

MEMORIAL UNIVERSITY OF NEWFOUNDLAND  
SENATE

The regular meeting of Senate was held on December 11, 2018, at 4:00 p.m. in the Lecture Theatre in the Physical Education Building, Room 2001.

34. PRESENT

The President, Dr. N. Golfman, Dr. N. Bose, Dr. R. Shea (for Mr. G. Blackwood), Dr. J. Keshen (via videoconferencing), Dr. K. Anderson, Dr. S. Bugden, Dr. I. Dostaler, Dr. A. Gaudine, Dr. D. Hardy-Cox, Dr. G. Naterer, Mr. T. Nault, Dr. M. Piercey-Normore (via videoconferencing), Dr. L. Rohr, Ms. B. Simmons, Dr. J. Simpson, Dr. A. Surprenant, Dr. T. Adey, Ms. A. Ambi, Dr. E. Bezzina (via videoconferencing), Mr. P. Brett, Dr. J. Connor, Professor A. Fisher, Dr. G. George, Dr. E. Haven, Dr. J. Hawboldt, Dr. R. Haynes, Dr. E. Kendall, Dr. F. Kerton, Dr. J. Leibel, Dr. S. MacDonald, Dr. M. Marshall, Dr. J. Munroe, Dr. W. Okshevsky, Dr. K. Parsons, Dr. D. Peters, Dr. A. Rose, Ms. H. Skanes, Mr. P. Stewart (via videoconferencing), Dr. J. Westcott, Dr. R. Whitaker, Ms. S. Jamil, J. Godfrey, Ms. B. Howard.

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

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.

**Welcome:**

**New Senator**

Dr. Brenda LeFrancois - Social Work

**New Graduate Student Union Representative**

Ms. Sana Jamil

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.

35. APOLOGIES FOR ABSENCE

Apologies were received from Dr. L. Robinson, Dr. N. Daneshtalab, Dr. M. Haghiri, Mr. D. Howse, Dr. S. McConnell, Dr. M. Woods.

36. CHANGE TO AGENDA

The President noted that a Motion regarding Academic Amnesty – Day of Action has been received from the Memorial University of Newfoundland Students’ Union. It was moved by J. Godfrey, seconded by Ms. Howard, and carried to add this item to the Agenda as item 8.B.

37. MINUTES

It was moved by Dr. Okshevsky, seconded by Dr. George and carried that the Minutes of the regular meeting held on November 13, 2018, be taken as read and confirmed.

38. REPORT OF THE SENATE COMMITTEE ON HONORARY DEGREES AND CEREMONIAL

Senate moved into a closed session for this item of business in accordance with **Section IV.E.2. SENATE MEETINGS AND PROCEDURES** of the Handbook of Senate By-Laws and Procedures which reads:

*Matters of a confidential nature, including honorary degrees, shall be discussed in closed session; observers are not permitted to attend closed sessions.*

38.1 Honorary Degree Nominations

The names of nine candidates recommended by the Committee on Honorary Degrees and Ceremonial were presented to the Senate for awarding of doctoral degrees honoris causa. Each candidate was approved by at least a two-thirds majority vote.

38.2 Public Orator

The Senate Committee on Honorary Degrees and Ceremonial recently concluded a search to fill the role of Public Orator. The Committee unanimously agreed to recommend to Senate the appointment of Dr. Jennifer Lokash, Department of English, to the role of Public Orator for a period of five years.

It was agreed that Dr. Jennifer Lokash be appointed to the position effective immediately, for a period of three years with renewal at the pleasure of Senate.

## CONSENT AGENDA

It was moved by Dr. George, seconded by Dr. Surprenant and carried that the consent agenda, comprising the items listed in 39-41 below, be approved as follows.

39. Report of the Senate Committee on Undergraduate Studies

39.1 Office of the Registrar (Science 1807 and 1808)

Page 526, 2018-2019 Calendar, under the heading 12.12 Science, amend the section as follows:

**“1807 Safety in the Scientific Laboratory** introduces students to safety practices required for working in science laboratories where hazards are present. Students complete ~~an individual~~ online modules in Laboratory Safety and WHMIS. Normally, it will be taken before the start of the semester in which students take their first science laboratory course with this prerequisite, and it must be completed no later than the first Friday of the semester. Check department lists of courses to see where this is a prerequisite.

CH: 0

OR: only offered online; completion time estimated to be one ~~two~~ hours

**1808 WHMIS** introduces students to Newfoundland and Labrador’s Workplace Hazardous Materials Information System (WHMIS). Students will complete an online module in WHMIS. Normally, it will be taken before the start of the semester in which students take their first science laboratory course with this prerequisite, and it must be completed no later than the first Friday of the semester. Check department lists of courses to see where this is a prerequisite.

CH: 0

OR: only offered online; completion time estimated to be one hour

**Abbreviated Course Title:** WHMIS”

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

**“1808 WHMIS** introduces students to Newfoundland and Labrador’s Workplace Hazardous Materials Information System (WHMIS). Students will complete an online module in WHMIS. Normally, it will be taken before the start of the semester in which students take their first science laboratory course with this prerequisite, and it must be completed no later than the first Friday of the semester. Check department lists of courses to see where this is a prerequisite.

CH: 0

OR: only offered online; completion time estimated to be one hour

**Abbreviated Course Title:** WHMIS”

Page 425, 2018-2019 Calendar, under the heading 12 Course Descriptions, amend the section as follows:

Office of the Registrar (Science 1807 and 1808) (cont'd)

**“1002 Anatomy and Physiology I** explores normal human anatomy and physiology. Students will develop an understanding of the interrelationships of all body systems, from the chemical and cellular levels to the level of the whole organism. Special emphasis is given to the integumentary, skeletal, muscular, nervous and endocrine systems.

CR: Pharmacy 2002 or the former Pharmacy 3201

LH: 2

PR: Science 1807 and Science 1808

**1012 Anatomy and Physiology II** explores normal anatomy and physiology. Students will develop an understanding of the interrelationships of all body systems, from the chemical and cellular levels to the level of the whole organism. Special emphasis is given to the circulatory, respiratory, urinary, digestive, and reproductive systems, including pregnancy and delivery.

CR: Pharmacy 2003 or the former Pharmacy 3202

LH: 2

PR: NURS 1002, Science 1807 and Science 1808”

Page 136, 2018-2019 Calendar, under the heading 11.3 Academic Term 3 Courses, amend the section as follows:

**“3101 Engineering Professionalism I** examines issues associated with professional engineering practice and with functioning effectively in the workplace. Topics include communication, workplace and professional ethics, information literacy, equity, gender, diversity, and occupational health and safety (including first-aid). This is a writing-intensive course with a critically-reflective component. Current accreditation graduate attributes are introduced for further development throughout the program.

PR: Science 1807 and Science 1808”

Page 498, 2018-2019 Calendar, under the heading 12.1 Biochemistry, amend the section as follows:

**“2100 Introduction to Molecular Biology and Genetics** will cover the heritability of simple traits from phenotype to genotype; the discovery of DNA as the molecule of heredity; the structure and function of DNA; the elucidation of the genetic code; and the manipulation of DNA for recombinant DNA technology and biotechnology.

CO: the former BIOC 2101, Chemistry 2401, Physics 1021 or 1051. Students may replace the co-requisite Chemistry 2401 with Chemistry 2440 as a prerequisite. Chemistry 2440 may not be taken as a co-requisite of 2100.

CR: BIOC 2200, Biology 2250

LH: up to four hours on alternate weeks which will normally consist of one three hour laboratory period plus one additional hour on the following day

Office of the Registrar (Science 1807 and 1808) (cont'd)

PR: the former BIOC 2101, Chemistry 2401, Physics 1021 or 1051, ~~and~~ Science 1807 and Science 1808. Students may replace the co-requisite Chemistry 2401 with Chemistry 2440 as a prerequisite. Chemistry 2440 may not be taken as a co-requisite of 2100.

**2901 Biochemistry Laboratory** develops robust basic biochemistry lab skills in the context of a biotechnology project; students purify and characterize a recombinantly expressed enzyme. Students learn skills including safety, pipetting, buffer calculations, making solutions, protein bioinformatics, techniques for protein enrichment, enzyme kinetics measurements and calculations, graphing data, keeping a lab book, teamwork, critical analysis and presentation of their work in several formats. Students may co-author a scientific publication based on their results.

AR: attendance is required in the laboratory component of this course

CO: Chemistry 2400

LC: 1 hour

LH: 3

OR: 1 hour tutorial per week

PR: Chemistry 1051, Science 1807 and Science 1808

**3052 Food Microbiology** (same as Biology 3052) is the study of the microbiology of water and food with regard to the beneficial and detrimental roles of microorganisms on interaction with these systems. Emphasis will be on the microbiology of food, fermentations, food spoilage and food borne vectors of human disease.

CR: Biology 3052, and the former BIOC 3054, BIOC 3401

LC: three hours per week

LH: three hours per week

PR: Biology 3050 and Science 1807 and Science 1808

**3106 Metabolism** examines the catabolism of carbohydrates, lipids and amino acids. Other topics will be: mitochondria, chloroplasts and ATP synthesis; biosynthesis of carbohydrates and lipids; metabolic specialization of differentiated cells and tissues; and, integration of metabolism.

CR: BIOC 3206, the former BIOC 3102 or Pharmacy 3111

LH: one three-hour laboratory or one-hour tutorial per week

OR: one-hour tutorial or one three-hour laboratory per week

PR: BIOC 2201 or the former 2101, ~~and~~ Science 1807 and Science 1808

**3107 Nucleic Acid Biochemistry and Molecular Biology** examines the structure, function and biochemistry of DNA and RNA and the biochemical processes in the flow of information from the gene to protein. These will include: DNA replication, recombination and repair processes; transcription of RNA and RNA splicing; and protein synthesis. The regulation of gene expression will also be covered at an introductory

Office of the Registrar (Science 1807 and 1808) (cont'd)

level. The course will also include an introduction to cloning methodology.

CR: BIOC 3207

LH: up to four hours per week which will normally consist of one three hour laboratory period plus one additional hour on the following day.

PR: BIOC 2201 or the former 2101; and one of BIOC 2100, 2200, or Biology 2250, ~~and~~ Science 1807 and Science 1808.

**3402 Food Chemistry** examines the following topics: water structure and the role of water in chemical reactions and mechanical properties of foods; chemistry and physical properties of carbohydrates, proteins and lipids; food dispersions; pigments and natural colorants; food flavour; enzyme properties and applications; vitamins and minerals; chemistry of enzymic and non-enzymic browning; characteristics of: muscle tissue, milk, eggs, bread and edible plant tissue; food additives; and, chemical changes in foods during processing.

LH: one period per week

PR: BIOC 2005; BIOC 2201 or the former 2101; Chemistry 2400, ~~and~~ Science 1807 and Science 1808.

**3906 Nutritional Biochemistry and Metabolism Laboratory** teaches advanced biochemical lab and critical thinking skills with a focus on metabolism and nutrition-related biochemistry. Topics may include animal diet formulation, tissue culture, immunoblots, metabolic flux assays, metabolic regulation, nutrient metabolism, metabolomics and metabolic energetics. Students develop their quantitative reasoning, teamwork, and written and oral communication skills. Students may have opportunities to tour lab facilities and to co-author a scientific publication based on their results.

AR: attendance is required in the laboratory component of this course

CO: BIOC 3106 or 3206

LC: 1 hour

LH: 3

OR: 1 hour tutorial per week

PR: BIOC 2901, Science 1807 and Science 1808; BIOC 3106 or 3206

**3907 Molecular Biology Laboratory** develops biochemical lab and critical thinking skills through a molecular biology focused project. Topics may include restriction digestion, PCR amplification-based techniques, recombinant DNA and plasmid construction, gene expression systems, nucleic acid bioinformatics, and application of high through-put methods in molecular biology. Students develop their quantitative reasoning, teamwork and communication skills (written and oral). Students may have the opportunity to coauthor a peer-reviewed scientific publication based on their results.

AR: attendance is required in the laboratory component of this course

LC: 1 hour

Office of the Registrar (Science 1807 and 1808) (cont'd)

LH: 3

OR: 1 hour tutorial per week

PR: BIOC 2901, Science 1807 and Science 1808, and one of BIOC 2100, 2200, Biology 2250

**499A and 499B Dissertation** is a two-semester linked course based on independent study of a problem in Biochemistry. The subject of study will be decided in consultation with Faculty advisors and must be approved in advance by the Department. This dissertation is obligatory for Honours students in Biochemistry. The dissertation will be submitted as a formal written report accompanied by appropriate illustration before the end of the tenth week of the second semester. Before the end of the student's final semester the student will give an oral presentation of research.

CH: 6

PR: Honours students in their final year or permission of the Head; Science 1807 and Science 1808”

Page 501, 2018-2019 Calendar, under the heading 12.2 Biology, amend the section as follows:

“**1001 Principles of Biology** is an introduction to the science of Biology, including a discussion of the unity, diversity and evolution of living organisms.

LH: 3

PR: Science 1807 and Science 1808

UL: credit may be obtained for only 6 1000-level credit hours in Biology

**1002 Principles of Biology** is an introduction to the science of Biology, including a discussion of the unity, diversity and evolution of living organisms.

LH: 3

PR: Science 1807 and Science 1808; BIOL 1001

UL: credit may be obtained for only 6 1000-level credit hours in Biology

**2010 Biology of Plants** is a study of the structure, function and reproductive biology of plants, with emphasis on the vascular plants, and on their relationship to environment and human activities.

LH: 3

PR: Science 1807 and Science 1808; BIOL 1001 and 1002; Chemistry 1010 or 1050 (or the former Chemistry 1000)

**2060 Principles of Cell Biology** is a modern view of the biology of eukaryotic cells, organelles and molecules and their interactions in the functioning of living organisms.

CO: Physics 1021 or 1051; Biochemistry 2201 or the former 2101

CR: the former BIOL 3060

LH: 3

Office of the Registrar (Science 1807 and 1808) (cont'd)

PR: Physics 1021 or 1051; Biochemistry 2201 or the former 2101  
PR: Science 1807 and Science 1808; BIOL 1001, 1002; BIOL 2250;  
Chemistry 2440 or 2400

**2120 Biology for Students of Earth Sciences** is an introduction of the principles of Biology for students in Earth Sciences. Topics will include principles of classification, levels of biological organization, fundamental characteristics of living organisms and basic concepts in ecology.

CR: BIOL 1001 or 1002

LH: 3

PR: Science 1807 and Science 1808; Earth Science major; Earth Sciences 1001 or 1002 or permission of the Head of Department.

UL: may not be used for credit by Biology Majors or Minors

**2122 Biology of Invertebrates** is a study of the invertebrates with emphasis on structure and function, adaptations and life histories. The laboratories will present a broad survey of the major invertebrate groups.

CR: the former BIOL 3122

LH: 3

PR: Science 1807 and Science 1808; BIOL 1001, 1002

**2210 Biology of Vertebrates** is a study of the vertebrates, with emphasis on structure and function, adaptations and life histories.

CR: the former BIOL 3210

LH: 3

PR: Science 1807 and Science 1808; BIOL 1001, 1002

**2250 Principles of Genetics** is an introduction to Mendelian and molecular genetics. Phenotype and genotype, behaviour of alleles in genetic crosses, chromosome theory of inheritance, genetic linkage, molecular biology of DNA, RNA and protein, molecular basis of mutation, recombinant DNA, applications of genetic biotechnology.

CO: Chemistry 2440 or 2400

CR: Biochemistry 2100, the former BIOL 3250

LH: 3

PR: Science 1807 and Science 1808, BIOL 1001 and 1002; Chemistry 1010 and 1011 (or 1050/1051)

PR: Chemistry 2440 or 2400

**2600 Principles of Ecology** is a conceptual course introducing the principles of ecology, including theoretical, functional and empirical approaches.

CR: the former BIOL 3600

LH: 3

PR: Science 1807 and Science 1808; BIOL 1001 and 1002, or BIOL 2120 and admission to a major in Environmental Physics

**2900 Principles of Evolution and Systematics** is an introduction to the processes and patterns of evolution, and the principles of classification.



Office of the Registrar (Science 1807 and 1808) (cont'd)

Natural selection and other microevolutionary processes, variation and adaptation, species and speciation, phylogenetic systematics, reconstruction of phylogeny, macro-evolutionary patterns in the fossil record and their interpretation.

CO: Statistics 2550 (or equivalent)

CR: the former BIOL 3900

LH: 3

PR: Science 1807 and Science 1808; BIOL 1001, 1002, 2250

PR: Statistics 2550 (or equivalent)

**3014 Biology and Ecology of Boreal and Arctic Seaweeds** is a field course examination of seaweed biology and ecology with special study of living specimens in estuarine, fiordic and exposed coastal sites, demonstrating their physiological and ecological adaptations to cold-water habitats.

CR: the former BIOL 4014

OR: this course is offered at the Bonne Bay Marine Station during the Summer semester with two weeks of instruction followed by a week to complete course requirements

PR: Science 1807 and Science 1808; BIOL 2600 or equivalent

**3050 Introduction to Microbiology** is a course in which the basic principles underlying microbial life are studied. Aspects include structure, function, bioenergetics and growth with an emphasis on prokaryotes. Also studied are viruses, microbial diseases, introductory principles of immunology and the control of microorganisms. The laboratory sessions provide training in culture and determinative techniques using microorganisms.

LH: 3

PR: Science 1807 and Science 1808; BIOL 1001 and 1002; Biochemistry 2201 or the former 2101

**3052 Food Microbiology** (same as Biochemistry 3052) is the study of the microbiology of water and food with regard to the beneficial and detrimental roles of microorganisms on interaction with these systems. Emphasis will be on the microbiology of food, fermentations, food spoilage and food borne vectors of human disease.

CR: Biochemistry 3052 and the former Biochemistry 3054, Biochemistry 3401

LC: three hours per week

LH: three hours per week

PR: Science 1807 and Science 1808; BIOL 3050

**3053 Microbiology for Nurses** examines the fundamentals of microbiology with an emphasis on medical microbiology. The course will include topics such as: host responses to infections, human diseases caused by microorganisms, and the control and exploitation of microorganisms.

LH: 2

Office of the Registrar (Science 1807 and 1808) (cont'd)

PR: Science 1807 and Science 1808; students admitted to the Bachelor of Nursing (Collaborative) program

UL: not acceptable as one of the required courses for the Minor, Major or Honours programs in Biology, nor is it acceptable for any of the joint programs between Biology and other disciplines

**3202 Comparative Vertebrate Anatomy** examines the phylogenetic development and comparative anatomy of the vertebrates.

CR: the former BIOL 3200 or the former BIOL 3201

LH: 3

PR: Science 1807 and Science 1808; BIOL 1001 and 1002

**3295 Population and Evolutionary Ecology** is an introduction to the theory and principles of evolutionary ecology and population dynamics.

CR: the former BIOL 4290

LH: 3

PR: Science 1807 and Science 1808; BIOL 2600; at least one of BIOL 2010, 2122 or 2210

**3300 Introductory Entomology** is a study of the classification and ecology of insects within an evolutionary framework. Topics will include molecular biological and classical morphological issues surrounding insect taxonomy, evolutionary based higher systematics, and the ecological roles of insects in a variety of ecosystems.

CR: BIOL 4150 and the former BIOL 4140

LH: 3

PR: Science 1807 and Science 1808; BIOL 2600. It is recommended that students have completed BIOL 2900

**3401 Comparative Animal Physiology** is a comparative study of the basic physiological processes, with special attention paid to those strategies invoked by animals which enable them to adapt to environmental changes.

CO: Biochemistry 3106

CR: the former BIOL 4401

LH: 3

PR: Science 1807 and Science 1808; BIOL 2060 and 2210

PR: Biochemistry 3106

**3402 Principles of Plant Physiology** is a consideration of the principles of plant physiology, including water relations, nutrition, metabolism, growth and development.

CO: Biochemistry 3106

CR: the former BIOL 4403

LH: 3

PR: Science 1807 and Science 1808; BIOL 2010 and 2060

PR: Biochemistry 3106

Office of the Registrar (Science 1807 and 1808) (cont'd)

**3500 Histology** is a study of microstructure and ultrastructure of tissues and organ systems in vertebrates, particularly mammals, with emphasis on correlating structure and function.

LH: 3

PR: Science 1807 and Science 1808; BIOL 2060 and 2210

**3530 Molecular and Developmental Biology** is a study of developmental model systems with a focus on the underlying principles and molecular mechanisms involved in embryogenesis, organogenesis, morphogenesis, cellular differentiation, growth and regeneration in animals (vertebrates and invertebrates) and plants. Current cellular and molecular biology techniques and the implications of developmental biology in modern biological and health research will be emphasized.

LH: 3

PR: Science 1807 and Science 1808; BIOL 2060 and BIOL 2250 or Biochemistry 2100

**3610 Boreal Ecology** is a study of the principal features of terrestrial ecosystems, with emphasis on the boreal region. This course may be offered in a usual 13 week semester or as a two-week field course.

CR: Environmental Science 3131

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

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

PR: Science 1807 and Science 1808; BIOL 2010, 2250, 2600 and 2900; Statistics 2550 or equivalent

**3620 Aquatic Microbial Ecology** (same as the former Ocean Sciences 3620) is a study of the nature, distribution and activities of microorganisms in the freshwater and marine environments. Field and laboratory work illustrate some of the investigative techniques used in this area of study.

CR: the former Ocean Sciences 3620, the former BIOL 3603

LH: 3

PR: Science 1807 and Science 1808; BIOL 2600 and 3050; Statistics 2550 or equivalent

**3709 Field Course in Marine Principles and Techniques** begins with a two-week field school immediately prior to the beginning of the Fall Semester. In the Fall Semester there are follow-up lectures, readings and submission of reports. The course is designed to introduce the principal marine environments, organisms and techniques. It is strongly recommended that this course be taken before either BIOL 3710, 3711 or 4810.

PR: Science 1807 and Science 1808; BIOL 2600; Statistics 2550 or equivalent and permission of the Head of Department

Office of the Registrar (Science 1807 and 1808) (cont'd)

**3710 Biological Oceanography** is an introductory course in biotic and abiotic factors controlling marine biomass and primary production, emphasizing plankton and fishes. It introduces students to major groups of marine phytoplankton, zooplankton, and fishes, emphasizing how the physical, chemical, and geological environments interact with biology to define processes and pattern in marine organisms.

CR: Ocean Sciences 2000

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

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

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

**3711 Principles of Marine Biology** is an introductory course in biology of the oceans. Introduces students to marine habitats and the organisms that inhabit them, emphasizing functional morphology, physiology, biodiversity, phylogeny, and ecology. Also includes introduction to marine biogeography, conservation, fisheries and pollution.

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

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

PR: Science 1807 and Science 1808; BIOL 2122, BIOL 2600

**3712 Benthic Biology** examines the biology of the aquatic benthos (bottom-dwelling organisms); their origins, adaptations, life histories and ecological roles. This course may be offered in a usual 13 week semester or as a two-week field course.

CR: the former Biology 3630

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

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

PR: Science 1807 and Science 1808; Biology 2122, 2600 and 3710

**3714 Estuarine Fish Ecology Field Course** examines community structure, function and distribution of northern coastal fishes in fjords and estuarine environments. Emphasis on sampling, field techniques, taxonomy, quantitative characterization, adaptations and habitat relationships. A comparative approach will contrast fish communities from other areas. To be held as a two week field course.

PR: Science 1807 and Science 1808; BIOL 2600

**3715 Ecology and Evolution of Fishes** (same as the former BIOL 4600) examines the evolutionary history and ecology of the world's fishes, with particular emphasis on those of ecological, economical and cultural importance to Eastern Canada. Topics will include taxonomy, life histories, behaviour, zoogeography, evolutionary ecology, population biology, contemporary evolution, and conservation biology.

Office of the Registrar (Science 1807 and 1808) (cont'd)

CR: the former BIOL 4600

LH: 3

PR: Science 1807 and Science 1808; BIOL 2600 and 2900

**3950 Research Methods in Genetic Biotechnology** (same as the former BIOL 4900) will include DNA extraction, DNA amplification by the Polymerase Chain Reaction (PCR), DNA cloning, DNA sequence analysis and Bioinformatics. Additional modules in gene expression and re-sequencing chip technologies may be included. Theory and methods will be introduced in a research framework.

CR: the former BIOL 4900

LH: Three hours of lecture and three hours of laboratory per week or a three week on-campus course that embodies equivalent instructor time

PR: Science 1807 and Science 1808; BIOL 2060 and 2250

**4010 Virology** will examine topics about viruses infecting all forms of life including humans and other animals, plants and bacteria. The scope within the course ranges from the molecular biology of virus replication to virus evolution and ecology. Current issues concerning viruses and society are incorporated into the course including the practical applications of viruses, vaccines, and emerging viruses.

LH: Three hours of laboratory/seminar/discussion per week

PR: Science 1807 and Science 1808; BIOL 2900 and 3050

**4050 Advanced Topics in Microbiology** examines the beneficial and harmful properties of microbes including topics on industrial microbiology and the discovery of new antimicrobial agents. The scope within the course ranges from the genetic manipulation of microbes for useful purposes to the isolation of bacteria for applications in various fields. Current issues concerning microbiology and society will also be discussed including the practical applications of microbes and bacterial diseases affecting society.

LH: 3

PR: Science 1807 and Science 1808; BIOL 3050

**4122 Advanced Studies in Marine Animal Diversity** (same as Ocean Sciences 4122) provides an in-depth examination of cellular physiological, behavioural and ecological adaptations in marine animals. Lectures will be combined with discussions of relevant papers from the primary literature on topics of current interest, which may relate to morphology, ecology, evolution, natural history, species interactions and practical applications. Students will also gain hands-on experience by designing and conducting research projects involving live or preserved animals.

CR: Ocean Sciences 4122

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

Office of the Registrar (Science 1807 and 1808) (cont'd)

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

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

**4200 Immunology** (same as Biochemistry 4105 and Pharmacy 3006) is an introduction to the cells and organs of the innate and adaptive immune systems. The molecular and cellular basis of allergy, autoimmunity, vaccination and cancer immunology will also be discussed.

CR: Biochemistry 4105, Pharmacy 3006, and the former Pharmacy 4105

PR: Science 1807 and Science 1808; BIOL 2060 and BIOL 3050

**4241 Advanced Genetics** has advanced topics in modern genetic analysis, including regulation of gene expression, developmental genetics, molecular basis of inherited disease, genomics, immunogenetics, behavioural genetics, and molecular evolution.

LH: 3

PR: Science 1807 and Science 1808; BIOL 2250 and Biochemistry 2201 or the former 2101

**4245 Biophysics** is an examination of the physical properties involved in defining diffusion, membrane properties, electrochemical potentials and the processes of bioenergetics within cells and organelles. Selected topics in biomechanics and the functioning of whole organisms with respect to size, shape, support, orientation, transport and motility.

LH: 3

PR: Science 1807 and Science 1808; BIOL 2060 and Biochemistry 2201 or the former 2101

**4250 Evolutionary Genetics** has advanced topics in the study of micro and macro-evolutionary phenomena. Genetic variation in natural populations; theory of genetic drift, mutation, migration, inbreeding, and natural selection; neutral theory of molecular evolution, patterns of nucleotide substitution, heritability and quantitative genetics.

LH: 3

PR: Science 1807 and Science 1808; BIOL 2250 and 2900

**4251 Genomics** will have lecture, seminar, and laboratory components. Topics covered will include Technical Foundations of Genomics, Global Gene Expression Profiling, Bioinformatics, Comparative Genomics, Microbial Genomics, Genomics and Medicine, Genomics and Agriculture, Environmental Genomics, and Ethical Issues of Genomics. Each topic will involve a lecture component, in which theory and methods will be taught using the textbook and journal articles. Some lecture and lab times will be devoted to seminars on methods and papers related to lecture or laboratory components of the course. In the lab component, students will have the opportunity to use state-of-the-art genomic techniques to address a research question.

LH: 3

Office of the Registrar (Science 1807 and 1808) (cont'd)

OR: seminar

PR: Science 1807 and Science 1808; BIOL 2060, 2250

**4360 Community and Ecosystem Ecology** is a study of the basic principles, patterns and processes of ecological communities and ecosystems.

OR: a seminar/discussion group each week

PR: Science 1807 and Science 1808; BIOL 2250, 2600 and 2900 and one of BIOL 2010, 2122 or 2210; Statistics 2550 or equivalent

**4404 Microbial Physiology** is a study of the structure and growth of microorganisms. Themes covered in this course include the structure, function and regulation of the microbial cellular machinery, the hierarchical regulation of cellular activities, and communication between cells. Quantitative experimental methodology relating to microbial physiology is studied in the laboratory.

LH: 3

PR: Science 1807 and Science 1808; BIOL 2250 and BIOL 3050

**4405 Landscape Ecology** is an introduction to the theory and principles of landscape pattern and processes, including issues related to scale, networks, landform and vegetation patterns, species distributions, and natural and human-caused aspects of landscape change.

CO: Statistics 2550 or equivalent

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

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

PR: Science 1807 and Science 1808; BIOL 2600 and 18 credit hours in Biology; Statistics 2550 or equivalent, or permission from the course instructor

**4550 Principles of Endocrinology** comprises an introduction to basic concepts concerned with how chemical messages are transmitted and received between cells to coordinate body functions. Hormonal control of adaptation, reproduction, metabolism, growth, digestion, and electrolyte homeostasis will be discussed. Although the endocrinology of invertebrates and lower vertebrates will be mentioned as appropriate, the main emphasis will be on mammalian and human endocrinology at the level of the whole organism.

LH: 3

PR: Science 1807 and Science 1808; BIOL 3401; Biochemistry 3106

**4620 Ornithology** examines structure, classification, evolution, ecology and behaviour of birds, with particular reference to those of economic importance. Identification of the birds of Eastern Canada.

LH: 3

PR: Science 1807 and Science 1808; BIOL 2210 and 2600

Office of the Registrar (Science 1807 and 1808) (cont'd)

**4630 Mammalogy** examines evolution, systematics, life histories and distribution of mammals, with particular emphasis on eastern North American forms.

LH: 3

PR: Science 1807 and Science 1808; BIOL 2210 and 2600

**4710 Experimental Marine Ecology of Newfoundland Waters** is a two-week field course examines the ecology of cold ocean environments, focussing on energy flux through marine pelagic and benthic flora and fauna of Newfoundland waters, and how the dynamics of this environment influence linkages among organisms in different habitats. The course will be field intensive with some lecture component and a strong hands-on field component. Students will identify local organisms and study how and why they vary in time and space. This course will be offered during two weeks of the Spring semester.

PR: Science 1807 and Science 1808; BIOL 2600

**4810 Research Field Course in Marine Biology**

will consist of an intensive two-week field school designed to acquaint students with marine field research, experimental design, methodology and data analysis. Emphasis will be placed on individual projects. Projects must be designed and approved prior to the commencement of the course and will involve a written report. At the discretion of the Head of Department, another recognized field course may be substituted for BIOL 4810.

PR: Science 1807 and Science 1808; BIOL 3710 and any two of BIOL 2010, 2122 or 2210, and permission of the Head of the Department. It is strongly recommended that students take BIOL 3709 before 4810.

**4820 Field Course in Terrestrial Biology** will begin with a three-week field school immediately prior to the beginning of the Fall Semester. It is designed to acquaint students with terrestrial organisms and environments, and emphasis will be placed on survey and sampling techniques. In the Fall Semester the material and data collected in the field will be used in lecture and laboratory periods dealing with identification, analytical methods, and report compilation.

PR: Science 1807 and Science 1808; BIOL 2010, 2122, 2210, 2600 and permission of the Head of the Department. It is recommended that students complete BIOL 4605.”

Page 505, 2018-2019 Calendar, under the heading 12.3 Chemistry, amend the section as follows:

“**1010 Introductory Chemistry I** examines descriptive chemistry; measurements; atoms; molecules; the mole; mole calculations and reaction stoichiometry; the balancing of redox reactions; gases; thermochemistry; introduction to chemical kinetics and equilibrium; acids and bases.



Office of the Registrar (Science 1807 and 1808) (cont'd)

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

CR: CHEM 1200

LC: 4

LH: 3 hours biweekly alternating with tutorials

OR: 1.5 hour tutorial alternating with labs

PR: Science 1807 and Science 1808. It is recommended that students have successfully completed high school Academic Mathematics 3201, or a pass in any university level mathematics course

UL: only 6 science credit hours will be awarded for a major or honours in Chemistry from the following course groups: CHEM 1010/1011/the former 1031, or CHEM 1010/1050/1051, or CHEM 1810/1200/1001 (Grenfell Campus)

**1011 Introductory Chemistry II** examines atomic structure; periodic properties; chemical bonding including VSEPR shapes and polarity; introduction to valence bond theory and hybridization; liquids, solids and intermolecular forces; solubility equilibrium; electrochemistry.

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

CR: CHEM 1001 and CHEM 1051

LH: 3 hours biweekly alternating with tutorials

OR: 1.5 hour tutorial alternating with labs

PR: Science 1807 and Science 1808; CHEM 1010

UL: only 6 science credit hours will be awarded for a major or honours in Chemistry from the following course groups: CHEM 1010/1011/the former 1031, or CHEM 1010/1050/1051, or CHEM 1810/1200/1001 (Grenfell Campus)

**1050 General Chemistry I** builds on basic chemistry concepts from high school. Topics include gases; thermochemistry; atomic structure; periodic properties; chemical bonding including valence bond theory; hybridization and introduction to molecular orbital theory; properties of liquids and solids.

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

CR: CHEM 1200

LC: 4

LH: 3

PR: Science 1807 and Science 1808; CHEM 1010 with a grade of at least 60% or high school CHEM 3202 with a grade of at least 65%. It is also recommended that students have successfully completed high school Mathematics 3200 or 3201.

UL: only 6 science credit hours will be awarded for a major or honours in Chemistry from the following course groups: CHEM 1010/1011/the

Office of the Registrar (Science 1807 and 1808) (cont'd)

former 1031, or CHEM 1010/1050/1051, or CHEM 1810/1200/1001 (Grenfell Campus)

**1051 General Chemistry II** builds on CHEM 1050 topics and on basic chemistry concepts from high school. Topics include solutions, kinetics, chemical equilibrium, equilibria involving acids and bases including polyprotic acids, buffers, acid-base indicators, titration curves, solubility and complex ion equilibrium, thermodynamics, and electrochemistry.

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

CR: CHEM 1001 and CHEM 1011

LC: 4

LH: 3

PR: Science 1807 and Science 1808; CHEM 1050 (or Chemistry 1200 with a minimum grade of 65%)

UL: only 6 science credit hours will be awarded for a major or honours in Chemistry from the following course groups: CHEM 1010/1011/the former 1031, or CHEM 1010/1050/1051, or CHEM 1810/1200/1001 (Grenfell Campus)

**2100 Analytical Chemistry I** is an introduction to analytical chemistry and includes preparation of samples and standards, calibration methods, statistical treatment of data, spectrophotometric trace analysis, gravimetric analysis and volumetric analysis including acid-base titrations, precipitation titrations, oxidation-reduction titrations, complexometric titrations and titrations in non-aqueous systems. Also introduced are liquid-liquid and other types of extraction, and chromatography with key methods of detection. Theoretical, practical and problem-solving aspects are covered.

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

CR: the former CHEM 3100

LH: 3

PR: Science 1807 and Science 1808; minimum 60% in CHEM 1051 or a minimum 65% in either 1001 or the former 1031

**2210 Introductory Inorganic Chemistry** focuses on fundamental concepts in the chemistry of s, p, and d block elements and their compounds. Emphasis will be placed on periodic trends in physical and chemical properties, molecular symmetry, molecular orbital diagrams, simple crystal structures, Lewis acid/base theory, and introductory coordination chemistry.

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

LH: 3

Office of the Registrar (Science 1807 and 1808) (cont'd)

PR: Science 1807 and Science 1808; minimum 60% in CHEM 1051 or a minimum 65% in CHEM 1001

**2301 Thermodynamics and Kinetics** builds upon knowledge of physical chemistry from first year. It covers the three laws of thermodynamics for ideal and real systems as well as chemical kinetics. Topics in thermodynamics include the thermodynamics of ideal and real gases, phases, and solutions, the Maxwell relations, equilibria between phases, and in electrolyte solutions. The integrated rate laws for simple and complex mechanisms, and the temperature dependence of reaction rates in terms of kinetic molecular theory are some of the topics discussed in the kinetics section of the course.

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

CR: the former CHEM 2300

LH: 3

PR: Science 1807 and Science 1808; minimum 60% in CHEM 1051, or a minimum 65% in either CHEM 1001 or the former CHEM 1031; Mathematics 1001. Physics 1051 or Physics 1021 is recommended.

**2302 Quantum Chemistry and Spectroscopy** examines the quantum mechanics of simple systems such as the particle in a box, the harmonic oscillator, linear rotor, and hydrogen-like atoms. Topics also include orbital quantum numbers, spin, many electron atoms, an introduction to quantum mechanical methods, the electronic structures of molecules, bonding, and symmetry. Furthermore, electronic, rotational, and vibrational spectroscopy will be discussed as well as modern applications of spectroscopy and lasers.

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

CO: Mathematics 2000 is recommended

CR: the former CHEM 3301

LH: 3

PR: Science 1807 and Science 1808; a minimum 60% in CHEM 1051, or a minimum 65% in either CHEM 1001 or the former CHEM 1031; Mathematics 1001 and Physics 1051 or Physics 1021

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

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

CR: CHEM 2440

LH: 3

OR: 2 hours of tutorial weekly

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PR: Science 1807 and Science 1808; a minimum 60% in CHEM 1051, or CHEM 1010 and 1011 with a grade of at least 80% in each; or CHEM 1011 with a grade of at least 85%; or CHEM 1001 (or the former 1031) with a grade of at least 65%

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

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

CR: CHEM 2440

LH: 3

OR: 2 hours of tutorial weekly

PR: Science 1807 and Science 1808, CHEM 2400

**2440 Organic Chemistry for Biologists** is an introduction to the principles of organic chemistry with an emphasis on material relevant to biological molecules. The laboratory will introduce techniques and illustrate concepts covered in the course. This course is designed primarily for Biology Majors.

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

CR: CHEM 2400

LH: 3

PR: Science 1807 and Science 1808; CHEM 1051 or a minimum 60% in CHEM 1011

UL: may not be used for credit by Chemistry or Biochemistry Majors and will not serve as a prerequisite for any other Chemistry course.

**3110 Analytical Chemistry II** (same as the former CHEM 4110) builds upon the student's knowledge from CHEM 2100 (Analytical Chemistry I) and applies it to a more advanced level of instrumental quantitative analysis. The course examines error treatment, atomic emission and absorption spectroscopy, gas and liquid chromatography, capillary electrophoresis and supercritical fluid chromatography and extraction techniques, electroanalytical chemistry, molecular and atomic mass spectrometry, x-ray spectroscopy, ion and electron spectroscopy, surface analysis techniques and thermogravimetric analysis.

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

CR: the former CHEM 4100, the former CHEM 4101, or the former CHEM 4110

LH: 3

Office of the Registrar (Science 1807 and 1808) (cont'd)

PR: Science 1807 and Science 1808; CHEM 2100 or the former CHEM 3100

**3210 Main Group and Materials Chemistry** is a detailed examination of the chemistry of the s and p block elements and modern applications of inorganic chemistry in materials and nanotechnology.

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

LH: 3

PR: Science 1807 and Science 1808; CHEM 2210, CHEM 2301 or CHEM 2302; CHEM 2401; or permission of the instructor

**3211 Inorganic Chemistry** is a detailed examination of the structure, bonding, and chemistry of the d block elements.

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

LH: 3

PR: Science 1807 and Science 1808; CHEM 2210; CHEM 2301 or 2302; CHEM 2401; or permission of the instructor

**3303 Statistical Thermodynamics and Rate Theories** examines physical chemistry from the microscopic viewpoint. Topics include probability distributions, quantum statistical mechanics, statistical thermodynamics, ensembles, kinetics and introduction to statistical rate theories as well as an introduction to computational chemistry (lab).

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

CR: the former CHEM 3300

LH: 3

PR: Science 1807 and Science 1808; CHEM 2301 (or Engineering 4602), CHEM 2302, Mathematics 2000 (or Engineering 3424)

**3411 Synthetic Organic Chemistry I** is an introduction to organic synthesis. It covers the principles of organic synthesis and a range of reactions that are used in its pursuit. These reactions fall under the general headings of functional group interconversion (oxidation, reduction, protection, deprotection, substitution, elimination) and skeleton-building (reactions of carbon nucleophiles with electrophiles, transition metal-catalyzed reactions, pericyclic reactions and reactions involving reactive intermediates).

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

LH: 3

PR: Science 1807 and Science 1808, CHEM 2401

Office of the Registrar (Science 1807 and 1808) (cont'd)

**4151 Analytical Separations and Organic Mass Spectrometry** examines advances in the traditional chromatographic techniques, the development of new analytical tools in separation science, the interfacing of mass spectrometers to chromatographic instruments, and other mass spectrometric techniques.

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

LH: 3

PR: Science 1807 and Science 1808; CHEM 3110 (or the former CHEM 4100 or the former CHEM 4101 or the former CHEM 4110)”

Page 519, 2018-2019 Calendar, under the heading 12.9 Ocean Sciences, amend the section as follows:

“**2500 Introduction to Practical Ocean Sciences** explores the instruments, techniques and analytical methods commonly used to study marine life and processes, chiefly focusing on the interaction between living organisms and their chemical, physical and geological environment. The course combines ship-based or shore-based sampling and data collection with laboratory investigation in an intensive 2-week long format. It is primarily intended for mid-level undergraduate students majoring in Ocean Sciences. This course will either be offered during a special session following the Winter semester, or in the Spring semester.

AR: attendance is required. Failure to attend may result in a failing grade or withdrawal from the course.

PR: Science 1807 and Science 1808; OCSC 1000, and at least three of OCSC 2000 (or Biology 3710), 2100, 2200, 2300

**4122 Advanced Studies in Marine Animal Diversity** (same as Biology 4122) provides an in-depth examination of cellular, physiological, behavioural and ecological adaptations in marine animals. Lectures will be combined with discussions of relevant papers from the primary literature on topics of current interest which may relate morphology, ecology, evolution, natural history, species interactions and practical applications. Students will also gain hands-on experience by designing and conducting research projects involving live or preserved animals.

CR: Biology 4122

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

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

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

**499A/B Honours Dissertation** is a two-semester linked course based on independent research conducted under the supervision of an academic supervisor, who is normally a faculty member off the

Office of the Registrar (Science 1807 and 1808) (cont'd)

Department of Ocean Sciences. This dissertation is mandatory for students pursuing the Honours in Ocean Sciences. A grade of PAS in 499A is required to proceed to 499B. The final written dissertation is normally submitted before the end of the tenth week of the second semester and an oral presentation of the completed research is delivered before the end of the semester.

CH: 6

PR: Honours students in their final year or permission of the Head of the Department; Science 1807 and Science 1808”

Page 521, 2018-2019 Calendar, under the heading 12.10 Physics and Physical Oceanography, amend the section as follows:

“**1020 Introductory Physics I** is an algebra-based introduction to Newtonian mechanics. Topics covered include motion in one and two dimensions, Newton’s laws, momentum, energy and work, and rotational motion. Previous exposure to physics would be an asset but is not essential.

CO: Mathematics 1090 or 109A

CR: PHYS 1050

LH: 3; six laboratory sessions per semester

OR: tutorial sessions may be held on weeks when no laboratory is scheduled

PR: Level III Advanced Mathematics or Mathematics 1090 or 109A, ~~and~~ Science 1807 and Science 1808. It is recommended that students have completed at least one of level II and level III high school physics courses

**1021 Introductory Physics II** is an algebra-based introduction to oscillations, fluids, wave motion, electricity and magnetism, and circuits.

LH: 3; normally there will be six laboratory sessions per semester

OR: tutorial sessions may be held on weeks when no laboratory is scheduled

PR: PHYS 1020 or 1050, Mathematics 1090 or 109A or 1000, Science 1807 and Science 1808

**1050 General Physics I: Mechanics** is a calculus-based introduction to mechanics. The course emphasizes problem solving, beginning with a review of vectors and one-dimensional kinematics. The main part of the course covers motion in two dimensions, forces and Newton’s Laws, energy, momentum, rotational motion and torque, and finally oscillations. For details regarding recommendations for students taking PHYS 1050, see [Note 4 under Physics and Physical Oceanography](#).

CO: Mathematics 1000

CR: PHYS 1020

LH: 3

PR: Mathematics 1000, ~~and~~ Science 1807 and Science 1808

**1051 General Physics II: Oscillations, Waves, Electromagnetism** is a calculus-based introduction to oscillations, wave motion, and

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electromagnetism. Topics include: simple harmonic motion; travelling waves, sound waves, and standing waves; electric fields and potentials; magnetic forces and fields; electric current and resistance; and electromagnetic waves.

CO: Mathematics 1001

LH: 3

PR: PHYS 1050, or 1021, or 1020 (with a minimum grade of 70%), Mathematics 1001, Science 1807 and Science 1808

**2053 Fluids and Thermodynamics** introduces the student to basic concepts in fluid statics and dynamics as well as the fundamental concepts in thermal physics: kinetic theory, the laws of thermodynamics, thermodynamic processes, entropy, and heat engines and refrigerators.

CO: Mathematics 1001 and PHYS 1051 (or PHYS 1021 with a minimum grade of 70%)

LH: 3

PR: Mathematics 1001 and PHYS 1051 (or PHYS 1021 with a minimum grade of 70%), Science 1807 and Science 1808

**2055 Electricity and Magnetism** builds upon the concepts of electric and magnetic forces and fields, Gauss's Law, electric potential and electromagnetic induction introduced in PHYS 1051, expanding them to introduce capacitance, their application in DC and AC circuits, electromagnetic waves, wave optics, and geometric optics.

CO: Mathematics 2000

LH: 3

PR: Mathematics 2000, PHYS 1051, Science 1807 and Science 1808

**3900 Experimental Physics I** develops experimental, analytical, and communications skills through extended experiments in fields of physics including optics, magnetism, fluids, spectroscopy, materials characterization, and modern physics. Students select from a range of experiments that illustrate concepts encountered in previous courses to apply existing knowledge and problem solving skills, while other experiments introduce more advanced techniques and phenomena.

CR: PHYS 4880

LC: 0

LH: 6

PR: at least two of PHYS 2053, 2820, 2055, PHYS 2750 (or 2056), Science 1807 and Science 1808

**4900 Experimental Physics II** builds on the skills developed in Experimental Physics I through advanced and open-ended experiments in fields of physics including optics, magnetism, fluids, spectroscopy, materials characterization, and modern physics.

LC: 0

LH: 6

PR: PHYS 3900, Science 1807 and Science 1808



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Page 524, 2018-2019 Calendar, under the heading 12.11.2 Majors Courses, amend the section as follows:

**“4770 Research Experience in Animal Behaviour** (same as Biology 4770) allows students to gain research experience in selected areas of animal behaviour. This course may be offered in a usual 12-week semester or as a two-week field course.

CR: Biology 4770

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

PR: Science 1807 and Science 1808; PSYC 2520, 2930 or the former 2570, 2911 and PSYC 3750 or BIOL 3750 and admission to a major in Psychology or Behavioural Neuroscience

**4870 Research Experience in Behavioural Neuroscience** allows students to gain research experience in selected areas of neuroscience.

PR: Science 1807 and Science 1808; PSYC 3820 or the former 3801, and admission to a Major in Psychology or Behavioural Neuroscience”

Page 439, 2018-2019 Calendar, under the heading 12 Course Descriptions, amend the section as follows:

**“2002 Anatomy and Physiology I** provides an overview of human anatomy and physiology throughout the lifespan. It includes aspects of cytology and histology that form a foundation for the practice of pharmacy. The focus will be on developing an understanding of the interrelationships and integration of all systems from the cell to whole organism. Special emphasis is given to the skeletal, muscular, nervous, and endocrine systems.

CR: Nursing 1002

LH: 2; attendance is required

PR: Science 1807 and Science 1808

**2003 Anatomy and Physiology II** provides an overview of human anatomy and physiology throughout the lifespan. It includes aspects of cytology and histology that form a foundation for the practice of pharmacy. The focus will be on developing an understanding of the interrelationships and integration of all systems from cell to whole organism. Special emphasis is given to the circulatory, respiratory, urinary, digestive, and reproductive systems.

CR: Nursing 1012

LH: 2; attendance is required

PR: PHAR 2002, ~~and~~ Science 1807 and Science 1808

**2201 Pharmaceutics I** provides an insight into a number of physicochemical basics and explains them within a pharmaceutical context. The course provides the basic foundation necessary for the study

Office of the Registrar (Science 1807 and 1808) (cont'd)

of pharmaceutical dosage forms, pharmacokinetics and biopharmaceutics.

LH: 3; attendance is required

PR: Mathematics 1000 and 1001; and Chemistry 1050 and 1051, or Chemistry 1200 and 1001, or equivalent; ~~and~~ Science 1807 and Science 1808

**2202 Pharmaceutics II** is designed to provide the student with an understanding of pharmaceutical dosage forms and their applications. It applies the principles taught in Pharmaceutics I to understand the design and components of the different pharmaceutical preparations.

LH: 3; attendance is required

PR: PHAR 2201, ~~and~~ Science 1807 and Science 1808

**2250 Pharmacy Practice I** is the first of a series of courses where students acquire and apply the knowledge, skills, and attitudes necessary for the practice of pharmacy. The course will include an introduction to calculations, technical skills and the legal and regulatory framework of the practice of pharmacy. The development of competence in the areas of patient care, drug information, communication, professionalism, critical thinking, and teamwork will begin. Application of knowledge and skills will occur in simulated pharmacy practice situations.

AR: attendance is required in practice sessions

CH: 5

CO: all Academic Term 1 Pharmacy courses, with the exception of PHAR 2010

OR: practice sessions 2 hours per week

PR: Science 1807 and Science 1808

**2251 Pharmacy Practice II** continues the acquisition, development, and application of the knowledge, skills, and attitudes necessary for the practice of pharmacy. The legal and professional framework of the practice of pharmacy, patient counselling, and technical skills will be emphasized. Development of competence in the areas of patient care, drug information, communication, professionalism, critical thinking, and teamwork will occur. Application of knowledge and skills will take place in real and simulated pharmacy practice situations.

AR: attendance is required in practice sessions

CH: 5

CO: all Academic Term 2 Pharmacy courses, with the exception of PHAR 2010

LC: 2

OR: practice sessions 3 hours per week

PR: PHAR 2250; Science 1807 and Science 1808

**3250 Pharmacy Practice III** continues the acquisition, development, and application of the knowledge, skills, and attitudes necessary for the practice of pharmacy. The focus will include patient assessment, care plan development, counselling, follow-up, interprofessional

Office of the Registrar (Science 1807 and 1808) (cont'd)

collaboration, and communication with special patient populations. Emphasis will be on the development of competence in the areas of patient care, drug information, communication, professionalism, critical thinking, and teamwork. Application of knowledge and skills will occur in real and simulated pharmacy practice situations.

AR: attendance is required

CH: 5

CO: all Academic Term 4 Pharmacy courses

LC: 2

OR: practice sessions 3 hours per week

PR: PHAR 2251; Science 1807 and Science 1808

**3251 Pharmacy Practice IV** continues the acquisition, development, and application of the knowledge, skills, and attitudes necessary for the practice of pharmacy. This course will build on pharmacy practice concepts and will emphasize patient safety. Development of competence in the areas of patient care, drug information, communication, professionalism, critical thinking, and teamwork will occur. Application of knowledge and skills will take place in simulated pharmacy practice situations.

AR: attendance is required

CH: 5

CO: all Academic Term 5 Pharmacy courses

LC: 2

OR: practice sessions 3 hours per week

PR: PHAR 3250; Science 1807 and Science 1808

**4250 Pharmacy Practice V** continues the acquisition, development, and application of the knowledge, skills, and attitudes necessary for the practice of pharmacy. Critical appraisal, patient safety, and interprofessional collaboration will be emphasized. Development of competence in the areas of patient care, drug information, communication, professionalism, critical thinking, and teamwork will occur. Application of knowledge and skills will take place in simulated pharmacy practice situations.

AR: attendance is required in practice sessions

CH: 5

CO: all Academic Term 7 Pharmacy courses

LC: 2

OR: practice sessions 3 hours per week

PR: PHAR 3251; Science 1807 and Science 1808

**4251 Pharmacy Practice VI** continues the acquisition, development, and application of the knowledge, skills, and attitudes necessary for the practice of pharmacy. Sterile product preparation, drug information, patient safety, and calculations relevant to hospital practice will be introduced. Critical appraisal and interprofessional collaboration will also be a focus. Continued development of competence in the areas of patient care, communication, professionalism, critical thinking, and teamwork

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will occur. Application of knowledge and skills will take place in simulated pharmacy practice situations.

AR: attendance is required in practice sessions

CH: 5

CO: all Academic Term 8 Pharmacy courses

LC: 2

OR: practice sessions 3 hours per week

PR: PHAR 4250; Science 1807 and Science 1808

**4650 Pharmacy Skills** continues the development of the skills necessary for pharmacy practice in order to meet the educational outcomes for the third year of the pharmacy program. Students will continue to develop abilities in communication, professionalism, critical thinking, problem-solving, teamwork and self-directed learning. Students will participate in practice sessions necessary to develop an understanding of and skills required in patient assessment. Students will build on their pharmacist care skills to meet patients' drug-related needs in more complex patient scenarios, drug information skills to assess information needs, and medication preparation and dispensing skills to optimize safe and accurate medication delivery. Scenarios will relate to the courses of study in the third year and draw on material studies in earlier years of the program. Students will participate in interprofessional education (IPE) modules with students from other health related programs when such modules are available.

CO: all Academic Term 5 Pharmacy courses

CR: the former PHAR 4150

LC: 0

OR: practical sessions 3 hours per week; tutorials 1 hour per week; attendance is required

UL: applicable only to the Bachelor of Science (Pharmacy) program

PR: Science 1807 and Science 1808

**4651 Pharmacy Skills** continues the development of the skills necessary for pharmacy practice in order to meet the educational outcomes for the third year of the pharmacy program. Students will continue to develop abilities in communication, professionalism, critical thinking, problem-solving, teamwork and self-directed learning. Students will participate in sessions that focus on ethical issues in pharmacy practice and communication with health care providers. Students will build on their patient assessment and pharmacist care skills to meet patients' drug-related needs in more complex patient scenarios and will use critical appraisal skills to respond to clinical questions. Scenarios will relate to the courses of study in the third year and draw on material studied in earlier years of the program. Students will participate in interprofessional education (IPE) modules with students from other health related programs when such modules are available.

CO: all Academic Term 6 Pharmacy courses

CR: the former PHAR 4151

LC: 0

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OR: practical sessions 3 hours per week; tutorials 1 hour per week; attendance is required

PR: PHAR 4650; Science 1807 and Science 1808

UL: applicable only to the Bachelor of Science (Pharmacy) program

**5250 Pharmacy Practice VII** continues the acquisition, development, and application of the knowledge, skills, and attitudes necessary for the practice of pharmacy. Critical appraisal, patient safety, and interprofessional collaboration will be emphasized. Continued development of competence in the areas of patient care, communication, professionalism, critical thinking, and teamwork will occur. Students will be expected to demonstrate increased independence during the application of knowledge and skills in simulated pharmacy practice situations.

AR: attendance is required in practice sessions

CH: 5

CO: all Academic Term 10 Pharmacy courses

LC: 2

OR: practice sessions 3 hours per week

PR: PHAR 4251; Science 1807 and Science 1808

**5251 Pharmacy Practice VIII** is the final course in the series where students acquire, develop, and apply the knowledge, skills, and attitudes necessary for the practice of pharmacy. Demonstration of competence in the areas of patient care, drug information, communication, professionalism, critical thinking, and teamwork will be expected. Application of knowledge and skills will occur in simulated pharmacy practice situations.

AR: attendance is required in practice sessions

CH: 4

CO: all Academic Term 11 Pharmacy courses

LC: 2

OR: practice sessions 3 hours per week; course runs over 10 weeks to accommodate PHAR 508P

PR: PHAR 5250; Science 1807 and Science 1808

**5650 Pharmacy Skills** (same as the former PHAR 5150) continues the development of the skills necessary for pharmacy practice in order to meet the educational outcomes for the fourth year of the pharmacy program. Students will continue to develop abilities in communication, professionalism, critical thinking, problem-solving, teamwork and self-directed learning. Students will build on their pharmacist care skills to meet patients' drug-related needs in patients with multiple drug related problems. Refinement of verbal and written communication skills will be focus. Scenarios will relate to the courses of study in the fourth year and draw on material studies in earlier years of the program. Students will participate in interprofessional education (IPE) modules with students from other health related programs when such modules are available.

CO: all Academic Term 7 Pharmacy courses

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CR: the former PHAR 5150

LC: 0

OR: practical sessions 3 hours per week; tutorials 1 hour per week; attendance is required

PR: Science 1807 and Science 1808

UL: applicable only to the Bachelor of Science (Pharmacy) program†

Page 202, 2018-2019 Calendar, under the heading 13.3 Biology, amend the section as follows:

**“1001-1002 Principles of Biology** is an introduction to the science of Biology, including a discussion of the unity, diversity and evolution of living organisms.

LH: 3

PR: BIOL 1001 is a prerequisite for BIOL 1002; Science 1807 and Science 1808

**2010 Biology of Plants** is a study of the structure, function and reproductive Biology of plants, with emphasis on the vascular plants, and on their relationship to environment and human activities.

LC: 3

LH: 3

PR: BIOL 1001, BIOL 1002, and Chemistry 1001; Science 1807 and Science 1808

**2122 Biology of Invertebrates** is a study of the invertebrates with emphasis on structure and function, adaptations and life histories. The laboratories will present a broad survey of the major invertebrate groups.

CR: the former BIOL 3122

LH: 3

PR: BIOL 1001 and BIOL 1002; Science 1807 and Science 1808

**2210 Biology of Vertebrates** is a study of the vertebrates, with emphasis on structure and function, adaptations and life histories.

CR: the former BIOL 3210

LH: 3

PR: BIOL 1002; Science 1807 and Science 1808

**2250 Principles of Genetics** is an introduction to Mendelian and molecular genetics. Phenotype and genotype, behaviour of alleles in genetic crosses, chromosome theory of inheritance, genetic linkage, molecular Biology of DNA, RNA and protein, molecular basis of mutation, recombinant DNA, applications of genetic biotechnology.

CO: Chemistry 2440 or Chemistry 2400

CR: the former BIOL 3250

LH: 3

PR: Chemistry 2440 or Chemistry 2400, BIOL 1001 and 1002, Chemistry 1010, 1011 or 1050/1051; Science 1807 and Science 1808

Office of the Registrar (Science 1807 and 1808) (cont'd)

**2600 Principles of Ecology** is a conceptual course introducing the principles of ecology, including theoretical, functional and empirical approaches.

CR: the former BIOL 3600

LH: 3

PR: BIOL 1002; Science 1807 and Science 1808

**3053 Microbiology for Nurses** is a course on the fundamentals of microbiology with an emphasis on medical microbiology. The course will include topics such as: host responses to infections, human diseases caused by microorganisms, and the control and exploitation of microorganisms. Entrance is restricted to Nursing students in the Bachelor of Nursing (Collaborative) program.

LH: 2

PR: Science 1807 and Science 1808

UL: cannot be used as one of the required courses for the Minor, Major, or Honours in Biology, nor is it acceptable for any of the joint programs between Biology and other disciplines”

Page 205, 2018-2019 Calendar, under the heading 13.5 Chemistry, amend the section as follows:

“**1001 General Chemistry II** is rates of reaction, chemical equilibria, thermodynamics, and introduction to organic chemistry.

AR: attendance is required

CR: credit may be obtained for only one of the following pairs of courses: the former CHEM 1000 and CHEM 1001; CHEM 1200 and CHEM 1001

LC: 4 including tutorials

LH: 3

PR: CHEM 1200 or equivalent; Science 1807 and Science 1808

**1200 General Chemistry I** is atomic structure and bonding, stoichiometry, reactions in aqueous solutions, gases, energetics of chemical reactions, the periodic table, chemical bonding and molecular geometry, intermolecular forces. This introductory course is intended for students who have a knowledge of high school chemistry. This course is offered at Grenfell Campus only.

AR: attendance is required

CO: credit may be obtained for only one of the following pairs of courses: the former CHEM 1000 and CHEM 1001; CHEM 1200 and CHEM 1001

LC: 4

LH: 3

PR: Science 1807 and Science 1808

**1810 Elements of Chemistry** is matter, scientific measurement, atomic theory, the periodic table, chemical compounds and elementary bonding theory, the mole, chemical reactions, the chemistry of selected elements, gases, solutions, stoichiometry. This course is specifically intended for

Office of the Registrar (Science 1807 and 1808) (cont'd)

those who have no background in chemistry. This course is offered at Grenfell Campus only.

AR: attendance is required

CR: the former CHEM 1800

LC: 4

LH: 3

PR: Science 1807 and Science 1808

UL: may not be used as one of the Chemistry courses required for a B.Sc. Degree with a Specialization in Environmental Science at Grenfell Campus, nor for a Major or Honours in Chemistry, nor towards fulfilment of the 78 credit hours in science courses required for the B.Sc. degree on the St. John's campus.

**2210 Introductory Inorganic Chemistry** focuses on fundamental concepts in the chemistry of s, p, and d block elements and their compounds. Emphasis will be placed on periodic trends in physical and chemical properties, molecular symmetry, molecular orbital diagrams, simple crystal structures, Lewis acid/base theory, and introductory coordination chemistry.

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

LH: 3

PR: Science 1807 and Science 1808; minimum 65% in CHEM 1001 or a minimum 60% in CHEM 1051

**2301 Thermodynamics and Kinetics** builds upon knowledge of physical chemistry from first year. It covers the three laws of thermodynamics for ideal and real systems as well as chemical kinetics. Topics in thermodynamics include the thermodynamics of ideal and real gases, phases, and solutions, the Maxwell relations, equilibria between phases, and in electrolyte solutions. The integrated rate laws for simple and complex mechanisms, and the temperature dependence of reaction rates in terms of kinetic molecular theory are some of the topics discussed in the kinetics section of the course.

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

CR: the former CHEM 2300

LH: 3

PR: Science 1807 and Science 1808; minimum 60% in CHEM 1051, or a minimum 65% in either CHEM 1001 or the former CHEM 1031; Mathematics 1001. Physics 1051 or Physics 1021 is recommended.

**2302 Quantum Chemistry and Spectroscopy** examines the quantum mechanics of simple systems such as the particle in a box, the harmonic oscillator, linear rotor, and hydrogen-like atoms. Topics also include orbital quantum numbers, spin, many electron atoms, an introduction to quantum mechanical methods, the electronic structures of molecules,



Office of the Registrar (Science 1807 and 1808) (cont'd)

bonding, and symmetry. Furthermore, electronic, rotational, and vibrational spectroscopy will be discussed as well as modern applications of spectroscopy and lasers. AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

CO: Mathematics 2000 is recommended

CR: the former CHEM 3301

LH: 3

PR: Science 1807 and Science 1808; minimum 60% in CHEM 1051, or a minimum 65% in either CHEM 1001 or the former CHEM 1031; Mathematics 1001 and Physics 1051 or Physics 1021

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

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

CR: CHEM 2440

LH: 3

PR: a minimum 60% in CHEM 1051, or CHEM 1010 and CHEM 1011 with a grade of at least 80% in each; or CHEM 1011 with a grade of at least 85%; or CHEM 1001 (or the former 1031) with a grade of at least 65%; Science 1807 and Science 1808

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

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

CR: CHEM 2440

LH: 3

PR: CHEM 2400; Science 1807 and Science 1808

**2440 Organic Chemistry for Biologists** is an introduction to the principles of organic chemistry with an emphasis on material relevant to biological molecules. The laboratory will introduce techniques and illustrate concepts covered in the course. This course is designed primarily for Biology Majors.

AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.

CR: CHEM 2400

LH: 3

Office of the Registrar (Science 1807 and 1808) (cont'd)

PR: CHEM 1001 or CHEM 1051 or a minimum 60% in CHEM 1011; Science 1807 and Science 1808

UL: may not be used for credit by Chemistry or Biochemistry Majors and will not serve as a prerequisite for any other Chemistry course.”

Page 207, 2018-2019 Calendar, under the heading 13.8 Earth Sciences, amend the section as follows:

“**1000 Earth Systems** is a survey of the structure, function and interrelations of Earth's lithosphere, hydrosphere, atmosphere and biosphere. Topics include an exploration of the physical and chemical properties of planetary materials, forces driving and sustaining Earth systems, and biological modifiers (including humankind) on the Earth today.

LH: 3

PR: Science 1807 and Science 1808

**1002 Concepts and Methods in Earth Sciences** is an introduction to a broad range of concepts concerning the development of the geological record and the Earth; practical methods for collection of field based data; topics in map interpretation and geometric analysis, stratigraphy, paleontology, structure and petrology. The course is presented with an emphasis on the development of practical skills needed to pursue a career in Earth Sciences.

LH: 3

PR: EASC 1000; Science 1807 and Science 1808

**3811 Paleontology** is an outline of the major changes in life forms from Archaean times through the Phanerozoic to the present day, including details of invertebrate and vertebrate faunas and major floral groups; mechanisms and effects of mega-, and microevolution in the fossil record; Biology and classification of organisms and summaries of their geological significance in biostratigraphy, paleoecology and rock-building; relationships between major cycles of evolution and extinction to global processes. This course has a laboratory component.

CR: Biology 3811, the former EASC 3801, the former Biology 3800

LH: 3

PR: either Biology 2120 (or Biology 1001 and Biology 1002) and EASC 1002; or Biology 2122 and Biology 2210; Science 1807 and Science 1808”

Page 211, 2018-2019 Calendar, under the heading 13.13.1 Environmental Biology, amend the section as follows:

“**3110 Taxonomy of Flowering Plants** is a study of the biodiversity of flowering vascular plants (Magnoliophyta) through the practical identification of Newfoundland families, genera, and species. Related taxonomic and biogeographical principles will be stressed.

CR: Biology 3041

Office of the Registrar (Science 1807 and 1808) (cont'd)

LH: 3 laboratory periods of integrated practice and theory

OR: Students must submit a collection of flowering plants identified to the species level. Detailed instructions should be obtained from the instructor in the spring/summer prior to the commencement of this course.

PR: Biology 2010 or equivalent; Science 1807 and Science 1808

**3130 Freshwater Ecology** is the study of freshwater ecosystems (lakes, rivers, streams, peatlands). Included are abiotic components, community structures, energy flow, biogeochemical cycles, and the evolution of natural and altered aquatic ecosystems. Emphasis will be placed on field and laboratory studies of the ecology of freshwater organisms and systems in western Newfoundland.

LH: 3

PR: Biology 2010, Biology 2122, Biology 2600; one of Chemistry 1001 or Chemistry 1011; Science 1807 and Science 1808

**3131 Impacted Terrestrial Ecosystems** is an examination of ecological and evolutionary responses by organisms in terrestrial ecosystems to human-derived and natural perturbations. Advanced conceptual, empirical and experimental approaches will be used, with an emphasis on sampling local habitats.

CR: Biology 3610

LH: 3

PR: Biology 2600; and two of Biology 2010, Biology 2122, Biology 2210 or the permission of the instructor and Program Chair; Science 1807 and Science 1808

**4132 Analytical Ecology** states that the assessment of environmental impacts on higher-level ecological systems requires a critical analysis of scientific reports, along with the ability to evaluate ecological terminology and concepts and associated statistical methodologies. Students in this course will critically read and analyse recent scientific literature in Environmental Biology, with selected topics at the community, ecosystem and landscape level, and examine related univariate and multivariate statistical procedures

LH: three-hour laboratory/discussion group

PR: Biology 2600, ~~Science 1807~~, Statistics 2550 (or equivalent), 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.

**4133 Conservation Biology** will bring together the principles of ecology and conservation Biology at an advanced level. Current issues and techniques will be discussed with an aim towards understanding how populations of native flora and fauna can be managed for long-term conservation in the face of habitat degradation and loss.

CR: Biology 4650 and Geography 4650

Office of the Registrar (Science 1807 and 1808) (cont'd)

LH: three-hour laboratory/discussion group

PR: two of ENVS 3110, 3130, and 3131; or permission of instructor;  
Science 1807 and Science 1808

**4140 Environmental Science Field Course** is a course providing practical experience in the observation, collection, identification and quantification of organisms and the various environmental parameters which affect them in pristine and disturbed habitats. Combinations of freshwater, marine and terrestrial habitats will be studied using techniques from various scientific disciplines. The actual combination of habitats, organisms, and techniques will vary from year to year.

PR: Biology 2600, Statistics 2550, with a minimum of 80 credit hours from Environmental Science Program (or equivalent) and permission of the instructor and Program Chair; Science 1807 and Science 1808”

Page 211, 2018-2019 Calendar, under the heading 13.13.2 Environmental Chemistry, amend the section as follows:

“**3210 Environmental Analytical Chemistry I** is treatment of data, error analysis, wet methods of analysis of laboratory and field samples. Volumetric methods for acidity, alkalinity and hardness; chemical and biological oxygen demand (COD and BOD). Gravimetric methods for sulphate and phosphates. Theory and application of specific ion electrodes analysis of metal ions, dissolved gases and halide ions. Turbidimetric and nephelometric measures of water quality. Spectrophotometric analysis of trace metal ions.

LC: not more than seven hours per week

LH: not more than seven hours per week

PR: the former Chemistry 2300 (or 2301) and Chemistry 2210; Science 1807 and Science 1808

**3211 Environmental Analytical Chemistry II** is theory and application of spectroscopic methods of analysis (including error analysis) of environmentally important compounds. Spectrophotometric, FTIR, light scattering, chromatographic (GC, GC/MS, HPLC), fluorescence, phosphorescence, atomic absorption and electroanalytical methods will be studied. Synthetic laboratory samples and field samples will be examined by these techniques.

LC: not more than seven hours per week

LH: not more than seven hours per week

PR: ENVS 3210 (or equivalent); Science 1807 and Science 1808

**4230 Aquatic Chemistry I** is thermodynamics and kinetics of model systems. Acids and bases (including buffer intensity and neutralizing capacity), dissolved gases, precipitation and dissolution. Metal ions in aqueous solution. Redox control in natural waters. Pourbaix diagrams. Regulation of chemical composition of natural waters, pollution and water quality.

LC: not more than seven hours per week

Office of the Registrar (Science 1807 and 1808) (cont'd)

LH: not more than seven hours per week

PR: ENVS 3211 and one of Chemistry 2400 or Chemistry 2440 or permission of the instructor and Program Chair; Science 1807 and Science 1808

**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 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 and Science 1808.

**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 and Science 1808

**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 and Science 1808

**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 and Science 1808”

Office of the Registrar (Science 1807 and 1808) (cont'd)

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

**“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 Science 1808; and two of Biology 1002, Chemistry 1001, Earth Sciences 1000; or permission of Chair”

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

**“1020 Introductory Physics I** is an algebra-based introduction to Newtonian mechanics. Topics covered include motion in one and two dimensions, Newton’s laws, momentum, energy and work, and rotational motion. Previous exposure to physics would be an asset but is not essential.

CO: Mathematics 1090 or 109B

CR: PHYS 1050

LH: 3; six laboratory sessions per semester

OR: tutorial or problem sessions may be held on weeks when no laboratory is scheduled

PR: Level III Advanced Mathematics or Mathematics 1090 or 109B. It is recommended that students have completed at least one high school physics course; and Science 1807 and Science 1808

**1021 Introductory Physics II** is an algebra-based introduction to oscillations, fluids, wave motion, electricity and magnetism, and circuits.

LH: 3; normally there will be six laboratory sessions per semester

OR: tutorial sessions may be held on weeks when no laboratory is scheduled

PR: PHYS 1020 or 1050, and Mathematics 1090 or 1000, and Science 1807 and Science 1808

**1050 General Physics I: Mechanics** is a calculus-based introduction to mechanics. The course emphasizes problem solving, beginning with a review of vectors and one-dimensional kinematics. The main part of the course covers motion in two dimensions, forces and Newton’s Laws, energy, momentum, rotational motion and torque, and finally oscillations. For details regarding recommendations for students taking PHYS 1050, see [Physics and Physical Oceanography, Note 4](#).

CO: Mathematics 1000

CR: PHYS 1020

LH: 3

PR: Mathematics 1000; Science 1807 and Science 1808

Office of the Registrar (Science 1807 and 1808) (cont'd)

**1051 General Physics II: Oscillations, Waves, Electromagnetism** is a calculus-based introduction to oscillations, wave motion, and electromagnetism. Topics include: simple harmonic motion; travelling waves, sound waves, and standing waves; electric fields and potentials; magnetic forces and fields; electric current and resistance; and electromagnetic waves.

CO: Mathematics 1001

LH: 3

PR: PHYS 1050, or 1021, or 1020 (with a minimum grade of 70%) and Mathematics 1001; Science 1807 and Science 1808

**2053 Fluids and Thermal Physics** examines elasticity, fluid mechanics, thermodynamics, kinetic theory and statistical mechanics.

CO: Mathematics 1001 and PHYS 1051

LH: 3

PR: Mathematics 1001 and PHYS 1051; Science 1807 and Science 1808

**2056 General Physics VI: Modern Physics** is special relativity, quanta of light, atomic structure and spectral lines, quantum structure of atoms and molecules, nuclei and elementary particles.

CO: Mathematics 1001 and PHYS 1051

CR: PHYS 2750

LH: 3

PR: Mathematics 1001, PHYS 1050 (or PHYS 1020 and PHYS 1021), and PHYS 1051; Science 1807 and Science 1808

**2553 Introduction to Analog and Digital Electronics** covers the basics of the analog and digital electronics; direct current circuits, capacitors and inductors, alternating currents, test equipment and measurement, transducers, diodes and transistors, introduction to operational amplifiers, digital basics, digital circuitry and digital analog I/O. This course is a combined lecture/laboratory course with two three-hour sessions scheduled per week.

PR: Mathematics 1000 or equivalent, PHYS 1021 or 1051; Science 1807 and Science 1808

**3060 Electricity and Magnetism** is point charges; Coulomb's law; electrostatic field and potential; Gauss' law; conductors; magnetostatics; Ampere's law; Biot-Savart law; dielectric and magnetic materials; electrostatic and magnetostatic energy; Lorentz force; time varying fields; Faraday's law; Lenz's law; Maxwell's equations.

CO: Mathematics 2260 (or the former Mathematics 3260)

LH: 3

PR: PHYS 1051 and Mathematics 2260 (or the former Mathematics 3260); Science 1807 and Science 1808

**4880 Physics Laboratory** introduces the student to advanced laboratory work in several areas of physics.

Office of the Registrar (Science 1807 and 1808) (cont'd)

PR: Physics students who have completed 60 credit hours or more; Science 1807 and Science 1808”

39.2 School of Arts and Social Science (Course Proposals)

Page 209, 2018-2019 Calendar, under the heading 13.10.4 Modern Literature, amend the section as follows:

**“2245 Supernatural Fiction examines the evolution of the fiction of the supernatural as a distinct literary genre, focusing on writers who made significant contributions to the field.**

**PR: English 1000 and one of English 1001, 1110**

**Abbreviated Course Title: Supernatural Fiction”**

Page 171, 2018-2019 Calendar, under the heading 7.2.1 Bachelor of Arts with Major in English Language and Literature, Table 1 Bachelor of Arts with Major in English Language and Literature, add “English 2245” under the Modern Literature Concentration, to read as follows:

**“Modern Literature Concentration**

English 3215, 3216, 4950 and 9 credit hours in Modern Literature from the following selection: English 2215, 2242, 2243, 2244, 2245, 2705, 2805, 2870, 2905, 3245, 3275, 3810, 3905, 4245, 4246, 4302, 4305, 4308, 4861-4870, 4905.”

Page 209, 2018-2019 Calendar, under the heading 13.10.4 Modern Literature, amend the section as follows:

**“3192 Modern Scottish Literature focusses on representative Scottish texts from the twentieth and twenty-first centuries studied within Scotland’s distinctive historical and cultural contexts.**

**PR: successful completion of at least 6 credit hours in English courses at the second-year level**

**CR: English 3190”**

Page 171, 2018-2019 Calendar, under the heading 7.2.1 Bachelor of Arts with Major in English Language and Literature, Table 1 Bachelor of Arts with Major in English Language and Literature, add “English 3192” under the Modern Literature Concentration, to read as follows:

**“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, 3192, 3245, 3275, 3810, 3905, 4245, 4246, 4302, 4305, 4308, 4861-4870, 4905.”

Page 347, 2018-2019 Calendar, under the heading 15.6 English, amend the section as follows:



School of Arts and Social Science (Course Proposals) (cont'd)

“**3190 Scottish Literature** is a study of representative Scottish poetry and prose from the eighteenth to the twenty-first century including selected works by such writers as Boswell, Burns, Hogg, Scott, Stevenson, Spark, and Rankin.

PR: 3 credit hours in English at the 2000 level

CR: ENGL 3192”

39.3 School of Music

Page 403, 2018-2019 Calendar, under the heading 5.4.5 Performance, amend the section as follows:

“**5.4.5 Performance**

Candidates for this Major must apply in writing to the Dean ~~by February 15<sup>th</sup>~~, normally by the end of the fourth week of classes in the semester during which they are registered for Music 240B. Candidates are required to audition for this program and will be evaluated by a performance jury. A reference letter from the applied instructor must be submitted to the Dean prior to the jury taking place. Where possible, the jury examination for Music 240B and for admission to the Performance Major will be the same will be considered as the audition for admission to the Performance Major, although in some cases the audition may require repertoire beyond the level and amount prepared for the jury examination. Admission to this Major will be based on a candidate's: 1) performance on the audition and achievement in Music 140A/B and 240A/B, normally represented by a minimum 85% grade in Music 240A, 2) general academic achievement, normally represented by a minimum 70% average in Music courses, and, 3) potential for a career and/or graduate work in performance.”

39.4 School of Science and the Environment

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

“**4345 Advanced Graph Theory** (same as the former MATH 4290) includes topics which may be chosen from matchings, factorizations, adjacency matrices, eigenvalues of graphs, strongly regular graphs, independent sets and cliques, cuts and connectivity, graph products, graph homomorphisms, edge colourings, domination, and graph searching.

PR: MATH 2051 and MATH 3240

CR: the former MATH 4290

**Abbreviated Course Title:** Advanced Graph Theory”

Page 515, 2018-2019 Calendar, under the heading 12.8.1 Mathematics Courses, amend the section as follows:

“~~4280-4290~~ **4280-4289 Special Topics in Pure and Applied Mathematics** will have the topics to be studied announced by the

School of Science and the Environment (cont'd)

Department. Consult the Department for a list of titles and information regarding availability.

PR: permission of the Head of the Department”

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

“**4305 Mathematical Logic** starts with a brief overview of basic set theory, followed by an introduction to propositional and predicate logic and basics of model theory (models, theories, compactness theorem) and computability theory (computable and computably enumerable sets, first order arithmetic).

PR: MATH 2320 and 6 credit hours in Mathematics at the 3000-level or higher or permission of the Chair of Computational Mathematics.

**Abbreviated Course Title:** Mathematical Logic”

40. Report of the Academic Council of the School of Graduate Studies

40.1 Music

Page 627, 2018-2019 Calendar, under the heading 20.2 Qualifications for Admission, amend the section as follows:

**“20.2 Qualifications for Admission**

1. Admission to the program is limited and competitive. The application deadline is December 15 for admission to the following Fall semester. Under special circumstances, applicants may be considered for admission to the Winter semester. For further information, contact the School of Music.

2. To be eligible for consideration for admission, applicants shall meet the requirements set out in **General Regulations for Admission, Master's Program**. Applicants to the M.Mus. will normally hold a Bachelor of Music or equivalent from a recognized university or conservatory. Preference will be given to applicants who hold first class standing in their undergraduate program.

3. In addition to the requirements above, admission is further determined by audition.

a. Auditions for September entry are normally held in late February or early March of each year. Check the School of Music website at [www.mun.ca/music](http://www.mun.ca/music) for dates and locations.

b. Applicants to the M.Mus. in Performance or Performance/Pedagogy may submit the audition as a professional quality video recording if they are unable to attend the live auditions. The recording must be unedited; live performances are preferred. The audition program should display a range of performance styles and repertoire. Applicants should consult the School of Music website at [www.mun.ca/music](http://www.mun.ca/music) for details on length of audition and appropriate repertoire.

Music (cont'd)

c. Applicants to the M.Mus. in Conducting should submit professional quality video recordings of their work with a minimum of two different types of ensembles. These video recordings should include both rehearsals and performances.

~~4. Applicants may also be asked to submit a sample of their academic written work.~~

4. Once they have been admitted, students ~~may be~~ will be required to ~~write complete~~ write complete diagnostic exams in music theory and aural skills ~~and/or music history~~. Voice and choral conducting students will also have their knowledge of lyric diction assessed. If weaknesses are identified, students may be required to complete remedial undergraduate course work.”

40.2 Ocean Sciences

Page 647, 2018-2019 Calendar, under the heading 25.17 Marine Biology, amend the section as follows:

**“25.17 Marine Biology**

- [www.mun.ca/sgs/contacts/sgscontacts.php](http://www.mun.ca/sgs/contacts/sgscontacts.php)
- [www.mun.ca/science](http://www.mun.ca/science)
- [www.mun.ca/osc](http://www.mun.ca/osc)

The degree of Master of Science (M.Sc.) is offered in Marine Biology by full-time and part-time study through the Department of Ocean Sciences. Areas of concentration include: Biological Oceanography—Ocean Ecology, Marine Ecology and Evolution, Functional Biology of Marine Organisms, Fisheries and Aquaculture, and Marine Biogeochemistry Oceans and Environment.

**25.17.1 Admission and Program of Study**

1. Admission into the Master of Science degree program in Marine Biology is normally restricted to candidates holding at least a Bachelor of Science degree with second class Honours. When circumstances warrant, the requirement for a second class Honours may be waived by the School of Graduate Studies on the recommendation of the Head of the Department.

2. Each student will be assigned a Supervisory Committee consisting of the Supervisor and at least one other member. Within three months of the first registration in the M.Sc. degree program, the student will meet with the student's Supervisory Committee. Within six months, the student and the Supervisory Committee will agree on a written thesis proposal outlining the objectives, methods, timetable and funding for the project, and provide the proposal (signed by the student and the supervisory committee) to the Head for inclusion in the student's file.

### Ocean Sciences (cont'd)

3. A student is required to complete a minimum of 9 credit hours of graduate program courses as follows:
  - Ocean Sciences 7000
  - One of Ocean Sciences 7100 or 7200
  - 3 additional credit hours selected from other Ocean Sciences graduate courses or relevant courses in other Departments as approved by the Supervisory Committee
4. All course requirements should be completed within four semesters from the date of first registration in the M.Sc. degree program.
5. A student is required to give an oral presentation to the Department on the results of the student's research. This presentation should be given after completion of a thesis draft.
6. The M.Sc. degree program will conclude with a thesis examination as prescribed in the School of Graduate Studies **General Regulations, Theses and Reports.**

### **25.17.2 Courses**

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow.

- OCSC 7000 Graduate Core Seminar (*cross-listed as Biology 7000*)
- OCSC 7100 Biological Oceanography (~~credit cannot be obtained for both OCSC 7100 and the former Biology/OCSC 7531~~)
- OCSC 7200 Adaptations to the Marine Environment (~~credit cannot be obtained for both OCSC 7200 and the former Biology/OCSC 7561~~)
- OCSC 7300 Plankton Dynamics (~~credit cannot be obtained for both OCSC 7300 and the former Biology/OCSC 7540~~)
- OCSC 7400 Fisheries Resource Management (~~credit cannot be obtained for both OCSC 7400 and the former Biology/OCSC 7551~~)
- OCSC 7500-7515 Special Topics in Ocean Sciences

Page 693, 2018-2019 Calendar, under the heading 34.25 Marine Biology, amend the section as follows:

### **“34.25 Marine Biology**

- [www.mun.ca/sgs/contacts/sgscontacts.php](http://www.mun.ca/sgs/contacts/sgscontacts.php)
- [www.mun.ca/science](http://www.mun.ca/science)
- [www.mun.ca/osc](http://www.mun.ca/osc)

The Degree or Doctor of Philosophy (Ph.D) is offered in Marine Biology by full-time and part-time study through the Department of Ocean Sciences. Areas of concentration include: Biological Oceanography, ~~Ocean Ecology~~, Marine Ecology and Evolution, Functional Biology of

Ocean Sciences (cont'd)

Marine Organisms, Fisheries and Aquaculture, and Marine Biogeochemistry Oceans and Environment.

**34.25.1 Admission and Program of Study**

1. Admission into the Ph.D. program in Marine Biology is normally restricted to candidates holding a Master's Degree or its equivalent. In exceptional circumstances, a candidate with a B.Sc. (Honours) Degree who has spent not less than 12 months in an M.Sc. Degree program may be recommended for transfer into a Ph.D. program, provided that the candidate can demonstrate, to the satisfaction of the Department of Ocean Sciences, the candidate's ability to pursue research at the doctoral level.

2. Each student will be assigned a Supervisory Committee consisting of the Supervisor and at least one other member. Within three months of the first registration in the Ph.D. degree program, a student will meet with the student's Supervisory Committee. Within nine months, the student and the Supervisory Committee will agree on a written thesis proposal outlining the objectives, methods, timetable and funding for the project, and provide the proposal (signed by the student and the supervisory committee) to the Head for inclusion in the student's file.

3. A student is normally required to complete a minimum of 6 credit hours of graduate program courses as follows:

- Ocean Sciences 7100 or 7200
- Ocean Sciences 7000 or relevant course as approved by the Supervisory Committee

4. All course requirements should be completed within five semesters from the date of first registration in the Ph.D. program.

5. Normally, upon completion of required course work the student shall undertake a mandatory comprehensive examination, following the **General Regulations, Comprehensive Examinations, Ph.D. and Psy.D, Comprehensive Examination**. The comprehensive examination will be both written and oral. A student should consult the Departmental guidelines for further information and a detailed description of the content of the Comprehensive Examination.

6. The Ph.D. program will conclude with the examination and oral defense of the completed thesis in accordance with the School of Graduate Studies **General Regulations, Theses and Reports**.

**34.25.2 Courses**

A selection of the following graduate courses will be offered to meet the requirements of candidates, as far as the resources of the Department will allow.

Ocean Sciences (cont'd)

- OCSC 7000 Graduate Core Seminar (*cross-listed as Biology 7000*)
- OCSC 7100 Biological Oceanography (*credit cannot be obtained for both OCSC 7100 and the former Biology/OCSC 7531*)
- OCSC 7200 Adaptations to the Marine Environment (*credit cannot be obtained for both OCSC 7200 and the former Biology/OCSC 7561*)
- OCSC 7300 Plankton Dynamics (*credit cannot be obtained for both OCSC 7300 and the former Biology/OCSC 7540*)
- OCSC 7400 Fisheries Resource Management (*credit cannot be obtained for both OCSC 7400 and the former Biology/OCSC 7551*)
- OCSC 7500-7515 Special Topics in Ocean Sciences

40.3 Nursing

Page 629, 2018-2019 Calendar, under the heading 21.2 Qualification for Admission, amend the section as follows:

**“21 Regulations Governing the Degree of Master of Nursing**

**21.2 Qualifications for Admission**

1. Applicants to the Master of Nursing program in any of the two options listed above must have a baccalaureate Degree in nursing, or an equivalent from an institution recognized by the University and a knowledge of nursing satisfactory to the School of Nursing.
2. Admission to the program is limited and competitive. To be considered for admission, the applicant must have maintained at least a grade B standing in the baccalaureate program.
3. Applicants are also required to have a minimum of one year's **of** experience **(1950 hours)** in nursing practice, **for the Practicum Option and two years of experience (3000 hours) in nursing practice for the Nurse Practitioner Option** and to have completed an undergraduate nursing research course **(minimum ‘B’ standing)** and an undergraduate statistics course **(minimum ‘B’ standing)**.
4. Applicants must hold a practising licence from the Association of Registered Nurses of Newfoundland and Labrador or must be currently registered as a practising nurse in another Canadian jurisdiction. Applicants from other countries who do not meet the above criteria will be assessed on an individual basis. However, they must submit proof of registration as a practising nurse (or an equivalency) from their country or jurisdiction.
5. In addition to the above requirements, ~~candidates~~ **applicants** seeking admission to the MN-Nurse Practitioner Degree option must have two years of clinical experience preferably in their chosen specialty area.

Nursing (cont'd)

6. In addition to requirements 1. and 4., ~~candidates~~ **applicants** seeking admission to the Graduate Diploma in Nursing (Post Master's Nurse Practitioner) program must have completed a Master's Degree (**minimum 'B' standing**) in Nursing or an equivalent degree with a nursing focus, **a graduate level statistics course (minimum 'B' standing), a graduate level nursing research theories course (minimum 'B' standing), a Bachelor's degree (minimum 'B' standing) in Nursing,** and have two years of clinical nursing experience preferably in their chosen specialty area.

7. In addition to requirements 1., 4., and 6. ~~candidates~~ **applicants** seeking admission to the MN-Nurse Practitioner Degree option and the [Graduate Diploma in Nursing \(Post Master's Nurse Practitioner\)](#) program will note that preference will be given to applicants who are living and working as Registered Nurses in Newfoundland and Labrador.

8. Only in exceptional circumstances and only on the recommendation of the School of Nursing shall the Dean of Graduate Studies consider applicants who do not meet admission requirements listed above.”

Page 696, 2018-2019 Calendar, under the heading 34.28.1 Qualifications for Admission, amend the section as follows:

**“34 Regulations Governing the Degree of Doctor of Philosophy**

**34.28.1 Qualifications for Admission**

1. Admission to the program is limited and competitive.
2. To be considered for admission an applicant must normally hold a Master of Nursing degree or equivalent from a recognized university and have a strong academic record. **(minimum GPA of 3.4 on a scale of 4).**
3. Applicants must have completed either a graduate level course(s) in research that included both qualitative and quantitative approaches with some advanced statistical analysis in the quantitative work, or a graduate level statistics course.
4. Applicants must hold an active practicing license from the Association of Registered Nurses of Newfoundland or must be currently registered as a practicing nurse in another Canadian jurisdiction. Applicants from other countries who do not meet the above criteria will be assessed on an individual basis and must submit proof of registration as a practicing nurse (or an equivalency) from their country or jurisdiction.
5. Applicants must submit a statement about a research focus that is compatible with expertise within the current faculty of the School of Nursing.”

Nursing (cont'd)

Page 696, 2018-2019 Calendar, under the heading 34.28.2 Program of Study, amend the section as follows:

**“34 Regulations Governing the Degree of Doctor of Philosophy**

**34.28.2 Program of Study**

1. A Supervisory Committee shall be appointed for each ~~candidate~~ **student** in accordance with General Regulations, Supervision of the School of Graduate Studies.

2. ~~Candidates~~ **Students** will normally be required to successfully complete a minimum of 18-credit hours of program courses as follows: Nursing 7011, Nursing 7012, Nursing 7100, Nursing 7101, one of Nursing 7200-7210 (or another approved research course at the doctoral level), and one of Nursing 7300-7310 (or another approved course at the doctoral level in the area of the student’s research interest). All courses will normally be completed within the first two ~~semesters~~ **years** of the program.

3. ~~Candidates~~ **Students** will normally be required to complete a minimum of two mandatory, non-credit internships/institutes during the first two years of the program. The internships/institutes are designed to provide an opportunity for students to gain substantive knowledge of, and engage in, collaborative research and/or teaching. An internship/institute will be selected based on the student’s area of interest and learning needs and will have a set or negotiated time limit during a semester depending on the nature and scope of the work.

4. ~~Candidates~~ **Students** will be required to participate in **four** graduate seminars of ~~2 hours per week~~ **term** in the Fall and Winter semesters in each of the first two academic years of the program (for a total of 16 graduate seminars).

5. ~~Candidates~~ **Students** must develop and maintain a professional portfolio that includes experience in research, teaching, and academic and professional service.

6. ~~Candidates~~ **Students** shall submit to a comprehensive examination in accordance with General Regulations, Comprehensive Examinations of the School of Graduate Studies. The Comprehensive Examination will consist of a written component and an oral component. The examination will normally be scheduled ~~in the first semester of the second year of the program~~ **on completion of course work**, but no later than the end of the student’s seventh semester in the program.

7. ~~Candidates~~ **Students** must submit a written thesis proposal for presentation to the School, normally within ~~six weeks~~ **three months** of



Nursing (cont'd)

completion of the comprehensive examinations, ~~but no later than the end of the fifth semester of the program.~~

8. ~~Candidates~~ **Students** must submit a thesis, examined and defended in accordance with [General Regulations, Theses and Reports](#) of the School of Graduate Studies.

9. ~~Candidates~~ **Students** are required to spend a minimum of six semesters (two academic years) ~~of full-time study~~ in residence.

10. In keeping with the [General Regulations, Period of Study](#) for the School of Graduate Studies, the time limit to complete the degree is seven years.”

40.4 Earth Sciences

Page 644, 2018-2019 Calendar, under the heading [25.11 Earth Sciences](#), and the section as follows:

**“25.11 Earth Sciences**

- [www.mun.ca/sgs/contacts/sgscontacts.php](http://www.mun.ca/sgs/contacts/sgscontacts.php)
- [www.mun.ca/science](http://www.mun.ca/science)
- [www.mun.ca/earthsciences](http://www.mun.ca/earthsciences)

The degrees of Master of Science and Doctor of Philosophy are offered in Earth Sciences (Geology) and Earth Sciences (Geophysics) by full-time and part-time study.

**25.11.1 Program of Study**

1. Admission into a Master's Degree program in Earth Sciences (Geology) and Earth Sciences (Geophysics) is restricted to ~~candidates~~students holding at least a B.Sc. Degree with second class Honours. When circumstances warrant, this requirement may be waived by the School of Graduate Studies on the recommendation of the Head of the Department.

2. Each ~~candidate~~student will be assigned a multi-member supervisory committee. This committee shall consist of the Supervisor and at least one other member. Within two weeks of the first registration in the M.Sc. Degree program, a ~~candidate~~student will meet with the ~~candidate's~~student's supervisory committee. Within six months, the student and the supervisory committee will agree on a written thesis proposal outlining the objectives, methods, timetable and funding for the project, and provide the proposal (signed by the student and supervisory committee) to the Head for inclusion in the student's file.

3. A ~~candidate~~student in the M.Sc. Degree must complete a minimum of 6 credit hours in program courses. The courses must be selected from the

Earth Sciences (cont'd)

overview and general courses below or with the approval of the supervisory committee and Head of the Department, other graduate level courses including those offered by other departments. Depending on background and/or area of specialization, a ~~candidate~~student also may be required to complete additional courses in ~~e~~Earth sciences or related subjects.

4. All course requirements should be completed within one year from the date of first registration in the M.Sc. Degree program.

~~5. A candidate is required to give an oral presentation to the Department on the results of the candidate's research. This presentation must be given during the second year of the program.~~

5. A student is required to give an oral presentation to the Department on the results of their research. This presentation is normally given during the second year of the program and must take place within the Graduate Student Seminar Series.

(6)A student is required to give an oral defence of their thesis research. The defence will consist of three voting members and will be comprised of (i) the supervisory committee, (ii) a third supervisory committee member (if one exists), or one other regular faculty member (who may also be suggested to examine the thesis), and (iii) the chair or delegate (non-voting). The defence presentation will be open to the public, but examiner questions will be held in camera. Possible outcomes of the defence are the same as for the Ph.D. given in section 4.10.4(g) of the calendar. Students who earn a "Pass" or "Pass with Distinction" can proceed to the thesis examination following the SGS procedures. Students who earn a "Pass Subject to Conditions" must satisfy those conditions before submitting their thesis for examination. Students who earn a "Re-Examination Required" have six months to complete that re-examination or their program will be terminated. Students who earn a "Fail" will have their program terminated. Once the defence and any necessary revisions are completed, the supervisory committee will complete the Supervisory Approval Form and the thesis may then proceed to examination following the SGS procedures.

6. The M.Sc. Degree program will conclude with a thesis examination as prescribed in the **Regulations Governing the Degree of Master of Science**.

7. The Supervisor and the Head of the Department may recommend to the Dean of Graduate Studies that a ~~candidate~~student who is not making satisfactory progress be required to withdraw from the program."

Page 676, 2018-2019 Calendar, under the heading 34.8 Earth Sciences, amend the section as follows:

## Earth Sciences (cont'd)

### **“34.8 Earth Sciences**

- [www.mun.ca/sgs/contacts/sgscontacts.php](http://www.mun.ca/sgs/contacts/sgscontacts.php)
- [www.mun.ca/science](http://www.mun.ca/science)
- [www.mun.ca/earthsciences](http://www.mun.ca/earthsciences)

The degrees of Master of Science and Doctor of Philosophy are offered in Earth Sciences (Geology) and Earth Sciences (Geophysics) by full-time and part-time study.

#### **34.8.1 Program of Study**

1. Admission into a Ph.D. program in Earth Sciences (Geology) and Earth Sciences (Geophysics) is normally restricted to ~~candidate~~students holding a Master's Degree or its equivalent. ~~Candidates~~students holding B.Sc. (Honours) degrees who show evidence of exceptional ability may be considered for a direct entry into a Ph.D. program. In exceptional circumstances, a ~~candidate~~student with a B.Sc. (Honours) Degree who has spent not less than 12 months in an M.Sc. Degree program may be recommended for transfer into a Ph.D. program, provided that the ~~candidate~~student can demonstrate, to the satisfaction of the Department of Earth Sciences, the ~~candidate's~~student's ability to pursue research at the doctoral level.

2. A ~~candidate~~student ~~for~~in the Ph.D. Degree is normally required to complete 6 credit hours in addition to the credit hours required for the M.Sc. Degree. The courses must be selected from the overview and general courses below or with the approval of the supervisory committee and Head of Department, other graduate level courses including those offered by other departments. Depending on background and/or area of specialization, a ~~candidate~~student also may be required to complete additional courses in ~~e~~Earth sciences or related subjects. All course requirements should be completed within 12 months from the date of the first registration in the Ph.D. program.

~~3. The Ph.D. Comprehensive Examination shall normally be taken in the first semester of registration in the Ph.D. program.~~

**~~Note:-~~**

~~Detailed descriptions of the Ph.D. Comprehensive Examination are available upon request from the General Office of the Department of Earth Sciences.~~

3. The Ph.D. Comprehensive Examination shall normally be taken within the first four semesters of registration in the Ph.D. program.

**Note:**

A detailed description of the Ph.D. Comprehensive Examination can be found in the Department of Earth Sciences Graduate Student Handbook.

Earth Sciences (cont'd)

~~4. The Ph.D. Thesis Proposal Examination shall normally be taken in the second semester of registration in the Ph.D. program.~~

~~**Note:-**~~

~~Detailed descriptions of the Ph.D. Thesis Proposal Examination are available upon request from the General Office of the Department of Earth Sciences.~~

5. The Ph.D. Degree program will conclude with a thesis examination and an oral defense of thesis as prescribed in the **General Regulations, Theses and Reports.**

6. The Supervisor and the Head of the Department may recommend to the Dean of Graduate Studies that the program of a ~~candidate~~ student who is not making satisfactory progress be terminated, in accordance with **General Regulation, Termination of a Graduate Program.**

7. A ~~candidate~~ student is required to give an oral presentation to the Department on the results of the ~~candidate's~~ student's research. The presentation must be given during the second or third year of the program.”

41. Senate Committee on Elections and Committees

41.1 Report of the Senate Committee on Elections and Committees: Senate Elections

The Committee on Elections and Committees has elected the following person to the Senate for a term of office commencing immediately and expiring August 31, 2021:

**CONSTITUENCY**

**NAME**

LIBRARY

Ms. Alison Ambi

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

The 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**

Christina Thorpe (Psychology)

Janet Goosney (Library)

**Honorary Degrees and Ceremonial**

Sam Nakhla (Engineering and Applied Science)

## **REGULAR AGENDA**

42. Report of the Senate Committee on Undergraduate Studies
- 42.1 Marine Institute

It was moved by Mr. Brett, seconded by J. Godfrey, and carried that on page 149, 2018-2019 Calendar, under the heading 4.1.1 Bachelor of Maritime Studies, amend the section as follows:

### **4.1.1 Bachelor of Maritime Studies**

~~The Bachelor of Maritime Studies program prepares graduates for career advancement in the maritime and related industries. It is designed for students who have graduated from accredited, or Transport Canada approved, diploma of technology programs in the marine fields. The program is also available to professional mariners, professional fish harvesters and certain Canadian Forces (Naval Operations) personnel. Courses in the program provide the student with an introduction to human resource and business management concepts, and the social contexts in which their careers will be based. The program consists of 39 credit hours in addition to work completed in a diploma program and can be taken on a full-time or part-time basis.~~

The Bachelor of Maritime Studies program prepares graduates for career advancement in Maritime Management or Safety Management industries. It is designed for students who have graduated from an accredited diploma of technology program that is applicable to one of two major areas of study. Courses in the program provide the student with an introduction to human resource and business management concepts and the social contexts in which their careers will be based. The program consists of 39 credit hours in addition to work completed in a diploma program and can be taken on a full-time or part-time basis.

The major areas of study are:

- Major in Maritime Management, which is normally chosen by students who have graduated from accredited, or Transport Canada approved, diploma of technology programs in the marine fields.
- Major in Safety Management. This major is open to all students eligible for the Major in Maritime Management but also includes any student holding a three-year CTAB or TAC accredited technology diploma or those having a CRSP designation.

Page 150, 2018-2019 Calendar, under the heading 5.1 General Information, amend the section as follows:

### **5.1 General Information**

1. The application for admission or readmission is submitted online; current and returning Fisheries and Marine Institute of Memorial University of Newfoundland applicants should apply using the Admissions menu within Memorial Self-Service at [www5.mun.ca/admit/twbkwbis.P](http://www5.mun.ca/admit/twbkwbis.P) **WWWLogin**. Applicants who are

Marine Institute (cont'd)

new to Fisheries and Marine Institute of Memorial University of Newfoundland should follow the application instructions at [www.mun.ca/undergrad/apply](http://www.mun.ca/undergrad/apply).

2.

**Table 1 Application Deadlines**

|        |  |
|--------|--|
| Fall   | June 15 (Official transcripts due June 30)       |
| Winter | October 15 (Official transcripts due October 30) |
| Spring | March 15 (Official transcripts due March 30)     |

3. Students may not obtain both a Bachelor of Maritime Studies and a Bachelor of Technology degree based upon completion of the same diploma of technology.

4. Students may not obtain a Bachelor Maritime Studies in more than one major. Students wishing to further their studies in either Maritime Management or Safety Management are strongly encouraged to apply for either the Master of Maritime Management program or the Post Graduate Certificate in Safety Management.

Page 150, 2018-2019 Calendar, under the heading 5.2 Admission Requirements for Applicants to the Bachelor of Maritime Studies Program, amend the section as follows:

**5.1 Admission Requirements for Applicants to the Bachelor of Maritime Studies Program**

1. The application for admission or readmission is submitted online; current and returning Fisheries and Marine Institute of Memorial University of Newfoundland applicants should apply using the Admissions menu within Memorial Self-Service at [www5.mun.ca/admit/twbkwbis.P\\_WWWLogin](http://www5.mun.ca/admit/twbkwbis.P_WWWLogin). Applicants who are new to Fisheries and Marine Institute of Memorial University of Newfoundland should follow the application instructions at [www.mun.ca/undergrad/apply](http://www.mun.ca/undergrad/apply). This application must include all required documentation including proof of the diploma or certificate required for admission in a specific category.

**2. Categories for admission to the Bachelor of Maritime Studies – Major in Maritime Management**

Applicants must meet the general admission/readmission requirements of the University and be eligible for admission to the Bachelor of Maritime Studies – Major in Maritime Management program in one of the following categories:

- Category A: applicants holding a diploma from the Marine Institute in nautical science, marine engineering technology, naval architecture technology or marine engineering systems design technology,
- Category B: applicants holding a Canadian Technology Accreditation Board accredited, or Transport Canada approved, diploma in marine engineering technology or nautical science,
- Category C: applicants holding a Canadian or non-Canadian diploma similar to an accredited or Transport Canada approved Marine Institute diploma in nautical science, marine engineering technology, naval

Marine Institute (cont'd)

architecture technology or marine engineering systems design technology,

- Category D: applicants holding a Transport Canada Certificate of Competency at the Master Mariner, Fishing Master First Class or Engineering First Class level or equivalent,
- Category E: applicants who have Canadian Forces (Naval Operations) training acceptable to the Admissions Committee.

**3. Categories for admission to the Bachelor of Maritime Studies – Major in Safety Management**

Applicants must meet the regular admission requirements of the University and be eligible for admission to the Bachelor of Maritime Studies – Major in Safety Management program in one of the following categories:

- Category A: applicants holding a diploma from the Marine Institute in nautical science, marine engineering technology, naval architecture technology, marine engineering systems design technology, marine environmental technology, or food technology
- Category B: applicants holding a diploma of technology in engineering/applied science technology accredited by the Canadian Technology Accreditation Board (CTAB), or Technology Accreditation Canada (TAC);
- Category C: applicants holding a diploma of technology comparable to a Marine Institute or College of the North Atlantic three-year accredited diploma;
- Category D: applicants who have Canadian Forces training acceptable to the Admissions Committee;
- Category E: applicants who hold a Canadian Registered Safety Professional (CRSP) designation.

4. Applications to the program will be considered by the appropriate admissions committee(s).

5. In accordance with the **UNIVERSITY REGULATIONS - Residence Requirements - Second Degree**, students completing the Bachelor of Maritime Studies Program, as a second degree, must complete all required courses within the Bachelor of Maritime Studies Program.

Page 151, 2018-2019 Calendar, under the heading 6.1 Bachelor of Maritime Studies, amend the section as follows:

**6.1 Bachelor of Maritime Studies**

**6.1.1 Bachelor of Maritime Studies – Major in Maritime Management**

- Students must complete 39 credit hours in addition to the work which was required under their category of admission.
- The required and elective courses are listed in **Table 2 Bachelor of Maritime Studies - Course Requirements For All Students Major in Maritime Management**. These courses may have prerequisites which have to be met.
- When transfer credit has been granted for a course(s) taken to satisfy the requirements for admission students must take an

Marine Institute (cont'd)

additional elective University course(s).

- To meet the academic requirements for a Bachelor of Maritime Studies a candidate shall successfully complete the following program with a minimum overall average of 60% and a minimum numeric grade of 50% in each course required for the degree unless stated otherwise within the course description.
- Students must take 39 credit hours with 21 credit hours from the required courses and 18 credit hours from the electives.
- At least three electives must be chosen from Group A and at least one elective must be chosen from Group B.

**Table 2 Bachelor of Maritime Studies - ~~Course Requirements for All~~ Students Major in Maritime Management**

| Required Courses  | Group A Electives  | Group B Electives  |
|---|--|--|
| <ul style="list-style-type: none"> <li>• <u>3 credit hours in English at the 1000 level-3 credit hours in a Critical Reading and Writing (CRW) course</u></li> <li>• <u>MSTM_MARI 4001</u></li> <li>• <u>MSTM_MARI 4002</u></li> <li>• <u>MSTM_MARI 4103</u></li> <li>• <u>MSTM_MARI 4105</u></li> <li>• <u>MSTM_MARI 4106</u></li> <li>• MSTM 4025 or Statistics 1510 or 2500</li> </ul> | <ul style="list-style-type: none"> <li>• <u>MSTM_MARI 4005</u></li> <li>• <u>MSTM_MARI 4006</u></li> <li>• <u>MSTM_MARI 4007</u></li> <li>• <u>MSTM_MARI 4008</u></li> <li>• <u>MSTM_MARI 4101</u></li> <li>• <u>MSTM_MARI 4102</u></li> <li>• <u>MSTM_MARI 4104</u></li> <li>• <u>MARI4107</u></li> </ul> | <ul style="list-style-type: none"> <li>• Business 1101 or 2102</li> <li>• Business 4000</li> <li>• Economics 1010 or the former 2010</li> <li>• Economics 1020 or the former 2020</li> <li>• Geography 3510</li> <li>• <u>MSTM_MARI 4004</u></li> <li>• MSTM 4019</li> <li>• MSTM 4020</li> <li>• MSTM 4030</li> <li>• MSTM 4040</li> <li>• MSTM 4050</li> <li>• Philosophy 2330 or the former 2571</li> <li>• Sociology 2120</li> </ul> |

**6.1.1 Bachelor of Maritime Studies – Major in Safety Management**

- Students must complete 39 credit hours in addition to the work which was required under their category of admission.
- The required and elective courses are listed in **Table 3 Bachelor of Maritime Studies – Major in Safety Management**. These courses may have prerequisites which have to be met.
- When transfer credit has been granted for a course(s) taken to satisfy the requirements for admission, students must take an additional elective University course(s).
- To meet the academic requirements for a Bachelor of Maritime Studies a candidate shall successfully complete the program with a minimum overall average of 60% and a minimum numeric grade of 50% in each course required for the degree unless stated otherwise within the course description.
- Students must take 39 credit hours with 27 credit hours from the required courses and 12 credit hours from the electives.
- At least two electives must be chosen from Group A and at least one elective must be chosen from Group B.



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Table 3 Bachelor of Maritime Studies – Major in Safety Management

| <u>Required Courses</u>  | <u>Group A Electives</u>  | <u>Group B Electives</u>   |
|--|---|--|
| <ul style="list-style-type: none"> <li>• <u>3 credit hours in a Critical Reading and Writing (CRW) course</u></li> <li>• <u>MARI 4004</u></li> <li>• <u>MARI 4101</u></li> <li>• <u>MARI 4104</u></li> <li>• <u>MARI 4107</u></li> <li>• <u>MARI 4108</u></li> <li>• <u>MARI 4109</u></li> <li>• <u>MARI 4110</u></li> <li>• <u>MARI 4111</u></li> </ul> | <ul style="list-style-type: none"> <li>• <u>MARI 4001</u></li> <li>• <u>MARI 4008</u></li> <li>• <u>MARI 4112</u></li> <li>• <u>MARI 4113</u></li> <li>• <u>MARI 4114</u></li> <li>• <u>MSTM 4025 or Statistics 1510 or 2500</u></li> </ul> | <ul style="list-style-type: none"> <li>• <u>Business 1101 or 2102</u></li> <li>• <u>MARI 4002</u></li> <li>• <u>MSTM 4019</u></li> <li>• <u>MARI 4106</u></li> <li>• <u>MSTM 4040</u></li> <li>• <u>Philosophy 1100</u></li> <li>• <u>Philosophy 2330</u></li> <li>• <u>Sociology 2120 or MSTM 4030</u></li> </ul> |

Page 153, 2018-2019 Calendar, under the heading 10 Course Descriptions, amend the section as follows:

**10 Course Descriptions**

~~All courses of the Marine Institute degree programs are designated as MSTM (Maritime Studies/Technology Management).~~

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

~~**4001 The Organization and Issues of Shipping** will provide students with knowledge of the economic shipping environment with respect to Canada. The course will develop an understanding of basic trade theory, patterns of trade and sea routes, commodities traded by sea, and the organizational structure of shipping companies.  
CR: the former Engineering 8065; Maritime Studies 4001~~

~~**4002 The Business of Shipping** will provide students with an understanding of financial statements, costs, revenues and financial performance of shipping companies as well as computing, voyage and annual cashflows. The course will develop an understanding of marine insurance and forecasting, and risk management.  
PR: MSTM 4001~~

~~**4004 Marine Environmental Management** will introduce students to the requirements for the safe management of the marine environment. The course will introduce major environmental problems and identify the major threats to the marine environment. It will provide a working knowledge of these threats and consider the possible counter measures that may be employed by employees in the marine industry.~~

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~~**4005 Trends and Issues in International Shipping** will provide students with an understanding of how regulatory bodies and their legislation have evolved to affect the modern seafarer trading internationally. This course will develop an understanding of the various rules and regulations dealing with Classification, ISM, MAPROL, SOLAS and SIRE inspections which have to be dealt with on a daily basis at sea.~~

~~**4006 Maritime Human Resource Management** provides basic principles of HRM in terms of seagoing and shore-based personnel. Students will analyze the world maritime labour market, HRM practices, outsourcing and international conventions. It stresses the importance of coherent maritime HRM systems required to gain a sustainable competitive advantage.~~

~~**4007 Shipping Finance** focuses on commercial ship management and the critical evaluation of alternative financial decisions. Analyzes the principles of financial ship management and the impact of global economic variables on the financial operations and performance of shipping companies. The course provides an appreciation of critical questions, problems, issues and alternative approaches incorporated in shipping finance. This will support and facilitate the conduct of meaningful financial analysis and managerial decision making for investments and fund raising in shipping business.~~

~~**4008 Introduction to Offshore Oil and Gas** will provide students with an understanding of the basic concepts of the oil and gas industry from a marine perspective. This course will cover the entire supply chain and industry structure from upstream to downstream. Topics discussed will give an overview of oil and gas; how it is explored and evaluated, extracted, refined, transported and traded.~~

**4010 Assessment and Implementation of Technology** (formerly Technology 4010) examines the effects of technology on the physical, socio-economic, historic, cultural and aesthetic environments. The course also addresses relevant legislation, the generation and evaluation of project/product alternatives, and the prediction, verification and mitigation of technological effects.

CR: the former Technology 4010

**4011 Introduction to Intellectual Property and its Management** is an introductory course to the management of Intellectual Property Rights (IPRs). This course will cover the philosophical rationale for intellectual property rights, its technical and legal considerations, its implications to the development of science and technology and its economic impact in society.

**4012 Occupational Health and Safety Legislation and Management** is an introduction to occupational health and safety issues in a technical/industrial context. Students will gain a knowledge and

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understanding of the legislative framework surrounding occupational health and safety, the assignment of responsibilities in the workplace, the management of occupational health and safety in the workplace and the importance of establishing a positive safety culture.

**4013 Structure and Functions of Technology-based Organizations**

focuses on the emergence of technology-based companies and how to implement methods to increase their organizational effectiveness. This course will concentrate on the integration of three basic frameworks which include the study of technological economics and organizational progression, structural configurations and operations, and universal and contemporary approaches to organizational design. In addition it will examine the challenges of change that face highly dynamic industries: individual and organizational change, technological change, and national and global change.

**4014 Technology and the Environment**

will help students critically examine technology and the environment and how the two are linked. Topics may include how technology is both the cause of and solution to many environmental problems, the greenhouse effect, renewable energy vs. fossil fuels, recycling vs. landfills, the efficiency paradox, geo-engineering, and other select current topics.

**4015 Technological Entrepreneurship**

surveys technological entrepreneurship via examples of both successful and failed businesses in technological fields. By examining cases of entrepreneurship, this course will examine challenges and opportunities facing technological entrepreneurs.

**4016 Technological Problem Solving**

will introduce students to TRIZ, a powerful set of tools and algorithms developed specifically for analyzing and solving technological problems. TRIZ was developed by people with a technical background for those with a technical background. While TRIZ was developed for inventing and solving technical problems, the tools and approaches can be used to understand and solve virtually any solvable problem.

**4017 Technical Operations Management**

introduces students to the area of operations management as it pertains to technology companies. Operations is generally considered the process by which an organization converts inputs such as labour and material into outputs such as goods or services. This course will examine how to manage the processes with a particular emphasis on operations in technology-based companies. Topics may include operations based strategy, processes and technology, capacity and facilities planning, and supply chain management.

**4019 Research Methods**

will examine the fundamental steps in the process of doing research. It will provide students with the necessary information and tools to conduct technical research and communicate

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their findings. This course will examine how to define a research project, how to prepare a research proposal, how to select a research methodology, how to collect and analyze data and information, and how to prepare a research project report.

**4025 Applied Statistics** will enable the student to use descriptive statistics to report data findings, to make statistical inferences using appropriate data analysis, and to use, and interpret the output from, statistical software.

**4020 Economic Management for Technologists** (formerly Technology 4020) provides an introduction to the economics of technological projects. Students will study the mathematics of money, cost composition, and project evaluation, including cost comparison. They will also learn to analyse projects for decision making, including risk assessment and replacement analysis. In addition, they will learn to use suitable criteria for project selection, and to conduct sensitivity analysis.  
CR: Engineering 4102; the former Technology 4020

**4030 Technology in the Human Context** (formerly Technology 4030) examines technology in the historical context and technology in the modern era. Students will discuss human insights, innovation, the interactions between development and technology transfer, ethics and professionalism and how to develop a technology value system.  
CR: the former Technology 4030

**4040 Project Management for Technologists** (formerly Technology 4040) will introduce the student to the interdisciplinary field of project management. The course covers the interpersonal skills necessary to successfully lead or work effectively within a project team as well as providing an overview of certain planning and scheduling tools and techniques necessary for the planning and monitoring of projects.  
CR: the former Technology 4040

**4050 Introduction to Quality Management** (formerly Technology 4050) will provide students with an understanding of the philosophy and concepts involved in the total quality approach to quality management. The course covers the various tools and techniques used in quality management as well as providing an overview of the role of management.  
CR: the former Technology 4050

**4055 Marine Renewable Energy** provides students with an overview of MRE resources, introduces current and emerging technologies to exploit MRE resources, and places these technologies in context with environmental, political, and economic constraints.

**4060 Advanced Technical Communications** will enhance the technical communication skills of students. The course content examines technical writing fundamentals; information gathering, analysis, and

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documentation; proposal preparation; technical document applications; technical report preparation; graphics preparation; and technical presentations. The course will provide students with the knowledge and skills necessary to develop proposals, reports, and presentations for technical projects.

**4070 Special Topics in Technology** will provide the opportunity for students to maintain technical currency through a review of recent advances in technology and their application to particular technical areas.

**4090 Introduction to Technology** will provide a broad survey of practices critical to operating a technology-based business. Topics covered may include an introduction to technology management, historical developments in the management of technology, the functions of technology management, and select current topics that are relevant to operating technology-based businesses.

**410A and 410B Technical Project Report** (same as the former MSTM 4100 and 4200) is a two-semester linked course based on independent study of a problem involving the management of technology. The subject of study will be decided in consultation with the course instructor and must be approved by a committee. The student will identify a research topic in a specialty area, write a concept paper, develop a proposal and write a report. The passing grade for this course is 65%.

CR: MSTM 4400, the former MSTM 4000, the former MSTM 4100, the former MSTM 4200, the former Technology 4000

OR: must be completed within three consecutive semesters

PR: MSTM 4060

UL: not available to students following the 2017/18 Calendar or later as this course will be discontinued after Spring 2018

~~**4101 Maritime Occupational Safety and Health (Legislation and Regulations)** will provide students with the knowledge and understanding to manage the legislative framework within the workplace and show the importance of establishing a positive safety culture with specific focus on the maritime industry.~~

~~**4102 Maritime Risk Management/Accident Incident Investigation** will provide students with the knowledge of methodologies and practices needed to manage operational risk in today's maritime industry. Risk management will be analyzed in the context of prevention and mitigation of loss resulting from health and safety, equipment, and environmental accidents and incidents. The course will further explore methodologies and practices used to investigate accident and incident occurrences in the maritime industry.~~

~~**4103 Advanced Communications for the Maritime Sector** will equip students to write a variety of formal and informal maritime related technical documents; develop students' capabilities in gathering and~~

## Marine Institute (cont'd)

~~critically analysing information from technical sources and constructing a clear message; and prepare students to develop and deliver oral technical presentations.~~

~~**4104 Integrated Management Systems in Maritime Industries** offers a firsthand knowledge of a systematic, comprehensive process for managing safety risks. A safety management system program provides for goal setting, planning, and measuring performance. It becomes part of the company's safety culture, as well as the way people do their jobs.~~

~~**4105 Policy and Governance in the Maritime Industry** provides the student with an understanding of the maritime industry as a global enterprise in the context of policy and governance. It will focus on the full range of the regulatory framework from the standpoint of the International Maritime Organization to the statutory regulations applicable to the Canadian maritime industry.~~

~~**4106 Ship Operations Management** provides comprehensive knowledge of global ship management practices supporting the function of ship operations management, both ashore and at sea. This course aims to develop the students understanding of management issues in marine transportation as they relate to basic principles of management; management in multi ethnic environments; managing under adverse conditions; the SOLAS Convention and the ISM and ISPS Codes; the International Labour Organization and the MLC Convention; the International Transport Federation; and, Port State Control.~~

**4400 Technological Assessment Project** will provide students with the opportunity to conduct an assessment and implementation plan of a technical project in their area of interest. Students will utilize the knowledge that they have obtained in the required courses and incorporate this knowledge into a final project paper.

CR: MSTM 410A/B, the former MSTM 4000, the former MSTM 4100, the former MSTM 4200, and the former Technology 4000

PR: MSTM 4019, 4040, 4060, and 4025 or Statistics 1510 or 2500 or equivalent

## 10.1 Maritime Studies

Maritime Studies courses are designated by MARI

**4001 The Organization and Issues of Shipping** (same as the former MSTM 4001) provides students with knowledge of the economic shipping environment with respect to Canada. The course will develop an understanding of basic trade theory, patterns of trade and sea routes, commodities traded by sea, and the organizational structure of shipping companies.

CR: the former Engineering 8065; Maritime Studies 4001; the former MSTM 4001

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**4002 The Business of Shipping** (same as the former MSTM 4002) provides students with an understanding of financial statements, costs, revenues and financial performance of shipping companies as well as computing, voyage and annual cashflows. The course will develop an understanding of marine insurance and forecasting, and risk management.

CR: the former MSTM 4002

PR: MSTM 4001

**4004 Marine Environmental Management** (same as the former MSTM 4004) introduces students to the requirements for the safe management of the marine environment. The course will introduce major environmental problems and identify the major threats to the marine environment. It will provide a working knowledge of these threats and consider the possible counter measures that may be employed by employees in the marine industry.

CR: the former MSTM 4004

**4005 Trends and Issues in International Shipping** (same as the former MSTM 4005) provides students with an understanding of how regulatory bodies and their legislation have evolved to affect the modern seafarer trading internationally. This course will develop an understanding of the various rules and regulations dealing with Classification, ISM, MAPROL, SOLAS and SIRE inspections which have to be dealt with on a daily basis at sea.

CR: the former MSTM 4005

**4006 Maritime Human Resource Management** (same as the former MSTM 4006) provides basic principles of HRM in terms of seagoing and shore-based personnel. Students will analyze the world maritime labour market, HRM practices, outsourcing and international conventions. It stresses the importance of coherent maritime HRM systems required to gain a sustainable competitive advantage.

CR: the former MSTM 4006

**4007 Shipping Finance** (same as the former MSTM 4007) focuses on commercial ship management and the critical evaluation of alternative financial decisions. Analyzes the principles of financial ship management and the impact of global economic variables on the financial operations and performance of shipping companies. The course provides an appreciation of critical questions, problems, issues and alternative approaches incorporated in shipping finance. This will support and facilitate the conduct of meaningful financial analysis and managerial decision-making for investments and fund raising in shipping business.

CR: the former MSTM 4007

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**4008 Introduction to Offshore Oil and Gas** (same as the former MSTM 4008) provides students with an understanding of the basic concepts of the oil and gas industry from a marine perspective. This course will cover the entire supply chain and industry structure from upstream to downstream. Topics discussed will give an overview of oil and gas; how it is explored and evaluated, extracted, refined, transported and traded.

CR: the former MSTM 4008

**4101 Maritime Occupational Safety and Health (Legislation and Regulations)** (same as the former MSTM 4101) provides students with the knowledge and understanding to manage the legislative framework within the workplace and show the importance of establishing a positive safety culture with specific focus on the maritime industry.

CR: the former MSTM 4101

**4102 Maritime Risk Management/Accident Incident Investigation** (same as the former MSTM 4102) provides students with the knowledge of methodologies and practices needed to manage operational risk in today's maritime industry. Risk management will be analyzed in the context of prevention and mitigation of loss resulting from health and safety, equipment, and environmental accidents and incidents. The course will further explore methodologies and practices used to investigate accident and incident occurrences in the maritime industry.

CR: the former MSTM 4102

**4103 Advanced Communications for the Maritime Sector** (same as the former MSTM 4103) equips students to write a variety of formal and informal maritime-related technical documents; develops students' capabilities in gathering and critically analysing information from technical sources and constructing a clear message; and prepares students to develop and deliver oral technical presentations.

CR: the former MSTM 4103

**4104 Integrated Management Systems in Maritime Industries** (same as the former MSTM 4104) offers a firsthand knowledge of a systematic, comprehensive process for managing safety risks. A safety management system program provides for goal setting, planning, and measuring performance. It becomes part of the company's safety culture, as well as the way people do their jobs.

CR: the former MSTM 4104

**4105 Policy and Governance in the Maritime Industry** (same as the former MSTM 4105) provides the student with an understanding of the maritime industry as a global enterprise in the context of policy and governance. It will focus on the full range of the regulatory framework from the standpoint of the International Maritime Organization to the statutory regulations applicable to the Canadian maritime industry.

CR: the former MSTM 4105



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**4106 Ship Operations Management** (same as the former MSTM 4106) provides comprehensive knowledge of global ship management practices supporting the function of ship operations management, both ashore and at sea. This course aims to develop the student's understanding of management issues in marine transportation as they relate to basic principles of management; management in multi-ethnic environments; managing under adverse conditions; the SOLAS Convention and the ISM and ISPS Codes; the International Labour Organization and the MLC Convention; the International Transport Federation; and, Port State Control.

CR: the former MSTM 4106

**4107 Communications and Conflict Management** provides students with the knowledge, tools and strategies to effectively manage and resolve conflicts in the workplace. The necessary communication skills taught in this course will allow students to respond to interpersonal and organizational conflicts in a collaborative manner to ensure a safe and productive workplace.

**4108 Emergency Management and Preparedness in the Maritime Sector** introduces the emergency management concepts, theories and skills required to assume a command or support role in an emergency situation at sea. The course introduces the student to key positions, responsibilities and expectations of the marine emergency team. Relevant legislation, guidelines and differences between the shipping industry and offshore oil and gas industry regarding their operational structures and emergency management operational plans will also be investigated.

**4109 Human Factors in the Maritime Sector** addresses the application of our understanding of human characteristics to the design of equipment and environments in which people perform and learn. Framed within a maritime context, this course provides an overview of human capabilities and limitations, and how they interact with the design, use and learning of systems, controls and displays.

**4110 Risk Management in the Maritime Sector** provides a solid grounding in knowledge and skills required to interpret, evaluate, communicate, and manage risk in the maritime sector. Utilizing a variety of case studies, the course covers risk assessment methodologies and provides a practical approach to conducting, reviewing, and evaluating risk assessments. The course reviews regulatory requirements and discusses the importance and challenges (including the human element) of effective risk management.

Students will also conduct article reviews as part of their study.

**4111 Incident/Accident Investigation in the Maritime Sector** provides a solid grounding in the knowledge and skills required to conduct a near-miss and incident / accident investigation. Utilizing a

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variety of case studies, the course covers incident investigation / root cause analysis methodologies and provides a framework to conduct an investigation, analyse the information, implement corrective actions, and write the investigation report. Students will also review and critique investigation reports as part of their study.

**4112 Quality Systems and Organizational Management** examines the theory and application of quality management systems (QMS). It also provides direction for the integration of a QMS into an overall management system that addresses occupational health and safety as well as environment.

**4113 Maritime Security Management** examines contemporary port, coastal and ocean security issues. It explores the roles of national and international agencies, international conventions, security audits, and inspections. The course also explores maritime security risk assessment methodologies that enable organizations to make organizational and operational decisions to mitigate maritime security risks. Utilizing a variety of case studies and security assessment methodologies the course will provide a practical approach to conducting, reviewing, and evaluating maritime security risk assessments.

**4114 Maritime Environmental Health** focuses on the rise in the number of work-related diseases worldwide, relative to traumatic injuries, which has led to an increased focus on occupational health hazards in the workplace. Exposure to physical, chemical, biological, psychosocial and ergonomic factors as major concerns in occupational health and safety, as well as an awareness of these hazards and the associated health effects as an important step in their recognition and control, will also be covered.

PR: MARI 4101

Page 152, 2018-2019 Calendar, under the heading 6.2 Bachelor of Technology, amend the section as follows:

**6.2 Bachelor of Technology**

- Students must complete 39 credit hours in addition to the work which was required under their category of admission.
- The required and elective courses are listed in **Table 3-4 Bachelor of Technology - Engineering and Applied Science Technology Option** and **Table 4-5 Bachelor of Technology - Health Science Technology Option**. These courses may have prerequisites which have to be met.
- When transfer credit has been granted for a course(s) taken to satisfy the requirements for admission, students must take an additional elective University course(s).
- To meet the academic requirements for a Bachelor of Technology a candidate shall successfully complete the program with a minimum overall average of 60% and a minimum numeric grade of 50% in each course required for the degree unless stated otherwise within the course description.

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**6.2.1 Bachelor of Technology - Engineering and Applied Science Technology Option**

- Students must take 39 credit hours with 24 credit hours from the required courses and 15 credit hours from the electives.
- At least one elective must be chosen from each of the groups A and B.

**Table 3.4 Bachelor of Technology - Engineering and Applied Science Technology Option**

| Required Courses  | Group A Electives   | Group B Electives  |
|---|---|--|
| <ul style="list-style-type: none"> <li>• 3 credit hours in English at the 1000 level</li> <li>• MSTM 4010</li> <li>• MSTM 4019</li> <li>• MSTM 4020</li> <li>• MSTM 4025 or Statistics 1510 or 2500 or equivalent</li> <li>• MSTM 4040</li> <li>• MSTM 4060</li> <li>• MSTM 4400</li> </ul> | <ul style="list-style-type: none"> <li>• Business 1101 or 2102</li> <li>• Business 4000</li> <li>• Economics 3360</li> <li>• MSTM 4008</li> <li>• MSTM 4011</li> <li>• MSTM 4012</li> <li>• MSTM 4013</li> <li>• MSTM 4017</li> <li>• MSTM 4050</li> <li>• MSTM 4070</li> <li>• MSTM 4090 or Business 1000</li> </ul> | <ul style="list-style-type: none"> <li>• Economics 1010 or the former 2010</li> <li>• Economics 1020 or the former 2020</li> <li>• Economics 3080</li> <li>• MSTM 4014</li> <li>• MSTM 4015</li> <li>• MSTM 4016</li> <li>• MSTM 4030 or Sociology 2120 or Geography 3015 or Sociology 3015</li> <li>• MSTM 4055</li> <li>• Philosophy 1100</li> <li>• Philosophy 2330 or the former 2571</li> </ul> |

**6.2.1 Bachelor of Technology - Health Science Technology Option**

- Students must take 39 credit hours with 18 credit hours from the required courses and 21 credit hours from the electives.
- At least one elective must be chosen from each of the groups A, B, and C.

**Table 4.5 Bachelor of Technology - Health Science Technology Option**

| Required Courses  | Group A Electives  | Group B Electives  | Group C Electives   |
|---|--|--|---|
| <ul style="list-style-type: none"> <li>• 3 credit hours in English at the 1000 level</li> <li>• MSTM 4019</li> <li>• MSTM 4025 or Statistics 1510 or 2500 or equivalent</li> <li>• MSTM 4040</li> <li>• MSTM 4060</li> <li>• MSTM 4400</li> </ul> | <ul style="list-style-type: none"> <li>• Business 1101 or 2102</li> <li>• Business 4000</li> <li>• Economics 3360</li> <li>• MSTM 4008</li> <li>• MSTM 4011</li> <li>• MSTM 4012</li> <li>• MSTM 4013</li> <li>• MSTM 4017</li> <li>• MSTM 4050</li> <li>• MSTM 4090 or Business 1000</li> </ul> | <ul style="list-style-type: none"> <li>• Economics 1010 or the former 2010</li> <li>• Economics 1020 or the former 2020</li> <li>• Economics 3080</li> <li>• MSTM 4014</li> <li>• MSTM 4015</li> <li>• MSTM 4016</li> <li>• MSTM 4030 or Sociology 2120 or Geography 3015 or Sociology 3015</li> <li>• MSTM 4055</li> <li>• Philosophy 1100</li> <li>• Philosophy 2100 or the former 2551; 2110 or the former 2553; 2120 or the former 2552</li> <li>• Philosophy 2330 or the former 2571</li> </ul> | <ul style="list-style-type: none"> <li>• Biology 2040 or 2041</li> <li>• Psychology 1000</li> <li>• Psychology 2010</li> <li>• Psychology 2020</li> <li>• Psychology 2030</li> <li>• Psychology 2800</li> </ul> |

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Page 152, 2018-2019 Calendar, under the heading 6.2 Bachelor of Technology, amend the section as follows:

**6.2 Bachelor of Technology**

- Students must complete 39 credit hours in addition to the work which was required under their category of admission.
- The required and elective courses are listed in **Table 3 Bachelor of Technology - Engineering and Applied Science Technology Option** and **Table 4 Bachelor of Technology - Health Science Technology Option**. These courses may have prerequisites which have to be met.
- When transfer credit has been granted for a course(s) taken to satisfy the requirements for admission, students must take an additional elective University course(s).
- To meet the academic requirements for a Bachelor of Technology a candidate shall successfully complete the program with a minimum overall average of 60% and a minimum numeric grade of 50% in each course required for the degree unless stated otherwise within the course description.

**6.2.1 Bachelor of Technology - Engineering and Applied Science Technology Option**

- Students must take 39 credit hours with 24 credit hours from the required courses and 15 credit hours from the electives.
- At least one elective must be chosen from each of the groups A and B.

**Table 3 Bachelor of Technology - Engineering and Applied Science Technology Option**

| Required Courses  | Group A Electives   | Group B Electives   |
|---|---|---|
| <ul style="list-style-type: none"> <li>• 3 credit hours <a href="#">in English at the 1000 level in a Critical Reading and Writing (CRW) course</a></li> <li>• <a href="#">MSTM-TECH 4010</a></li> <li>• <a href="#">MSTM-TECH 4019</a></li> <li>• <a href="#">MSTM-TECH 4020</a></li> <li>• <a href="#">MSTM-TECH 4025</a> or Statistics 1510 or 2500 or equivalent</li> <li>• <a href="#">MSTM-TECH 4040</a></li> <li>• <a href="#">MSTM-TECH 4060</a></li> <li>• <a href="#">MSTM-TECH 4400</a></li> </ul> | <ul style="list-style-type: none"> <li>• Business 1101 or 2102</li> <li>• Business 4000</li> <li>• Economics 3360</li> <li>• MSTM 4008</li> <li>• <a href="#">MSTM-TECH 4011</a></li> <li>• <a href="#">MSTM-TECH 4012</a></li> <li>• <a href="#">MSTM-TECH 4013</a></li> <li>• <a href="#">MSTM-TECH 4017</a></li> <li>• <a href="#">MSTM-TECH 4050</a></li> <li>• <a href="#">MSTM-TECH 4070</a></li> <li>• <a href="#">TECH 4080</a></li> <li>• <a href="#">MSTM-TECH 4090</a> or Business 1000</li> </ul> | <ul style="list-style-type: none"> <li>• Economics 1010 or the former 2010</li> <li>• Economics 1020 or the former 2020</li> <li>• Economics 3080</li> <li>• <a href="#">MSTM-TECH 4014</a></li> <li>• <a href="#">MSTM-TECH 4015</a></li> <li>• <a href="#">MSTM-TECH 4016</a></li> <li>• <a href="#">MSTM-TECH 4030</a> or Sociology 2120 or Geography 3015 or Sociology 3015</li> <li>• <a href="#">MSTM-TECH 4055</a></li> <li>• Philosophy 1100</li> <li>• Philosophy 2330 or the former 2571</li> </ul> |

**6.2.2 Bachelor of Technology - Health Science Technology Option**

- Students must take 39 credit hours with 18 credit hours from the required courses and 21 credit hours from the electives.
- At least one elective must be chosen from each of the groups A, B, and C.

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**Table 4 Bachelor of Technology - Health Science Technology Option**

| Required Courses  | Group A Electives  | Group B Electives  | Group C Electives  |
|---|--|--|--|
| <ul style="list-style-type: none"> <li>• 3 credit hours in <a href="#">English at the 1000 level in a Critical Reading and Writing (CRW) course</a></li> <li>• <a href="#">MSTM TECH 4019</a></li> <li>• <a href="#">MSTM TECH 4025</a> or Statistics 1510 or 2500 or equivalent</li> <li>• <a href="#">MSTM TECH 4040</a></li> <li>• <a href="#">MSTM TECH 4060</a></li> <li>• <a href="#">MSTM TECH 4400</a></li> </ul> | <ul style="list-style-type: none"> <li>• Business 1101 or 2102</li> <li>• Business 4000</li> <li>• Economics 3360</li> <li>• MSTM 4008</li> <li>• <a href="#">MSTM TECH 4011</a></li> <li>• <a href="#">MSTM TECH 4012</a></li> <li>• <a href="#">MSTM TECH 4013</a></li> <li>• <a href="#">MSTM TECH 4017</a></li> <li>• <a href="#">MSTM TECH 4050</a></li> <li>• <a href="#">MSTM TECH 4090</a> or Business 1000</li> </ul> | <ul style="list-style-type: none"> <li>• Economics 1010 or the former 2010</li> <li>• Economics 1020 or the former 2020</li> <li>• Economics 3080</li> <li>• <a href="#">MSTM TECH 4014</a></li> <li>• <a href="#">MSTM TECH 4015</a></li> <li>• <a href="#">MSTM TECH 4016</a></li> <li>• <a href="#">MSTM TECH 4030</a> or Sociology 2120 or Geography 3015 or Sociology 3015</li> <li>• <a href="#">MSTM TECH 4055</a></li> <li>• <a href="#">TECH 4080</a></li> <li>• Philosophy 1100</li> <li>• Philosophy 2100 or the former 2551; 2110 or the former 2553; 2120 or the former 2552</li> <li>• Philosophy 2330 or the former 2571</li> </ul> | <ul style="list-style-type: none"> <li>• Biology 2040 or 2041</li> <li>• Psychology 1000</li> <li>• Psychology 2010</li> <li>• Psychology 2020</li> <li>• Psychology 2030</li> <li>• Psychology 2800</li> <li>• <a href="#">TECH 4110</a></li> </ul> |

Page 153, 2018-2019 Calendar, under the heading 10 Course Descriptions, amend the section as follows:

**10 Course Descriptions**

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

~~\*\*Should 410A and B be removed from the listing - are they designated inactive at this point?~~

~~All courses of the Marine Institute degree programs are designated as MSTM (Maritime Studies/Technology Management).~~

~~All courses of the Marine Institute degree programs are designated as MSTM (Maritime Studies/Technology Management).~~

**4001 The Organization and Issues of Shipping** will provide students with knowledge of the economic shipping environment with respect to

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Canada. The course will develop an understanding of basic trade theory, patterns of trade and sea routes, commodities traded by sea, and the organizational structure of shipping companies.

CR: the former Engineering 8065; Maritime Studies 4001

**4002 The Business of Shipping** will provide students with an understanding of financial statements, costs, revenues and financial performance of shipping companies as well as computing, voyage and annual cashflows. The course will develop an understanding of marine insurance and forecasting, and risk management.

PR: MSTM 4001

**4004 Marine Environmental Management** will introduce students to the requirements for the safe management of the marine environment. The course will introduce major environmental problems and identify the major threats to the marine environment. It will provide a working knowledge of these threats and consider the possible counter measures that may be employed by employees in the marine industry.

**4005 Trends and Issues in International Shipping** will provide students with an understanding of how regulatory bodies and their legislation have evolved to affect the modern seafarer trading internationally. This course will develop an understanding of the various rules and regulations dealing with Classification, ISM, MAPROL, SOLAS and SIRE inspections which have to be dealt with on a daily basis at sea.

**4006 Maritime Human Resource Management** provides basic principles of HRM in terms of seagoing and shore-based personnel. Students will analyze the world maritime labour market, HRM practices, outsourcing and international conventions. It stresses the importance of coherent maritime HRM systems required to gain a sustainable competitive advantage.

**4007 Shipping Finance** focuses on commercial ship management and the critical evaluation of alternative financial decisions. Analyzes the principles of financial ship management and the impact of global economic variables on the financial operations and performance of shipping companies. The course provides an appreciation of critical questions, problems, issues and alternative approaches incorporated in shipping finance. This will support and facilitate the conduct of meaningful financial analysis and managerial decision-making for investments and fund raising in shipping business.

**4008 Introduction to Offshore Oil and Gas** will provide students with an understanding of the basic concepts of the oil and gas industry from a marine perspective. This course will cover the entire supply chain

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and industry structure from upstream to downstream. Topics discussed will give an overview of oil and gas; how it is explored and evaluated, extracted, refined, transported and traded.

~~**4010 Assessment and Implementation of Technology**~~ (formerly Technology 4010) examines the effects of technology on the physical, socio-economic, historic, cultural and aesthetic environments. The course also addresses relevant legislation, the generation and evaluation of project/product alternatives, and the prediction, verification and mitigation of technological effects.

CR: the former Technology 4010

~~**4011 Introduction to Intellectual Property and its Management**~~ is an introductory course to the management of Intellectual Property Rights (IPRs). This course will cover the philosophical rationale for intellectual property rights, its technical and legal considerations, its implications to the development of science and technology and its economic impact in society.

~~**4012 Occupational Health and Safety Legislation and Management**~~ is an introduction to occupational health and safety issues in a technical/industrial context. Students will gain a knowledge and understanding of the legislative framework surrounding occupational health and safety, the assignment of responsibilities in the workplace, the management of occupational health and safety in the workplace and the importance of establishing a positive safety culture.

~~**4013 Structure and Functions of Technology-based Organizations**~~ focuses on the emergence of technology based companies and how to implement methods to increase their organizational effectiveness. This course will concentrate on the integration of three basic frameworks which include the study of technological economics and organizational progression, structural configurations and operations, and universal and contemporary approaches to organizational design. In addition it will examine the challenges of change that face highly dynamic industries: individual and organizational change, technological change, and national and global change.

~~**4014 Technology and the Environment**~~ will help students critically examine technology and the environment and how the two are linked. Topics may include how technology is both the cause of and solution to many environmental problems, the greenhouse effect, renewable energy vs. fossil fuels, recycling vs. landfills, the efficiency paradox, geo-engineering, and other select current topics.

Marine Institute (cont'd)

~~**4015 Technological Entrepreneurship** surveys technological entrepreneurship via examples of both successful and failed businesses in technological fields. By examining cases of entrepreneurship, this course will examine challenges and opportunities facing technological entrepreneurs.~~

~~**4016 Technological Problem Solving** will introduce students to TRIZ, a powerful set of tools and algorithms developed specifically for analyzing and solving technological problems. TRIZ was developed by people with a technical background for those with a technical background. While TRIZ was developed for inventing and solving technical problems, the tools and approaches can be used to understand and solve virtually any solvable problem.~~

~~**4017 Technical Operations Management** introduces students to the area of operations management as it pertains to technology companies. Operations is generally considered the process by which an organization converts inputs such as labour and material into outputs such as goods or services. This course will examine how to manage the processes with a particular emphasis on operations in technology based companies. Topics may include operations based strategy, processes and technology, capacity and facilities planning, and supply chain management.~~

~~**4019 Research Methods** will examine the fundamental steps in the process of doing research. It will provide students with the necessary information and tools to conduct technical research and communicate their findings. This course will examine how to define a research project, how to prepare a research proposal, how to select a research methodology, how to collect and analyze data and information, and how to prepare a research project report.~~

~~**4025 Applied Statistics** will enable the student to use descriptive statistics to report data findings, to make statistical inferences using appropriate data analysis, and to use, and interpret the output from, statistical software.~~

~~**4020 Economic Management for Technologists** (formerly Technology 4020) provides an introduction to the economics of technological projects. Students will study the mathematics of money, cost composition, and project evaluation, including cost comparison. They will also learn to analyse projects for decision making, including risk assessment and replacement analysis. In addition, they will learn to use suitable criteria for project selection, and to conduct sensitivity analysis.~~

~~CR: Engineering 4102; the former Technology 4020~~



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~~**4030 Technology in the Human Context** (formerly Technology 4030) examines technology in the historical context and technology in the modern era. Students will discuss human insights, innovation, the interactions between development and technology transfer, ethics and professionalism and how to develop a technology value system.  
CR: the former Technology 4030~~

~~**4040 Project Management for Technologists** (formerly Technology 4040) will introduce the student to the interdisciplinary field of project management. The course covers the interpersonal skills necessary to successfully lead or work effectively within a project team as well as providing an overview of certain planning and scheduling tools and techniques necessary for the planning and monitoring of projects.  
CR: the former Technology 4040~~

~~**4050 Introduction to Quality Management** (formerly Technology 4050) will provide students with an understanding of the philosophy and concepts involved in the total quality approach to quality management. The course covers the various tools and techniques used in quality management as well as providing an overview of the role of management.  
CR: the former Technology 4050~~

~~**4055 Marine Renewable Energy** provides students with an overview of MRE resources, introduces current and emerging technologies to exploit MRE resources, and places these technologies in context with environmental, political, and economic constraints.~~

~~**4060 Advanced Technical Communications** will enhance the technical communication skills of students. The course content examines technical writing fundamentals; information gathering, analysis, and documentation; proposal preparation; technical document applications; technical report preparation; graphics preparation; and technical presentations. The course will provide students with the knowledge and skills necessary to develop proposals, reports, and presentations for technical projects.~~

~~**4070 Special Topics in Technology** will provide the opportunity for students to maintain technical currency through a review of recent advances in technology and their application to particular technical areas.~~

~~**4090 Introduction to Technology** will provide a broad survey of practices critical to operating a technology-based business. Topics covered may include an introduction to technology management, historical developments in the management of technology, the~~

Marine Institute (cont'd)

~~functions of technology management, and select current topics that are relevant to operating technology-based businesses.~~

**4101 Maritime Occupational Safety and Health (Legislation and Regulations)** will provide students with the knowledge and understanding to manage the legislative framework within the workplace and show the importance of establishing a positive safety culture with specific focus on the maritime industry.

**4102 Maritime Risk Management/Accident Incident Investigation** will provide students with the knowledge of methodologies and practices needed to manage operational risk in today's maritime industry. Risk management will be analyzed in the context of prevention and mitigation of loss resulting from health and safety, equipment, and environmental accidents and incidents. The course will further explore methodologies and practices used to investigate accident and incident occurrences in the maritime industry.

**4103 Advanced Communications for the Maritime Sector** will equip students to write a variety of formal and informal maritime-related technical documents; develop students' capabilities in gathering and critically analysing information from technical sources and constructing a clear message; and prepare students to develop and deliver oral technical presentations.

**4104 Integrated Management Systems in Maritime Industries** offers a firsthand knowledge of a systematic, comprehensive process for managing safety risks. A safety management system program provides for goal setting, planning, and measuring performance. It becomes part of the company's safety culture, as well as the way people do their jobs.

**4105 Policy and Governance in the Maritime Industry** provides the student with an understanding of the maritime industry as a global enterprise in the context of policy and governance. It will focus on the full range of the regulatory framework from the standpoint of the International Maritime Organization to the statutory regulations applicable to the Canadian maritime industry.

**4106 Ship Operations Management** provides comprehensive knowledge of global ship management practices supporting the function of ship operations management, both ashore and at sea. This course aims to develop the students understanding of management issues in marine transportation as they relate to basic principles of management; management in multi-ethnic environments; managing under adverse conditions; the SOLAS Convention and the ISM and

Marine Institute (cont'd)

ISPS Codes; the International Labour Organization and the MLC Convention; the International Transport Federation; and, Port State Control.

~~4400 Technological Assessment Project will provide students with the opportunity to conduct an assessment and implementation plan of a technical project in their area of interest. Students will utilize the knowledge that they have obtained in the required courses and incorporate this knowledge into a final project paper.~~

~~CR: MSTM 410A/B, the former MSTM 4000, the former MSTM 4100, the former MSTM 4200, and the former Technology 4000~~

~~PR: MSTM 4019, 4040, 4060, and 4025 or Statistics 1510 or 2500 or equivalent~~

**10.2 Technology**

**Technology courses are designated by TECH.**

**4010 Assessment and Implementation of Technology** (same as the former MSTM 4010) examines the effects of technology on the physical, socio-economic, historic, cultural and aesthetic environments. The course also addresses relevant legislation, the generation and evaluation of project/product alternatives, and the prediction, verification and mitigation of technological effects.

CR: the former MSTM 4010

**4011 Introduction to Intellectual Property and its Management** (same as the former MSTM 4011) introduces students to the management of Intellectual Property Rights (IPRs). This course will cover the philosophical rationale for intellectual property rights, its technical and legal considerations, its implications to the development of science and technology and its economic impact in society.

CR: the former MSTM 4011

**4012 Occupational Health and Safety Legislation and Management** (same as the former MSTM 4012) introduces students to occupational health and safety issues in a technical/industrial context. Students will gain a knowledge and understanding of the legislative framework surrounding occupational health and safety, the assignment of responsibilities in the workplace, the management of occupational health and safety in the workplace and the importance of establishing a positive safety culture.

CR: the former MSTM 4012

**4013 Structure and Functions of Technology-based Organizations** (same as the former MSTM 4013) focuses on the emergence of

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technology-based companies and how to implement methods to increase their organizational effectiveness. This course will concentrate on the integration of three basic frameworks which include the study of technological economics and organizational progression, structural configurations and operations, and universal and contemporary approaches to organizational design. In addition, it will examine the challenges of change that face highly dynamic industries: individual and organizational change, technological change, and national and global change.

CR: the former MSTM 4013

**4014 Technology and the Environment** (same as the former MSTM 4014) helps students critically examine technology and the environment and how the two are linked. Topics may include how technology is both the cause of and solution to many environmental problems, the greenhouse effect, renewable energy vs. fossil fuels, recycling vs. landfills, the efficiency paradox, geo-engineering, and other select current topics.

CR: the former MSTM 4014

**4015 Technological Entrepreneurship** (same as the former MSTM 4015) surveys technological entrepreneurship via examples of both successful and failed businesses in technological fields. By examining cases of entrepreneurship, this course will examine challenges and opportunities facing technological entrepreneurs.

CR: the former MSTM 4015

**4016 Technological Problem Solving** (same as the former MSTM 4016) introduces students to TRIZ, a powerful set of tools and algorithms developed specifically for analyzing and solving technological problems. TRIZ was developed by people with a technical background for those with a technical background. While TRIZ was developed for inventing and solving technical problems, the tools and approaches can be used to understand and solve virtually any solvable problem.

CR: the former MSTM 4016

**4017 Technical Operations Management** (same as the former MSTM 4017) introduces students to the area of operations management as it pertains to technology companies. Operations is generally considered the process by which an organization converts inputs such as labour and material into outputs such as goods or services. This course will examine how to manage the processes with a particular emphasis on operations in technology-based companies. Topics may include operations based strategy, processes and technology, capacity and facilities planning, and supply chain management.

CR: the former MSTM 4017

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**4019 Research Methods** (same as the former MSTM 4019) examines the fundamental steps in the process of doing research. It will provide students with the necessary information and tools to conduct technical research and communicate their findings. This course will examine how to define a research project, how to prepare a research proposal, how to select a research methodology, how to collect and analyze data and information, and how to prepare a research project report.

CR: the former MSTM 4019

**4020 Economic Management for Technologists** (same as the former MSTM 4020) provides an introduction to the economics of technological projects. Students will study the mathematics of money, cost composition, and project evaluation, including cost comparison. They will also learn to analyse projects for decision making, including risk assessment and replacement analysis. In addition, they will learn to use suitable criteria for project selection, and to conduct sensitivity analysis.

CR: Engineering 4102; the former MSTM 4020

**4025 Applied Statistics** (same as the former MSTM 4025) enables the student to use descriptive statistics to report data findings, to make statistical inferences using appropriate data analysis, and to use, and interpret the output from, statistical software.

CR: the former MSTM 4025

**4030 Technology in the Human Context** (same as the former MSTM 4030) examines technology in the historical context and technology in the modern era. Students will discuss human insights, innovation, the interactions between development and technology transfer, ethics and professionalism and how to develop a technology value system.

CR: the former MSTM 4030

**4040 Project Management for Technologists** (same as the former MSTM 4040) introduces the student to the interdisciplinary field of project management. The course covers the interpersonal skills necessary to successfully lead or work effectively within a project team as well as providing an overview of certain planning and scheduling tools and techniques necessary for the planning and monitoring of projects.

CR: the former MSTM 4040

**4050 Introduction to Quality Management** (same as the former MSTM 4050) provides students with an understanding of the philosophy and concepts involved in the total quality approach to quality management. The course covers the various tools and techniques used in quality management as well as providing an

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overview of the role of management.  
CR: the former MSTM 4050

**4055 Marine Renewable Energy** (same as the former MSTM 4055) provides students with an overview of MRE resources, introduces current and emerging technologies to exploit MRE resources, and places these technologies in context with environmental, political, and economic constraints.  
CR: the former MSTM 4055

**4060 Advanced Technical Communications** (same as the former MSTM 4060) enhances the technical communication skills of students. The course content examines technical writing fundamentals; information gathering, analysis, and documentation; proposal preparation; technical document applications; technical report preparation; graphics preparation; and technical presentations. The course will provide students with the knowledge and skills necessary to develop proposals, reports, and presentations for technical projects.  
CR: the former MSTM 4060

**4070 Special Topics in Technology** (same as the former MSTM 4070) provides the opportunity for students to maintain technical currency through a review of recent advances in technology and their application to particular technical areas.  
CR: the former MSTM 4070

**4080 Maintenance Management** provides an introduction to maintenance management systems, to devise maintenance strategies and to utilize risk management strategies using statistical analysis and computerized maintenance management systems.

**4090 Introduction to Technology** (same as the former MSTM 4090) provides a broad survey of practices critical to operating a technology-based business. Topics covered may include an introduction to technology management, historical developments in the management of technology, the functions of technology management, and select current topics that are relevant to operating technology-based businesses.  
CR: the former MSTM 4090

**4110 Health Care Management** provides an introduction to health care management. Students will study leadership, change management, strategic planning, quality, and teamwork. They will also learn to analyze and examine health care related case studies. In addition, they will learn to research and analyze current health management issues which exist.

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4400 Technological Assessment Project (same as the former MSTM 4400) provides students with the opportunity to conduct an assessment and implementation plan of a technical project in their area of interest. Students will utilize the knowledge that they have obtained in the required courses and incorporate this knowledge into a final project paper.

CR: MSTM 410A/B, the former MSTM 4000, the former MSTM 4100, the former MSTM 4200, the former MSTM 4400 and the former Technology 4000

PR: MSTM 4019, 4040, 4060, and 4025 or Statistics 1510 or 2500 or equivalent

Page 151, 2018-2019 Calendar, under the heading 6.1 Bachelor of Maritime Studies, amend the section as follows:

**6.1 Bachelor of Maritime Studies**

- Students must complete 39 credit hours in addition to the work which was required under their category of admission.
- The required and elective courses are listed in **Table 2 Bachelor of Maritime Studies - Course Requirements For All Students.** These courses may have prerequisites which have to be met.
- When transfer credit has been granted for a course(s) taken to satisfy the requirements for admission students must take an additional elective University course(s).
- To meet the academic requirements for a Bachelor of Maritime Studies a candidate shall successfully complete the following program with a minimum overall average of 60% and a minimum numeric grade of 50% in each course required for the degree unless stated otherwise within the course description.
- Students must take 39 credit hours with 21 credit hours from the required courses and 18 credit hours from the electives.
- At least three electives must be chosen from Group A and at least one elective must be chosen from Group B.

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**Table 2 Bachelor of Maritime Studies - Course Requirements for All Students**

| Required Courses   | Group A Electives   | Group B Electives  |
|--|---|--|
| <ul style="list-style-type: none"> <li>• 3 credit hours in English at the 1000 level</li> <li>• MSTM 4001</li> <li>• MSTM 4002</li> <li>• MSTM 4103</li> <li>• MSTM 4105</li> <li>• MSTM 4106</li> <li>• <del>MSTM-TECH</del> 4025 or Statistics 1510 or 2500</li> </ul> | <ul style="list-style-type: none"> <li>• MSTM 4005</li> <li>• MSTM 4006</li> <li>• MSTM 4007</li> <li>• MSTM 4008</li> <li>• MSTM 4101</li> <li>• MSTM 4102</li> <li>• MSTM 4104</li> </ul> | <ul style="list-style-type: none"> <li>• Business 1101 or 2102</li> <li>• Business 4000</li> <li>• Economics 1010 or the former 2010</li> <li>• Economics 1020 or the former 2020</li> <li>• Geography 3510</li> <li>• MSTM 4004</li> <li>• <del>MSTM-TECH</del> 4019</li> <li>• <del>MSTM-TECH</del> 4020</li> <li>• <del>MSTM-TECH</del> 4030</li> <li>• <del>MSTM-TECH</del> 4040</li> <li>• <del>MSTM-TECH</del> 4050</li> <li>• Philosophy 2330 or the former 2571</li> <li>• Sociology 2120</li> </ul> |

Page 44, 2018-2019 Calendar, under the heading 6.2.2 Year of Degree and Departmental Regulations – All Other Faculties and Schools, amend the section as follows:

**6.2.2 Year of Degree and Departmental Regulations - All Other Faculties and Schools**

1. A student registered in any program, other than programs in the Faculty of Humanities and Social Sciences, programs in the Faculty of Science, the Bachelor of Business Administration program offered by the Faculty of Business Administration, or in the Bachelor of Maritime Studies or Bachelor of Technology programs offered by the Fisheries and Marine Institute will normally follow regulations in effect in the academic year in which the student first completes a course(s) in the faculty or school following formal admission to that program. However, the student may elect to follow subsequent regulations introduced during the student's tenure in a program.

2. A student completing a Bachelor of Business Administration will normally follow the degree regulations in effect in the academic year in which the student first earns a total of 12 credit hours in Business courses at the 1000-level. However, the student may elect to follow subsequent regulations introduced during the student's tenure in a program.

3. A student who has been admitted to and who is currently completing courses in one of the Fisheries and Marine Institute diploma programs that meets the admission criteria to the Bachelor of Technology program may simultaneously complete the requirements for the Bachelor of Technology program. Under those circumstances, for the purpose of meeting Degree and Departmental Regulations, Year of Degree and Departmental Regulations - All Other Faculties and Schools, students will normally follow the degree regulations in effect



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in the academic year in which the student first completes an undergraduate degree course in the ~~Maritime Studies/Technology Management (MSTM)~~ Technology (TECH) subject area. However, the student may elect to follow subsequent regulations introduced during the student's tenure in the program.

42.2 School of Nursing

It was moved by Dr. Gaudine, seconded by J. Godfrey, and carried that on page 417, 2018-2019 Calendar, amend the personnel section as follows:

**“Dean**

Gaudine, A., B.Sc.(Hons.) *Mount Allison*, M.Sc. (A) *McGill*, Ph.D. *Concordia*; Professor

Up-to-date personnel listings for the School of Nursing are available at [www.mun.ca/nursing/about\\_us/people](http://www.mun.ca/nursing/about_us/people).

**Directors, Bachelor of Nursing (Collaborative) Sites**

Watkins, K., B.N., M.N., Ph.D. *Memorial*; Centre for Nursing Studies  
Up-to-date personnel listings for the Centre for Nursing Studies are available at [https://www.centrefornursingstudies.ca/about\\_us/](https://www.centrefornursingstudies.ca/about_us/)  
Wells, C., B.Sc.N. *Ottawa*, M.N. *Dalhousie*, Ph.D. *Calgary*; Western Regional School of Nursing

Manuel, M., B.N. *MUN*, M.N. *Athabasca University*; Western Regional School of Nursing

Up-to-date personnel listings for Western Regional School of Nursing are available at <http://www.grenfell.mun.ca/academics-and-research/Pages/western-regional-school-of-nursing/bachelor-of-nursing/Faculty-and-Staff.aspx>

~~Up to date personnel listings for the Centre for Nursing Studies are available at [https://www.centrefornursingstudies.ca/about\\_us/](https://www.centrefornursingstudies.ca/about_us/)~~

~~Up to date personnel listings for Western Regional School of Nursing are available at <http://www.grenfell.mun.ca/academics-and-research/Pages/western-regional-school-of-nursing/bachelor-of-nursing/Faculty-and-Staff.aspx>”~~

Page 417, 2018-2019 Calendar, under the heading 3 School Description, amend the section as follows:

**“3 School Description**

The Memorial University of Newfoundland School of Nursing is a provincial and national leader in nursing education and research and an

School of Nursing (cont'd)

advocate for the formulation and realization of health public policy. The school was founded in 1965 and in 1966 the first 38 students were admitted to the Bachelor of Nursing (BN) program. Today the School of Nursing has grown to over 500 students enrolled across a variety of undergraduate and graduate programs. The Bachelor of Nursing (Collaborative) (B.N.) program (four-year option and three-year-accelerated ~~two-year fast-track~~ options) in collaboration with the Centre for Nursing Studies and Western Regional School of Nursing, is an on-campus undergraduate degree program to prepare entry-level nurses for practice. Graduate programs include a Master of Nursing (M.N.) with practicum and nurse practitioner options, the Post-Master's Nurse Practitioner Graduate Diploma in Nursing, and a Doctor of Philosophy (Ph.D.) in Nursing. Information regarding graduate programs in Nursing is available in the **School of Graduate Studies** section of the University Calendar.

Nursing is one of today's most challenging and rewarding careers. As the largest group of health care professionals in Canada, nurses play a vital role in the health care system, practicing as care-givers, teachers, counselors, advocates, and coordinators of care. Nurses work to promote health and prevent illness in a variety of settings including community health clinics, rehabilitation centers, long-term care facilities, hospitals, schools, industrial workplaces, and rural northern nursing stations.

Students must meet all regulations of the School in addition to those stated in the general regulations. For information concerning admission/readmission to the University and general academic regulations (undergraduate), refer to *UNIVERSITY REGULATIONS*.

Further information regarding the School of Nursing is available at [www.mun.ca/nursing](http://www.mun.ca/nursing).

For information regarding fees and charges, see the Financial and Administrative Services website at [www.mun.ca/finance/fees/](http://www.mun.ca/finance/fees/).

For information regarding scholarships, bursaries and awards, see [www.mun.ca/scholarships/scholarships](http://www.mun.ca/scholarships/scholarships)."

Page 418, 2018-2019 Calendar, under the heading 4 Description of Program, amend the section as follows:

**"4 Description of Program**

All courses of the School are designated by the abbreviation NURS.

## School of Nursing (cont'd)

### **4.1 Bachelor of Nursing (Collaborative) Program**

The School of Nursing offers an undergraduate program leading to a Bachelor of Nursing. This Program is designed to prepare competent entry-level nurses who will function within a variety of health care settings. The graduate is prepared to assume the roles of direct care giver, educator, counsellor, advocate, facilitator, co-ordinator of care, researcher, leader, and member of the nursing profession. The Program is guided by a mission, philosophy and conceptual framework which direct the curriculum as students progress toward competent entry-level nursing practice.

To meet the licensing requirements for practising nursing in Canada, students must graduate from an approved program offered by a School of Nursing and successfully write the National Council Licensure Examination for Registered Nurses (NCLEX-RN). During the program, students may be required to buy resources that are endorsed by the School to prepare for the exam and integrated into courses throughout the curriculum. In the final year of the Program, students must also complete a comprehensive examination set by the Bachelor of Nursing (Collaborative) Program. All costs associated with these resources and exams are the responsibility of the student.

The Bachelor of Nursing (Collaborative) Program (B.N.) has two full-time curriculum options: a 4-Year Option and a 3 year Accelerated Option. Both are guided by the same conceptual framework and leveled objectives. A two year Fast Track Option is in its final year of delivery. The Program also has a Licensed Practical Nursing Bridging (LPN) admission option directly into the second year of the Program's 4-Year Option for prospective students who have completed a LPN program as outlined under **Admission Regulations for the School of Nursing**. This Bachelor of Nursing (Collaborative) Program is offered at Memorial University of Newfoundland School of Nursing, the Centre for Nursing Studies, and the Western Regional School of Nursing. Information regarding Memorial University of Newfoundland School of Nursing is available at [www.mun.ca/nursing](http://www.mun.ca/nursing). Information regarding the Centre for Nursing Studies is available at [www.centrefornursingstudies.ca](http://www.centrefornursingstudies.ca) , and information regarding the Western Regional School of Nursing is available at <http://www.grenfell.mun.ca/academics-and-research/Pages/western-regional-school-of-nursing/Bachelor-of-Nursing.aspx>.

#### **4.1.1 Bachelor of Nursing (Collaborative) 4-Year Option**

The 4-Year Option is offered over nine semesters in four academic years. This option is comprised of 123 credit hours, and is open to applicants from both high school and university backgrounds. It should be noted that the Winter semester of the second and fourth years of the program

### School of Nursing (cont'd)

extends beyond the normal University class end date in their respective semesters as outlined in the **University Diary**.

#### **4.1.2 Bachelor of Nursing (Collaborative) Accelerated Option**

The Accelerated Option is designed for students with well-developed university-level study skills and prior completion of at least 60 credit hours in university level courses. This full-time Option is comprised of 106 credit hours taken over eight consecutive semesters. This Option is offered at Memorial University of Newfoundland School of Nursing and Western Regional School of Nursing.

#### **4.1.23 Bachelor of Nursing (Collaborative) Fast-Track Option**

The Bachelor of Nursing (Collaborative) Fast-Track Option is currently being phased out and is not available for new admissions.

~~The Fast Track Option is designed for students with well-developed university level study skills. This full time Option is for current degree holders or those with advanced admission standing and is comprised of 94 credit hours. This Option is taken over two years in six consecutive semesters. It should be noted that the last semester of the second year ends later than the scheduled date on which the Spring semester ends. This Option is offered at Memorial University of Newfoundland School of Nursing and Western Regional School of Nursing.~~

### **4.2 Clinical Placements**

1. The School of Nursing depends on the cooperation and involvement of a large number of organizations and professional personnel in providing quality clinical placements and instruction to its students. These agencies often have a range of requirements, some of which include a Certificate of Conduct, Child Protection Record Check, immunizations, First Aid Certificate, and CPR certificate. Students unable to meet these agency requirements may be delayed in their program or prevented from completing their program of studies. All students are required to complete these requirements in a timely fashion and at their own expense. Many of these requirements must be updated annually.
2. Evidence of certification in Standard First Aid and Basic Life Support (CPR) level HCP or equivalent, offered by The Canadian Red Cross or St. John Ambulance, is required by all ~~applicants~~ students prior to commencing clinical courses. Students must maintain CPR certification throughout the program. Certification obtained from other organizations will be accepted if deemed equivalent by the School of Nursing.
3. Successful applicants must submit documentation of completion of all preclinical requirements prior to the beginning of classes in the Fall semester of their entrance year. Students who have outstanding

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preclinical requirements will not be permitted to register for the Winter semester.

4. Clinical placements may be offered in whole or in part outside the normal start and end dates of a semester.

5. In order to satisfy clinical practice requirements for the Bachelor of Nursing (Collaborative) Program, clinical agencies may be used 24 hours a day, seven days a week. Students may be required to attend during any of these times.

6. Students normally are expected to be available for clinical placements throughout the Province of Newfoundland and Labrador.

7. Clinical Placement Coordinators are responsible for facilitating appropriate matches among students, preceptors, and clinical settings. Although consideration will be given to all factors affecting the location and type of placement, clinical placements may not be available in the area of students' specific preferences. Students who refuse a placement deemed suitable may be delayed in their program or prevented from completing their program of study.

8. Completion of this program may require students to travel for clinical placements. Students are responsible for all costs associated with clinical placements including, but not limited to, preclinical requirements, travel expenses and accommodation.”

Page 419, 2018-2019 Calendar, under the heading 5 Admission/Readmission Regulations for the School of Nursing, amend the section as follows:

**“5 Admission/Readmission Regulations for the School of Nursing**

The application for admission to Bachelor of Nursing (Collaborative) Program is submitted online; current and returning Memorial University of Newfoundland applicants should apply using the Admissions menu within Memorial Self-Service at [https://www3.mun.ca/admit/hwggwttim.P\\_StuWinTime](https://www3.mun.ca/admit/hwggwttim.P_StuWinTime). Applicants who are new to Memorial University of Newfoundland should follow the application instructions at [www.mun.ca/undergrad/apply](http://www.mun.ca/undergrad/apply). Applicants requiring additional information for the Bachelor of Nursing (Collaborative) Program may visit the Nursing Admissions website at [www.mun.ca/nursingadmissions](http://www.mun.ca/nursingadmissions).

In addition to meeting the *UNIVERSITY REGULATIONS* students must meet the **Admission/Readmission Regulations for the School of Nursing**. For information concerning Readmission refer to **Readmission Regulations for the School of Nursing**.

**5.1 General Information**

1. Entry to the Bachelor of Nursing (Collaborative) Program is competitive for a limited number of seats. Meeting the minimum

School of Nursing (cont'd)

requirements for admission does not guarantee acceptance into the Program. The final decision on admission rests with the Joint Admissions Committee of the B.N. (Collaborative) Program.

2. Admission to the University does not necessarily constitute admission to the Program.

3. Selection of candidates for admission to the Bachelor of Nursing (Collaborative) Program is based primarily on academic performance; relevant to date. Relevant work and volunteer experience, references and personal statements are also considered.

~~4. Selection of candidates for admission to the Bachelor of Nursing (Collaborative) Fast Track Option is also based on:~~

~~• a minimum grade point average of 3.0 on a 4 point scale in their degree program for applicants who have completed a bachelor degree; or a minimum overall grade point average of 3.0 on a 4 point scale in the twelve courses, 36 credit hours required for admission for applicants with advanced admission standing;~~

~~• evidence of ability to successfully maintain a full course load; and~~

~~• other criteria considered suitable for professional practice in nursing.~~

~~54. Priority is given to applicants who are residents of Newfoundland and Labrador.~~

~~65. Up to three additional positions per year are available in the Bachelor of Nursing (Collaborative) 4 Year Option for applicants of Aboriginal ancestry who have met the admission requirements. Applicants must send a letter of request at the time of application and provide documentation of Aboriginal ancestry.~~

Up to three seats per year are reserved in the 4-Year Option of the BN program specifically for applicants of Indigenous ancestry who have met the admission requirements, but are not in the top ranked candidates. Applicants wishing to be considered under this clause must check the appropriate space provided on the BN application form and provide documentation of Indigenous ancestry.

~~76. Applicants may be requested to attend an interview.~~

~~87. Bachelor of Nursing (Collaborative) Program applicants are required to submit a student information form and a complete record of current immunizations when admitted to the Program. Successful applicants must submit documentation of completion of all preclinical requirements prior to the beginning of classes in the Fall semester of their entrance year. Students who have outstanding preclinical requirements will not be permitted to register for the Winter semester.~~

~~98. Evidence of certification in Standard First Aid and Basic Life Support (CPR) level HCP, offered by The Canadian Red Cross or St. John Ambulance is required by all applicants prior to commencing clinical courses. Certification obtained from other organizations will be accepted if deemed equivalent by the School of Nursing.~~

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409. An applicant who has been denied admission to the Bachelor of Nursing (Collaborative) Program has the right to appeal this decision of the Joint Admissions Committee if it is felt by the applicant that the decision was reached on grounds other than those outlined under **Admission Regulations for the School of Nursing**. The appeal should be made in writing within fourteen days of the notification of the decision and should be directed to the Chair of the Committee on Undergraduate Studies at the Memorial University of Newfoundland School of Nursing. The letter should state clearly and fully the grounds for the appeal.

### **5.2 Application Forms and Deadlines**

1. The application for admission to Bachelor of Nursing (Collaborative) Program is submitted online; current and returning Memorial University of Newfoundland applicants should apply using the Admissions menu within Memorial Self-Service at [www5.mun.ca/admit/twbkwbis.P\\_WWWLogin](http://www5.mun.ca/admit/twbkwbis.P_WWWLogin). Applicants who are new to Memorial University of Newfoundland should follow the application instructions at [www.mun.ca/undergrad/apply](http://www.mun.ca/undergrad/apply). Applicants requiring additional information for the Bachelor of Nursing (Collaborative) Program may visit the Nursing Admissions website at [www.mun.ca/nursingadmissions](http://www.mun.ca/nursingadmissions).
2. Both options of the ~~The~~ Bachelor of Nursing (Collaborative) Program (~~both options~~ i.e., 4-Year Option and the Accelerated Option) commence in the Fall semester. The deadline for application is ~~March~~ February 1st.
3. The deadline for application to the Bachelor of Nursing (Collaborative) Program via the LPN Bridging Admission Option is February 1st.

### **5.3 Admission Regulations to School Programs**

These regulations apply to the Bachelor of Nursing (Collaborative) Program 4-Year and ~~Fast Track~~ Accelerated Options. Applicants may apply for admission under the **Categories of Applicants, Admission Criteria and Other Information** outlined under *UNIVERSITY REGULATIONS - Admission/Readmission to the University (Undergraduate)*. In addition to meeting these regulations, applicants in the following categories, must meet the additional requirements as indicated below.

#### **5.3.1 High School Applicants**

Applicants from High School may apply for admission only to the 4-Year Option of the **Bachelor of Nursing (Collaborative)** Program.

High School applicants to the 4-Year Option of the **Bachelor of Nursing (Collaborative)** Program must have completed a high school diploma, or

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its equivalent, as certified by the Department of Education of Newfoundland and Labrador and meet the general **Admission/Readmission** requirements of Memorial University of Newfoundland. High school courses must include the following or their equivalents:

- Biology 2201
- Biology 3201
- Chemistry 3202
- English 3201
- Math 3200 or 3201
- Social Science or Modern Language (2 credits at 3000 level)

#### **5.3.2 Memorial University of Newfoundland Applicants**

Memorial University of Newfoundland applicants may apply for admission to ~~either option~~ the 4-Year Option and/or the Accelerated Option of the Bachelor of Nursing (Collaborative) Program.

1. Bachelor of Nursing (Collaborative) 4-Year Option applicants must have a high school diploma, or its equivalent, as certified by the Department of Education of Newfoundland and Labrador and be in clear academic standing at Memorial University of Newfoundland. High School ~~Science~~ courses must include:

- Biology 2201 and 3201 or their equivalents
- Chemistry 3202 or equivalent
- Math 3200 or 3201 or equivalent. ~~Advanced Math is preferred.~~

~~2. Bachelor of Nursing (Collaborative) Fast Track Option applicants must have successfully completed an undergraduate degree from a recognized university and the following courses prior to admission:~~

- ~~• Statistics 2500 or equivalent, or Education 2900~~
- ~~• Biochemistry 1430 or equivalent~~
- ~~• Biology 3053 or equivalent~~

~~or qualify for advanced admission standing. An applicant who has successfully completed all the non-nursing course requirements of the Bachelor of Nursing (Collaborative) Program, and who is in good standing, may qualify for advanced admission standing. Applicants must demonstrate successful completion of a minimum of the following 12 courses, 36 credit hours, prior to admission:~~

- ~~• 6 courses, 18 credit hours as follows: 6 credit hours from English, Biochemistry 1430 or equivalent, Biology 3053 or equivalent, Psychology 1000 or equivalent, Statistics 2500 or equivalent or Education 2900;~~
- ~~• 4 courses, 12 credit hours as follows: 3 credit hours from each of the following: Business, Philosophy 2500-2599 or Religious Studies~~



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~~2610, Political Science, and Sociology, Anthropology, or Archaeology; and~~

~~• 2 courses, 6 additional elective credit hours selected from any credit courses offered by this University.~~

2. Bachelor of Nursing (Collaborative) Accelerated Option applicants must:

- meet the admission requirements for the Bachelor of Nursing (Collaborative) Program listed under **Admission Regulations for the School of Nursing**
- have successfully completed a minimum 60 credit hours in university level courses. Courses must include 12 credit hours as follows:
  - 6 credit hours in Critical Reading and Writing (CRW) designated courses in English
  - 3 credit hours in Sociology, Anthropology, or Archaeology
  - Psychology 1000 or equivalent.
- have a GPA of 3.0 or higher.

The primary criterion used in reaching decisions on applications for admission to the BN (Collaborative) Program (Accelerated Option) is overall academic achievement to date. Relevant work and volunteer experience, references and personal statements are also considered. Since the accelerated option is full-time and continuous, the Admissions Committee will review the applicant's transcript for evidence that the applicant has the ability to complete 12-credit hour course loads and achieve grades at least as high as those required to meet promotion requirements on those course loads. Applicants whose transcripts do not demonstrate this ability or whose overall academic records are below this standard are unlikely to be admitted.

**5.3.3 Transfer Applicants**

Transfer applicants may apply for admission to any of the School of Nursing Programs.

Applicants who would like to transfer from a nursing program that is offered outside of this Province should view the information at <https://www.mun.ca/nursingadmissions/AdmissionInformation/TransferringfromAnotherNursingProgram/>.

1. Bachelor of Nursing (Collaborative) Program 4-Year Option applicants must have a high school diploma, or its equivalent, as certified by the Department of Education of Newfoundland and Labrador. High School courses must include:

- Biology 2201 and 3201 or their equivalents
- Chemistry 3202 or equivalent

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- Math 3200 or 3201 or equivalent. ~~Advanced Math is preferred~~

~~2. Bachelor of Nursing (Collaborative) Program Fast Track Option applicants must have successfully completed an undergraduate degree from a recognized university and the following courses prior to admission:~~

- ~~• Statistics 2500 or equivalent, or Education 2900~~
- ~~• Biochemistry 1430 or equivalent~~
- ~~• Biology 3053 or equivalent 3 credit hour university course in Microbiology~~

~~or qualify for advanced admission standing. An applicant who has successfully completed all the non-nursing course requirements of the Bachelor of Nursing (Collaborative) Program 4 Year Option, and who is in good standing, may qualify for advanced admission standing. Applicants must demonstrate successful completion of the following 12 courses, 36 credit hours, prior to admission:~~

- ~~• 6 courses, 18 credit hours as follows: 6 credit hours from English, Biochemistry 1430 or equivalent, Biology 3053 or equivalent, Psychology 1000 or equivalent, Statistics 2500 or equivalent or Education 2900;~~
- ~~• 4 courses, 12 credit hours as follows: 3 credit hours from each of the following: Business, Philosophy 2500-2599 or Religious Studies 2610, Political Science, and Sociology, Anthropology, or Archaeology; and~~
- ~~• 2 courses, 6 additional elective credit hours selected from any credit courses offered by this University.~~

2. Bachelor of Nursing (Collaborative) Accelerated Option applicants must:

- meet the admission requirements for the Bachelor of Nursing (Collaborative) Program listed under **Admission Regulations for the School of Nursing**
- have successfully completed a minimum 60 credit hours in university level courses. Courses must include 12 credit hours as follows:
  - 6 credit hours in Critical Reading and Writing (CRW) designated courses in English
  - 3 credit hours in Sociology, Anthropology, or Archaeology
  - Psychology 1000 or equivalent,
- have a GPA of 3.0 or higher.

The primary criterion used in reaching decisions on applications for admission to the BN (Collaborative) Program (Accelerated Option) is overall academic achievement. Since the accelerated option is full-time and continuous, the Admissions Committee will review the applicant's

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transcript for evidence that the applicant has the ability to complete 12-credit hour course loads and achieve grades at least as high as those required to meet promotion requirements on those course loads. Applicants whose transcripts do not demonstrate this ability or whose overall academic records are below this standard are unlikely to be admitted.

**5.3.4 LPN Bridging Applicants**

Applicants with a Licensed Practical Nurse designation may apply for admission to the Bachelor of Nursing (Collaborative) Program through the LPN Bridging Option. This admission option recognizes the nursing knowledge and clinical experience obtained through ~~the Centre for Nursing Studies~~ a Practical Nursing Program ~~(2002 or later)~~ and work experiences, and provides a career opportunity for Licensed Practical Nurses (~~LPN's~~ LPNs) who would like to obtain the Bachelor of Nursing degree.

Successful applicants must complete a Bridging semester prior to admission to the Program. The courses taken during the Bridging semester prepare ~~LPN's~~ LPNs to enter the second year of the 4-Year Option of the Bachelor of Nursing (Collaborative) Program.

The Bridging semester, completed during the Spring semester before admission to the Bachelor of Nursing (Collaborative) Program, is comprised of three non-nursing courses as well as a 7-week Bridging course. Upon successful completion of the Bridging semester, LPN Bridging candidates are granted 25 unspecified transfer nursing credit hours as equivalent to the 25 credits of the Year 1 nursing courses in the Bachelor of Nursing (Collaborative) Program. If all courses of the Bridging semester are successfully completed, all non-academic requirements for entrance into the Program are complete, and candidates remain in good standing with the University, they are accepted into Year 2 of the Bachelor of Nursing (Collaborative) Program 4-Year Option.

The LPN Bridging option is offered only at the Centre for Nursing Studies. Information regarding the Centre for Nursing Studies is available at [www.centrefornursingstudies.ca](http://www.centrefornursingstudies.ca).

1. The LPN Bridging semester begins in May. The deadline for application to the Program through the LPN Bridging option is February 1st. Applicants to the LPN Bridging option must submit the application to the University online for the Spring semester; current and returning Memorial University of Newfoundland applicants should apply using the Admissions menu within Memorial Self-Service at [https://www3.mun.ca/admit/hwgwwtim.P\\_StuWinTime](https://www3.mun.ca/admit/hwgwwtim.P_StuWinTime). Applicants who

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are new to Memorial University of Newfoundland should follow the application instructions at [www.mun.ca/undergrad/apply](http://www.mun.ca/undergrad/apply). Applicants requiring additional information for the Bachelor of Nursing (Collaborative) Program may visit the Nursing Admissions website at [www.mun.ca/nursingadmissions](http://www.mun.ca/nursingadmissions).

2. Selection of candidates for admission to the Bachelor of Nursing (Collaborative) LPN Bridging Option is based on:

- academic performance in the practical nursing program and in any university courses taken to date;
- evidence of ability to successfully maintain a full course load; and
- other criteria considered suitable for professional practice in nursing.

3. Applicants must provide two letters of reference (one reference regarding academic performance and one from a current employer regarding clinical performance).

4. LPN Bridging option applicants may be requested to attend an interview.

5. To be considered for admission to the Bachelor of Nursing (Collaborative) Program, LPN Bridging Option applicants must:

- ~~be a graduate (2002 or later) of the Centre for Nursing Studies Practical Nursing Program, Province of Newfoundland and Labrador;~~
- ~~be a Licensed Practical Nurse (copy of certification required);~~
- be licensed by the College of Licenced Practical Nurses of Newfoundland and Labrador (copy of certification required).
- meet the admission requirements for the Bachelor of Nursing (Collaborative) Program listed under **Admission Regulations for the School of Nursing**; ~~and~~
- have completed the following high school courses:
  - Biology 2201 and 3201 or their equivalents;
  - Chemistry 3202 or equivalent;
  - Math 3200 or 3201 or equivalent. ~~Advanced Math is preferred.~~

6. Admission into the second year of the Bachelor of Nursing (Collaborative) Program will be conditional and based on successful completion of the Bridging semester which includes the following:

- Bridging Course (offered only at the Centre for Nursing Studies)
- Biochemistry 1430
- ~~Psychology 1000 or equivalent~~
- ~~English (3 credit hours)~~
- 3 credit hours in a Critical Reading and Writing (CRW) designated course in English

7. After admission into the Bachelor of Nursing (Collaborative) Program, students complete the 69 nursing credit hours and 27 non-nursing credit hours of Years 2 through 4 of the 4-Year Option as part of the 4-Year Option cohort (~~Academic Terms 3-9 at the Centre for Nursing Studies (CNS) site~~). The courses are recommended to be taken in the academic terms in the sequence as set out in **Table 2, Bachelor of**

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**Nursing (Collaborative) Program - Centre For Nursing Studies (CNS), (Academic Terms 3-9)."**

Page 422, 2018-2019 Calendar, under the heading 6 Program Regulations, amend the section as follows:

**"6 Program Regulations**

All courses of the School are designated by NURS.

**Important Notice**

Students admitted to the 4-Year Option prior to Fall 2018, and progressing as sequenced, must follow the program regulations in effect for the year in which they were formally admitted to the program.

LPN Bridging Option students admitted to Year 2 of the 4-Year Option for Fall 2018 will follow the program regulations and sequence as outlined in the 2017-2018 University Calendar.

Fast-Track Option students admitted for Fall 2018 will follow the course descriptions, program regulations and sequence as outlined in the 2017-2018 University Calendar.

University Calendars by academic year are available at [www.mun.ca/regoff/calendar.php](http://www.mun.ca/regoff/calendar.php).

**6.1 Bachelor of Nursing (Collaborative) Program 4-Year Option**

- The 123 credit hour Bachelor of Nursing (Collaborative) Program 4-Year Option requires 96 NURS credit hours and 27 non-NURS credit hours.

- The 123 credit hours are recommended to be taken in the academic terms in the sequence as set out in **Table 1 [Tables 1-3] Bachelor of Nursing (Collaborative) Program 4-Year Option.**

- These courses will be offered during the same year at all sites, but the semester of course offering may vary with each site.

Clinical course hours may occur at any time during the semester. Clinical courses may be offered in whole or in part outside the normal start and end dates of a semester.

**Table 1 Bachelor of Nursing (Collaborative) Program 4-Year Option - Memorial University of Newfoundland School of Nursing (MUNSON)**

| <b>Term</b>                      | <b>Required Courses</b>  | <b>Elective Courses</b>   |
|----------------------------------|--|---|
| Fall<br>Year 1<br>Academic Term1 | Biochemistry 1430<br>3 credit hours in a Critical Reading and Writing (CRW) designated course in English<br>NURS 1002<br>NURS 1003 | 3 credit hours in total chosen from any academic unit must be completed in any Academic Term or during a Spring |

|                                     |  |           |
|-------------------------------------|--|-----------|
|                                     | NURS 1004<br>NURS 1017   | semester. |
| Winter<br>Year 1<br>Academic Term 2 | NURS 1012<br>NURS 1014<br>NURS 1015<br>NURS 1016<br>NURS 1520  |           |
| Fall<br>Year 2<br>Academic Term 3   | NURS 2002<br>NURS 2003<br>NURS 2004<br>NURS 2502<br>Psychology 1000  |           |
| Winter<br>Year 2<br>Academic Term 4 | Biology 3053<br>3 credit hours in a Critical Reading and Writing (CRW) designated course in English<br>NURS 2015<br>NURS 2515<br>NURS 2520<br>Statistics 1510 or 2500 or equivalent, or Education 2900 |           |
| Fall<br>Year 3<br>Academic Term 5   | NURS 3015<br>NURS 3104<br>NURS 3113<br>NURS 3515<br>3 credit hours chosen from <del>the former</del> Philosophy, 2500-2599 or Religious Studies 2610   |           |
| Winter<br>Year 3<br>Academic Term 6 | NURS 3000<br>NURS 3001<br>NURS 3500<br>NURS 3501<br>3 credit hours in any one of Anthropology, Archaeology, or Sociology   |           |
| Spring<br>Year 3<br>Academic Term 7 | NURS 3523<br>NURS 4512 ( <u>in Term 7 or 8</u> )   |           |
| Fall<br>Year 4<br>Academic Term 8   | NURS 4100<br>NURS 4103<br>NURS 4512 ( <u>in Term 7 or 8</u> )  |           |
| Winter<br>Year 4<br>Academic Term 9 | NURS 4516  |           |

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**Table 2 Bachelor of Nursing (Collaborative) Program 4-Year Option –  
Centre for Nursing Studies (CNS)**

| <b><u>Term</u></b>                                       | <b><u>Required Courses</u></b>   | <b><u>Elective Courses</u></b>   |
|--|--|--|
| <u>Fall</u><br><u>Year 1</u><br><u>Academic Term 1</u>   | <u>Biochemistry 1430</u><br><u>3 credit hours in a Critical Reading and</u><br><u>Writing (CRW) designated course in</u><br><u>English</u><br><u>NURS 1002</u><br><u>NURS 1003</u><br><u>NURS 1004</u><br><u>NURS 1017</u>   | <u>3 credit hours in total</u><br><u>chosen from any</u><br><u>academic unit must be</u><br><u>completed in any</u><br><u>Academic Term or</u><br><u>during a Spring</u><br><u>semester.</u> |
| <u>Winter</u><br><u>Year 1</u><br><u>Academic Term 2</u> | <u>NURS 1012</u><br><u>NURS 1014</u><br><u>NURS 1015</u><br><u>NURS 1016</u><br><u>NURS 1520</u>   |  |
| <u>Fall</u><br><u>Year 2</u><br><u>Academic Term 3</u>   | <u>NURS 2003</u><br><u>NURS 2004</u><br><u>NURS 2015</u><br><u>NURS 2515</u><br><u>Psychology 1000</u>   |  |
| <u>Winter</u><br><u>Year 2</u><br><u>Academic Term 4</u> | <u>Biology 3053</u><br><u>3 credit hours in a Critical Reading and</u><br><u>Writing (CRW) designated course in</u><br><u>English</u><br><u>NURS 2002</u><br><u>NURS 2502</u><br><u>NURS 2520</u><br><u>Statistics 1510 or 2500 or equivalent, or</u><br><u>Education 2900</u> |  |
| <u>Fall</u><br><u>Year 3</u><br><u>Academic Term 5</u>   | <u>NURS 3000</u><br><u>NURS 3001</u><br><u>NURS 3500</u><br><u>NURS 3501</u><br><u>NURS 3104</u>   |  |
| <u>Winter</u><br><u>Year 3</u><br><u>Academic Term 6</u> | <u>NURS 3015</u><br><u>NURS 3113</u><br><u>NURS 3515</u><br><u>3 credit hours in any one of Anthropology,</u><br><u>Archaeology, or Sociology</u><br><u>3 credit hours chosen from Philosophy, or</u><br><u>Religious Studies 2610</u>   |  |
| <u>Spring</u><br><u>Year 3</u>                           | <u>NURS 3523</u><br><u>NURS 4512 (in Term 7 or 8)</u>  |  |

|  |   |  |
|--|---|--|
| <u>Academic Term 7</u>                                   |   |  |
| <u>Fall</u><br><u>Year 4</u><br><u>Academic Term 8</u>   | <u>NURS 4100</u><br><u>NURS 4103</u><br><u>NURS 4512 (in Term 7 or 8)</u> |  |
| <u>Winter</u><br><u>Year 4</u><br><u>Academic Term 9</u> | <u>NURS 4516</u>  |  |

**Table 3 Bachelor of Nursing (Collaborative) Program 4-Year Option - Western Regional School of Nursing (WRSON)**

| <b><u>Term</u></b>                                       | <b><u>Required Courses</u></b>   | <b><u>Elective Courses</u></b>   |
|--|--|--|
| <u>Fall</u><br><u>Year 1</u><br><u>Academic Term 1</u>   | <u>Biochemistry 1430</u><br><u>3 credit hours in a Critical Reading and Writing (CRW) designated course in English</u><br><u>NURS 1002</u><br><u>NURS 1003</u><br><u>NURS 1004</u><br><u>NURS 1017</u>   | <u>3 credit hours in total chosen from any academic unit must be completed in any Academic Term or during a Spring semester.</u> |
| <u>Winter</u><br><u>Year 1</u><br><u>Academic Term 2</u> | <u>NURS 1012</u><br><u>NURS 1014</u><br><u>NURS 1015</u><br><u>NURS 1016</u><br><u>NURS 1520</u>   |  |
| <u>Fall</u><br><u>Year 2</u><br><u>Academic Term 3</u>   | <u>NURS 2002</u><br><u>NURS 2003</u><br><u>NURS 2004</u><br><u>NURS 2502</u><br><u>Psychology 1000</u>   |  |
| <u>Winter</u><br><u>Year 2</u><br><u>Academic Term 4</u> | <u>Biology 3053</u><br><u>3 credit hours in a Critical Reading and Writing (CRW) designated course in English</u><br><u>NURS 2015</u><br><u>NURS 2515</u><br><u>NURS 2520</u><br><u>Statistics 1510 or 2500 or equivalent, or Education 2900</u> |  |
| <u>Fall</u><br><u>Year 3</u><br><u>Academic Term 5</u>   | <u>NURS 3015</u><br><u>NURS 3104</u><br><u>NURS 3113</u><br><u>NURS 3515</u><br><u>3 credit hours chosen from Philosophy, or Religious Studies 2610</u>  |  |
| <u>Winter</u><br><u>Year 3</u>                           | <u>NURS 3000</u><br><u>NURS 3001</u>   |  |



|  |   |  |
|--|---|--|
| <u>Academic Term 6</u>                                   | <u>NURS 3500</u><br><u>NURS 3501</u><br><u>3 credit hours in any one of Anthropology, Archaeology, or Sociology</u> |  |
| <u>Spring</u><br><u>Year 3</u><br><u>Academic Term 7</u> | <u>NURS 3523</u><br><u>NURS 4512 (in Term 7 or 8)</u>   |  |
| <u>Fall</u><br><u>Year 4</u><br><u>Academic Term 8</u>   | <u>NURS 4100</u><br><u>NURS 4103</u><br><u>NURS 4512 (in Term 7 or 8)</u>   |  |
| <u>Winter</u><br><u>Year 4</u><br><u>Academic Term 9</u> | <u>NURS 4516</u>  |  |

Page 423, 2018-2019 Calendar, under the heading 6.2 Bachelor of Nursing (Collaborative) Fast-Track Option, amend the section as follows:

**6.2 Bachelor of Nursing (Collaborative) ~~Fast-Track~~ Accelerated Option**

- The Bachelor of Nursing (Collaborative) ~~Fast-Track~~ Accelerated Option is offered at Memorial University of Newfoundland School of Nursing and the Western Regional School of Nursing.
- The ~~94~~ 106 credit hours must be taken in the academic terms as set out in **Tables 4 and 5 Bachelor of Nursing (Collaborative) ~~Fast-Track~~ Accelerated Option.**
- ~~NURS 2002 and 2502 run over the first six weeks and NURS 3012 and 3512 run over the second six weeks of the Spring semester. NURS 2514 and 3514 run consecutively for 6 weeks each in the Fall semester. Courses in the Spring semesters run over two six week time periods.~~
- Clinical Courses may be offered in whole or in part outside the normal start and end dates of a semester. ~~In the last semester of the Fast-Track Option, the last clinical course will finish outside of the end date of Summer semester and may finish as late as the 3<sup>rd</sup> week in September. Students will be informed of the pertinent dates of clinical courses two semesters in advance.~~

**~~Table 2 Bachelor of Nursing (Collaborative) Fast-Track Option~~**

| <b>Term</b>                       | <b>Required Courses</b>  |
|-----------------------------------|--|
| Fall<br>Year 1<br>Academic Term 1 | NURS 1002<br>NURS 1003<br>NURS 1004<br>NURS 1015<br>NURS 1016<br>NURS 1017 |
| Winter<br>Year 1                  | NURS 1012<br>NURS 1014   |

|                                     |  |
|-------------------------------------|--|
| Academic Term 2                     | NURS 1520<br>NURS 2003<br>NURS 2004  |
| Spring<br>Year 1<br>Academic Term 3 | NURS 2002<br>NURS 2502<br>NURS 2520<br>NURS 3012<br>NURS 3512              |
| Fall<br>Year 2<br>Academic Term 4   | NURS 2514<br>NURS 3014<br>NURS 3104<br>NURS 3514<br>NURS 4101<br>NURS 4103 |
| Winter<br>Year 2<br>Academic Term 5 | NURS 3001<br>NURS 3113<br>NURS 4100<br>NURS 4502<br>NURS 4512              |
| Spring<br>Year 2<br>Academic Term 6 | NURS 3523<br>NURS 4516   |

**Table 4 Bachelor of Nursing (Collaborative) Accelerated Option -  
Memorial University of Newfoundland School of Nursing (MUNSON)**

| <b><u>Term</u></b>                                       | <b><u>Required Courses</u></b>   |
|--|--|
| <u>Fall</u><br><u>Year 1</u><br><u>Academic Term 1</u>   | <u>Biochemistry 1430</u><br><u>NURS 1002</u><br><u>NURS 1003</u><br><u>NURS 1004</u><br><u>NURS 1015</u><br><u>NURS 1017</u>   |
| <u>Winter</u><br><u>Year 1</u><br><u>Academic Term 2</u> | <u>Biology 3053</u><br><u>NURS 1012</u><br><u>NURS 1014</u><br><u>NURS 1016</u><br><u>NURS 1520</u>  |
| <u>Spring</u><br><u>Year 1</u><br><u>Academic Term 3</u> | <u>NURS 2003</u><br><u>NURS 2004</u><br><u>NURS 2015</u><br><u>NURS 2516</u>   |
| <u>Fall</u><br><u>Year 2</u><br><u>Academic Term 4</u>   | <u>3 credit hours chosen from Philosophy, or Religious<br/>Studies 2610</u><br><u>Statistics 1510 or 2500 or equivalent, or Education 2900</u><br><u>NURS 3015</u><br><u>NURS 3113</u> |

|  |  |
|--|--|
|  | <u>NURS 3515</u>   |
| <u>Winter</u><br><u>Year 2</u><br><u>Academic Term 5</u> | <u>NURS 3000</u><br><u>NURS 3001</u><br><u>NURS 3104</u><br><u>NURS 4502</u> |
| <u>Spring</u><br><u>Year 2</u><br><u>Academic Term 6</u> | <u>NURS 2002</u><br><u>NURS 2502</u><br><u>NURS 3523</u>                     |
| <u>Fall</u><br><u>Year 2</u><br><u>Academic Term 7</u>   | <u>NURS 4100</u><br><u>NURS 4103</u><br><u>NURS 4512</u>                     |
| <u>Winter</u><br><u>Year 2</u><br><u>Academic Term 8</u> | <u>NURS 4516</u>   |

**Table 5 Bachelor of Nursing (Collaborative) Accelerated Option - Western Regional School of Nursing (WRSON)**

| <b><u>Term</u></b>                                       | <b><u>Required Courses</u></b>   |
|--|--|
| <u>Fall</u><br><u>Year 1</u><br><u>Academic Term 1</u>   | <u>Biochemistry 1430</u><br><u>NURS 1002</u><br><u>NURS 1003</u><br><u>NURS 1004</u><br><u>NURS 1017</u>   |
| <u>Winter</u><br><u>Year 1</u><br><u>Academic Term 2</u> | <u>Biology 3053</u><br><u>NURS 1012</u><br><u>NURS 1014</u><br><u>NURS 1015</u><br><u>NURS 1016</u><br><u>NURS 1520</u>  |
| <u>Spring</u><br><u>Year 1</u><br><u>Academic Term 3</u> | <u>NURS 2003</u><br><u>NURS 2004</u><br><u>NURS 2015</u><br><u>NURS 2516</u>   |
| <u>Fall</u><br><u>Year 2</u><br><u>Academic Term 4</u>   | <u>3 credit hours chosen from Philosophy, or Religious Studies 2610</u><br><u>Statistics 1510 or 2500 or equivalent, or Education 2900</u><br><u>NURS 2002</u><br><u>NURS 2502</u><br><u>NURS 3113</u> |
| <u>Winter</u><br><u>Year 2</u><br><u>Academic Term 5</u> | <u>NURS 3000</u><br><u>NURS 3015</u><br><u>NURS 3104</u><br><u>NURS 3515</u>   |
| <u>Spring</u><br><u>Year 2</u><br><u>Academic Term 6</u> | <u>NURS 3001</u><br><u>NURS 4502</u><br><u>NURS 3523</u>   |

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| <u>Fall</u><br><u>Year 2</u><br><u>Academic Term 7</u>   | <u>NURS 4100</u><br><u>NURS 4103</u><br><u>NURS 4512</u> |
| <u>Winter</u><br><u>Year 2</u><br><u>Academic Term 8</u> | <u>NURS 4516</u>   |

Page 424, 2018-2019 Calendar, under the heading 7 Promotion Regulations, amend the section as follows:

**“7 Promotion Regulations**

1. The Memorial University of Newfoundland School of Nursing constitutes the examining body for all School of Nursing examinations. The standing of every student will be assessed at the end of each academic semester, and a grade report will be issued by the University Registrar to the individual student.
2. Students are required to achieve a grade of at least 65% or a grade of PAS as appropriate in each of the required nursing courses.
3. All prior clinical courses must be successfully completed in order to progress to each clinical course in the program sequence.
4. After the course has begun, a student is not permitted to drop a clinical course without the written permission of the Dean/Director or delegate.
5. Except in the Bachelor of Nursing (Collaborative) Fast-Track Option, a student failing to achieve the requirements outlined above is permitted to repeat the given nursing course only once. A second failure in a given nursing course will result in withdrawal from the program.
6. A student in the Bachelor of Nursing (Collaborative) Fast-Track or Accelerated Options who fails a course is required to withdraw from the ~~Fast-Track~~ Option. This student may be permitted, with special permission from the Dean/Directors, to resume studies within the 4-Year Option of the Bachelor of Nursing (Collaborative) Program and is subject to all its academic standards and requirements. Accordingly, a failed course in the Fast-Track or Accelerated Options carries over to the 4-Year Option of the Bachelor of Nursing (Collaborative) Program as a first failure in the relevant course(s).
7. Failure in excess of two nursing courses during the program will result in withdrawal from the Bachelor of Nursing (Collaborative) Program.
8. A student who is required to withdraw from the Bachelor of Nursing (Collaborative) 4-Year Option due to academic failure, as outlined in the clause above, may appeal for readmission to the School of original admission after a lapse of two semesters as outlined under **Readmission Regulations for the School of Nursing**.
9. A student who is required to withdraw from the program a second time will not be eligible for future admission/readmission to the program.
10. A student may be required to withdraw from a nursing course with a clinical component or from the program at any time, on the recommendation of the Committee on Undergraduate Studies, if the student is deemed unsafe in a clinical setting, or if the student’s

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behaviour prohibits achievement of the course or program objectives. This clause could also be applied to a student who displays unethical or unprofessional behavior in classroom, lab or clinical settings. A student who is required to withdraw from the program for any of these reasons will not be eligible for future admission/readmission to the program or the School of Nursing.

11. A student who does not complete a nursing course for a period of three consecutive semesters will be considered to have withdrawn from the program.

12. A student in the Bachelor of Nursing (Collaborative) Program who would like to take a leave of absence from the program may do so only with the written permission of the Dean or delegate. A leave will be granted for a maximum period of three consecutive semesters. A student on leave who plan to resume studies must notify the Dean/Director in writing one semester prior to registration.

13. A student in the Bachelor of Nursing (Collaborative) Program who voluntarily withdraws from the program prior to the conclusion of the first semester of the first year and who would like to return to the program must re-apply in competition as a new applicant.

14. A student in the Bachelor of Nursing (Collaborative) Program who voluntarily withdraws from the program, at the conclusion of the first semester of the program, or later, and who would like to return to the program, must appeal for readmission as outlined under **Readmission Regulations for the School of Nursing**.

15. A student in the Bachelor of Nursing (Collaborative) Program who is readmitted following a period of absence, either as a result of a leave of absence or a withdrawal from the program, upon the recommendation of the Committee on Undergraduate Studies may be required to undertake remedial work, which can include repeating clinical, laboratory, or classroom courses, or repeating one or more terms of the program. A student will be advised of the remedial program at the time of readmission. All remedial work must be successfully completed before a student will be permitted to proceed in the program.”

Page 424, 2018-2019 Calendar, under the heading 9 Waiver of School Regulations, amend the section as follows:

**“9 Waiver of School Regulations**

Any student whose request for waiver of School regulations has been denied has the right to appeal. For further information refer to **UNIVERSITY REGULATIONS - General Academic Regulations (Undergraduate) - Appeal of Decisions**.

1. The School reserves the right in special circumstances to modify, alter, or waive any School regulation in its application to individual students where merit and equity so warrant in the judgment of the Committee on Undergraduate Studies of the School.

School of Nursing (cont'd)

2. All requests for a waiver of a School regulation must be submitted in writing to the Chair of the Committee on Undergraduate Studies of the School for consideration by the committee. Medical and/or other documentation to substantiate the request must be provided.
3. Any waiver granted does not reduce the total number of credit hours required for the degree.
4. Transfer credit applications for courses designated by NURS in lieu of courses previously completed are normally not accepted. Applications are reviewed on an individual basis, and only if the grade achieved in the completed course is 65% or higher.

Page 425, 2018-2019 Calendar, under the heading 12 Course Descriptions, amend the section as follows:

**“12 Course Descriptions**

In accordance with Senate's *Policy Regarding Inactive Courses*, course descriptions for courses which have not been offered in the 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 Dean of the School.

All courses of the School are designated by NURS.

**1002 Anatomy and Physiology I** explores normal human anatomy and physiology. Students will develop an understanding of the interrelationships of all body systems, from the chemical and cellular levels to the level of the whole organism. Special emphasis is given to the integumentary, skeletal, muscular, nervous and endocrine systems.

CR: Pharmacy 2002 or the former Pharmacy 3201

LH: 2

PR: Science 1807 and 1808

**1015 Health Promotion** explores nursing concepts and theories pertaining to health promotion/protection throughout the lifespan. Content includes principles of teaching/learning, introduction to community population health and primary health care concepts, and the determinants of health.

CR: the former NURS 1011

~~OR: 24 seminar hours during the semester for Fast Track Option students admitted Fall 2018~~

PR: NURS 1003 and 1004; or admission to the ~~Fast Track~~ Accelerated Option

**1016 Caring for the Older Adult: Theory** explores concepts and issues applicable to the health, wellbeing and nursing care/needs of the older adult. Emphasis will be placed on theories, normal physical changes,

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common chronic conditions, psychosocial, and ethical/legal issues associated with aging.

CO: NURS 1012, 1014, 1015 and 1520; or admission to the ~~Fast Track Accelerated~~ Option

PR: NURS 1002, 1003, and 1004; or admission to the ~~Fast Track Accelerated~~ Option

**1017 Fundamental Psychomotor Competencies** provides the student an opportunity to acquire beginning psychomotor competencies that are necessary for the provision of client comfort and safety.

CH: 1

CO: NURS 1002, 1003, 1004

LC: 0

LH: 2

**2003 Pathophysiology** presents general concepts of disease processes and their impact on health. The course focuses on major pathophysiologic changes, including associated etiology, pathogenesis and clinical manifestations. Common illnesses are studied to illustrate these disease processes.

CO: NURS 2004

OR: tutorial 1.5 hours per week

PR: NURS 1012, 1014, 1015, 1016, 1520, and Biochemistry 1430; ~~or admission to the Fast Track Option~~

**2004 Pharmacology** explores principles and concepts in the use medications for the management of common health problems across the lifespan. Nursing considerations and psychomotor competencies pertinent to traditional pharmaceuticals and commonly used natural health products (NHPs) are addressed.

CO: NURS 2003

LH: 2

PR: NURS 1012, 1014, 1015, 1016, 1017, 1520 and Biochemistry 1430; ~~or admission to the Fast Track Option~~

**2014 Community Health Nursing Theory** INACTIVE ~~focuses on the knowledge required to practise nursing in the community with a variety of clients including individuals, families, groups and communities. It further examines the principles of primary health care, population health, and their application in community health nursing. It also focuses on the multidimensional role of the nurse.~~

~~CO: NURS 2003, 2004, 2514~~

~~CR: NURS 4101~~

~~OR: seminar 2 hours per week~~

~~PR: NURS 1520, 2003, 2004~~

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**2015 Health Alterations I: Theory** incorporates a conceptual approach to focus on the nursing care of individuals and families, across the lifespan. The emphasis is on assisting persons experiencing alterations along the wellness continuum. This is the first of two courses with this focus.

CO: NURS 2003, 2004, 2515

CR: NURS 3012, the former NURS 2011

PR: NURS 1520, 2003; and 2004; ~~or admission to the Fast Track Option~~

~~**2017 Intermediate Psychomotor Competencies** provides the student an opportunity to acquire intermediate psychomotor competencies that are related to the provision of client comfort and safety in a variety of settings. As well, this course provides the opportunity for the student to integrate the conceptual framework of the **Bachelor of Nursing (Collaborative)** Program into the development of psychomotor competencies.~~

~~CH: 1~~

~~CO: NURS 2004~~

~~LC: 0~~

~~LH: 24 hours during the semester~~

~~PR: NURS 1520 and 2004~~

**2502 Care of the Childbearing Family: Practice** allows the student to apply knowledge and practise competencies acquired in NURS 2002. Clinical experiences are offered in a variety of institutional and community-based settings related to the provision of nursing care for women and their families through the antenatal and postpartum phases of the childbearing cycle.

CH: 2

CO: NURS 2002

CR: the former NURS 2501

LH: 24 hours during the semester

OR: 48 clinical hours during the semester ~~for students admitted to the 4-Year Option for Fall 2018~~

UL: students admitted prior to Fall 2018 will follow the Calendar course description for their year of admission. Fast-Track Option and LPN Bridging Option students admitted to Fall 2018 will follow the 2017-2018 University Calendar course description.

**2514 Community Health Nursing Practice I** provides the student with the opportunity to apply knowledge and practise competencies for beginning community health nursing practice acquired in Community Health Nursing Theory.

CO: ~~NURS 2014~~ or NURS 4101

OR: 96 clinical hours during the semester

PR: NURS 1520



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**2515 Health Alterations I: Practice** allows students to apply knowledge and competencies acquired through NURS 2015 and related courses. Clinical experiences are offered in a variety of settings to provide nursing care for clients across the lifespan.

CO: NURS 2003, 2004, 2015

CR: the former NURS 2511 or 3512 or 3513

LH: 24 hours during semester

OR: 96 clinical hours during the semester; may be offered over 6 weeks

PR: NURS 1520, 2003, 2004

**2516 Health Alterations I: Practice** allows students to integrate knowledge and competencies acquired through NURS 2015 and related courses. Clinical experiences are offered in a variety of settings to provide nursing care for clients across the lifespan.

CH: 4

CO: NURS 2003, 2004, 2015

CR: NURS 2515, 2520, 3512, 3513, or the former NURS 2511

LH: 24 hours during semester

OR: 144 clinical hours over six weeks

PR: NURS 1520, 2003, 2004

UL: restricted to students following the Accelerated Option sequence of the BN (Collaborative) Program.

**2520 Extended Practice** allows the student to integrate the knowledge and practise the competencies acquired to date in a consolidated clinical experience. The focus is on caring for clients with health alterations in an assigned clinical setting. This course is normally offered at the end of the Winter semester, beginning during the final week of the examination period.

CO: ~~NURS 2002, 2015, and 2502 or 2014 and 2514 or NURS 2015 and 2515, and NURS 2017~~

OR: 96 clinical hours over three weeks

PR: ~~NURS 2002, 2003, 2004, 2015, 2502 and (NURS 2014, 2017, 2514, or NURS 2015 and 2515); or admission to the Fast Track Option~~

**3000 Community Health: Theory** focuses on the knowledge required to practice nursing in the community with a variety of clients including individuals, families, groups and communities. It further examines the principles of primary health care, population health, and their application in community health nursing as well as the multidimensional role of the nurse.

CO: ~~NURS 3104, and 3500 or 4502; or Accelerated Option student designation~~

CR: ~~NURS 2014, 4101~~

OR: seminar or lab 2 hours per week

PR: ~~NURS 2520; or Accelerated Option student designation~~

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**3001 Mental Health: Theory** focuses on clients experiencing mental health issues and addictions across the lifespan. Issues affecting mental health, illness, and addictions are explored as well as treatment modalities.

CO: NURS 3501 or NURS 4502

OR: seminar 2 hours per week

PR: NURS 2520; or Accelerated Option student designation

**3012 Nursing Concepts for Children, Adolescents and Young Adults** uses a conceptual approach to focus on the nursing care of individuals and families, from infancy to young adulthood. The emphasis is on assisting persons experiencing health related needs to achieve health and well-being.

CO: NURS 3512 or NURS 3513

CR: the former NURS 2011

PR: NURS 2520; ~~or admission to the Fast Track Option~~

**3015 Health Care Alterations II: Theory** uses a conceptual approach to focus on the nursing care of individuals and families, across the lifespan. The emphasis is on acquiring and applying knowledge for the care of persons experiencing alterations along the wellness continuum. This is the second of two courses with this focus, and builds on the foundation provided by NURS 2015.

CO: NURS 3104 or Accelerated Option student designation, NURS 3515

PR: NURS 2520; ~~or admission to the Fast Track Option~~ or Accelerated Option student designation

**3104 Nursing Research** builds on previously introduced research concepts. The research process is explored in depth including its inherent ethical and legal implications. Through critical appraisal of nursing research, students will develop skills to evaluate the suitability of research findings to promote safe, competent, evidence-informed care. The focus is on ensuring students become knowledgeable consumers of research and continue to question practice and contribute to knowledge discovery.

PR: NURS 2520 or Accelerated Option student designation, and Statistics 1510 or 2500 or equivalent; or Education 2900

**3113 Professional Development I** allows the student to gain an understanding of the theories and principles related to professional development. Current issues and trends in nursing leadership and management will be explored within the context of nursing practice.

CO: NURS 3104, 3500, ~~3504~~ 3514, 3515, and (3501 or 4502; or Accelerated Option student designation)

PR: NURS 2520 or Accelerated Option student designation

School of Nursing (cont'd)

UL: students admitted prior to Fall 2018 will follow the Calendar course description for their year of admission. Fast-Track Option and LPN Bridging Option students admitted to Fall 2018 will follow the 2017-2018 University Calendar course description

**3512 Nursing Practice with Children, Adolescents and Young Adults** provides the student with opportunities to apply knowledge and practise competencies acquired to date, particularly in NURS 3012. Selected experiences are offered in a variety of institutional and community based settings related to the provision of nursing care for children, adolescents, young adults and their families.

CO: NURS 3012

CR: the former NURS 2511

LH: 24 hours during the semester

OR: 64 clinical hours during the semester usually offered over four weeks

PR: NURS 2520; ~~or admission to the Fast-Track Option~~

**3515 Health Alterations II: Practice** allows students to apply knowledge and competencies acquired through NURS 3015 and related courses. Clinical experiences are offered in a variety of settings to provide nursing care for clients across the lifespan.

CO: NURS 3015, and 3104 or Accelerated Option student designation

CR: the former NURS 3511 or 3514

LH: 24 hours during the semester

OR: 120 clinical hours during the semester; may be offered over six weeks

PR: NURS 2520

**3523 Preceptorship** provides students with a consolidated experience in clinical settings. Students will further develop clinical competencies acquired in previous courses in the provision and coordination of nursing care.

CH: 6

CR: the former NURS 3520 and the former 3521

OR: 40 clinical hours per week for six weeks for students admitted to the 4-Year Option for Fall 2018

PR: NURS 3001, 3104, 3113 and (3501 or 4502), (NURS 3012, 3014, 3512 or 3513, and 3514) or (NURS 3000, 3015, 3500 and 3515), and clinical placement approval

UL: students admitted prior to Fall 2018 will follow the Calendar course description for their year of admission. Fast-Track Option and LPN Bridging Option students admitted to Fall 2018 will follow the 2017-2018 University Calendar course description.

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**4502 Nursing Care in Community and Mental Health Settings** provides opportunities for practice in acute care psychiatric/mental health and community settings with individuals, families, and groups/aggregates. The application of community health and mental health knowledge and competencies, with a particular focus on the concepts of vulnerability/ resilience, will be emphasized.

CH: 6

CO: NURS 3000, 3001, 3104

CR: NURS 3501 and NURS 4501

OR: 168 hours during the semester

PR: (admission to the Fast-Track Option and NURS 2014 or 4101, ~~NURS 2514, NURS 3014, NURS 3104, NURS and 3514~~) or (admission to the Accelerated Option and NURS 3000, 3001, 3015, 3104 and 3515)”

43. Report of the Academic Council of the School of Graduate Studies

43.1 Constitution and By-Laws Governing the Academic Council, School of Graduate Studies

The Academic Council, School of Graduate Studies, submitted proposed revisions to its Constitution and By-Laws.

It was noted that the “Dean of Graduate Studies” should read “Associate Vice-President (Academic) and Dean, Graduate Studies” throughout the Constitution and By-Laws.

It was agreed that the proposed revisions, along with the friendly amendment, to the Constitution and By-Laws of the Academic Council be approved for submission to the Board of Regents.

44. Motion of Appreciation – Shane O’Dea

Mr. Nault, Secretary of Senate, presented the following Motion:

**Senate Resolution of Appreciation to Shane O’Dea**

WHEREAS, Professor Shane O’Dea has served with distinction in the role of Public Orator at Memorial University from 1995 to 2018; and

WHEREAS, Professor O’Dea has orated eloquently and memorably about many honorary degree recipients during his service as Public Orator and previously as Deputy Public Orator, and

WHEREAS, Professor O’Dea has recruited and mentored numerous University Orators during his 23 years as Public Orator, and

Motion of Appreciation – Shane O’Dea (cont’d)

WHEREAS, Professor O’Dea has been a valuable contributor and resource to the Committee on Honorary Degrees and Ceremonial, as well as to other groups, programs and events of Memorial University,

BE IT RESOLVED, that on December 11, 2018, the Senate of Memorial University takes official recognition of Professor Shane O’Dea’s exceptional service as Public Orator and extends to him its gratitude for his contributions to Memorial University; and

BE IT FURTHER RESOLVED, that this statement of recognition be appropriately inscribed and conveyed to Professor O’Dea.

It was moved by Dr. Okshevsky, seconded by Professor Fisher, and carried that this motion be approved.

45. Memorial University of Newfoundland Students’ Union - Request for Academic Amnesty

The following motion was received from the Memorial University of Newfoundland Students’ Union:

WHEREAS budget cuts from the provincial government have negatively impacted Memorial University’s ability to offer programming and services to students, faculty, and staff; and

WHEREAS these budget cuts have resulted in Memorial increasing fees and creating new fees; and

WHEREAS these few increases have reduced students’ ability to access a post-secondary education; and

WHEREAS Memorial University has a special obligation to the people of the province, a special obligation that both this institution, and the provincial government are custodians of; and

WHEREAS budget consultation sessions at Memorial heard students, faculty, and staff advocate for greater pressure be placed on government to reverse these cuts; and

WHEREAS students are planning a provincial day of action on February 6, 2019, calling on the provincial government to reverse the funding cuts to Memorial that have left our institution compromised; Therefore

It was moved by Ms. Howard that BE IT RESOLVED THAT Senate encourage academic units and professors grant Academic Amnesty on

Memorial University of Newfoundland Students' Union - Request for Academic Amnesty (cont'd)

February 6, 2019 to all students of all Memorial University campuses, insofar as academic units and professors remain flexible in making alternate arrangements, including rescheduling examination and the deadlines for submission of assignments, and in adopting any other required forms of leniency for students who are absent from classes on February 6, 2019 so that they may freely participate in the Day of Action without fear of academic repercussions; and

BE IT FURTHER RESOLVED THAT this offer of Academic Amnesty be communicated to students and faculty by Memorial University.

The motion was seconded by Professor Fisher and carried.

46. Chair's Remarks

The President commented on the following:

- Bernard Davis is the new Minister of Education
- No Pension Proposal response
- No Response on Final Terms of Reference for Post-Secondary Education Review
- Delegation visit from Nunavut Arctic College
- Congratulations to Grenfell Campus on the Fourth Biennial Agricultural Symposium
- Congratulations to all who worked hard on the Atlantic Fisheries Fund
- Two Conferences at Signal Hill Campus:
  - Trudeau Foundation
  - Universities of Small Islands

The President noted that the January 8<sup>th</sup> meeting of Senate is cancelled. An email will be forwarded to members tomorrow.

The President wished everyone a wonderful Holiday season.

47. ADJOURNMENT

The meeting adjourned at 4:40 p.m.

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CHAIR

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SECRETARY