged to take additional courses from this list as electives It is recommended that students complete Environmental Science 1000. ~~It is strongly recommended that students considering the Chemistry stream of the Environmental Science program complete Mathematics 1000, Physics 1020 or 1050 and one of Physics 1021 or 1051 in their first year~~.	If a student decides to complete a minor, it must be comprised of 8 courses, 24 credit hours chosen from **Table 23 Minor Programs Offered by the School of Arts and Social Science**, or from **Table 5 Minor Program Offered by the School of Fine Arts**, or from **Table 11 Minor Programs Offered by the School of Science and the Environment**.

Environmental Science Streams ~~39 credit hours in~~ A student must complete one of the following streams**:** **Biology stream** 27 credit hours as follows**:** Biology 2010, 2122 Chemistry ~~1200/1001 sequence or Chemistry 1050/1051 sequence, and one of Chemistry 2210 or Chemistry 2301 or 2440 or 2400/2401 sequence, or Chemistry 1010/1011 sequence and Chemistry~~ 2440 One of Earth Sciences 1002 or Physics 1021 or Physics 1051 Environmental Science 3110, 3130, 3131, 4132, 4140 (or equivalent field course) ~~Two of Environmental Science 4069, 4131, 4133, 4240, 4369, 4479~~ ~~one additional laboratory (Science/Statistics/GIS) course beyond the first year level excluding Environmental Science Core courses. A course used to fulfill a stream requirement cannot also be used as a Group C course in the Environmental Science Core.~~ **Chemistry stream** 33 credit hours as follows**:** ~~Chemistry 1200/1001 sequence or Chemistry 1050/1051 sequence. It is strongly recommended that students complete one of these sequences of Chemistry courses in their first year.~~ Chemistry 2210, 2301~~/2302~~, ~~Chemistry~~ 2400~~/~~, 2401 ~~or equivalent~~ Environmental Science ~~2261,~~ 3210, 3211, 3260, 3261, 4230 ~~Two of Environmental Science 4069, 4131, 4240, 4249, 4369, 4479~~ Mathematics 1001 Physics 1021 or 1051 It is strongly recommended that students considering the Chemistry stream of the Environmental Science program complete Mathematics 1000 and 1001, Physics 1020 or 1050 and one of Physics 1021 or 1051 in their first year; Biology 1001/1002 may be delayed until second year for students in the Chemistry stream of the Environmental Science program. ~~Mathematics 1001 which should be completed in the first year of studies~~	

Page 193, 2018-2019 Calendar, under the heading 7.4.3.1 Articulation Agreement – Bachelor of Science with Major in Environmental Science for Graduates of the Three-Year Environmental Technology Diploma Program Offered by the College of the North Atlantic, amend the section as follows:

"**~~7.4.3.1 Articulation Agreement - Bachelor of Science with Major in Environmental Science for Graduates of the Three-Year Environmental Technology Diploma Program Offered by the College of the North Atlantic~~**

~~The program may be completed on a full or part-time basis as set out under **Table 7 Bachelor of Science with Major in Environmental Science for Graduates of the Three-Year Environmental Technology Diploma Program Offered by the College of the North Atlantic**.~~

~~An articulation agreement has been established with the College of the North Atlantic for those students who have completed the three-year Environmental Technology diploma program and who wish to obtain a Bachelor of Science degree (Major in Environmental Science). Students who have graduated from the three-~~

School of Science and the Environment – Revisions to Major (cont'd)

~~year Environmental Technology Diploma Program offered by the College of the North Atlantic, or who are in their final semester of this program, can apply for entry with advanced standing into the Environmental Science Degree Program offered at Grenfell Campus. Upon admission to the university, such students will enter the second year of either stream of the Environmental Science Degree Program.~~

~~Students will be given unspecified credit for 45 credit hours towards the 120 credit-hour degree program. Included in these 45 credit hours will be 9 credit hours for unspecified writing courses, of which 6 credit hours will be at the 1000 level and three will be at the 2000 level. In addition, 6 of these credit hours will be for unspecified credit at the 2000 level satisfying Group B, breadth of knowledge requirement.~~

~~Students gaining entry into the Environmental Science Degree Program at Grenfell Campus will need to satisfy all other core program requirements specified for Grenfell Campus degree programs. As well, they will need to satisfy all other course requirements specified for their specific stream in environmental Science and meet the requirements outlined under **Table 7 Bachelor of Science with Major in Environmental Science for Graduates of the Three-Year Environmental Technology Diploma Program Offered by the College of the North Atlantic**.~~

~~Table 7 Bachelor of Science with Major in Environmental Science for Graduates of the Three-Year Environmental Technology Diploma Program Offered by the College of the North Atlantic~~

~~Required Courses~~
~~6 credit hours from **Group A Breadth of Knowledge Requirement** and 21 credit hours in additional designated **Writing** courses which may include Environmental Science core and stream courses~~
~~Environmental Science Core~~ ~~Biology 2600~~ ~~Environmental Science 4000~~ ~~Environmental Science 4950~~ ~~Statistics 2550 or equivalent~~ ~~6 credit hours from Anthropology 3083, Economics 1010 (or the former 2010), 3080, Philosophy 2130 or the former 2561, Political Science 3351 or the former 3550, Political Science 3631 or the former 3731, Religious Studies 3880~~ ~~9 credit hours from Environmental Science 2261, 2360, 2370, 2371, 2430, 2450, 3072, 3470, Environment and Sustainability 2000 or equivalent~~
~~one of the following streams:~~ **~~Biology Stream~~** ~~Biology 2010, 2122~~ ~~the former Chemistry 2300 or 2440 or 2400/2401~~ ~~Environmental Science 3110, 3130, 3131, 4132, 4140 (or an equivalent field course)~~ ~~6 credit hours from Environmental Science 4069, 4131, 4133, 4240, 4479~~ ~~3 credit hours in an additional science or statistics laboratory course at the 2000 level or higher, excluding Environmental Science core courses~~ **~~Chemistry Stream~~** ~~Chemistry 2210, the former 2300, 2400, 2401~~ ~~Environmental Science 2261, 3210, 3211, 3260, 3261, 4230~~ ~~6 credit hours from Environmental Science 4069, 4131, 4240, 4249, 4479~~

School of Science and the Environment – Revisions to Major (cont'd)

Page 196, 2018-2019 Calendar, under the heading 7.4.6 Minor Programs Offered by the School of Science and the Environment, amend the section as follows:

"**7.4.6 Minor Programs Offered by the School of Science and the Environment**

www.grenfell.mun.ca/minor

Table 11 Minor Programs Offered by the School of Science and the Environment

Economics Minor Economics 1010 (or the former 2010), 1020 (or the former 2020), 3000, 3010 12 additional credit hours in Economics of which at least 6 must be at the 3000 or 4000-level
Environment and Sustainability Minor Environment and Sustainability 1000, 2000, 2001, 3000 Environmental Science 1000 9 additional credit hours in Environment and Sustainability which must be at the 3000 or 4000 level
Environmental Science Biology Minor Biology 1001, 1002, 2010, 2122, 2600 3 credit hours from Environmental Science 3110, 3130, 3131, 4131 An additional 6 credit hours in ~~courses with the~~ Environmental Science ~~designation~~ of which at least 3 credit hours must be at the 3000 or 4000 level.
Environmental Science Chemistry Minor Chemistry 1200, 1001, 2210, ~~the former Chemistry 2300 (or~~ 2301~~)~~, ~~Chemistry~~ 2440 3 credit hours from Environmental Science 3210~~,~~ or 3261~~, 4240~~ An additional 6 credit hours in ~~courses with the~~ Environmental Science ~~designation~~ of which at least 3 credit hours must be at the 3000 or 4000 level
Environmental Science Minor Biology 1001, 1002 and 2600 or Chemistry 1200, 1001, and ~~one of Chemistry~~ 2440 ~~or Environmental Science 2261~~ Environmental Science 2000 Additional 12~~15~~ credit hours in science courses within the Environmental Science program of which at least 6 credit hours must be at the 3000 or 4000 level
Geography Minor Geography 1050, 2001, 2102, 2195, 2302, 2425 6 additional credit hours in Geography which must be at the 3000 or 4000 level.
Mathematics Minor Mathematics 1000, 1001 either 18 additional credit hours from Mathematics and Statistics courses at the 2000 level or higher, at least 6 credit hours shall be in courses at the 3000 level or higher (Physics 3820 can be used in place of a Mathematics course at the 3000 level); or 15 additional credit hours from Mathematics and Statistics courses at the 2000 level or higher, at least 6 credit hours shall be in courses at the 3000 level or higher (Physics 3820 can be used in place of a Mathematics course at the 3000 level); and 3 credit hours in one of Computer Science 1510, 1710, or Engineering 1020
Physics Minor Physics 1050 (or 1020), 1051, 2053, 2056, 2820. An additional 9 credit hours in Physics at the 2000-level or above.
Science Minor The Minor in Science may be chosen in courses from the following disciplines: Biology, Chemistry, Computer Science, Earth Sciences, Environmental Science, Mathematics, Physics, Science, and Statistics. Students who have completed courses drawn from other Science disciplines must obtain approval of the Head of Science. Mathematics 1000 6 additional credit hours in first year science courses (At least 3 credit hours must be in a laboratory course chosen from any science discipline except mathematics). Five science courses beyond the 1000 level, at least 6 credit hours of which must be beyond the 2000 level. (Mathematics 1001 may be substituted for one of the 2000 level science courses).
Students for the Bachelor of Science degree offered by the School of Science and the Environment may complete a minor offered by the School of Science and the Environment, the School of Arts and Social Science or the School of Fine Arts. See **Table 23 Minor Programs Offered by the School of Arts and Social Science**, or from **Table 5 Minor Program Offered by the School of Fine Arts**, or from **Table 11 Minor Programs Offered by the School of Science and the Environment**.

School of Science and the Environment – Revisions to Major (cont'd)

Page 198, 2018-2019 Calendar, under the heading 8.9 Honours in Environmental Science (B.Sc.), amend the section as follows:

"**8.9 Honours in Environmental Science (B.Sc.)**

8.9.1 Course Requirements for Honours in Environmental Science (B.Sc.)

1. Students must meet the General Regulations for Grenfell Campus Bachelor of Science degree.
2. Students must complete 81 or 8775 credit hours as follows:
a. the Environmental Science Core requirements as outlined under **Bachelor of Science with Major in Environmental Science**.
b. the course requirements of a specific stream as outlined under **Bachelor of Science with Major in Environmental Science**.
3. Students must complete 3 additional credit hours in courses at the 4000 level. These credit hours courses normally will be drawn from the student's honours stream as follows:
a. For the Honours Bachelor of Science in Environmental Science (Biology), a further course chosen from: Environmental Science 4069, 4131, 4133, 4240, 4369, 4479, and Environment and Sustainability 4201
b. For the Honours Bachelor of Science in Environmental Science (Chemistry), a further course chosen from:
Environmental Science 4069, 4131, 4240, 4249, 4479
Students, in close consultation with a faculty advisor and the agreement of the Chair of the Program, may select fourth-year honours requirement courses in place of those required above, so long as such selections are consistent with the Major to which they are added. Such honours selections will be subject to approval by the School of Science and the Environment Committee on Student Academic Affairs Academic Studies committee.
4. Honours graduates of the Environmental Science Program will have also completed a two-semester research project consisting of a research proposal and literature review course (Environmental Science 4951) and a research project course (Environmental Science 4959).
5. In order to be considered for graduation with an Honours degree, the candidate must satisfy the regulations regarding **Academic Standing** as specified under **Honours Degrees**.
Courses used to calculate the academic standing as outlined under **Honours Degrees** include all required Environmental Science and Chemistry courses for the Chemistry stream students and all required Environmental Science and Biology courses for the Biology stream students, excluding, in both cases, 1000 level courses.
More specifically, courses normally used for calculations would be:

School of Science and the Environment – Revisions to Major (cont'd)

Biology stream
Biology 2010, 2122, 2600
~~Three~~ Two of: Environmental Science ~~2261,~~ 2360, 2370, ~~2371,~~ 2430, ~~2450,~~ 3072, ~~3470,~~ or Environment and Sustainability 2000
Environmental Science 3110, 3130, 3131, 4132, 4140 (or equivalent)
Three of: Environmental Science 4069, 4131, 4133, ~~4240,~~ 4369, 4479, or Environment and Sustainability 4201
Environmental Science 2000, 3000, 4000, 4951, 4959
Chemistry stream:
Chemistry 2210, 2301, ~~2302,~~ 2400, 2401
Two of: Environmental Science 2360, 2370, ~~2371,~~ 2430, ~~2450,~~ 3072, ~~3470,~~ or Environment and Sustainability 2000
Environmental Science ~~2261,~~ 3210, 3211, 3260, 3261, 4230
Three of: Environmental Science 4069, 4131, 4133, ~~4240, 4249,~~ 4369, 4479, or Environment and Sustainability 4201
Environmental Science 2000, 3000, 4000, 4951, 4959

8.9.2 Honours Dissertation for Honours in Environmental Science (B.Sc.)

The honours project sequence (Environmental Science 4951 and 4959) involves the production of an honours dissertation. This dissertation will be evaluated by a three member committee that includes the dissertation supervisor(s) and that is approved by the Environmental Science faculty unit."

Page 212, 2018-2019 Calendar, under the heading 13.13.3 Other Environmental Science, amend the section as follows:

13.13.3 Other Environmental Science

1000 Introduction to Environmental Science is an introduction to the study of the environment. Environmental principles, issues and problems will be described and placed in a historical and societal context.

2000 Sampling Methods in Environmental Science introduces students to common field and laboratory techniques and monitoring practices in environmental science, in an interdisciplinary manner. The importance of field sampling and equipment used in field and laboratory for environmental monitoring of aquatic and terrestrial systems will be the main focus, incorporating aspects of biology, chemistry and earth science. Modules will be a mixture of field work, laboratory work, and lectures.
PR: Science 1807 and two of Biology 1002, Chemistry 1001, Earth Sciences 1000; or permission of Chair.

School of Science and the Environment – Revisions to Major (cont'd)

2360 Geological Hazards and Natural Disasters will introduce students to the geological aspects of the natural environment and the impacts that natural geological processes and phenomena may have on humanity. The impact of geological hazards and natural disasters on human society and behaviour will be examined through case studies.
CR: Earth Sciences 2916
PR: 15 credit hours or more

2369 Introduction to Soils provides a broad background knowledge about soils. Topics covered include: the origin of soils; physical, biochemical, and engineering aspects of soils; influence on humans and their food production; soil pollution and degradation; and management and conservation of soils.
PR: Earth Sciences 1000 or the former Geography 1000

2370 Global Environmental Change is a survey of the Earth as a dynamic system. Discussion of interacting cycles that define the Earth's environment. Material cycles and energy concepts. Evolution of the atmosphere in response to lithospheric, biospheric and hydrospheric changes. Major global environmental changes from Earth's formation to present. Emphasis on self- regulating ability of the Earth system.
PR: 30 credit hours or more

2371 Oceanography is historical review of science of oceanography. Earth and Earth systems (including plate tectonics). Marine sediments and sedimentary environments. Chemical and physical properties of seawater. The atmosphere and the oceans, ocean circulation. Waves and tides, coastal environments, distribution of organisms. Applied oceanography.
PR: 30 credit hours or more

2430 Energy and the Environment considers energy, energy conversion, heat transfer, the laws of thermodynamics, nuclear processes and radiation. Practical problems such as the energy shortage, human influences on climate, resource extraction, nuclear power etc. will be discussed.
PR: Mathematics 1081 or Mathematics 1000; Physics 1021 or co-requisite Physics 1051

2450 Meteorology is an application of physics and mathematics to the study of the atmosphere. Atmospheric motion on the global, synoptic, meso- and micro-scales. An introduction to atmospheric radiation and thermodynamics, clouds and precipitation. Vertical soundings and the analysis and interpretation of surface and upper-air weather maps.

School of Science and the Environment – Revisions to Major (cont'd)

CO: Physics 1051 or prerequisite Physics 1021
PR: Physics 1021 or co-requisite Physics 1051

3000 Principles of Environmental Toxicology introduces students to the field of toxicology through the understanding of processes that include absorption, distribution, metabolism, and excretion of toxic substances; and provides an overview of the history and development of ecotoxicology. An emphasis is placed on contemporary examples of toxic substances and their effects on biological systems and the environment.
PR: Biology 1002, Chemistry 2401 or Chemistry 2440, and ENVS 2000
CR: ENVS 4240

3072 Comparative Marine Environments will investigate the physical, chemical, geological and biological characteristics of the major marine environments from the coastal zone to the abyss and from the equator to the poles. The objective of the course will be an integrated study of the parameters that define the various environments. Emphasis will be placed on the interaction of organism and environment. The influence of the environment on the form, function and behaviour or organisms and the influence of the organism in modification of the physical environment will be stressed.
PR: ENVS 2371

3470 Transport Phenomena is fundamentals of fluid flow. Conservation laws for mass, momentum, and energy. Dimensional analysis. Turbulence. Confined fluid flows. Fundamentals of heat transfer. Conduction, convention, and radiation. Diffusion, dispersion, and osmosis. Applications to transport of pollutants at the microscopic and macroscopic scale.
PR: Mathematics 1001, Physics 1020 and Physics 1021 or Physics 1050 and Physics 1051

4000 Environmental Science Seminar reviews current topics in environmental science and discusses in a seminar format. Seminars will be presented on current research and environmental issues by faculty, students and guest speakers from universities, government and industry.
PR: Environmental Science students who have completed 80 credit hours or more, to include Biology 2600, Statistics 2550 and one of Chemistry 2440, Chemistry 2401, Chemistry 2210, or the former Chemistry 2300 (or 2301).

4069 Fundamentals of Soil Systems is the physics, chemistry and Biology of soil, including inorganic soil components, chemistry of organic soil matter, soil equilibria, sorption phenomena on soils, ion exchange processes, kinetics of soil processes, redox chemistry of soils, soil acidity, saline and sodic soils, organic pollutants, trace and toxic

School of Science and the Environment – Revisions to Major (cont'd)

elements in soils, soil organisms, organic matter cycling, nutrient cycling and fertility, soil conservation and sustainable agriculture.
LC: not more than six hours per week
LH: not more than six hours per week. The laboratory will cover a number of key physical, chemical and biological properties and procedures used in soil analyses. One or more field trips will be scheduled during laboratory sessions
PR: Biology 2600, Earth Sciences 1000, one of Chemistry 2210, the former Chemistry 2300, Chemistry 2301, Chemistry 2401, or Chemistry 2440, and 6 credit hours selected from Environment and Sustainability 2000 or the former Environmental Studies 2000, ENVS 2261, 2360, 2370, 2371, 2430, 2450, 3072, 3470. It is recommended that students complete at least 80 credit hours before registering for this course; Science 1807.

4131 Environmental Restoration and Waste Management focuses on procedures aimed at restoring and rehabilitating ecosystems, with an examination of the interdisciplinary scientific basis underlying these procedures. The efficacy of management options, e.g. biomanipulation, microbial degradation and chemical treatments, involved in restoration and waste management will be evaluated. Applications and practical case studies of both aquatic and terrestrial ecosystems will be covered.
PR: Biology 2600, one of Chemistry 2210, the former Chemistry 2300, Chemistry 2301, Chemistry 2401, or Chemistry 2440, and 6 credit hours selected from Environment and Sustainability 2000 or the former Environmental Studies 2000, ENVS 2261, 2360, 2370, 2371, 2430, 2450, 3072, 3470. It is recommended that students complete at least 80 credit hours before registering for this course.

4369 Environmental Hydrology provides quantitative and qualitative study of hydrological processes and functions under different environments. It explores natural and anthropogenic impacts on quality, quantity and distribution of water in different environments. Thus. the students will develop a balanced view of the hydrological processes and functions, will be able to understand the basic tenets of water cycle modeling and will be equipped to recognize the role and impact of water management on complex natural phenomena.
PR: Biology 2600, ENVS 2369, one of Chemistry 2210, Chemistry 2301, Chemistry 2401, or Chemistry 2440, and 3 credit hours selected from Environment and Sustainability 2000 or the former Environmental Studies 2000, ENVS 2261, 2360, 2370, 2371, 2430, 3072 or the permission of the instructor and the Program Chair. It is recommended that students complete at least 75 credit hours before registering for this course.

School of Science and the Environment – Revisions to Major (cont'd)

4479 Groundwater Flow is groundwater in the hydrologic cycle. Principles of fluid flow through permeable media. Hydraulic properties of soil and rock formations. Groundwater at the local and regional scale. The unit basin model. Groundwater as a transport agent of chemicals and microbes. Groundwater resources, reservoir characterisation, and quality assessment. Groundwater contamination.
CR: Earth Sciences 3610, the former 4610
PR: ENVS 3470 or the permission of the instructor and Program Chair

4910-4930 Special Topics in Environmental Science are special topics courses in Environmental Science normally taken by students beyond the second year.

4950 Research Project in Environmental Science is a course, with the guidance of a faculty member, where students will conduct a scientific study based upon original research or a critical review of extant data in an appropriate area. Students are required to submit a report and give a presentation. This project fulfils the Core requirement for a fourth-year individual project in the area of specialization.
PR: permission of Program Chair; Science 1807

4951 Honours Project in Environmental Science I is a course, under the guidance of a designated supervisor (or supervisors), where the student will prepare a thesis proposal including a comprehensive literature review of the subject of their Honours thesis. Students will present the results of their work in both written and oral form.
PR: restricted to Environmental Science students who have been accepted into the Honours option; Science 1807

4959 Honours Research Project in Environmental Science II is a continuation of ENVS 4951 specifically for Honours students. Under the supervision of faculty member(s), students will carry out an original research project in environmental science. Students will present both a thesis and seminar on their research.
PR: ENVS 4951 and admission to the honours program; Science 1807"

Page 158, 2018-2019 Calendar, under the heading List of Tables, amend the section as follows:

"**List of Tables**

School of Science and the Environment – Revisions to Major (cont'd)

School of Science and the Environment – Revisions to Major (cont'd)

Page 163, 2018-2019 Calendar, under the heading 5.1.7 Science Degree, amend the section as follows:

"**5.1.7 Science Degree**

Bachelor of Science degree programs are offered under the School of Arts and Social Science and the School of Science and Environment.

The School of Science and the Environment offers the Bachelor of Science with Majors in **Computational Mathematics**,

School of Science and the Environment – Revisions to Major (cont'd)

Environmental Science, **General Science**, and **Physics** general degrees. The School of Arts and Social Science offers the **Bachelor of Science with Major in Psychology**.

The Bachelor of Science is a four year program comprised of 40 courses, 120 credit hours and may be completed on a full or part-time basis. Students must complete a minimum of 120 credit hours made up of **Core Program Requirements**, an approved concentration of courses known as a Major, an approved concentration of courses known as a Minor, and elective courses. A Minor is not required for Interdisciplinary programs or for Bachelor of Science in Computational Mathematics, Physics, or Psychology. However, students in such programs may choose to complete a Minor. A student may not use the same course to satisfy the requirements for both a Major and a Minor with the exception of Computational Mathematics. The program is available in the following five majors: Computational Mathematics, Environmental Science (Biology or Chemistry), General Science, Physics, and Psychology.

Elective courses to make up the total of 120 credit hours, other than those required for the core program and Major/Minor requirements, may be chosen according to the following guidelines: Any courses in arts, social science, science and fine arts, and up to 15 credit hours in other subject areas.

~~An Articulation Agreement with the College of the North Atlantic is in place for students who have completed the three-year Environmental Technology diploma program and who wish to complete the Bachelor of Science with Major in Environmental Science degree program at Grenfell Campus.~~ For specific admission and program requirements see **Admission/Readmission Regulations for Programs Offered by the School of Science and the Environment** and **Program Regulations - General and Honours Degree, School of Science and the Environment**."

Page 169, 2018-2019 Calendar, under the heading 6.4.2.3 Articulation Agreement for Bachelor of Science, amend the section as follows:

"**~~6.4.2.3 Articulation Agreement for Bachelor of Science~~**

~~1. For Graduates of the Three-Year Environmental Technology Diploma Program Offered by the College of the North Atlantic~~

~~A student may apply for admission into the Bachelor of Science with Major in Environmental Science program. The application for admission to programs offered by Grenfell Campus is submitted online.~~

School of Science and the Environment – Revisions to Major (cont'd)

~~Applicants who are new to Grenfell Campus should follow the application instructions at www.mun.ca/undergrad/apply. Grenfell Campus reserves the right to limit the number of spaces available in each Major and Minor program. Students must be eligible for admission or readmission to the University in a category as defined in the Calendar section **UNIVERSITY REGULATIONS** and have been awarded the Three-Year Environmental Technology Diploma Program Offered by the College of the North Atlantic.~~

~~A student in this category must apply under **Transfers from Other Post-Secondary Institutions** above.~~"

Page 188, 2018-2019 Calendar, under the heading 7.4 School of Science and the Environment, amend the section as follows:

"**7.4 School of Science and the Environment**

www.grenfell.mun.ca/school-of-science-and-the-environment

The School of Science and the Environment offers the Bachelor of Environment and Sustainability with **Majors in Environmental Studies or Resource Management** and the Bachelor of Science with Majors in **Computational Mathematics**, **Environmental Science**, **General Science**, and **Physics** general degrees.

A Bachelor of Science (Honours) degree is available in **Environmental Science**.

Minors are available in Economics, Environment and Sustainability, Environmental Science, Geography, Mathematics, Physics, and Science. Students for the Bachelor of Science degree offered by the School of Science and the Environment may complete a minor offered by the School of Science and the Environment or the School of Arts and Social Science. See **Table 19 Minor Programs Offered by the School of Arts and Social Science** and **Table 11 Minor Programs Offered by the School of Science and the Environment**.

~~An articulation agreement has been established with the College of the North Atlantic for those students who have completed the three-year Environmental Technology diploma program and who wish to obtain a Bachelor of Science degree with a Major in Environmental Science.~~ Articulation agreements have been established with the College of the North Atlantic for students who have completed the **Two-Year Fish and Wildlife**

School of Science and the Environment – Revisions to Major (cont'd)

Technician Diploma Program and the **Two-Year Forest Resources Technician Diploma Program** who wish to obtain the Bachelor of Environment and Sustainability degree.

Students previously admitted to the Bachelor of Arts, Major in Environmental Studies program and the Bachelor of Resource Management, Major in Sustainable Resource Management program must complete all program requirements by June 2021. Students currently completing the requirements of either of these programs must follow the Calendar regulations for the academic year in which they were admitted to the Major. Memorial University of Newfoundland calendars by academic year can be read at www.mun.ca/regoff/calendar.php."

29.3 Senate Committee on Undergraduate Studies (Residence Requirements)

Page 45, 2018-2019 Calendar, under the heading 6.3.2 First Degree, amend the section as follows:

6.3.2 First Degree

~~1. For a first bachelor's degree students shall have completed a minimum of 24 credit hours through attendance at classes on the campus of a recognized university or university college. Distance education courses may be used to satisfy the requirements of this clause only for the degrees of Bachelor of Business Administration, Bachelor of Business Administration (Honours), Bachelor of Maritime Studies, Bachelor of Nursing (Post-RN) and Bachelor of Technology.~~

1. ~~Students shall complete at this University the last 30 credit hours required for the degree. There are exceptions to this requirement as follows~~ More than half of the total credit hours required for the degree shall consist of the following:
   - ~~Where special circumstances warrant, and only if at least half the courses required for the degree are completed at this University, the appropriate committee on undergraduate studies may permit students to complete, at another recognized institution, not more than 15 of the last 30 credit hours or equivalent required for the degree. The courses which comprise those credit hours must be approved by the appropriate academic unit.~~
   - Courses taken at this University.
   - Courses taken at universities and/or colleges which are included in formal institutional exchange agreements with this University ~~are not subject to the requirements of this clause~~.

Senate Committee on Undergraduate Studies (Residence Requirements) (cont'd)

- Courses taken at Francophone universities, as required under specific degree program regulations~~, are not subject to the requirements of this clause~~.

2. Students who have taken courses in the subject(s) of their major at another university are required to complete ~~at least 12~~ more than half of the total credit hours in each of their ~~that~~ major subjects at this University.

30. School of Nursing – Change of Name

A proposal has been received that the name of the School of Nursing be changed to the Faculty of Nursing. It was moved by Dr. Gaudine, seconded by Dr. Naterer, and carried that this proposal be approved for recommendation to the Board of Regents for final approval.

31. Memorial University Faculty of Law Proposal

The President invited Dr. Noreen Golfman, Provost and Vice-President (Academic) via Blue Jeans to present the Memorial University Faculty of Law Proposal.

Dr. Golfman noted that many years ago a proposal came before Senate. This is a very exciting and historic moment for Memorial University.

Executive Summary

In 2012, the Law Foundation of Newfoundland and Labrador and the provincial branch of the Canadian Bar Association (CBA) supported a review of the concept of a Faculty of Law at Memorial University, a position later endorsed by the Chief Justice of Newfoundland and Labrador. That endorsement led to the establishment of the 2013 feasibility committee which, after extensive consultation, unanimously recommended that Memorial University consider establishing a law school in a report delivered to Memorial president and vice-chancellor Dr. Gary Kachanoski in December 2013. A revised committee, with a mandate to develop a detailed proposal for a Faculty of Law program, is delivering this report for consideration by the Vice President's Council, Senate and the Board of Regents.

The proposal is for a distinguished post-graduate Faculty of Law program with a complement of 100 students per year and a permanent faculty complement of 18 by the third year of the program. The proposed program pays close attention to the curriculum suggested by the Federation of Law Societies of Canada and the 2013 CBA report Equal

Memorial University Faculty of Law Proposal (cont'd)

Justice. Students will receive the same core education available at other Canadian law schools. However Memorial Law students also have the opportunity to specialize in two areas of legal expertise: Sustainable Northern Resource Development and Social Justice, both with a special attention to Aboriginal issues. We have designed the curriculum so that it can make a substantial contribution to the university's strengths in Maritime and Cold Oceans research, on the one hand, and Arts legal and social justice studies on the other. And, while there are only two courses specifying aboriginal content, we expect that most courses, if not all, will have content pertaining to Aboriginal issues and Aboriginal peoples. With this program, Memorial Law students will also be able to undertake internships throughout the province (and beyond) and gain legal experience working as court clerks and in a proposed legal aid clinic to support Newfoundland and Labradorean communities.

Consultations have taken place with individuals at Grenfell Campus, the Labrador Institute and the Marine Institute to engage Memorial's campuses in this proposal and to support their expertise and needs. Memorial's Faculty of Law will be physically situated on the St. John's campus in a new facility to be linked with the Faculty of Business Administration and, via shared green space, with the School of Social Work. The St. John's location enables students to undertake clerkships and to avail of the rich legal expertise in the city through adjunct appointments to the Law program.

The curriculum and academic regulations proposed in the appendix 1 are illustrative and full consultation will take place upon this proposal being approved by the Board of Regents.

It was moved by Dr. Golfman and seconded by Dr. Anderson that Senate endorse the Memorial University Faculty of Law Proposal.

The floor was then opened up for questions/comments from Senators which included:

- Letters of support date back to 2013. Do the supporters still support?
  - Did not go back but many people have been consulted.
- Do we anticipate we have enough demand?
  - Expectation is not all students will come from Newfoundland.
- What is Senate being asked to approve?
  - Approve the Law Faculty.
- There is a shortage of lawyers in rural Newfoundland. What makes you confident that a law faculty at Memorial University will help address this problem?

Memorial University Faculty of Law Proposal (cont'd)

-Memorial has experience in this area, the Faculty of Medicine has been recognized many times for its work in placing doctors in rural areas of the province

- Critical assessment of the proposal should not be undermined.
- Curriculum – Ethics and Professional Responsibility. Need to look more carefully at the courses.
- Admissions – Must normally have completed a university degree. Are we going to admit students with a high school diploma? This causes considerable concerns.

  -Similar to the criteria of other law schools allows for admission of candidates after partial completion of an undergraduate degree. No intention of admitting candidates from high school
- Total Expenditures - $8,970,000. How are we going to get this money?
  - Confident there are donors eager to donate to this faculty. We need to have a faculty for them to donate to.
- University Library involved in supporting needs of students. Library is ready to serve students.
- Concerned about Provincial Government funding.
  - It was noted that the provincial government recently announced funding of two aboriginal students at the University of Saskatchewan law school
  - Discussion with government on funding can begin once a Faculty of Law has been established
- Intrigued to have a Law Faculty but concerned about the risks.
- Will another Law School be required to oversee Memorial's Faculty of Law?
- Marine Law very important for the Province and should be a key element of the curriculum
- Do a market study on student demand.
- Timeline for opening of Law Faculty if passed today?
  - 3-4 years
- Will the Library be in the same building with the Law Faculty?
  - Yes.
- Was the Legal Research Unit concept considered?
  - The Committee considered the suggestion but opted not to.
- Conditional approval pending the cost-neutrality of the Faculty.
- Do we know the dollar amount that donors are willing to make?
- The Law Faculty should be cost neutral, including infrastructure, to the University.
  - It was agreed to add this to the motion as a friendly amendment.
- Is $30,000 a year a starting point for tuition? Could it be more?
- Canadian average for law schools is $17,000 a year.
- Are there any Schools/Faculties that are well over the national average?
  - We have a number of graduate programs that are higher.

Memorial University Faculty of Law Proposal (cont'd)

- Social justice aspect is a very significant component.
- There is an increase in the number of students versus faculty from the 2013 proposal to the new proposal.
  - Required to assist in the budget of the Faculty of Law
  - Confident in the ability to recruit this number of students based on the number of applicants to law schools in Canada who do not gain admission
- Do we foresee meeting the challenge of instructors by way of per-course instructors?
  - A lot of legal expertise in the legal community who could teach a course or offer their expertise.

The President invited Judge Faour to give some remarks to Senate.

Judge Faour noted that he is in favour of a Law Faculty in the Province. Academic infrastructure is important to society. There is a gap in the judicial system in our Province as we don't have a Law Faculty. We need to develop our legal culture and not send students away to study. In the Memorial University Statute Law is currently the only one missing. Many Canadians are studying abroad as not enough space in Canadian universities. There is no problem in attracting students. The Law Faculty is well overdue. In 1946, several professors conducted a survey to see what it would take for the college to become a university. The university would have four faculties: Arts, Science, Education and Law. Medicine School was not mentioned. This would be good for the university and the judicial system.

The motion, along with the friendly amendment, that Senate endorse the Memorial University Faculty of Law Proposal and that the Faculty of Law be cost neutral, including infrastructure, to the University, was put to a vote and carried, and will be forwarded to the Board of Regents for final approval.

32. Any other business

32.1. Chair's Remarks

The President commented on the following:

- No Budget Proposals received yet
- No guidance on Pension agreement from Government
- Terms of Reference for Post-Secondary Education Review are out
  - Putting comments on the website/categories of review
- Fall Convocation
  - More Graduate degrees were given out than Undergraduate degrees

Chair's Remarks (cont'd)

- Alumni Events
- Nunavut Arctic College Partnership
- Remembrance Day
- Ottawa Affinity Event

33. ADJOURNMENT

The meeting adjourned at 5:55 p.m.

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CHAIR SECRETARY