MEETING OF THE FACULTY COUNCIL OF THE FACULTY OF SCIENCE

A regular meeting of the Faculty Council of the Faculty of Science will be held on Wednesday, September 17, 2014, at 1 p.m. in C-2045.

AGENDA

1. Regrets

2. Adoption of the Minutes of March 19, 2014

3. Business Arising from the Minutes

4. Correspondence: None

5. Reports of Standing Committees:

   A. Undergraduate Studies Committees:
      a. Response to Senate Committee on Undergraduate Studies, Proposal for Prior Learning Assessment Recognition, paper 5.A.a (21 pages). Approved by the Executive Committee of the Faculty of Science Faculty Council and included for information only.
      b. Department of Computer Science, proposal for new course, COMP 1400, Computing in the 20th Century and Beyond, paper 5.A.b (21 pages).
      d. Department of Psychology, calendar change, cross-list PSYC 4770 and BIOL 4770, paper 5.A.d (12 pages).

   B. Graduate Studies Committee:
      a. Department of Chemistry, special topics course, CHEM 6590, Renewable Chemicals and Materials, paper 5.B.a (7 pages). Approved by the committee and presented to council for information only.
      b. Department of Mathematics and Statistics, special topics course, MATH 6348, Graph Colouring, paper 5.B.b (6 pages). Approved by the committee and presented to council for information only.
      c. Department of Mathematics and Statistics, special topics course, STAT 6564, Experimental Design, paper 5.B.c (6 pages). Approved by the committee and presented to council for information only.
      d. Department of Biology, special topics course, BIOL 7947, Molecular Ecology, paper 5.B.d (6 pages). Approved by the committee and presented to council for information only.
e. Department of Earth Sciences, approval for new course, EASC 6105, Advanced Field Course in Applied Geophysics, paper 5.B.e (9 pages). Approved by the Executive Committee of the Faculty of Science Faculty Council and included for information only.

C. Nominating Committee:
   a. Approval of committee matrix, paper 5.C.a (2 pages).

D. Library Committee: None

6. Reports of Delegates from Other Councils

7. Report of the Dean

8. Question Period

9. Adjournment

[Signature]
Mark Abrahams
Dean of Science
FACULTY OF SCIENCE
FACULTY COUNCIL OF SCIENCE
MINUTES OF MEETING OF MARCH 19, 2014

A meeting of the Faculty Council of the Faculty of Science was held on Wednesday, March 19, 2014, at 1:00 p.m. in room C-2045.

FSC 2258
Present
Biochemistry
Mulligan, M.

Chemistry
Pickup, P.

Computer Science
Banzhaf, W. Brown, E. Shieh, J.S.

Earth Sciences
Hanchar, J.

Mathematics & Statistics
Pike, D. Sullivan, S.

Ocean Sciences
Fletcher, G.

Physics & Physical Oceanography
de Young, B. Morrow, M.

Psychology
Malsbury, C.

Dean of Science Office
Abrahams, M. Foss, K. Foster, A. Rideout, J. Zedel, L.

Economics
Lyssenko, N.

Geography
Catto, N.
DELTS
Hicks, A.

Arts Council
Bishop, N.

Graduate Students
Adeniyi, B.

Undergraduate Students
Grant, D.

World War I Steering Committee
Riggs, B. Ballam, D.

FSC 2259
Regrets
Erin Alcock Donna Stapleton

FSC 2260
Adoption of Minutes
Moved: Minutes of the February 19 meeting be adopted as amended. (Banzhaf/Hanchar). Carried.

FSC 2261
Business Arising: None

FSC 2262
Correspondence: None

FSC 2263
Reports of Standing Committees:

A. Undergraduate Studies Committee:
Report was presented by Shannon Sullivan, Chair of the Faculty of Science Undergraduate Studies Committee.


B. Graduate Studies Committee:
Report was presented by Len Zedel, Associate Dean (Research and Graduate).

a. Department of Biology, special topics course, BIOL 7946, Field Sampling Approaches and Applied Statistical Philosophy.
Approved by the committee and presented to council for information only.

C. Nominating Committee: None

D. Library Committee: None

FSC 2264 Reports of Delegates from Other Council:
Anna Hicks, DELTS Representative, spoke to members of Faculty Council about STOR, a database of teaching objects that faculty can access for free. Faculty can also contribute learning objects such as videos or other items from their courses that they feel might be useful for other instructors to use in their courses. The database is available for all institutions in Newfound and Labrador and can be accessed at www.exploreinor.mun.ca. Further information is available from Anna Hicks at anna.hicks@mun.ca.

FSC 2265 Faculty of Science Strategic Plan - Annual Approval
A suggestion was forwarded to the Dean that a section be added to the strategic plan regarding Mathematical and Computational Science. Although the Dean thinks this should be added, he would like to proceed with approval of the plan pending this modification. The proposed added section will be forwarded to departments for comments and the final version of the strategic plan can be voted on at the next faculty council meeting. Moved: Adoption of the Faculty of Science Strategic Plan pending the addition of Mathematical and Computational Science (Morrow/de Young). It was requested that all references to the verb “crosscuts” be changed to “cuts across”. Discussion also took place about possibly rewriting the strategic plan every four to five years rather than revisiting it on an annual basis. Also, it was requested that a companion document to the strategic plan be added that outlines accomplishments during the year showing progress towards achieving objectives highlighted in the plan. The Dean said that Heads were working on such a document as part of the annual reports. Carried.

FSC 2266 Commenorating WWI
Burt Riggs, member of the Steering Committee for the university’s WWI commemorations, outlined many projects taking place over the next few years. Commemorations will take place during the 2014 to 2019 period and will focus on three areas: physical, academic, and resources. Physical upgrades will be undertaken to existing space such as the Arts and Administration foyer where the Book of Remembrance resides, installation of a replica of the Danger Tree at the Grenfell campus, and a merchant marine statue at the Marine Institute. There will also be additional scholarships available. Academic initiatives include discussion groups, small group activities and talks, symposia, conferences, and study abroad
programs. Resources at the university will be expanded and made more available electronically, collections will be enhanced, displays and exhibitions added, and research projects linked to WWI will be encouraged. Many suggestions were provided on research opportunities for various departments in the Faculty of Science. A budget for the many projects is currently being submitted to the President. The committee is charged with attempting to engage the university community in the activities and to provide support and advice. Further information can be found on the website: www.mun.ca/commemoration, email: ww1@mun.ca, facebook, and twitter. Doug Ballam, a current member of the Regiment, has been hired as the event planner and can be reached at extension 3960 or by email at dballam@mun.ca.

FSC 2267  Report of the Dean:
Presented by Mark Abrahams, Dean.

Core Sciences Building
Work is now progressing on design work for the new core sciences building. We are following an aggressive schedule that is hoping to allow us to start issuing tenders for construction in the Fall. As a considerable amount of on campus parking will be lost, the very first stage will be construction of alternate parking.

DELTS Teaching Support
The Dean has had preliminary meetings with DELTS with the intention of creating a shared position that will provide dedicated teaching support for faculty. Science Council will be updated as the Dean learns more.

Spring Convocation
Spring convocation is rapidly approaching, with convocation for Science students occurring on Wednesday, May 28 at 3 pm and Thursday, May 29 at 10 am. In advance of that, the Faculty of Science is hoping to have a reception for graduating B.Sc. and B.Sc. (Honours) students and their families tentatively on May 26th at 5 pm.

Enrolment Plan
The Provost is seeking to finalize an Enrolment Plan so that it can be presented to the Board of Regents this Spring. This plan is primarily concerned with total student numbers and is projecting relatively flat undergraduate enrolment for the Faculty of Science through to 2020. However, graduate numbers are projected to be between 750 and 970. Our current enrolment is 689.

FSC 2268  Question Period

FSC 2269  Adjournment:
The meeting adjourned at 1:38 p.m.
June 25, 2014

TO: Jennifer Porter, Secretary (Acting)  
    Senate Committee on Undergraduate Studies

FROM: Julie Rideout, Secretary  
       Faculty of Science Faculty Council

SUBJECT: Response to Senate Committee on Undergraduate Studies re: Proposal for Prior Learning Assessment Recognition

The Executive Committee of Faculty of Science Faculty Council discussed and unanimously approved the recommendations in the attached memo from the Secretary, Committee on Undergraduate Studies, Faculty of Science.

Julie Rideout

Attachment
June 12, 2014

TO: All Members, Faculty Council of Science

FROM: Joan Burry, Secretary, Undergraduate Studies Committee, Faculty of Science

SUBJECT: Response to Senate Committee on Undergraduate Studies re: Proposal for Prior Learning Assessment Recognition

In a December 11, 2013 memorandum, the Senate Committee on Undergraduate Studies requested input from academic units on proposed changes to General Regulation 3.6, in order to incorporate reference to Prior Learning Assessment Recognition (PLAR).

Responses were received from academic units during the 2014 Winter semester and the proposal was further discussed at a meeting of the Undergraduate Studies Committee of the Faculty of Science on May 27, 2014. At that meeting it was recommended that the Faculty of Science endorse these changes to General Regulation 3.6.

Joan Burry
Assistant Registrar and Secretary: Committee on Undergraduate Studies, Faculty of Science
4 June 2014

TO: Secretaries/Chairs, Academic Councils, Faculties/Schools/Grenfell Campus/Marine Institute
Student Unions (St. John's Campus, Grenfell Campus, Marine Institute)
DELS, Division of Co-operative Education, Student Health Services, University Counselling Centre

FROM: Jennifer Porter, Secretary (Acting)
Senate Committee on Undergraduate Studies

SUBJECT: Prior Learning Assessment Recognition (PLAR)

I refer to the memorandum dated 11 December 2013 regarding the above.

Since it is the intention of the Senate Committee on Undergraduate Studies to deal with this matter as soon as possible, I am writing to remind you that the Committee is seeking the advice of the academic community.

In this regard, the Committee is seeking your response at your earliest possible convenience.

A copy of the memorandum concerned and the documentation related to this matter is attached for your information.

Jennifer Porter
Deputy Registrar and Secretary to the Committee (Acting)

JP/Imn

Attachment

cc: Committees on Undergraduate Studies
Deans/Vice-Presidents
Provost and Vice-President (Academic)
Deputy Provost (Students) and Associate Vice-President (Academic)
Undergraduate Studies
11 December 2013

TO: Secretaries/Chairs, Academic Councils, Faculties/Schools/Grenfell Campus/Marine Institute
Student Unions (St. John’s Campus, Grenfell Campus, Marine Institute)
DELS, Division of Co-operative Education, Student Health Services, University Counselling Centre

FROM: Jennifer Porter, Deputy Registrar (Acting) and Secretary
Senate Committee on Undergraduate Studies

SUBJECT: Prior Learning Assessment Recognition (PLAR)

At a meeting held on 21 November 2013, the Senate Committee on Undergraduate Studies reviewed a document received from Ms. M. Murray, Associate Registrar (Admissions), regarding Prior Learning Assessment Recognition (PLAR). Ms. Murray is a member of a sub-committee which was established by the Senate Committee on Undergraduate Studies to review this matter.

The documentation submitted from Ms. Murray included:

- background information
- modifications to Section 3.5 Transfer Credit to incorporate reference to Prior Learning Assessment and Recognition (PLAR)
- a proposal to change the title of Section 3.6 from Challenge for Credit to Prior Learning Assessment and Recognition (PLAR) and to add regulations for this area of recognition.

Following its consideration of this matter, the Committee agreed that input from the academic community is essential regarding the proposed revisions to Section 3.6 only (starting on page 14 of the attached document). As changes to Section 3.5 are housekeeping items, review of this section is not necessary. However, the entire document is being forwarded to you for your information. The Committee also suggests that Academic Councils forward these proposed calendar changes to all faculty for consideration.

The Senate Committee on Undergraduate Studies understands that this is a very busy time of year for calendar changes. Recognizing that it is unlikely that responses to this review will be received in time to make the deadline for submission of changes for the 2014-2015 University Calendar, I am requesting that you respond at your earliest possible convenience.

Thank you for your assistance in this very important matter.

If you have any questions or require clarification regarding the above, please get in touch with me by phone at 864-4410 or by e-mail at jporter@mun.ca.

Yours truly,

Jennifer Porter
Deputy Registrar (Acting) and Secretary to the Committee
JP/mn

Attachment

cc: Committees on Undergraduate Studies
Deans/Vice-President
Provost and Vice-President (Academic)
Deputy Provost (Students) and Associate Vice-President (Academic)
Undergraduate Studies
November 18, 2013

To: Senate Committee on Undergraduate Studies

From: Maria Murray, Associate Registrar (Admissions)

Subject: Prior Learning Assessment and Recognition (PLAR)

This proposal comes to the Senate Committee on Undergraduate Studies to provide general information regarding the status of Prior Learning Assessment and Recognition (PLAR) among Canadian universities and within Memorial University and to propose amendments to the Calendar to clarify the University’s PLAR-related regulations.

Definition and Explanation of PLAR
Prior Learning Assessment and Recognition (PLAR) generally refers to the assessment and recognition, for academic credit or professional licensing purposes, of non-formal and informal learning acquired through experience. It is the practice of using flexible and situation-appropriate tools to measure and give credit for what a person knows. The assessment tool that is most often associated with PLAR is the comprehensive portfolio. However, other common forms of PLAR assessment exist including: written or practical challenge examinations; questionnaires; interviews; references; and certification by professional associations, licensing bodies, or police or other armed forces. Recognition of experience-based learning in an academic setting may be in the form of credit (subject-, level-, or course-specific for the equivalent of one course or on a block-credit basis), pre-requisite waivers, degree requirement waivers, and admission to, or advanced placement in, degree programs.

PLAR in Canada
Prior Learning Assessment and Recognition (PLAR) and its predecessor, PLA, have been active in Canada since at least the early 1990’s. PLAR has been the subject of extensive analysis and promotion by various public-sector agencies and institutions in Canada. These include: the Canadian Ministers of Education of Canada (CMEC), the Conference Board of Canada, the Council of Ontario Universities (COU), the Canadian Council on Learning (CCL), the Canadian Association of Prior Learning Assessment (CAPLA), various professional licensing bodies and other agencies involved with labour-force analysis and policy development, and various provincial governments and post-secondary institutions across the country.
It appears from a review of literature and consultation with other institutions that the perceived value of PLAR in Canada is:
- A desire for improved access to formal education by adult-learners by recognizing competencies that form the basis for formal educational qualifications;
- A desire to minimize the duplication of learning and create efficiencies for institutions and learners;
- The facilitation of professional certification and licensing for migrants from other countries and provinces; and,
- Support for student mobility and appropriate placement in post-secondary programs;

This review further indicates that colleges have been the leaders in the post-secondary sector in adopting PLAR policies in Canada. This is likely because processes that are typically associated with program areas where tools for establishing, teaching, and measuring competencies or giving credit for professional experience already exist - in trades or other areas where practical and demonstrated skills form part of the formal qualification awarded by the institution.

The Council of Ministers of Education, Canada (CMEC) completed a review of PLAR called "Recognition of Non-Formal and Informal Learning (RNFL) - Report on Provincial/Territorial Activities and Pan-Canadian Overview" in November 2007. An excerpt from the summary of this report is included as Attachment 1 (page 4) with this proposal along with a link to the web address where one can find the full report.

In summary, it appears that PLAR policies exist at some Canadian universities. Among those, it appears that policies vary in terms of the available forms of assessment and, among those few with portfolio-based assessment policies, the rates of assessment are also relatively low.

**Portfolio-Based Assessment**

As stated above, PLAR is mostly closely associated, in many people's minds, with portfolio-based assessment. Portfolios may be used to document learning for credit in one course or in several subject areas at various levels. It is the most flexible and personalized approach to recognizing learning.

Evidence shows that while the organization and practice of accepting the use of portfolios to document, assess, and recognize learning for credit may vary among institutions, their use appears to be an area of policy and professional practice on its own. When implemented in its typical form, this form of PLAR involves: a significant level of personal support for each student on an ongoing basis throughout the portfolio development process; support for academic units in responding to requests for assessment; professional development and certification for personnel serving in the support, coordination, and assessment functions; and an ongoing investment in the personnel and faculty support that are necessary to maintain the service. Concerns within institutions are typically related - in no particular order - to consistency in assessment and recognition practices across the institution, sustainability, roles, internal communication, clarity, and funding.
PLAR at Memorial University
General regulations governing PLAR at Memorial University do not currently exist. However, there are numerous examples of the application of related principles at Memorial – including those that refer to PLAR explicitly and those reflect these principles in other ways. The School of Nursing appears to be the only academic unit with a policy or regulations that specifically reference PLAR. A summary of existing PLAR-related regulations are included here as Attachment 2 (page 5) for your reference.

Speaking from the perspective of the Registrar’s Office, student-driven demand for recognition of experience-based learning (through assessment tools other than those which already exist) is relatively low. Isolated requests do come to this office from prospective students who are typically older adults with significant experience in a particular professional area such as business or engineering. In such cases, individuals are normally advised to consider applying for a challenge examination in related subjects and to contact the academic unit involved to inquire about whether such an examination would be available and advisable. The existence of latent demand is difficult to measure.

A proposal to amend University Calendar, in the section that now outlines academic regulations governing “3.5 Transfer Credit” and “3.6 Challenge for Credit” on pages 66 to 68 of the 2013-2014 Calendar, in order to include a statement concerning PLAR regulations and procedures at Memorial, is included here as Attachment 3 (page 9).

The rationale for the proposed change is to (1) give current PLAR-related practices greater visibility within the Calendar and the University in general, (2) encourage and support academic units that may wish to grant credit for experience-based learning as may be deemed appropriate, and (3) establish minimum standards and procedures for the assessment and recognition of informal and non-formal learning across the University.

This proposal does not reference portfolio-based assessment and recognition as one of the areas for which procedures should be included. However, it is recommended that the potential for introduction and use of this form of PLAR at Memorial be considered through consultation with academic units.

Respectfully Submitted,

________________________________________
Maria Murray
ATTACHMENT 1
Council of Ministers of Education, Canada (CMEC), November 2007
“Recognition of Non-Formal and Informal Learning (RNFL)
Report on Provincial/Territorial Activities and Pan-Canadian Overview”
(http://publications.cmeec.ca/postsec/rnfl/03-CANADA_OECD_WEB_file%20RNFL_Overview_Report_en.pdf)

Summary (page 92 of 103)

“In summary, Canadian public policy makers were the primary instigators of PLAR in the early 1990s but, as special funding was withdrawn, individual institutions became responsible for implementation. The federal government of Canada and a number of provincial/territorial governments have been proactive in their support for PLAR, providing policy support, project funding, conference support, and subsidizing institutional assessment activities.

Recognition of non-formal and informal learning in Canada is now at the stage of young adolescence. PLAR is relatively well known among most colleges and made available in some if not all of their programs. Universities are slowly but increasingly becoming familiar with the concept and the practice of PLAR, and some universities have developed formal policies. However, PLAR infrastructures do not guarantee activity, and in most provinces PLAR activity levels still appear to be low at both colleges and universities. PLAR is increasingly being used by regulatory bodies to recognize the knowledge and skills of immigrant applicants for occupational licensing/certification. It is less common among employers and rare among labour unions. The case studies in Component 5 provide a sampling of the range of ways in which PLAR is being investigated in Canada. Canadian research on PLAR is growing and many projects experimenting with implementation have been undertaken. PLAR’s benefits to learners are now relatively well documented. Cost and the time-consuming, complicated nature of PLAR processes are major barriers to learners. Lack of information, cost, and concerns about quality assurance are important barriers to institutions.”
ATTACHMENT 2

Summary of Existing Credit Assessment and Recognition Regulations at Memorial University

A. GENERAL REGULATIONS
   (i) Transfer Credit
       Calendar Regulation 3.5 [http://www.mun.ca/regoff/calendar/sectionNo=REGS-0421]
       Recognition of learning completed at other recognized post-secondary institutions for credit at
       Memorial University.

   (ii) Transfer Credit – Other Universities, Colleges, and Institutes
       Calendar Regulation 3.5.6 [http://www.mun.ca/senate/sept_2006_min.pdf; Item B.3, page 8,
       Regular Agenda – Report of Senate Committee on Undergraduate Studies.]
       Senate approved the Canadian Armed Forces as a recognized training institution in September
       2006 on the basis of a SCUGS-approved proposal that was approved in June 2006. Below is an
       excerpt from the related proposal which provides greater detail on the background and
       rationale for this change.

       “It is the practice of the University to review transfer credit evaluation requests for work
       completed at other institutions in relation to the practices/policies of other Association
       of Universities and Colleges of Canada (AUC) members, subject to appropriate Departmental
       evaluation. In this regard, the University of Manitoba, the University College of the Fraser Valley,
       Acadia University, the University of New Brunswick, Mt. St. Vincent University and the University
       of Saskatchewan award credit for work referenced above. Particularly, the University of
       Manitoba has been a leader in the assessment of work completed through the Canadian Armed
       Forces. A military course attains transfer credit status following an extensive review, by
       individual departments and faculties of the University, of the course Training Plan and Syllabus.
       For many evaluated courses, a professor or professors are taken to the military institution
       offering the courses and an on-site evaluation is conducted.

       There is precedent for accepting for transfer credit, work completed in venues similar to the
       training offered by the Armed Forces. Courses completed through the Canadian Coast Guard
       College have been recognized for transfer credit since 1987; accredited professional courses
       (CA, CGA, CMA) have been recognized since 1990. In 1999, credit for English 1080 for study
       undertaken through the Officers Professional Development Program of the Canadian Armed
       Forces Staff College was recommended by the Department of English but denied by this
       Committee; instead, it was recommended that the student challenge for credit, with waiver of
       associated fees. The student followed this route, and the challenge was successful.

       Our current transfer credit policy reflects Memorial’s commitment to the principle that
       transferability of credit facilitates student mobility, avoids unnecessary replication of student
       effort, and is an essential linkage in the promotion of lifelong learning. While maintaining
       academic standards, we must be flexible, as well as responsive to the practices of other AUCC
       member institutions when considering issues related to the award of transfer credit. In this
       context, the Office of the Registrar recommends to the Senate Committee on Undergraduate
       Studies that under regulation 2.5.6 Other Universities, Colleges, and Institutes, and subject to
       departmental evaluation and approval, Memorial University recognize for transfer credit courses
       completed through The Canadian Armed Forces.”
Challenge for Credit - Calendar Regulation 3.6
(http://www.mun.ca/regoff/calendar/sectionNo=REGS-0465)
This provides the opportunity, at the discretion of the academic unit, for a student to demonstrate learning in a particular subject area or specific course.

English Language and Mathematics Placement Testing – Calendar Regulation 3.4
(http://www.mun.ca/regoff/calendar/sectionNo=REGS-0417)
Placement testing enables students to begin their studies in the tested subject area at an appropriate point based upon an internal, standardized assessment of prior learning in prerequisite topics. Credit is not awarded for any credit courses that precede the recommended starting point, if that point is beyond the first credit course in the prerequisite stream. While English and Mathematics are referenced in the above regulation, placement testing exists in other subject areas including French for the placement of first year students.

Aegrotat Status – Calendar Regulation 5.8.7
(http://www.mun.ca/regoff/calendar/sectionNo=REGS-0661#REGS-0702)
While not traditionally considered to fall under the umbrella of PLAR, this rarely-used provision enables faculty members and academic units to recognize, without completion of all prescribed course evaluation instruments, a student's learning in a specific course.

Waiver of Regulations – Calendar Regulation 5.13
(http://www.mun.ca/regoff/calendar/sectionNo=REGS-0849)
The current Calendar regulations and practices across the University provide the opportunity for academic units to consider the full scope of a student's background in responding to requests for waivers of degree regulations. For example, the recognition by the Faculty of Arts of second language acquisition based upon proof of English language proficiency for international applicants enables these students to seek a waiver of the BA core regulations that require completion of 6 credit hours in a second language.

B. PROGRAM OR ACADEMIC UNIT SPECIFIC REGULATIONS OR PRACTICES

Marine Institute – Bachelor of Maritime Studies and Bachelor of Technology
(http://www.mun.ca/regoff/calendar/sectionNo=MARINE-0073)
The admission requirements for these degrees deem qualified applications to have completed the equivalent of at least three years of accredited degree-level study. The majority of applicants are admitted on the basis of technology diplomas earned from three-year programs that are accredited by either the Canadian Technology Accreditation Board (CTAB) or one of the Canadian Medical Technology Accreditation Boards (e.g. CMARTs). The degree admission regulations also recognize learning acquired outside of diploma program completion in related professional areas. These include recognition of learning based upon Transport Canada examination and certification requirements, Certified Engineering Technology (CET) designation, and rank earned through the Canadian Armed Forces.
(ii) **Faculty of Education – Bachelor of Education (Post-Secondary as First Degree)**

[www.mun.ca/regoff/calendar/sectionNo=EDUC-0392]

Advanced standing to a maximum of 30 credit hours may be awarded for students possessing a combined total of at least six years of training and work experience in the occupational area in which training was obtained. Students who because of a deficiency of work experience are not eligible to receive the maximum of 30 credit hours advanced standing will be required to obtain further work experience and/or to complete additional university courses, either or both of which must be approved by the Admissions Sub-Committee for Post-Secondary Education.

(iii) **School of Nursing – Bachelor of Nursing (Post RN)**

[www.mun.ca/regoff/calendar/sectionNo=NURS-0160]

The regulations governing the BN (Post RN) program allow students to receive 45 unspecified credit hours in the NURS subject area based upon successful completion of a diploma program in Nursing. The School of Nursing Committee on Undergraduate Studies may further recommend that a maximum of 6 transfer credits be awarded for certain post basic nursing courses/programs or for current Canadian Nurses Association certification.

In addition, the School of Nursing introduced a Prior Learning Assessment and Recognition (PLAR) policy in 2005. This is quoted below.

"School of Nursing Prior Learning Assessment Policy"

As approved by Memorial University Senate on November 18, 2003; Revised and approved at UGSC, MUNSON, October 20, 200; and Approved MUNSON Academic Council, December 2, 2005

The School of Nursing acknowledges its support of prior learning assessment for the students of the BN (Post-RN) program. The following prior learning assessment options are available to registered nurses enrolled in the BN (Post-RN) program.

1. Memorial University courses taken by students prior to acceptance in the BN (Post-RN) program will be reviewed to determine applicability to current program.

2. Courses taken at other universities may be reviewed for transfer credits. This is a university wide process outlined in the University Calendar.

3. Credit will be awarded without a challenge for the following programs taken outside an AUCC university/college: (See Section 6 Limitations – next page).
   a) Award of 45 credit hours towards BN(Post-RN) program for diploma in nursing from an approved diploma school of nursing in Canada or equivalent.
   b) Credit for CNA certification can be used for an unspecified nursing elective to a maximum of 3 credit hours.
   c) Credit transfer for Nursing Unit Administration Course (NUA). Students who have completed the NUA course after 1986 should request a transfer credit evaluation of this course as equivalent to NS700, through the Office of the Registrar.

4. Challenge for Credit
   a) For students who feel they have achieved competence in subject areas required by the BN (Post-RN) degree program through experience gained from work or learning outside the university. Students must be admitted to the BN (Post-RN) program. Applications for Challenge for Credit are made through the Office of the Registrar as outlined in the University Calendar. Challenges make take the form of:

   - Paper
   - Assignments
   - Exams
5. Credit evaluation for post basic courses/programs of at least 36 hours duration taken outside an AUCC university. This review process would be conducted in the same way as a transcript review i.e., request is submitted to the transcript evaluation officer who initiates the review with the School of Nursing. The student would have to submit a transcript which documents when the course was taken, his/her level of achievement, the length of the course (in hours), the course outline and documentation if the course is approved by a provincial nursing association. At the discretion of the UGSC, students may also have to submit evidence of current employment. As with any transcript review, this process does not guarantee that credit will be awarded. A student has the option to challenge a course in the event of an unsuccessful transcript review.

6. Limitations
   a. In addition to the block credit awarded to students for successful completion of a diploma program in nursing, the maximum amount of credit hours which can be applied to the BN (Post-RN) program, through either formal study at a non-AUCC member institution or non-formal study which has been evaluated by examination, is 6 credit hours.
   b. A further limitation: The maximum number of credit hours which can be applied to the BN (Post-RN) program for CNA Certification as an unspecified nursing elective, regardless of the number of CNA Certifications, is 3 credit hours.

Challenge Exam Request Process:
1. The student wishing to consider applying for a course challenge will contact the Associate Director of Undergraduate Programs.
2. The Associate Director of Undergraduate Programs request a faculty member, familiar with the challenged course, to meet with the student to explore her/his knowledge base in the subject and provide advice about whether or not the challenge is likely to be successful.
   [N.B. the student may skip steps 1 & 2]
3. The student applies for a course challenge through the Registrar’s Office and follows the guidelines found in the University Calendar under the Admission/Readmission, Section 6.”

(iv) Faculty of Arts – Bachelor of Arts (Police Studies)
(http://www.mun.ca/regoff/calendar/sectionNo=ARTS-3556#ARTS-7400)
The Bachelor of Arts (Police Studies) program currently recognizes for credit, in the Police Studies subject area, the completion of police cadet training programs at other recognized post-secondary institutions in Canada (e.g. Holland College’s Atlantic Police Academy) and through professional police training programs (e.g. RCMP Training Depot). Further, learning acquired through professional training, credentials, and advancement (senior officers) is recognized for credit towards the Police Studies subject area.

(vi) School of Graduate Studies - Master of Employment Relations
(http://www.mun.ca/regoff/calendar/sectionNo=GRAD-1461)
The admission requirements for the Master of Employment Relations specify that applicants must have completed a degree and have completed courses in their undergraduate program in specific subject areas with minimum grade(s).

The regulations also provide the opportunity for individuals who do not have an undergraduate degree but who have completed the other (course and grade) requirements to be admitted based upon the length and relevance of experience, thus recognizing experience-based learning.
ATTACHMENT 3
Proposed Calendar Revisions

Summary:
1. Modify 3.5 Transfer Credit to incorporate reference to PLAR.
2. For the purposes of efficiency, consolidate, under 3.5 Transfer Credit, statements that are currently repeated in each of 3.5.1 to 3.5.7.
3. Change the title of regulation 3.6 from “Challenge for Credit” to “Prior Learning Assessment and Recognition (PLAR)”, add regulations for this broad area of recognition, and incorporate regulations governing challenge for credit that may be unique to that form of assessment within this section.

Proposed Changes With Markup:
2013-2014 University Calendar - Pages 66 to 68
Regulations governing “Admission/Readmission to the University (Undergraduate)”

“3.5 Transfer Credit
Applicants wishing to be considered for advanced standing or transfer credit must submit, in addition to the Application for Admission/Readmission, an Application for Transfer Credit Evaluation which can be obtained from the Office of the Registrar.

Official transcript(s) and calendar descriptions and/or outlines of courses claimed for credit are also required and should be sent directly to Memorial University of Newfoundland from the institution attended.

In order to allow sufficient time for evaluation, these documents should be received at least two months prior to the commencement of the registration period for the semester to which the applicant is seeking admission. It is the student’s responsibility to provide the pertinent documents, and until they are received, the Office of the Registrar is unable to commence an evaluation or to advise students of their standing at this University. The award of transfer credit is subject to the following regulations:

- When transfer credit is awarded for work completed at another institution, only equivalent Memorial University of Newfoundland course(s) and credit(s) are recorded on the Memorial University of Newfoundland transcript. Grades received from other institutions are not recorded nor included in averages.
- Applicants who have not received the results of a transfer credit evaluation prior to the assigned registration time for the semester in which they propose to begin studies should contact the Admissions Office for further assistance.
- Memorial University of Newfoundland will consider for transfer credit courses for which credit has been granted through a Prior Learning Assessment and Recognition process by another recognized university or college.
- Award of credit will be subject to University Regulations, and evaluation and recommendation by the appropriate academic unit(s).
- The applicability of all transfer credits, whether specified or unspecified, is subject to appropriate program regulations.
- Information regarding course equivalencies can be obtained from the Admissions Office, Office of the Registrar.

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

3.5.1 College Board Advanced Placement (AP)
Memorial University of Newfoundland may recognize for transfer credit certain courses completed through the Advanced Placement Program offered by the College Board. Award of credit for AP courses will be subject to the achievement of a minimum grade of 3 in each subject claimed for credit (in certain subjects a minimum grade of 4 may be required).

Award of credit for AP courses will be subject to evaluation and recommendation by the appropriate University academic unit and University Regulations.

The applicability of all transfer credits, whether specified or unspecified, is subject to appropriate program regulations.

Information regarding course equivalencies can be obtained from the Admissions Office, Office of the Registrar.

3.5.2 Enriched Courses and Ontario Grade XIII/OAC

Certain Grade XII enriched courses and certain Ontario Grade XIII/OAC subjects may be recognized for Introductory (normally first year) credits, where applicable, provided that the subjects claimed for credit are recommended as equivalent to Memorial University of Newfoundland courses by the relevant University academic unit(s). In addition, the applicant must have obtained an overall average in these courses of not less than 65% with a passing grade in each subject claimed for credit. Applicants who have not obtained the overall average requirement of 65% in these courses will be required to have obtained a mark of not less than 65% in individual subjects claimed for credit.

Award of credit for Grade XII enriched and Ontario Grade XIII/OAC courses will be subject to evaluation and recommendation by the appropriate University academic unit(s) and University Regulations.

The applicability of all transfer credits, whether specified or unspecified, is subject to appropriate program regulations.

Information regarding course equivalencies can be obtained from the Admissions Office, Office of the Registrar.

3.5.3 Advanced or Higher Levels

The "Advanced Level" subjects of the General Certificate of Education will generally be accepted for credit to a maximum of 12 credit hours in each subject provided that a minimum grade of 'D' in each subject claimed for credit has been obtained.

The "Higher Level" subjects of the Scottish Leaving Certificate will generally be accepted for credit at the first year level.

Award of credit will be subject to evaluation and recommendation by the appropriate academic unit(s) and University Regulations.

The applicability of all transfer credits, whether specified or unspecified, is subject to appropriate program regulations.

Information regarding course equivalencies can be obtained from the Admissions Office, Office of the Registrar.

3.5.4 International Baccalaureate Diploma

Memorial University of Newfoundland will consider for transfer credit the "Higher Level" subjects and certain "Standard" or "Subsidiary" level subjects, provided that the subjects claimed for credit are recommended as equivalent to Memorial University of Newfoundland courses by the relevant University academic unit(s), and the candidate has achieved a minimum grade of 4 in individual subjects claimed for credit. In certain subjects a minimum grade of 5 may be required.

The applicability of all transfer credits, whether specified or unspecified, is subject to appropriate program regulations.
Information regarding course equivalencies can be obtained from the Admissions Office, Office of the Registrar.

3.5.5 Member Institutions of the Association of Universities and Colleges of Canada (AUCC)

- All university-level course work completed by transfer students during the first two years of university study taken at universities/colleges that are ordinary members of the Association of Universities and Colleges of Canada (AUCC) will be recognized for transfer credit. In the first instance, the evaluation of such course work for appropriate credit will be conducted by the University academic units. In instances where appropriate credit cannot be granted by academic units or where no University academic unit exists at this University for the evaluation of particular transfer credits, the Office of the Registrar will award the appropriate unspecified credits in an unspecified discipline.
- Applicants who have completed course work beyond the first two years of university study may be considered for further transfer credit subject to evaluation and recommendation by the appropriate academic unit(s) and University Regulations.
- The applicability of all transfer credits, whether specified, unspecified or in an unspecified discipline, is subject to appropriate program regulations.
- Information regarding course equivalencies can be obtained from the Admissions Office, Office of the Registrar.

3.5.6 Other Universities, Colleges and Institutes

- Memorial University of Newfoundland may recognize for transfer credit certain courses offered by the College of the North Atlantic, the Fisheries and Marine Institute of Memorial University of Newfoundland, and certain other community colleges, technical colleges, institutes and CEGEPS.
- Memorial University of Newfoundland may recognize for transfer credit certain courses offered by other recognized universities or university colleges.
- Award of credit will be subject to evaluation and recommendation by the appropriate academic unit(s) and University Regulations.
- The applicability of all transfer credits, whether specified or unspecified, is subject to appropriate program regulations.
- Information regarding course equivalencies can be obtained from the Admissions Office, Office of the Registrar.

3.5.7 Caribbean Advanced Proficiency Exams

- Memorial University of Newfoundland may recognize for transfer credit certain courses completed through the Caribbean Advanced Proficiency Examinations. These examinations will generally be accepted for credit to a maximum of 12 credit hours for each 2 unit course and 6 credit hours for each 1 unit course.
- Credit will be considered on an individual basis and award of credit will be subject to evaluation and recommendation by the appropriate University academic unit(s) and University Regulations.
- The applicability of all transfer credits, whether specified or unspecified, is subject to appropriate program regulations.
- Information regarding course equivalencies can be obtained from the Admissions Office, Office of the Registrar.

3.6 Challenge for Credit: Prior Learning Assessment and Recognition (PLAR)
Memorial University of Newfoundland recognizes that learning may occur outside a formal institutional setting through professional or personal experience or through participation in unaccredited learning. Students of Memorial may be eligible for the award of credit for informal or non-formal learning in specific circumstances.
Where PLAR is offered, it is available only to those students who have applied for admission or who are currently registered at the University. PLAR at Memorial University is subject to the following regulations and procedures:

- The recognition of informal learning, assessed on the basis of recognized professional achievement, may exist in the form of program admission, advanced placement, or academic credit in selected programs. Students are advised to consult the regulations governing programs of interest in the appropriate section of the University Calendar for further information.
- The recognition of learning that has not been recognized through the award of credit, for the purposes of determining pre-requisite waiver eligibility, may be approved by academic units on the basis of interviews or a review of unofficial documents. Students are advised to contact the academic unit offering the course(s) involved for further advice.
- Assessment of learning in the form of written or practical challenge examinations may be offered at the discretion of academic units. Recognition of learning assessed through challenge examinations is subject to the regulations outlined below.
- PLAR may not be used to receive credit for Work Terms or Internships.

3.6.1 Challenge for Credit

Some students may have achieved competence in certain subject areas through experience gained elsewhere. This experience, which may warrant consideration for academic credit at the undergraduate level, may consist of courses taken at non-university institutions or skills acquired from work or learning outside the university. It should be noted that challenge for credit is not offered for Work Terms or Internships.

Since course challenge is not offered by all academic units nor for all courses within a unit, students are advised to consult with the appropriate academic unit to determine whether or not a particular course is offered for challenge.

Where challenge for credit is offered, it is available under the following conditions:

1. Challenge for credit is available only to those students who have applied for admission or who are currently registered at the University.

2. Applications to challenge for credit are available at the Office of the Registrar. Completed applications must be submitted to the Office of the Registrar and must receive approval from the head of the academic unit offering the course(s). The academic unit may require documentary material from the student and/or an interview before making its decision whether or not to accept the challenge. The academic unit involved will be responsible for deciding the scheduling and appropriate method of evaluation, which may consist of a variety of possible modes of evaluation including written, practical and oral.

3. A student who has applied for transfer credit evaluation may not apply to challenge for credit until the transfer credit evaluation has been completed.

4. Memorial University of Newfoundland will consider for credit courses that have been granted credit through a challenge for credit process by another recognized university or college. Award of credit will be subject to University Regulations and evaluation and recommendation by the appropriate academic unit(s).

5. For the purpose of satisfying the regulations governing residence requirements for a first degree and residence requirements for a second degree under General Academic Regulations (Undergraduate).
a successful challenge for credit shall be considered the equivalent of a transfer credit and shall be recorded on the transcript as a pass (PAS). Challenge grades are not included in averages. For further information refer to Residence Requirements for a First Degree and Residence Requirements for a Second Degree.

5. The appropriate fee must be paid at the time of application. For further information refer to Fees and Charges. If the application is accepted for consideration, the fee is not refundable nor is the student permitted to withdraw the challenge.

Proposed changes in final form:
2013-2014 University Calendar - Pages 66 to 68
Regulations governing “Admission/Readmission to the University (Undergraduate)”

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

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- Award of credit for AP courses will be subject to the achievement of a minimum grade of 3 in each subject claimed for credit (in certain subjects a minimum grade of 4 may be required).

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subjects claimed for credit are recommended as equivalent to Memorial University of Newfoundland courses by the relevant University academic unit(s). In addition, the applicant must have obtained an overall average in these courses of not less than 65% with a passing grade in each subject claimed for credit. Applicants who have not obtained the overall average requirement of 65% in these courses will be required to have obtained a mark of not less than 65% in individual subjects claimed for credit.

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4. The appropriate fee must be paid at the time of application. For further information refer to Fees and Charges. If the application is accepted for consideration, the fee is not refundable nor is the student permitted to withdraw the challenge. “
Hi Mary,

I have a response from Roger Mason (below), in case Dr. Hanchar does not reply. If Dr. Hanchar does reply, you can disregard Roger's message.

Roger's message:

You may tell Mary that I am OK with the proposal given that it appears academic units have final approval on how PLAR and Challenge for Credit assessments are done. In that case, we (Earth Sciences) can ensure that requirements for Professional Registration are being maintained. If I misread the documents and the assessments could be carried out with input from us, then I am against the proposal.

Thanks,

Diane

On 19/06/2014 1:04 PM, Wall, Mary wrote:
> Hi everyone,
> >
> > A reminder to please respond by tomorrow.
> >
> > Thanks,
> > Mary
> >
> > -----Original Message-----
> > From: Wall, Mary
> > Sent: June-13-14 1:46 PM
> > To: 'Brac de Young'; 'Chris Radford, Math & Stats'; Fletcher, Garth; 'Gerard Martin'; 'John Hanchar, Earth Sciences'; Marino, Paul; 'Peter Pickup, Chemistry'; 'Phil Davis, Biochemistry'; 'Wolfgang Banzhaf, Computer Science'
> > Cc: Abrahams, Mark; Foster, Andy; Associate Dean of Science (Research)
> > Subject: Prior Learning Assessment Recognition (PLAR)
> > Importance: High
> >
> > Good afternoon,
> >
> > Please see attached document regarding Prior Learning Assessment Recognition (PLAR) and the response from the Faculty of Science Undergraduate Studies Committee. Approval is being sought from Heads of Departments as members of the Executive Committee of the Faculty of Science Faculty Council by Friday, June 20.
Thanks,
Mary

Mary Wall
Office of the Dean
Faculty of Science
Memorial University of Newfoundland
St. John's, NL A1B 3X7
Tel.: 709-864-8153 Fax: 709-864-3316
Email: maryw@mun.ca
www.mun.ca/science

--
Diane Guzzwell
Office of the Head
Department of Earth Sciences
Memorial University of Newfoundland
St. John's, NL A1B 3X5
Tel: 709-864-2334
Fax: 709-864-4851
June 11, 2014

TO: All Members, Faculty Council of Science

FROM: Joan Burry, Secretary
       Committee on Undergraduate Studies, Faculty of Science

SUBJECT: New Course Proposals and Calendar Changes

At a meeting held on May 27, 2014, the Undergraduate Studies Committee of the Faculty of Science agreed that the following new course proposals and Calendar changes be forwarded to Faculty Council for approval:

1. Department of Computer Science
   COMP 1400: Computing in the 20th Century and Beyond

2. Department of Mathematics and Statistics
   (i) MATH 439A/B: Pure Mathematics Honours Project
   (ii) STAT 439A/B: Statistics Honours Project

3. Department of Psychology- Calendar change to cross-list Psychology 4770 and Biology 4770

Joan Burry
Assistant Registrar and
Secretary: Committee
on Undergraduate Studies,
Faculty of Science
Proposal - New Course
COMP 1400 Computing in the 20th Century and Beyond

RESOURCE IMPLICATIONS: Instructional Costs

The current departmental computing facilities, software, faculty, instructional staff, and technical support staff will be utilized within the current resource framework of the Department of Computer Science.

RESOURCE IMPLICATIONS: Library Holdings and/or Other Resources Required

Covered in the departmental budget. Teaching commitment is one regular (three credit hours) lecture offering.

The costs associated with this new course can be met from within the existing budget allocation or authorized new funding for the Department of Computer Science.

Library Report attached. New library holdings may be required for any films and documentaries shown as part of the course to supplement the course lectures.

Signature of Unit Head (if appropriate): [Signature]

Date: [June 2, 2014]

Signature of Dean/Associate Vice-President (Academic)/Vice-President:

Date:
Proposal - New Course
COMP 1400 Computing in the 20th Century and Beyond
Page 2

Course Number and Title

1400 Computing in the 20th Century and Beyond

Abbreviated Course Title

Computing in the 20th Century

Calendar Description

1400 Computing in the 20th Century and Beyond will give an overview of the development of computing technologies over the last 75 years as well as both the perception of these technologies by, and their impact on, society. The course will be organized chronologically by decade, and within each decade will examine the dominant computing developments, their image in various print and pictorial media, and their social impact. The aim is to give students of all disciplines an appreciation of the abilities and limitations of computer technology and how such technologies interact with society.

Secondary Calendar Changes

Include COMP-1400 with the courses excluded in the prerequisites for BIOL-3951/COMP-3550 Introduction to Bioinformatics:

PR: Biology 2060 or Biochemistry 2101, and one Computer Science course at the 1000-level or above excluding COMP-1400, COMP-1600 and COMP-2000; or Computer Science 2500 or Computer Science 2710, and one Biology course at the 1000-level or above excluding BIOL-2040 and BIOL-2041; or permission of the course instructor.

Rationale

Given the ubiquitous nature of computing in everyday life as well as the increasing number of reports in the news of computing-related calamities, the material in this course will give members of the general student population the tools to understand how computing impacts them and what they can do to both embrace the potential and mitigate the risks of applying computing technologies in their professional and private lives. By virtue of giving a gentle introduction for non-specialists, the course may also encourage more students to take courses from or even major in Memorial's Computer Science program.

Consultations

Distributed to the Faculties of Science, Arts, Business Administration, Education, Engineering and Applied Science, Medicine, Schools of Human Kinetics and Recreation, Music, Nursing, Pharmacy, Social Work, Grenfell Campus and Marine Institute.
Proposal - New Course
COMP 1400 Computing in the 20th Century and Beyond
Page 3

Sample Course Outline and Method of Evaluation

In each course unit below, material will be organized by, and presented sequentially, as three themes: Technology (e.g., processing/memory/I/O/network), Applications (e.g., areas of application/user-group/level of knowledge required), and Impact (e.g., social/economic issues and problems raised by technology, depictions of technology and its creators and users in the media).

Sample Course Outline:

1. Before 1950: In the Beginning (3 lectures)
2. The 1950's: The First Mainframes (3 lectures)
3. The 1960's: The Software Revolution (4 lectures)
4. The 1970's: Mini-computers and the Software Crisis (5 lectures)
5. The 1980's: Personal Computers and the Rise of the Internet (5 lectures)
6. The 1990's: The Internet Redux: The World Wide Web (5 lectures)
7. The 2000's: The Computational Society (5 lectures)
8. 2010 and Beyond: Into the Wild Blue Yonder (2 lectures)

Method of Evaluation:

In-class tests (2)  40%
Term Paper  30%
Final Examination  30%

Texts and References

Suggested textbooks:


Sources for Auxiliary Readings (Selected):


Proposal - New Course
COMP 1400 Computing in the 20th Century and Beyond
Page 4


**Instructor(s)**

Dr. Todd Wareham
Due to the generic nature of the subject matter, a number of other faculty members are capable of delivering this course.
SUMMARY PAGE FOR SENATE

Approval Form

Course Title and Number 1400 Computing in the 20th Century and Beyond

Abbreviated Course Title Computing in the 20th Century

Calendar Description

1400 Computing in the 20th Century and Beyond will give an overview of the development of computing technologies over the last 75 years as well as both the perception of these technologies by, and their impact on, society. The course will be organized chronologically by decade, and within each decade will examine the dominant computing developments, their image in various print and pictorial media, and their social impact. The aim is to give students of all disciplines an appreciation of the abilities and limitations of computer technology and how such technologies interact with society.

Secondary Calendar Changes

Include COMP-1400 with the courses excluded in the prerequisites for BIOL-3951/COMP-3550 Introduction to Bioinformatics:

PR: Biology 2060 or Biochemistry 2101, and one Computer Science course at the 1000-level or above excluding COMP-1400, COMP-1600 and COMP-2000; or Computer Science 2500 or Computer Science 2710, and one Biology course at the 1000-level or above excluding BIOL-2040 and BIOL-2041; or permission of the course instructor.

Rationale

Given the ubiquitous nature of computing in everyday life as well as the increasing number of reports in the news of computing-related calamities, the material in this course will give members of the general student population the tools to understand how computing impacts them and what they can do to both embrace the potential and mitigate the risks of applying computing technologies in their professional and private lives. By virtue of giving a gentle introduction for non-specialists, the course may also encourage more students to take courses from or even major in Memorial's Computer Science program.

Consultations Sought From

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<thead>
<tr>
<th>Department of Biochemistry</th>
<th>Comments Received</th>
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<tr>
<td>Department of Biology</td>
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<tr>
<td>Department of Chemistry</td>
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</table>
SUMMARY PAGE FOR SENATE
Approval Form
Page 2

Consultations Sought From                                                  Comments Received
Department of Earth Sciences                                               No
Department of Economics                                                    No
Department of Geography                                                    No
Department of Mathematics and Statistics                                   No
Department of Ocean Sciences                                               No
Department of Physics and Physical Oceanography                            Yes
Department of Psychology                                                   No
Faculty of Arts                                                            No
Faculty of Business Administration                                         No
Faculty of Education                                                       No
Faculty of Engineering and Applied Science                                  No
Faculty of Medicine                                                        No
School of Human Kinetics and Recreation                                    Yes
School of Music                                                            No
School of Nursing                                                          No
School of Pharmacy                                                          Yes
School of Social Work                                                      No
Grenfell Campus                                                            No
Marine Institute                                                            Yes

Library Report Received                  Attached

Approved by Dean, Associate Vice-President (Academic) or Vice-President      Yes/No

Name ________________________________

FOR OFFICE USE ONLY

APPROVAL GRANTED BY SENATE COMMITTEE ON UNDERGRADUATE STUDIES

Chair: ________________________________
Secretary: ____________________________
Date: ________________________________
Hi Wolfgang

The Biology Undergraduate Studies Committee reviewed the new course proposal COMP 1400 Computing in the 20th Century and Beyond. We have no major concerns regarding this proposal.

There is one area of confusion under the calendar description it refers to LH:3. LH in calendar language stands for laboratory hours, since there is no reference to or indication of labs in the proposal this needs to be removed.

Another point that was raised relates to the section in the proposal entitled "Secondary Calendar Changes". There are no secondary changes listed but we would like to have this proposed course included in all the exclusions in the prerequisites listed for Biology 3951 (cross listed COMP 3550) Introduction to Bioinformatics.

PR: BIOL 2060 or Biochemistry 2101, and one Computer Science course at the 1000-level or above excluding Computer Science 1400, Computer Science 1600 and Computer Science 2000; or Computer Science 2500 or Computer Science 2710, and one Biology course at the 1000-level or above excluding BIOL 2040 and BIOL 2041; or permission of the course instructor

Many thanks
Karen

*Karen Morris
Undergraduate Officer
Dept. of Biology
Memorial University of Newfoundland
St. John's, NL A1B 3X9

Sounds interesting! Thanks for the clarification.

Wlf

> On Mar 14, 2014, at 12:40 PM, "CS Head" <cs-chair@mun.ca> wrote:
> 
> HI Wlf,
> 
> this course is looking at the development of computing through
> history. Since most of that happened in the 20th and 21st century,
> the course will focus on that time, discussing how the ideas of computing
> evolved and came to what we see now. So, yes, it is intended for an
> audience that is interested in long-term developments of thought
> and technology. Technically, it will start with the 1930s, if I am
> not mistaken, with the introduction of Turing's machine and
> the Church Turing thesis.
> 
> Hope that helps to understand the intention.
> 
> Best regards,
> Wolfgang
> 
> 
> >> On 2014-03-12, 4:14 PM, Zerbe, Wilfred wrote:
> >> HI Wolfgang,
> >> 
> >> Do you intend the course to be "Computing from 1901 to 2000 and Beyond" or
> >> "Computing after 2000"? The course as currently titled means the former....
> >> 
> >> I will circulate the proposal for review,
> >> 
> >> Thanks
The Department of Computer Science is proposing the introduction of a new course, Computer Science 1400 Computing in the 20th Century and Beyond. A copy of the course proposal is attached for your review.

We would appreciate receiving any comments by Wednesday, April 9, 2014.

--
Department of Computer Science
Memorial University
St. John's, NL A1B 3X5
Phone: (709) 864-8652
Fax: (709) 864-2009
cs-chair@mun.ca
<COMP-1400-new-course.pdf>
The School of Human Kinetics and Recreation has no concerns with this new course offering.

Linda

-----Original Message-----
From: cs-chair [mailto:cs-chair@mun.ca]
Sent: March-12-14 3:48 PM
To: Biochemistry Head; Marino, Paul; chemhead@mun.ca; jhanchar@mun.ca;
    math-head@mun.ca; Fletcher, Garth; bdeyoung@mun.ca;
    psychology.head@mun.ca; lynch@mun.ca; cmather@mun.ca; Arts; Zerbe,
    Wilfred; Anderson, Kirk D.; dean.engineering@mun.ca; dean@med.mun.ca;
    Waterman, Ellen; McFetridge-Durdle, Judith; Hensman, Linda; Hickey,
    Marie; Hardy Cox, Donna; vpoffice@grenfell.mun.ca;
    mgugconsultations@mi.mun.ca
Cc: donna@mun.ca
Subject: COMP-1400 New Course Offering from Computer Science

Hello,

The Department of Computer Science is proposing the introduction of a new course, Computer Science 1400 Computing in the 20th Century and Beyond. A copy of the course proposal is attached for your review.

We would appreciate receiving any comments by Wednesday, April 9, 2014.

Regards,
Wolfgang Banzhaf
Department Head

Department of Computer Science
Memorial University

https://webmail.mun.ca/munlogin/imp/message.php?index=17437
3/18/2014
St. John's, NL A1B 3X5
Phone: (709) 864-8652
Fax: (709) 864-2009
cs-chair@mun.ca

Linda E. Rohr PhD
Associate Professor
Associate Dean Undergraduate Studies
School of Human Kinetics and Recreation
Memorial University
St. John's, NL
709 864 6202
709 864 7531 (fax)
PE 2025
Dr. Banzhaf,

Thank you for the opportunity to review the proposed new course in Computer Science: COMP 1400: Computing in the 20th Century and Beyond. This new course will have no impact on the courses at the Marine Institute.

One caution would be regarding the timing of the evaluation pieces. Under present regulations, 20% of the evaluation must be back to the student before the final drop date. How does the department see the timing of the proposed evaluation tools? Is the first term test worth 20%? In which case this would solve this issue if evaluated and returned to the student within the required timeframe. I am assuming that the term paper would not be due until the latter part of the term and so would not be a factor here.

Again, thank you for this and we wish you the best of luck with this new course.

Derek Howse

Derek Howse
Chair, Undergraduate Studies Committee
Marine Institute, Memorial University
TEL: 709-778-0566
FAX: 709-778-0354
Derek.Howse@mi.mun.ca

-----Original Message-----
From: cs-chair [mailto:cs-chair@mun.ca]
Sent: Wednesday, March 12, 2014 3:40 PM
To: bioch@mun.ca; pmarino@mun.ca; chemhead@mun.ca; jhanchar@mun.ca; math-
Hello,

Looks like an interesting course. I have no other comments.

Alice

-----Original Message-----
From: cs-chair <cs-chair@mun.ca>
Sent: March 14, 2014 9:51 AM
To: Gaudine, Alice
Subject: Fwd: COMP-1400 New Course Offering from Computer Science

Forwarding the attached to Dr. Alice Gaudine, Dean pro tempore, School of Nursing.

----- Forwarded message from cs-chair <cs-chair@mun.ca> -----  
Date: Wed, 12 Mar 2014 15:47:56 -0230
From: cs-chair <cs-chair@mun.ca>
Reply-To: cs-chair <cs-chair@mun.ca>
Subject: COMP-1400 New Course Offering from Computer Science

To: biochead@mun.ca, pmarino@mun.ca, chemhead@mun.ca, jhanchar@mun.ca, math-head@mun.ca, fletcher@mun.ca, bdeyoung@mun.ca, psychology.head@mun.ca, lynch@mun.ca, cmather@mun.ca, arts@mun.ca, wzerbe@mun.ca, kirk.anderson@mun.ca, dean.engineering@mun.ca, dean@med.mun.ca, ellenw@mun.ca, j.mcfetridge-durdle@mun.ca, lhensman@mun.ca, mehickey@mun.ca, dhardy@mun.ca, vpooffice@grenfell.mun.ca, migconsultations@mi.mun.ca

Hello,

The Department of Computer Science is proposing the introduction of a new course, Computer Science 1400 Computing in the 20th Century and
To Whom it may concern,

Thank you for consulting with us on your new course - Comp Science 1400.

Pharmacy has no concerns with this proposal.

Thanks,

L. Phillips
UGS Chair
School of Pharmacy
We have reviewed your course proposal - CS1400 - and we are supportive of it. It seems like an interesting and useful course.

Brad deY

On 2014-03-12, at 3:47 PM, cs-chair wrote:

> Hello,
> The Department of Computer Science is proposing the introduction of a new course, Computer Science 1400 Computing in the 20th Century and Beyond. A copy of the course proposal is attached for your review.
> We would appreciate receiving any comments by Wednesday, April 9, 2014.
> Regards,
> Wolfgang Danzhaf
> Department Head
> --
> Department of Computer Science
> Memorial University
> St. John's, NL A1B 3X5
> Phone: (709) 864-8652
> Fax:  (709) 864-2009
> cs-chair@mun.ca
> <COMP-1400-new-course.pdf>

Brad deYoung  Professor and Head  Physics and Physical Oceanography

Physics and Physical Oceanography
Memorial University
709-864-8739
bdeyoung@mun.ca
Hello,

The Department of Computer Science is proposing the introduction of a new course, Computer Science 1400 Computing in the 20th Century and Beyond. A copy of the course proposal is attached for your review.

We would appreciate receiving any comments by Wednesday, April 9, 2014.

Regards,
Wolfgang Banzhaf
Department Head

--

Department of Computer Science
Memorial University
St. John's, NL A1B 3X5
Phone: (709) 864-8652
Fax: (709) 864-2009

cs-chair@mun.ca

-----

https://webmail.mun.ca/munlogin/imp/message.php?index=256

3/12/2014
Collections Development Division  
Queen Elizabeth II Library  
St. John's, Newfoundland, Canada  
A1B 3Y1

23 May 2014

TO:  Dr. Wolfgang Banzhaf, Head, Department of Computer Science

FROM:  Dianne Taylor-Harding, Collections Development Librarian, Computer Science

SUBJECT: Library Resources Review – Proposed New Course COMP1400 Computing in the 20th Century and Beyond

The Department of Computer Science has proposed the new course COMP1400 Computing in the 20th Century and Beyond. The course is designed to “give members of the general student population the tools to understand how computing impacts them and what they can do to both embrace the potential and mitigate the risks of applying computing technologies in their professional and private lives.”

The proposed course will provide an “overview of the development of computing technologies over the last 75 years.” The course will be “organized chronologically by decade; dominant computing developments” within each decade will be examined, including “their image in various media and their social impact.”

The proposed course, COMP1400 Computing in the 20th Century and Beyond, will have no impact on collections activities in the Queen Elizabeth II Library. The Memorial University Libraries currently collect at the Research level for history and social aspects of computer technologies. Ongoing collection development at the current level will support this course.

5/23/2014

D. E. Taylor-Harding
Dianne E. Taylor-Harding
Librarian responsible for Computer Science

St. John's, Newfoundland, Canada A1B 3Y1  
Tel: (709) 864-7421  Fax: (709) 864-2153
Journals

The Memorial University Libraries subscribe to several hundred ejournals on computer science including history and social aspects of computing -

Engineering & Applied Sciences: Computer Science (900 ejournal titles)

Reference & Research

The Memorial University Libraries provide access to several online abstracting and indexing databases useful for computer science -

1. **Guide to Computing Literature** - Comprises over 750,000 records describing journal articles, books, conference papers, dissertations, theses, and technical reports from the Association for Computing Machinery and 3,000+ other computing publishers. Includes links to full-text when available.

2. **IEEE Xplore** - Provides access to literature in computer science, electrical engineering, electronics, and related fields. Includes over 1 million full-text items from over 12,000 publications including IEEE (Institute of Electrical and Electronic Engineers) journals, transactions, magazines, letters, conference proceedings, standards.

3. **Safari Books** - Provides full-text access to ~400 e-books in information technology, including manuals for computer languages, operating systems, hardware, software development, desktop & Web applications, etc.

4. **SpringerLink** - Provides full-text access to over 2,500 journals and 44,000 books published by Springer, Apress and related publishing partners. The SpringerLink collection has strength in computer science literature including 232 computing related ejournals and 15,930 etexts on computing topics.

5. **Salem History** - Provides full-text access to a series of reference works covering technical, political and social developments during each decade of the 20th Century.

Books

<table>
<thead>
<tr>
<th>LC Subject Headings related to Natural Language Processing</th>
<th>Number of Book/Ebook Titles in the Memorial University Libraries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer science - History.</td>
<td>22 titles</td>
</tr>
<tr>
<td>Computers - History.</td>
<td>87 titles</td>
</tr>
<tr>
<td>Digital media - History.</td>
<td>3 titles</td>
</tr>
<tr>
<td>Electronic data processing - History.</td>
<td>25 titles</td>
</tr>
<tr>
<td>Electronic digital computers - History.</td>
<td>16 titles</td>
</tr>
<tr>
<td>Internet - History.</td>
<td>26 titles</td>
</tr>
<tr>
<td>Microcomputers - History.</td>
<td>10 titles</td>
</tr>
<tr>
<td>Social media - History.</td>
<td>18 titles</td>
</tr>
<tr>
<td>Technological innovations - History.</td>
<td>214 titles</td>
</tr>
<tr>
<td>World Wide Web - History.</td>
<td>3 titles</td>
</tr>
</tbody>
</table>

St. John's, Newfoundland, Canada A1B 3Y1

Tel: (709) 864-7421 Fax: (709) 864-2153
Textbooks

Two textbooks were suggested; both are available in the Memorial University Libraries collections

   - QA 76.17 C36 2004 QEI Bookstacks

   - QA 76.17 C467 2012 QEI Bookstacks, Grenfell Bookstacks
   - Internet access: IEEExplore

Eight additional sources were suggested as auxiliary readings. Seven titles are available; the eighth can be acquired on the out-of-print market if required.

   - Not available

   - HM 851 L358 2010 Grenfell Bookstacks

   - QA 76.5 R467 2000 QEI Bookstacks

   - HM 851 R52 2012 QEI Bookstacks
   - Internet access: ebrary, Inc.

   - QA 76 T85 2005 QEI Bookstacks
   - Internet access: IEEExplore

   - QA 76 T85 1984 QEI Bookstacks

   - QA 76.9 C66 T87 1995 QEI Bookstacks, Grenfell Bookstacks

7. Alone together: why we expect more from technology and less from each other / Sherry Turkle. New York : Basic Books, c2011
   - HM 851 T86 2011 QEI Bookstacks, Grenfell Bookstacks

   - On order

St. John's, Newfoundland, Canada A1B 3Y1
Tel: (709) 864-7421 Fax: (709) 864-2153
June 11, 2014

TO: All Members, Faculty Council of Science
FROM: Joan Burry, Secretary
       Committee on Undergraduate Studies, Faculty of Science
SUBJECT: New Course Proposals and Calendar Changes

At a meeting held on May 27, 2014, the Undergraduate Studies Committee of the Faculty of Science agreed that the following new course proposals and Calendar changes be forwarded to Faculty Council for approval:

1. Department of Computer Science
   COMP 1400: Computing in the 20th Century and Beyond

2. Department of Mathematics and Statistics
   (i) MATH 439A/B: Pure Mathematics Honours Project
   (ii) STAT 459A/B: Statistics Honours Project

3. Department of Psychology- Calendar change to cross-list Psychology 4770 and Biology 4770

Joan Burry
Assistant Registrar and
Secretary, Committee
on Undergraduate Studies,
Faculty of Science
Proposal
New Courses:
Mathematics 439A/B and
Statistics 459A/B

Executive Summary

We propose to replace the existing one-semester Pure Mathematics and Statistics honours courses with two-semester linked courses.

Resource Implications: Instructional Costs

The instructional duties for Mathematics 439A/B and Statistics 459A/B can be accommodated from within the existing teaching load for the Department of Mathematics and Statistics. Hence there is no new net instructional cost.

Consultations

Comments were received from the Marine Institute, the Department of Biology, the Department of Computer Science, and the Department of Earth Sciences. All were supportive of the proposal, although the Department of Computer Science did request a modification of the secondary Calendar changes affecting the joint honours degrees involving that unit; these modifications have been incorporated into the present document.

Library Holdings and/or Other Resources Required

As indicated in the attached memo from Dianne Taylor-Harding, Collections Librarian (Mathematics and Statistics), these courses will not require additional library holdings.

The costs, if any, associated with these changes can be met from within the existing budget allocation or authorized new funding for the Faculty of Science.

Signature of Unit Head (if appropriate):

Date:

Signature of Dean/Associate Vice-President (Academic)/Vice-President:

Date:
Sample Course Outline and Method of Evaluation

The ultimate goal of Mathematics 439A/B and Statistics 459A/B is for the student to produce an honours thesis which demonstrates his or her depth of knowledge and aptitude for research in, respectively, Pure Mathematics and Statistics. While obtaining original results is not compulsory, a student in Mathematics 439A/B is expected to study a challenging topic or problem from an area of Pure Mathematics (including, but not limited to, algebra, analysis, combinatorics, number theory, set theory, graph theory, geometry, or topology). Similarly, a student in Statistics 459A/B will pursue research at such a level in an area of Statistics (such as sampling, probability, non-parametric statistics, biostatistics, statistical genetics, or econometric models).

In Mathematics 439A and Statistics 459A, the student will select the topic of his or her honours thesis in consultation with his or her supervisor, and carry out commensurate research and readings. Mathematics 439A and Statistics 459A are Pass/Fail courses, for which the supervisor will assign a grade of "Pass" in the event that the student has achieved sufficient progress to indicate that the thesis can then be completed over the course of one additional semester.

In Mathematics 439B and Statistics 459B, the student will focus on developing appropriate results for the thesis topic, and on writing the thesis itself. The student will continue to meet regularly with his or her supervisor to discuss the progress of the honours project. The student will also deliver a presentation to the Department of Mathematics & Statistics summarising his or her work; this is normally scheduled on the first day of that semester's study break following the end of lectures, with the thesis paper itself due no later than the last day of exams. The student will receive a numerical grade for Mathematics 439B and Statistics 459B following a process determined by the Department (which may involve multiple readers/examiners). A typical evaluation scheme for Mathematics 439B and Statistics 459B would be:

Thesis paper: 75%
Thesis presentation: 25%

There are no tests or final examinations in Mathematics 439A/B or Statistics 459A/B.

Texts

None.

Instructor(s)

Any research-active Pure Mathematics or Statistics faculty member could potentially serve as an honours supervisor for Mathematics 439A/B or Statistics 459A/B, respectively. This list includes, but is not limited to, Y. Bahturin, T. Baird, D.Dyer, M. Kotchetov, E. Martinez-Pedroza, D. Pike, N. Shalaby, H. Usefi, D. Ye (Pure Mathematics); T. Abarin, C. Cigsar, Z. Fan, J. Loredo-Osti, A. Oyet, B. Sutradhar, A. Varyath, H. Wang, Y. Yilmaz (Statistics).
Course Number and Title

Mathematics 439A/B: Pure Mathematics Honours Project
Statistics 459A/B: Statistics Honours Project

Abbreviated Course Title

Pure Math Honours Project
Statistics Honours Project

Calendar Change(s)

Under the Faculty of Science, page 494, 2013-2014 Calendar, 9.8.3 (Mathematics Courses), add the following:

**439A and 439B Pure Mathematics Honours Project** is a two-semester course that requires the student, with supervision by a member of the Department, to prepare a dissertation in an area of Pure Mathematics. Although original research by the student will not normally be expected, the student must show an ability and interest to learn and organize material independently. A one-hour presentation will be given by the student at the end of the second semester.

CH: 6
CR: the former MATH 4399
PR: registration in an Honours or Joint Honours program in Pure Mathematics

Under the Faculty of Science, page 496, 2013-2014 Calendar, 9.8.4 (Statistics Courses), add the following:

**459A and 459B Statistics Honours Project** is a two-semester course that requires the student, with supervision by a member of the Department, to prepare a dissertation in an area of Statistics. In addition to a written project, a presentation will be given by the student at the end of the second semester.

CH: 6
CR: the former STAT 4599
PR: registration in an Honours or Joint Honours program in Statistics

Secondary Calendar Changes

Under the Faculty of Science, page 441, 2013-2014 Calendar, 4.1.11 (Biology and Statistics Joint Honours (B.Sc. Only)), amend Regulation 6 as follows:

Under the Faculty of Science, page 442, 2013-2014 Calendar, 4.1.17 (Computer Science and Statistics Joint Honours (B.Sc. Only)), amend Regulation 5 as follows:

"5. Either Computer Science 4780 or Statistics 459A/B 4599."

Under the Faculty of Science, page 464, 2013-2014 Calendar, 8.8.8 (Honours in Pure Mathematics), amend Regulation 1 as follows:

"1. Mathematics 1000, 1001, 2000, 2050, 2051, 2130, 2260 (or 3260), 2320, 3000, 3001, 3202, 3210, 3300, 3320, 3331, 4300, 4310, 439A/B 4399, Statistics 2550;"

Under the Faculty of Science, page 465, 2013-2014 Calendar, 8.8.9 (Honours in Statistics), amend Regulation 1 as follows:


Under the Faculty of Science, page 494, 2013-2014 Calendar, 9.8.3 (Mathematics Courses), delete Mathematics 4399 (Pure Mathematics Dissertation).

Under the Faculty of Science, page 496, 2013-2014 Calendar, 9.8.4 (Statistics Courses), delete Statistics 4599 (Honours Comprehensive with Directed Readings).

Rationale

In the 2008-2009 academic year, the one-semester honours project in Applied Mathematics (Mathematics 4199) was replaced with a two-semester linked course (Mathematics 419A/B). This change came at the encouragement of faculty members who regularly served as honours supervisors. They felt it appropriate to recognize that the effort involved in an honours thesis typically required students to begin their work in the preceding semester, and often necessitated additional time at the end of the semester as well. More recently, faculty members in Pure Mathematics and Statistics have been asked to consider whether the same adjustment was appropriate for their honours students. Both groups have now agreed to a parallel change, bringing the Department of Mathematics and Statistics in line with the majority of units within the Faculty of Science.

Consultations Sought From

<table>
<thead>
<tr>
<th>1. Grenfell Campus</th>
<th>Comments Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Marine Institute</td>
<td>Yes</td>
</tr>
<tr>
<td>3. Faculty of Arts</td>
<td>No</td>
</tr>
<tr>
<td>4. Department of Biochemistry</td>
<td>No</td>
</tr>
<tr>
<td>5. Department of Biology</td>
<td>Yes</td>
</tr>
<tr>
<td>6. Department of Chemistry</td>
<td>No</td>
</tr>
<tr>
<td>7. Department of Computer Science</td>
<td>Yes</td>
</tr>
<tr>
<td>8. Department of Earth Sciences</td>
<td>Yes</td>
</tr>
<tr>
<td>9. Department of Ocean Sciences</td>
<td>No</td>
</tr>
<tr>
<td>10. Department of Physics and Physical Oceanography</td>
<td>No</td>
</tr>
<tr>
<td>11. Department of Psychology</td>
<td>No</td>
</tr>
</tbody>
</table>

Library Report Received

Yes
Signature:   Dean, Associate Vice-President (Academic) or Vice-President

Name

FOR OFFICE USE ONLY

APPROVAL GRANTED BY SENATE COMMITTEE ON UNDERGRADUATE STUDIES

Chair:

Secretary:

Date:
Hi Dianne,

Attached are proposals to introduce two new linked courses, Mathematics 439A/B (Pure Mathematics Honours Project) and Statistics 459A/B (Statistics Honours Project).

I am forwarding them to you for your comments on the availability of appropriate Library resources to support these proposals.

Thanks,
Shannon

--
Dr. Shannon Patrick Sullivan  
Dept. of Mathematics & Statistics  
Senior Faculty Advisor, Faculty of Science  
Memorial University of Newfoundland  
St. John's, NL, Canada  
shannon@mun.ca · www.ucm.mun.ca/~shannon

---Attachments:---

Mathematics 439AB and Statistics 459AB.pdf  27.5 kB
29 May 2014

TO: Dr. Shannon Sullivan, Senior Faculty Advisor, Dept. of Mathematics & Statistics

FROM: Dianne Taylor-Harding, Collections Development Librarian, Mathematics & Statistics

SUBJECT: Library Resources Review –

Proposed 2015 Calendar Changes for courses offered by the Department of Mathematics and Statistics

The Department of Mathematics and Statistics has proposed calendar changes for existing courses MATH4399 Pure Mathematics Dissertation and STAT4599 Honours Comprehensive with Directed Readings. These courses will be replaced by two-term Honours Project courses - MATH439A/B Pure Mathematics Honours Project and STAT459A/B Statistics Honours Project –

439A and 439B Pure Mathematics Honours Project is a two-semester course that requires the student, with supervision by a member of the Department, to prepare a dissertation in an area of Pure Mathematics. Although original research by the student will not normally be expected, the student must show an ability and interest to learn and organize material independently. A one hour presentation will be given by the student at the end of the second semester.

459A and 459B Statistics Honours Project is a two-semester course that requires the student, with supervision by a member of the Department, to prepare a dissertation in an area of Statistics. In addition to a written project, a presentation will be given by the student at the end of the second semester.

The new courses and the calendar changes covered by this proposal will have no impact on collections activities in the Queen Elizabeth II Library.
The Memorial University Libraries will continue to collect materials covering Mathematics and Statistics to support undergraduate, graduate and faculty research and study at the University.

5/29/2014

D. E. Taylor-Harding
D. E. Taylor-Harding
Collections Librarian, Mathematics & Statistics
Subject: Request for Consultation: Mathematics 439A/B and Statistics 459A/B
From: Shannon Patrick Sullivan <shannon@mun.ca>
Date: 21/03/2014 3:35 PM
To: vpoffice@grenfell.mun.ca, miugconsultations@mi.mun.ca, staceym@mun.ca, pdavis@mun.ca, pmarino@mun.ca, ppickup@mun.ca, cs-chair@mun.ca, jhanchar@mun.ca, fletcher@mun.ca, bdeyoung@mun.ca, psychology.head@mun.ca

Greetings,

Attached are proposals to introduce two new linked courses, Mathematics 439A/B (Pure Mathematics Honours Project) and Statistics 459A/B (Statistics Honours Project).

If you have any comments on these proposals, we would appreciate receiving your responses no later than Friday, April 18th.

Thanks,
Shannon

--
Dr. Shannon Patrick Sullivan
Dept. of Mathematics & Statistics
Senior Faculty Advisor, Faculty of Science
Memorial University of Newfoundland
St. John's • NL • Canada
shannon@mun.ca • www.ucs.mun.ca/~shannon

Attachment:

Mathematics 439AB and Statistics 459AB.pdf 27.5 kB
Hi Shannon,

The Biology Undergraduate Studies Committee reviewed the new course proposals for Math 439 A & B and Stats 459A & B and are in support of the proposal.

Thanks
Karen
Karen Morris
Undergraduate Officer
Dept. of Biology
Memorial University of Newfoundland
St. John's, NL A1B 3X9
709-864-8021

On 24/03/2014 11:35 AM, Marino, Paul wrote:

-----Original Message-----
From: Shannon Patrick Sullivan [mailto:shannon@MUN.CA]
Sent: March 21, 2014 3:36 PM
To: ypoffice@GRENFELL.MUN.CA; miugconsultations@mi.mun.ca; Mercer,
Stacey; pdavis@MUN.CA; Marino, Paul; ppickup@MUN.CA; cs-chair@MUN.CA;
jhancham@MUN.CA; Fletcher, Garth; bdeyoung@MUN.CA;
psychology.head@MUN.CA
Subject: Request for Consultation: Mathematics 439A/B and Statistics 459A/B

Greetings,

Attached are proposals to introduce two new linked courses, Mathematics 439A/B (Pure Mathematics Honours Project) and Statistics 459A/B (Statistics Honours Project).

If you have any comments on these proposals, we would appreciate receiving your responses no later than Friday, April 18th.

Thanks,
Shannon

Dr. Shannon Patrick Sullivan
Dept. of Mathematics & Statistics
Senior Faculty Advisor, Faculty of Science Memorial University of
Newfoundland St. John's * NL * Canada shannon@mun.ca *
http://www.uos.mun.ca/~shannon
Subject: Fwd: Fwd: Request for Consultation: Mathematics 439A/B and Statistics 459A/B (fwd)
From: CS Head <cs-chair@mun.ca>
Date: 14/04/2014 4:40 PM
To: Shannon Patrick Sullivan <shannon@mun.ca>
CC: Wolfgang Banzhaf <banzhaf@mun.ca>

Dear Shannon,

I concur with the recommendation of our UGSC and also recommend a reduction of course load from the Mathematics side.

Thanks,
Wolfgang

-------- Original Message ---------
Subject:Fwd: Request for Consultation: Mathematics 439A/B and Statistics 459A/B (fwd)
Date:Mon, 14 Apr 2014 16:03:29 -0230 (NDT)
From:Donna Batten <donna@mun.ca>
To:banzhaf@mun.ca
CC:cs-chair@mun.ca

Wolfgang,

The members of our Undergraduate Studies Committee looked at this request.

It was felt that we do not want to see the number of Computer Science courses increased in the Joint Honours programs for Computer Science and Pure Mathematics, and Computer Science and Statistics, as these are already tight programs. The suggestion was made to decrease the number of Math/Stats courses in each of the two programs by 1, so that the overall number of courses in each program would remain the same.

Donna

---------- Forwarded message ----------
Date: Tue, 25 Mar 2014 09:09:03 -0230
From: cs-chair <cs-chair@mun.ca>
To: donna@mun.ca
Subject: Fwd: Request for Consultation: Mathematics 439A/B and Statistics 459A/B

----- Forwarded message from Shannon Patrick Sullivan <shannon@mun.ca> -----  
Date: Fri, 21 Mar 2014 15:35:30 -0230
From: Shannon Patrick Sullivan <shannon@mun.ca>
Reply-To: Shannon Patrick Sullivan <shannon@mun.ca>
Subject: Request for Consultation: Mathematics 439A/B and Statistics 459A/B
To: vpoffice@grenfell.mun.ca, miugconsultations@mi.mun.ca, stacey@mun.ca, pdavis@mun.ca, pmarino@mun.ca, ppickup@mun.ca, cs-chair@mun.ca, jhanchary@mun.ca,
Hi Shannon,

yes, that would certainly work for us.

Best regards,
Wolfgang

On 2014-04-16, 1:45 PM, Shannon Patrick Sullivan wrote:
Hi Wolfgang,

I concur with the recommendation of our UGSC and also recommend a reduction of course load from the Mathematics side.

When the Department considered this proposal, the general view of faculty members was that they did not want to see the number of non-thesis Mathematics courses reduced.

With this in mind, then, would Computer Science be amenable to the "minimal" change? That is, the existing wording in the Joint Honours degree in Computer Science and Pure Mathematics would be preserved, namely:

"4. An Honours Dissertation in one of the departments, with the topic chosen in consultation with both departments."

And in the Joint Honours degree in Computer Science and Statistics, Regulation 5 would be replaced with:

"5. Either Computer Science 4780 or Statistics 459A/B."

Regards,
Shannon
Subject: Math 439A/B and Stats 459A/B
From: George Jenner <gjener@mun.ca>
Date: 25/03/2014 4:05 PM
To: shannon@mun.ca

UGMC Earth Sciences - no comments.
Subject: RE: Request for Consultation: Mathematics 439A/B and Statistics 459A/B
From: MIUG Consultations <MIUGconsultations@mi.mun.ca>
Date: 11/04/2014 9:34 AM
To: Shannon Patrick Sullivan <shannon@mun.ca>
CC: Derek Howse <Derek.Howse@mi.mun.ca>

Shannon,

Thank you for the opportunity to review the new linked courses Mathematics 439A/B and Statistics 459A/B.

These courses will have no impact on the programs at the Marine Institute.

There is a single typo on page 4. Second line of the Rationale - word "couse" should be "course".

We wish you the best with these two new courses.

Derek Howse

Derek Howse
Chair, Undergraduate Studies Committee
Marine Institute, Memorial University
TEL: 709-778-0586
FAX: 709-778-0394
Derek.Howse@mi.mun.ca

-----Original Message-----
From: Shannon Patrick Sullivan [mailto:shannon@mun.ca]
Sent: Friday, March 21, 2014 3:36 PM
To: vpooffice@grenfell.mun.ca; MIUG Consultations; staceym@mun.ca; pdavis@mun.ca; pmarino@mun.ca; ppickup@mun.ca; cs-chair@mun.ca; lhanchar@mun.ca; fletcher@mun.ca; bdeyoung@mun.ca; psychology.head@mun.ca
Subject: Request for Consultation: Mathematics 439A/B and Statistics 459A/B

Greetings,

Attached are proposals to introduce two new linked courses, Mathematics 439A/B (Pure Mathematics Honours Project) and Statistics 459A/B (Statistics Honours Project).

If you have any comments on these proposals, we would appreciate receiving your responses no later than Friday, April 18th.

Thanks,
Shannon

--
Dr. Shannon Patrick Sullivan
Dept. of Mathematics & Statistics
Senior Faculty Advisor, Faculty of Science Memorial University of Newfoundland St. John's * NL * Canada shannon@mun.ca * www.ucg.mun.ca/~shannon
This email is governed by the Terms and Conditions found in our Disclaimer <http://www.mi.mun.ca/ict/disclaimer>.
June 11, 2014

TO: All Members, Faculty Council of Science

FROM: Joan Burry, Secretary
       Committee on Undergraduate Studies, Faculty of Science

SUBJECT: New Course Proposals and Calendar Changes

At a meeting held on May 27, 2014, the Undergraduate Studies Committee of the Faculty of Science agreed that the following new course proposals and Calendar changes be forwarded to Faculty Council for approval:

1. Department of Computer Science
   COMP 1400: Computing in the 20th Century and Beyond

2. Department of Mathematics and Statistics
   (i) MATH 439A/B: Pure Mathematics Honours Project
   (ii) STAT 459A/B: Statistics Honours Project

3. Department of Psychology- Calendar change to cross-list Psychology 4770 and Biology 4770

Joan Burry
Assistant Registrar and
Secretary, Committee on Undergraduate Studies, Faculty of Science
Proposal to Cross-list PSYC 4770 as BIOL 4770

Proposal

Calendar Change to Existing Course

Executive Summary

We propose that Psychology 4770, Research Experience in Animal Behaviour, be cross-listed as Biology 4770. This will allow Biology students who have taken BIOL/PSYC 3750, Animal Behaviour I, to complete a laboratory-based course in Animal Behaviour.

Resource Implications: Instructional Costs

Cross-listing this course will have no new resource or budgetary implications. Enrolment will remain at 20 students. Given that this enrolment cap is typically not reached in this course, we anticipate that cross-listing this course will not create access issues for students.

Consultations

The Biology Department approved this proposed change at its meeting of Feb. 26, 2014, as indicated in the attached correspondence. Consultation with other units has been sought as per the Summary page and attached correspondence.

Library Holdings and/or Other Resources Required

No new library holdings and/or other resources are required as a result of the proposed change.

The costs, if any, associated with this change/these changes can be met from within the existing budget allocation or authorized new funding for the Faculty of Science.

Signature of Unit Head (if appropriate):

Date:

Signature of Dean/Associate Vice-President (Academic)/Vice-President:

Date:
SUMMARY PAGE FOR SENATE

Approval Form

Course Numbers and Titles:

PSYCHOLOGY 4770, Research Experience in Animal Behaviour
BIOLOGY 4770, Research Experience in Animal Behaviour

Abbreviated Course Title: Research in Animal Behaviour

Calendar Changes: Additions are underlined.

9.2. Biology

4770 Research Experience in Animal Behaviour (same as PSYC 4770) allows students to gain research experience in selected areas of animal behaviour.
CR: Psychology 4770
PR: PSYC 3750 or BIOL 3750

9.11. Psychology

4770 Research Experience in Animal Behaviour (same as BIOL 4770) allows students to gain research experience in selected areas of animal behaviour.
CR: Biology 4770
PR: PSYC 2520, 2570, 2911, and PSYC 3750 or BIOL 3750, and admission to a major in Psychology or Behavioural Neuroscience

Explanatory note about prerequisites. Note that the list of PR courses is longer for PSYC 4770 than for BIOL 4770. This is because the three 2000-level Psychology courses in the list are required of all Psychology and Behavioural Neuroscience majors, and the standard Calendar format for all of our Psychology majors courses includes these three. Although Biology and Psychology students will have somewhat different backgrounds coming into PSYC/BIOL 4770, they are all required to have completed the 3000-level animal behaviour course (PSYC/BIOL 3750).

Secondary Calendar Changes: N/A

Rationale: The cross-listing of Psychology 4770 with Biology 4770 will allow Biology students who have completed Biology/Psychology 3750 to continue study in the area of animal behaviour in the context of a laboratory course. This augments the 4th year course offerings available to these students, and is expected to increase enrolment in the course.
Proposal to Cross-list PSYC 4770 as BIOL 4770

<table>
<thead>
<tr>
<th>Consultations Sought From</th>
<th>Comments Received</th>
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<tr>
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<td>Other Academic Units</td>
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<td>Grenfell VP Office</td>
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<tr>
<td>Marine Institute</td>
<td>Yes</td>
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</table>

Library Report Received: Yes

Signature: Dean, Associate Vice-President (Academic) or Vice-President

Name: Dr. Mark Abrahams
Dean, Faculty of Science

FOR OFFICE USE ONLY

APPROVAL GRANTED BY SENATE COMMITTEE ON UNDERGRADUATE STUDIES

Chair: ____________________________________________
Secretary: _________________________________________
Date: ____________________________________________
Proposal to Cross-list PSYC 4770 as BIOL 4770

CONSULTATION DOCUMENTS

From: Karen Morris <morrisk@mun.ca>
Subject: Re: Cross-Listing Psychology 4770 Research Experience in Animal Behaviour
Date: November 6, 2013 at 11:26:04 AM NST
To: Carolyn Walsh <cwalsh@play.psych.mun.ca>
Cc: "Marino, Paul" <pmarino@mun.ca>

Hi Carolyn,
The Biology Undergraduate Studies Committee reviewed your suggestion and upon consultation with Ian Jones they were in agreement that this could move forward.
Once a proposal (as per the form etc) has been sent to us we can bring it to the Department. We do not foresee any issues and feel it would provide another good course option for our Biology students.
Thanks
Karen

On 19/08/2013 12:28 PM, Carolyn Walsh wrote:
Hi Karen-
Here is a course outline from Psych 4770, as it was offered in Fall 2011 by Anne Storey. I haven’t received one from Bill Montevocchi yet, but his will be quite similar in topics covered in the lab. Once I get one from Bill, I will pass it on.

Thanks,
Carolyn

On 2013-08-02, at 9:08 AM, Karen Morris wrote:
Hi Carolyn,
Can you please send me the course outline for Psychology 4770. We do have the cross listed Biol/Psych 4701 which does have a lab associated with it. If you can also provide a bit of a rationale for such a cross listing this would assist in the discussion of this in a committee meeting in the Fall semester when the committee is set up for the year.
Many thanks and sorry for not getting back to you before this.
Karen

On 26/04 2013 3:57 PM, Marino, Paul wrote:
Hi Karen,
Please see below a matter for BUGS.
Proposal to Cross-list PSYC 4770 as BIOL 4770

Paul

From: Carolyn Walsh [mailto:cwalsh@play.psych.mun.ca] · Sent: April 26, 2013 3:11 PM · To: Marino, Paul · Cc: astorey Storey; Gerard Martin; Montvecchi, William · Subject: Cross-Listing Psychology 4770 Research Experience in Animal Behaviour

Hi Paul-
As per our conversation today, we'd like the Biology Undergraduate Studies Committee to take a look at cross-listing our animal behaviour laboratory course, Psychology 4770. Research Experience in Animal Behaviour, as a Biology course.

It seems to those of us teaching Biol/Psyc 3750 that there are Biology students who would like to go on and take a lab course in the area of animal behaviour. While we're happy to sign them into this course, it would be great if they could get a Biology credit for doing it— which they would if the course was cross-listed.

Thanks,
Carolyn

Carolyn J. Walsh, PhD Department of Psychology Memorial University of Newfoundland St. John's, NL, Canada A1B 3X9 tel (709) 864-4738 cwalsh@play.psych.mun.ca http://dogsbody.psych.mun.ca/cru This electronic communication is governed by the terms and conditions at 'http://www.mun.ca/cc/policies/electronic_communications_disclaimer_2011.php'

This electronic communication is governed by the terms and conditions at http://www.mun.ca/cc/policies/electronic_communications_disclaimer_2012.php

Carolyn J. Walsh, PhD Department of Psychology
Proposal to Cross-list PSYC 4770 as BIOL 4770

Memoral University of Newfoundland
St John's, NL, Canada
A1B 3X9

tel (709) 864-4738
cwalsh@play.psych.mun.ca

http://dogsbody.psych.mun.ca/cru

This electronic communication is governed by the terms and conditions at
Charles Malsbury

From: Dawn King <Dawn.King@mi.mun.ca> on behalf of MIUG Consultations <MIUGconsultations@mi.mun.ca>
Sent: Friday, December 20, 2013 4:09 PM
To: malsbury@play.psych.mun.ca
Cc: Derek Howse
Subject: RE: Request for consultation on cross-listing PSYC 4770 as BIOL 4770

Charles,

Thank you for the opportunity to review the request to cross-list PSYC 4770 as BIOL 4770. This request will have no impact on programs at the Marine Institute.

We are happy to support this request as presented.

Derek Howse

Derek Howse
Chair, Undergraduate Studies Committee
Marine Institute, Memorial University
TEL: 709-778-0586
FAX: 709-778-0394
Derek.Howse@mi.mun.ca

-----Original Message-----
From: VP Office [mailto:vpoffice@grenfell.mun.ca]
Sent: Sunday, December 15, 2013 2:54 PM
To: Wright, Sandra; Gunther, Georg
Cc: MIUG Consultations; Noftall-Bennett, Sharon
Subject: FW: Request for consultation on cross-listing PSYC 4770 as BIOL 4770

Good Afternoon,

Please see attached for consultation, thanks,

Nora Lundrigan for

Dr. David Peddle
Associate Vice-President (Grenfell Campus) Academic Memorial University Corner Brook, NL A2H 6P9
Tel: 709-637-6231 Fax: 709-637-6218
www.grenfell.mun.ca<http://www.grenfell.mun.ca/>
Subject: Request for consultation on cross-listing PSYC 4770 as BIOL 4770

From: Charles Malsbury [mailto:malsbury@play.psych.mun.ca]
Subject: Request for consultation on cross-listing PSYC 4770 as BIOL 4770
message with its attachment to Grenfell (vpooffice@grenfell.mun.ca<mailto:vpooffice@grenfell.mun.ca>)

Dear colleagues,

Psychology is requesting your comments on our proposal to cross-list the existing course, PSYC 4770, Research Experience in Animal Behaviour, as BIOL 4770 (same as PSYC 4770). The proposal is attached.

Thank you for your attention to this, and please let me know if you have any questions.

Chuck Malsbury

..

Charles Malsbury
Deputy Head
Department of Psychology
864-7685

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This email is governed by the Terms and Conditions found in our Disclaimer<http://www.mi.mun.ca/ict/disclaimer>.
Hi Chuck,

It was brought forward to the department and was approved at our departmental meeting of February 26th, 2014. Sorry if I did not inform you of this, not sure what happened.

My apologies.

Thanks
Karen

Karen Morris
Undergraduate Officer
Dept. of Biology
Memorial University of Newfoundland
St. John's, NL A1B 3X9
709-864-8021

On 05/05/2014 3:45 PM, Charles Malsbury wrote:

Karen Morris
Biology

Hi Karen,

I've attached the proposal to cross-list PSYC 4770 as BIOL 4770. You saw a similar version in November, 2013. In your email reply dated Nov. 6, 2013, you stated that the Biology undergraduate studies committee would need to bring a formal proposal to your department for approval. I don't believe this happened, due to an oversight on my part of not following up on this. When we receive approval from your department, I can submit this to the undergraduate studies committees of Arts and Science.

Thanks for your attention to this and let me know if you have any questions.

Chuck Malsbury
Deputy Head
Department of Psychology
864-7685 (office)
Charles Malsbury

From: Charles Malsbury <malsbury@play.psych.mun.ca>
Sent: Tuesday, May 27, 2014 11:48 AM
To: dckeepe@mun.ca
Subject: proposal to cross-list PSYC 4770 as BIOL 4770
Attachments: proposal to cross list PSYC 4770 as BIOL 4770.pdf

Dianne Keeping
Collection Development Librarian
Social Sciences

Ms. Keeping,

We are in the process of requesting approval for a Calendar change to cross-list PSYC 4770, Research Experience in Animal Behaviour, as BIOL 4770. I've attached our proposal and invite your comments.

Thank you for your attention to this, and please let me know if you have any questions.

Chuck Malsbury

Charles Malsbury, Ph.D.
Deputy Head, Department of Psychology
864-7685
27 May 2014

TO: Dr. Charles Malsbury, Deputy Head, Department of Psychology

FROM: Dr. Dianne Keeping, Collection Development Librarian

SUBJECT: Proposal to Cross-list PSYC 4770 as BIOL 4770

I have reviewed the proposal to cross-list Psychology 4770 as Biology 4770 and can confirm that the proposed changes do not have any significant resource implications for the University Library.
September 4, 2014

TO: Dr. Faye Murrin, Dean pro tempore  
School of Graduate Studies

FROM: Secretary, Faculty of Science Faculty Council

SUBJECT: Special Topics Course - CHEM 6590, Renewable Chemicals and Materials

This is to confirm that special topics courses, CHEM 6590, Renewable Chemicals and Materials, have been approved by the Faculty of Science Faculty Council Graduate Studies Committee.

The Request for Approval of a Graduate Course forms are attached. If you require more information please let me know.

Julie D. Rideout  
Secretary, Faculty of Science Faculty Council

/gbk

cc: L. Goodland, Registrar's Office  
E. Penney, Department of Chemistry
Request for Approval of a Graduate Course

Adobe Reader, minimum version 8, is required to complete this form. Download the latest version: http://get.adobe.com/reader. (1) Save the form by clicking on the diskette icon on the upper left side of the screen; (2) Ensure that you are saving the file in PDF format; (3) Specify where you would like to save the file, e.g. Desktop; (4) Fill in the required data and save the file; (5) Submit the completed form to:

School of Graduate Studies: Memorial University of Newfoundland, IIC-2012 (Brunoe Centre for Research and Innovation), St. John’s, NL A1C 5S7 Canada Fax: 709.864.4702 eMail: sig@mun.ca

To: Dean, School of Graduate Studies
From: Faculty/School/Department/Program Faculty of Science/Department of Chemistry
Subject: [ ] Regular Course   [✓] Special/Selected Topics Course

Course No.: CHEM 6590
Course Title: Renewable Chemicals and Materials

I. To be completed for all requests:

A. Course Type:   [ ] Lecture course   [ ] Lecture course with laboratory
                 [✓] Laboratory course   [ ] Undergraduate course
                 [ ] Directed readings   [ ] Other (please specify) Participation and Discussion

B. Can this course be offered by existing faculty?   [✓] Yes   [ ] No

C. Will this course require new funding (including
   Payment of instructor, labs, equipment, etc.)?   [ ] Yes   [✓] No
   If yes, please specify:

D. Credit hours for this course: 3

E. Estimated number of contact hours per semester: 36

F. Course description (reading list required):
   Selected chapters from other books and from the primary literature incl. the following journals: Green Chemistry,
   Bioresource Technology, Chemical Reviews, Chemical Society Reviews, Sustainable Chemical Processes.

G. Method of evaluation:

   Written                Percentage               Oral
   Class tests
   Assignments            2 x 20%, essays     1 x 20%, presentation
   Other (specify):
   Participation and Discussion 20%
   Final examination:

   Total 80%  20%

1 Must specify the additional work at the graduate level
II. To be completed for special/selected topics course requests only

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

1. duplication of thesis work  
   Instructor’s initials
   
2. double credit
   
3. work that is a faculty research product
   
4. overlap with existing courses
   
Recommended for offering in the checklist:  
- [ ] Fall  
- [ ] Winter  
- [ ] Spring  

Length of session if less than a semester:

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

Francesca Kerton  

Course instructor

Approval of the head of the academic unit

June 21, 2014  

Date

8 Aug 2014

Date

IV. This course proposal was approved by the Faculty/School/Council

Secretary, Faculty/School/Council

Date

Updated October 2011
CHEM 6590 Renewable Chemicals and Materials

This directed readings course provides an introduction to the potential of using biomass and other renewable starting materials (e.g. carbon dioxide) as a source or precursor to chemicals and materials. Use of renewable feedstocks is one of the twelve principles of Green Chemistry and is a cornerstone in the development of a sustainable chemical industry. Research in this field has grown exponentially since the early 2000s. Students will begin this course by learning about established technologies in this area, e.g. first generation biorefineries, via directed readings from texts in the field. Students will then select 'hot topics' with the instructor(s)' assistance (if needed) to study for the remaining two thirds of the semester. Literature critique and discussion will form a key part of this course.

Possible Instructors include Dr. Francesca Kerton (Associate Professor, Department of Chemistry) and Dr. Stephanie MacQuarrie (Adjunct Professor, Department of Chemistry).

Course structure/teaching style

Student(s) will meet with instructor in person or via conference/skype call once a week to discuss their reading activities from the previous week and for week ahead. They will also need to demonstrate progress on their writing activities. For the first 3-4 weeks, the student(s) will read sections of a recent textbook in this field (e.g. Lignocellulosic Biorefineries) to develop a fundamental knowledge of the area as it presently stands. At this point, they will decide on their topics for two term papers.

1: Overview of the field

Read and discuss Chapters 1-3 of lignocellulosic biorefineries text or similar. They should prepare notes on these chapters including a glossary of the important terms used in this field.

2: Topic 1

Prepare an essay on a topic of the student's choice e.g. Production of bio-oil via pyrolysis of wood and characterization of said oil.

3: Topic 2

Prepare an essay on a topic of the student's choice e.g. Chemical components of microalgae and its potential use in biodiesel production.
Note 1: Feedback on topic 1 essay should be provided to students before completion of Topic 2 essay in order for student to further develop their writing style based on the constructive criticism received.

Note 2: Student cannot choose a topic directly related to their research e.g. if they are studying microwave-assisted approaches to biomass transformations, they can not write an essay on this subject.

Evaluation

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<tr>
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<tr>
<td>Discussion and Participation</td>
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<td>(incl. production of glossary and notes on introductory material)</td>
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<td>Topic 1 essay</td>
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<td>Final examination</td>
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<td>Total</td>
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Hello Gail,

the course Chem-6590 has received 6 votes in favour (Graham, Trevor, Craig, Minglun, Todd and myself), none against. The Faculty Council can be informed if its approval.

Regards,
-j

On 09/04/2014 10:39 AM, Kenny, Gail wrote:
> HI JC,
> >
> > Has this been approved? It's for the Fall 2014 semester. Thanks.
> >
> > Gail

> From: JC Loredo-Osti [mailto:jcloredoosti@mun.ca]
> Sent: August-09-14 11:55 PM
> To: Craig Purchase; Fleming, Ian; Graham Bodwell; Paul Sylvester; JC
> Loredo-Osti; Todd Andrews; Kenny, Gail; Sukhinder Kaur Cheema; Len
> Zedel; Brent Snook; Bell, Trevor; Amrutha Paladugu; Minglun Gong
> Subject: Fwd: CHEM 6590
>
> >
> > Dear All,
> >
> > for your consideration, attached is the request for approval of a special topics course on 'Renewable chemicals and materials'.
> > Please, review and let me know your opinion at your earliest convenience.
>
> > Salud,
> > -j

> -------- Original Message --------
> Subject:
> >
> > CHEM 6590
> >
> > Date:
> >
> > Fri, 8 Aug 2014 18:25:38 +0000
>
> > From:
Hi JC,

The attached special topics course requires approval of the GS committee. Thanks.

Gail

Gail Kenny

Dean of Science Office (C-2001)
Memorial University of Newfoundland
St. John's, NL A1B 3X7

gkenny@mun.ca

--
JC Loredo-Osti, Professor
Department of Mathematics and Statistics Memorial University
Phone: +(709) 864 8729

"A pessimist is a well informed optimist." -- Mario Benedetti
August 7, 2014

TO: Dr. Noreen Golfman, Dean
School of Graduate Studies

FROM: Secretary, Faculty of Science Faculty Council

SUBJECT: Special Topics Course - MATH 6348, Graph Colouring & STAT 6564, Experimental Design

This is to confirm that special topics courses MATH 6348, Graph Colouring and STAT 6564, Experimental Design, have been approved by the Faculty of Science Faculty Council Graduate Studies Committee.

The Request for Approval of a Graduate Course forms are attached. If you require more information please let me know.

[Signature]
Julie D. Rideout
Secretary, Faculty of Science Faculty Council

/gbk

cc: L. Goodland, Registrar's Office
L. Morrissey, Department of Mathematics and Statistics
Hello Gail,

the course Math-6348 has been approved with 5 votes in favour (Minglun, Craig, Trevor, Graham and myself), none against.

There is an amendment (with the approval of the unit) to the proposed scheme of evaluation. This scheme should read:
- Class tests 25%
- Homework 25%
- Final exam 50%

Please, make the changes in the submitted form before forwarding it to the Faculty Council.

Regards,
-j

--
JC Loredo-Osti, Associate professor
Department of Mathematics and Statistics Memorial University
Phone: +(709) 864 8729

"A pessimist is a well informed optimist." -- Mario Benedetti
Request for Approval of a Graduate Course

Adobe Reader, minimum version 8, is required to complete this form. Download the latest version: http://get.adobe.com/reader. (1) Save the form by clicking on the diskette icon on the upper left side of the screen; (2) Ensure that you are saving the file in PDF format; (3) Specify where you would like to save the file, e.g. Desktop; (4) Fill in the required data and save the file; (5) Submit the completed form to:

School of Graduate Studies: Memorial University of Newfoundland; IIC-2012 (Bruneo Centre for Research and Innovation); St. John's, NL A1C 5S7 Canada Fax: 709.864.4702 eMail: sgs@mun.ca

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

Course No.: MATH 6348
Course Title: Graph Colouring

I. To be completed for all requests:

A. Course Type:
   ☑ Lecture course
   ☑ Laboratory course
   ☑ Directed readings
   ☑ Lecture course with laboratory
   ☑ Undergraduate course
   ☑ Other (please specify) Homework

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

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

D. Credit hours for this course: 3

E. Estimated number of contact hours per semester: 45

F. Course description (reading list required):
   Topics covered include the theory of vertex colourings, edge colourings, total colourings, fractional colourings.

G. Method of evaluation:

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1 Must specify the additional work at the graduate level
II. To be completed for special/selected topics course requests only

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

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

Instructor's initials

Recommended for offering in the 

- Fall
- Winter
- Spring

Length of session if less than a semester:

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

Course instructor

Date

Approval of the head of the academic unit

Date

IV. This course proposal was approved by the Faculty/School/Council

Secretary, Faculty/School/Council

Date

Updated October 2011
MATH 6348 – Graph Colouring

Rationale and Justification

The research area of graph colouring has a rich history involving a combination of important theorems and long-standing open conjectures. In addition to the pure and theoretical aspects of graph colouring, there are several natural applications, most especially within the realm of scheduling. Moreover, the study of graph colouring provides a good opportunity to introduce students to proof techniques involving fractional graph theory and the probabilistic method.

Resource Implications

The course will be taught by a regular faculty member. No additional funding is required.

Library Resources

The following books are held within the collection of the QEII Library:


Course Outline

The course will cover the following topics:

- Edge Colourings: types of edge colourings (proper, equalised, equitable, balanced), Vizing’s theorem, overfull graphs, Fournier’s theorem, the Chetwynd-Hilton-Hoffman theorem, critical graphs
- Vertex Colourings: bounds on the chromatic number, Brooks’ theorem, Hadwiger’s conjecture, Reed’s conjecture, colour-critical graphs, Turán’s theorem, the Erdős-Faber-Lovász conjecture
- Total Colourings: the total colouring conjecture, total colourings of complete and complete multipartite graphs, classification of type 1 and type 2 graphs, total colourings of planar graphs
- Fractional Colourings: bounds on the fractional chromatic number, proof of the Erdős-Faber-Lovász conjecture, proof of Reed’s conjecture, fractional edge colouring, fractional total colouring
Evaluation

Final course grades will be based upon the following scheme

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<th>Weight</th>
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<tr>
<td>Midterm Exam</td>
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<td>Final Exam</td>
<td>35</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100</td>
</tr>
</tbody>
</table>

Prerequisites

A course in graph theory or consent of the instructor.
August 7, 2014

TO: Dr. Noreen Golfman, Dean
School of Graduate Studies

FROM: Secretary, Faculty of Science Faculty Council

SUBJECT: Special Topics Course - MATH 6348, Graph Colouring & STAT 6564, Experimental Design

This is to confirm that special topics courses MATH 6348, Graph Colouring and STAT 6564, Experimental Design, have been approved by the Faculty of Science Faculty Council Graduate Studies Committee.

The Request for Approval of a Graduate Course forms are attached. If you require more information please let me know.

[Signature]
Julie D. Rideout
Secretary, Faculty of Science Faculty Council

/gbk

cc: L. Goodland, Registrar’s Office
L. Morrissey, Department of Mathematics and Statistics
Kenny, Gail

From: JC Loredo-Osti <jcloredoosti@mun.ca>
Sent: August-07-14 1:20 PM
To: Kenny, Gail
Cc: Len Zedel
Subject: Approval of Stat-6564

Hello Gail,

the special topics course Stat-6564 has been approve with 5 votes in favour (Minglun, Craig, Trevor, Graham and myself), none against.

Faculty Council can now be informed of its approval.

Regards,

-J

JC Loredo-Osti, Associate professor
Department of Mathematics and Statistics Memorial University
Phone: +(709) 864 8729

"A pessimist is a well informed optimist." -- Mario Benedetti
Request for Approval of a Graduate Course

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

Course No.: STAT-6564

Course Title: Experimental design

I. To be completed for all requests:

A. Course Type: ☑ Lecture course  ☑ Laboratory course  ☑ Directed readings  ☑ Lecture course with laboratory  ☑ Undergraduate course  ☑ Other (please specify)

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

C. Will this course require new funding (including Payment of instructor, labs, equipment, etc.)? Yes ☐ No ☑

If yes, please specify:

D. Credit hours for this course: 3

E. Estimated number of contact hours per semester: 42

F. Course description (reading list required):
   See attachment

G. Method of evaluation:

<table>
<thead>
<tr>
<th></th>
<th>Written</th>
<th>Percentage</th>
<th>Oral</th>
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</thead>
<tbody>
<tr>
<td>Class tests</td>
<td>20</td>
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<tr>
<td>Assignments</td>
<td>10</td>
<td></td>
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<tr>
<td>Other (specify): 20</td>
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<tr>
<td>Project</td>
<td>50</td>
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<td>Final examination:</td>
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<td>Total</td>
<td>100</td>
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</table>

1 Must specify the additional work at the graduate level
II. To be completed for special/selected topics course requests only

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

1. duplication of thesis work

2. double credit

3. work that is a faculty research product

4. overlap with existing courses

Instructor's initials

Recommended for offering in the

☑ Fall  □ Winter  □ Spring  20__

Length of session if less than a semester:

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

Course instructor

Approval of the head of the academic unit

Date

3 April 2014

Date

3 April 2014

IV. This course proposal was approved by the Faculty/School/Council

Secretary, Faculty/School/Council

Date

Aug. 11, 2011

Updated October 2011
Rationale / Justification:

Experiments are performed by researchers in all areas of scientific inquiry with the goal of gaining knowledge on the relationship between the experimental treatments and the responses of interest. Statistical experimental design and analysis is an indispensable tool for practitioners and researchers to optimize the process to arrive at the best combination of factor levels to obtain the desired level of the response. In order to achieve the objective, the experimenter should decide on an appropriate design and carry out the proper analysis to make valid inferences. Modern methodologies include optimal / robust parameter designs, which is an innovative statistical approach to off-line and on-line quality and productivity improvement that attempts to improve a process or product by making it less sensitive to noise variables through statistically designed experiments. The proposed course focuses on the development of suitable design and analysis of experiments to optimize the process parameters to produce robust products.

Many graduate programmes in statistics have a compulsory experimental design course. The reason for this is that, although most statistics undergraduate students have been exposed the basics of designs and analysis, the theoretical background of designs is not covered in sufficient detail at the undergraduate level.

Resources Implications:

This course will be taught by one of the regular faculty member and no additional resource is required.

Library Holdings:

1. Montgomery, D.C (2012), Design and analysis of experiments, Wiley
Course Outline:

<table>
<thead>
<tr>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Basic principles of experimental designs</td>
</tr>
<tr>
<td>2. Review of one and two factor experiments</td>
</tr>
<tr>
<td>3. Fractional Factorial experiments</td>
</tr>
<tr>
<td>4. Nested Designs</td>
</tr>
<tr>
<td>5. Split-plot designs</td>
</tr>
<tr>
<td>6. Response surface methodology</td>
</tr>
<tr>
<td>7. Optimal designs (classical and robust designs)</td>
</tr>
<tr>
<td>8. Experiments with non-normal data.</td>
</tr>
</tbody>
</table>

Course Evaluation Criterion:

1. Assignments – 20%
2. Project – 10%
3. Midterm Examination – 20%
4. Final Examination – 50%

References:

August 8, 2014

TO: Dr. Noreen Golfman, Dean
School of Graduate Studies

FROM: Secretary, Faculty of Science Faculty Council

SUBJECT: Special Topics Course - BIOL 7947, Molecular Ecology

This is to confirm that special topics course BIOL 7947, Molecular Ecology, has been approved by the Faculty of Science Faculty Council Graduate Studies Committee.

The Request for Approval of a Graduate Course form is attached. If you require more information please let me know.

[Signature]
Julie D. Rideout
Secretary, Faculty of Science Faculty Council

/gbk

cc: L. Goodland, Registrar's Office
    C. Hussey, Department of Biology
Hello Gail,

Biol-7947 has been approved by 7 votes in favour (Graham, Sukhinder, Trevor, Len, Craig, Minglun and myself), none against.

Before forwarding it, can you please, ask the unit to revise the 160-hour contact time and give a figure more appropriate for a graduate course.

Regards,

-j

--

JC Loredo-Osti, Associate professor
Department of Mathematics and Statistics Memorial University
Phone: +(709) 864 8729

"A pessimist is a well informed optimist." -- Mario Benedetti
Request for Approval of a Graduate Course

Adobe Reader, minimum version 8, is required to complete this form. Download the latest version:
http://net.adobe.com/reader. (1) Save the form by clicking on the diskette icon on the upper left side of
the screen; (2) Ensure that you are saving the file in PDF format; (3) Specify where you would like to save
the file, e.g. Desktop; (4) Fill in the required data and save the file; (5) Submit the completed form to:

School of Graduate Studies; Memorial University of Newfoundland; IIC 2012 (Bruno Centre for Research and
Innovation); St. John’s, NL A1C 5S7 Canada Fax: 709 864.4702 email: sgs@mun.ca

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

Course No.:                      Biology 7947
Course Title:                    Molecular Ecology

I. To be completed for all requests:

   A. Course Type:                   ☑ Lecture course   ☐ Lecture course with laboratory
                                      ☐ Laboratory course   ☐ Undergraduate course¹
                                      ☐ Directed readings   ☐ Other (please specify) Midterm

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

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

   D. Credit hours for this course: 3

   E. Estimated number of contact hours per semester: 72

   F. Course description (reading list required):
      This course will survey genetic and genomic techniques and consider how their application can be used to identify
      populations, sexes, individuals and family relationships. It will also examine how these approaches may be used to quantify
      population attributes such as historical dispersal and colonization, connectivity, mating behaviour, and effective population
      size. Evaluation is based on assignments (i.e. focusing on specific analyses), quizzes, and two exams (mid term and final).

   G. Method of evaluation:

      Written  Percentage  Oral
      Class tests  25
      Assignments  25
      Other (specify):
      Midterm  25
      Final examination:
      Total  100%

¹ Must specify the additional work at the graduate level
II. To be completed for special/selected topics course requests only

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

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

Instructor's initials

[Blank]

Recommended for offering in the

☑ Fall ☐ Winter ☐ Spring 20

Length of session if less than a semester:

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

[Signatures and dates]

Course instructor

Approval of the head of the academic unit

Date

IV. This course proposal was approved by the Faculty/School/Council

[Signatures and dates]

Secretary, Faculty/School/Council

Date

Updated October 2011
Molecular Ecology

Dr. Ian Bradbury

Fall 2014

The analysis of molecular genetic data has revolutionized many areas of ecology and conservation biology. In support of this assertion, consider the following questions: How do you deduce parentage, kinship and mating patterns in wild populations from bits of fin, fur or feathers? Count bears (and other large mammals) with bits of fur? Identify the sex of mammals and the diet of sharks from fecal samples? Deduce population structures and average dispersal rates without tagging organisms? Use scale samples to tell whether the effective population sizes of fishes have changed over the last few decades? Determine the continent and river of origin of Atlantic salmon caught off Greenland? Compare the microbial diversity of deep sea vents and thermal hot springs? Identify the species and even population of origin of food products and consumer goods made from illegally harvested fish and wildlife? Determine where the ancestors of northwest Atlantic fishes spent the last ice age? This course will answer these and many other questions while introducing students to the methods and principles of the rapidly developing field of molecular ecology.

The class will focus on two general themes: (1) molecular methods and their applications; (2) statistical/analytical approaches and their applicability, strengths and limitations. Examples of topics for discussion include kinship analysis, estimation of effective population sizes and population decline, the conditions under which adaptation is possible and how exploitation can affect these conditions, as well as of the genetic consequences of domestication (interaction between wild and captive reared organisms), and the estimation of population mixtures and detection of hybrid zones.

Lecture Schedule

<table>
<thead>
<tr>
<th>LECT #</th>
<th>TOPIC</th>
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<tbody>
<tr>
<td>Lect 1</td>
<td>Course intro, what is Mol Ecol, reasons for studying genetic variation</td>
</tr>
<tr>
<td>Lect 2</td>
<td>PCR, quantitative &amp; reverse transcription PCR, DNA sequencing</td>
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<tr>
<td>Lect 3</td>
<td>mtDNA (1) quiz 1</td>
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<tr>
<td>Lect 4</td>
<td>mtDNA (2), phylogenetic analysis</td>
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<tr>
<td>Lect 5</td>
<td>Phylogenetic analysis (2), barcoding and study of biodiversity quiz 2</td>
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<tr>
<td>Lect 6</td>
<td>Microsatellites; begin intraspecific diversity</td>
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<tr>
<td>Lect 7</td>
<td>Phylogeography: bridge between phylogenetics and population genetics quiz 3</td>
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<tr>
<td>Lect 8</td>
<td>Phylogeography (2)</td>
</tr>
<tr>
<td>Lect 9</td>
<td>Next Generation DNA sequencing, metagenomics quiz 4</td>
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<tr>
<td>Lect 10</td>
<td>The evolution of molecular ecology methods: from allozymes to SNPs &amp; RAD</td>
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<tr>
<td>Lect 11</td>
<td>Genomic variation, islands and archipelagos of functional variation</td>
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<tr>
<td>Lect 12</td>
<td>midterm review session quiz 5</td>
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<tr>
<td>Lect 13</td>
<td>MIDTERM</td>
</tr>
<tr>
<td>Lect 14</td>
<td>Neutral Evolution: HWE, drift, effective pop size</td>
</tr>
<tr>
<td>Lect 15</td>
<td>Neutral Evolution: HWE, drift, effective pop size</td>
</tr>
<tr>
<td>Lect 16</td>
<td>Population subdivision, F-statistics &amp; gene flow quiz 6</td>
</tr>
<tr>
<td>Lect 17</td>
<td>Population subdivision: Model based clustering</td>
</tr>
</tbody>
</table>
Hi Cherie,

Here is the course description for the special topics we discussed:

"The course will survey techniques of molecular genetic analysis and consider how they can be used to identify species, populations, sexes, individuals and family relationships, and study population attributes such as historical dispersal, contemporary connectivity, mating behaviour and effective population size. Evaluation is based on assignments, an essay and two exams."

I can provide more if needed.

Thanks

Ian

Ian Bradbury
Research Scientist
Fisheries and Oceans Canada
St. John’s Newfoundland
Canada
July 21, 2014

TO: Dr. Noreen Golfman, Dean, School of Graduate Studies

FROM: Ms. J. Rideout, Secretary, Faculty of Science Faculty Council

RE: Approval of graduate course EASC 6105

This is to confirm that the Executive Committee of the Faculty of Science Faculty Council has approved the attached request for a new graduate course EASC 6105 — Advanced Field Course in Applied Geophysics.

Attachment
Request for Approval of a Graduate Course

Adobe Reader, minimum version 8, is required to complete this form. Download the latest version: http://get.adobe.com/reader/. (1) Save the form by clicking on the diskette icon on the upper left side of the screen; (2) Ensure that you are saving the file in PDF format; (3) Specify where you would like to save the file, e.g. Desktop; (4) Fill in the required data and save the file; (5) Submit the completed form to:

School of Graduate Studies; Memorial University of Newfoundland; IIC-2012 (Bruno Centre for Research and Innovation); St. John’s, NL A1C 5S7 Canada Fax: 709.864.4702 eMail: sgs@mun.ca

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

Course No.: EASC 6105

Course Title: Advanced Field Course in Applied Geophysics

I. To be completed for all requests:

A. Course Type:
   ☐ Lecture course  ☐ Lecture course with laboratory
   ☐ Laboratory course ☐ Undergraduate course¹
   ☐ Directed readings ☑ Other (please specify) Field course with in-semester labs

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

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

D. Credit hours for this course: 3

E. Estimated number of contact hours per semester: 72

F. Course description (reading list required):
The Department of Earth Sciences is seeking permission to offer a combined field- and lab-based course outside the normal timeframe of the semester. The field component of the course will be offered in accelerated format over a four day period from August 27 - September 1, 2014 in Baie Verte, Newfoundland. The lab component will be offered as per usual with one laboratory period a week during the regular semester. Detailed information is attached.

G. Method of evaluation:

   Written Percentage Oral
   Class tests
   Assignments
   Other (specify): Please see attachment Please see attachment
   Field course with in-semester lab
   Final examination:

   Total

¹ Must specify the additional work at the graduate level
II. To be completed for special/selected topics course requests only

For special/selected topics courses, there is no evidence of:
Instructor's initials

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

Recommended for offering in the □ Fall □ Winter □ Spring 20

Length of session if less than a semester:

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

[Signature] Alina Bethle
Course instructor

[Signature] Muriel
Approval of the head of the academic unit

13th March 2014
Date

MARCH 14, 2014
Date

IV. This course proposal was approved by the Faculty/School/Council

[Signature] [Signature]
Secretary, Faculty/School/Council

[Signature] [Signature]
Date

Updated October 2011
EASC 6105: Advanced Field Course in Applied Geophysics

Summary

This graduate-level course will consist of four days of off-campus field work prior to the fall semester, followed by lectures and data processing during the fall semester. Field work will involve data collection and preliminary analysis using typical applied geophysical methods at a field site representative of real-world mineral exploration, environmental or geotechnical investigations. Further processing, modelling and interpretation of the collected data will be carried out on campus during the fall semester. This course will share the field site and coordinate the use of geophysical equipment and logistics (transport, accommodation) with EASC 4105: Field Course in Applied Geophysics. In addition to the work required from the EASC 4105 students, EASC 6105 graduate students will be required to complete a research project on either the regional geology or a relevant geophysical technique, and to present this project in both written and oral formats.

Goals

The goals of this course are to give students hands-on experience of carrying out the kinds of applied geophysical surveys that are used to investigate the structure and composition of the subsurface in mineral exploration, environmental, hydrological and geotechnical contexts, and to do so at a field site that is representative of where such surveys occur in practice. This experience will prepare students for careers as an industry geophysicist or as a data-acquisition research geophysicist. This graduate-level course is aimed at students who have come from institutions that do not have as strong a field component to their programs and who would thus benefit from exposure to geophysical field work, and to Geophysics graduate students who want to increase their knowledge and experience of geophysical field methods. The Earth Science department has recently acquired some new, state-of-the-art, field equipment (gravimeter and ground-penetrating radar) and related software that will make participation in the course particularly relevant and rewarding.

Skills of students entering the course

It is expected that students taking this course will have the qualifications necessary for pursuing graduate studies in Geophysics, that is, a BSc (Hons) in Geophysics, a BSc (Hons) in Geology that incorporated Applied Geophysics courses, or a BSc (Hons) in Physics or Mathematics that incorporated basic Geology courses. It is expected that the students will have a basic understanding of the geophysical techniques to be used. Previous experience in acquiring data using applied geophysics techniques would be an asset but would not be required.
Course evaluation

Field performance (participation and field notes) 10%
Preliminary field report (due on return from the field) 5%
Intermediate report 10%
Final field report 35%
Final exam 15%
Research project 25%

The first five items above follow the assessment in EASC 4105, but scaled to comprise 75% of the assessment of EASC 6105. The research project is additional work required by EASC 6105 students. Example research projects are the study of the regional geology and tectonic history of the field site, or the study of one of the geophysical methods used during the field component of the course, including its theoretical background and the methods used to model and interpret the data it produces. The assessment of the research project will be based on a written report. The expectation is that the research project will be of a depth and quality appropriate for a graduate student.

Textbooks

Recommended textbook:

Suggested textbooks:

Logistics

This course will occur at the same time as EASC 4105: Field Course in Applied Geophysics and will thus use the same field site and share and coordinate the use of geophysical equipment, transport to and from the field site, and accommodation during the field component of the course. The current field site is approximately 10 km south of Baie Verte, where transport and accommodation resources are shared with EASC 4605: Environmental Geoscience Field School, however different sites may be utilized in the future.

Six days in total are spent on the field component of the course: one day for travel to Baie Verte, four days working at the field site, and one day for travel back to St. John's.
This field component happens in the week preceding the start of the Fall term. The field site is an area that has seen recent geophysical and geological work for mineral exploration. There are cut survey lines that are easily accessible from the highway and a gravel access road. Information from the previous geophysical and geological work that has been done at this site is available to us to incorporate within the course. Surveys using the full gamut of applied geophysical methods, such as gravity, magnetic, electrical and electromagnetic methods, are performed. Evenings are used for instruction on field equipment use, transcription of field notes, downloading data acquired during the surveys, preliminary data analysis and interpretation. Modern classrooms and computer facilities are available at the Baie Verte campus of the College of the North Atlantic.

In the in-semester component of this course, students attend discussions on the theory behind the methods used; carry out more detailed mapping, analysis and modelling of collected data using industry-standard software packages such as ArcGIS, Potent and Oasis Montaj; and prepare individual final reports describing both field work and analysis.

During each of the four days spent at the field site, there will be 8 contact hours between instructors and students spread over field work at the field site and over further instruction, data processing and modelling at the Baie Verte CNA. During the in-semester component, 3 hours per week (amounting to one laboratory class per week) will be spent discussing the theory of the methods and analysing, modelling and interpreting the collected data.
Dr. J.C. Loredo-Osti, Chair, Faculty of Science Faculty Council Graduate Studies Committee, Memorial University of Newfoundland.

6th June 2014

Re: Establishment of the new graduate course EASC 6105 “Advanced Field Course in Applied Geophysics”.

Dear Dr. Loredo-Osti,

This letter is in response to your email request of 1st May 2014 to Gail Kenny requiring that a letter be provided specifying the “exceptional circumstances” whereby the proposed new Earth Sciences graduate-level course EASC 6105 “Advanced Field Course in Applied Geophysics” cannot be a stand-alone course. The exceptional circumstances in this case relate to the resource-intensive nature of field courses.

Field courses require many more resources than courses held on campus, to the extent that it is not possible to offer stand-alone graduate field courses. First, field courses cannot be held during the regular term time because the instructors have other teaching duties on campus, thus one limited resource is the off-semester time of the instructors. Weather controls site access for this geophysics field course, with late August (i.e., immediately before the Fall semester commences) being an ideal time weather-wise for the field-based portion of this course. There are also significant costs associated with transportation of our bulky and valuable geophysical equipment (and people!) to and from the field area, and accommodation at the field site. If we combine our proposed graduate field course with our senior undergraduate geophysics field course (EASC 4105), there are no extra logistical costs and we can take advantage of group rates for accommodation. There is also an issue of availability of the geophysical equipment, which is often needed for graduate and undergraduate research projects.

In offering any course, attention must be given to expected enrollments. In any one year there may be only a few graduate students wishing to take a geophysics field course. By sharing resources with the upper undergraduate course, we can make the course available to graduate students—hopefully on an annual basis—to however many or few (even just one) who wish to take it.

In Earth Sciences, we are strong believers in the benefits of field training, and we would very much like to provide this training to our geophysics graduate students As explained above, the only way we can see this happening is if we combine the field training of graduate students with that of our upper undergraduates taking geophysics course EASC 4105.

Alison Leitch
Associate Professor
aleitch@mun.ca

Colin Farquharson
Assistant Professor
cfgfarquh@mun.ca
EASC 4105—Field School in Applied Geophysics

WHEN: August 28 – September 2, 2013 (Wednesday, Aug. 28 and Monday, Sept. 2 are travel days)

WHERE: Baie Verte

LEADERS: Alison Leitch (aleitch@mun.ca) and Colin Farquharson (cgfarquh@mun.ca)

COST: Normal course registration fee. Return transportation between St. John’s and Baie Verte and all travel and accommodation during field school are covered by the Department of Earth Sciences. For information please contact the General Office.

TRANSPORTATION: Minivans will leave St. John’s at 0900 on 28th of August and return at ~1900 on the 2nd of September. Pack efficiently with as little gear as possible, since field equipment and supplies will also have to fit in the vans.

ACCOMMODATION: Accommodation will be at the Dorset Inn bed and breakfast in Baie Verte.

MEALS: All meals including dinners and packed lunches may be provided by the Inn. When you register for the course please inform us of any dietary restrictions (e.g., allergies, vegetarianism). There is a well-stocked co-op grocery store in Baie Verte.

ALCOHOL: Because it interferes with field performance, there will be no alcohol consumption until the end of work on the final field day.

Note that transport, accommodation and meals are shared with participants of the Environmental Geoscience Field School EASC 4605.

OUTLINE: This course provides students an opportunity to carry out geophysical surveys in a natural setting, plot and analyse results and write a report of their findings. The course consists of 4 days of field work before the fall semester between August 28th and September 2nd followed by computer work, discussions and writing in about six 3-hour lab periods in the first half of the fall semester.

The field area consists of several lines 1-2 km long which were cut and marked for geophysical investigation by a mineral exploration company a few years ago. In the field module, small groups of 2-4 students will (i) locate and ‘refresh’ the picked stations along the cut lines, which are somewhat overgrown and pass through various terrains: woods, bogs, ponds and rocky outcrops; (ii) select and conduct various geophysical surveys such as Magnetism, VLF, Loop EM, DC Resistivity and Gravity along the chosen line(s); (iii) make preliminary interpretation of data collected during the day, and plan for the next day. It is required that every group maintain a field notebook recording all important field work activities and observations. Evenings will be used for instruction on equipment use, transcription of field notes, downloading data, preliminary data analysis and discussion. Modern classrooms and computer facilities are available at Baie Verte CONA for evening work. Upon completion of the field module, each student is required to submit an individual preliminary report that summarizes the field work.

In the in-semester module, students will attend discussions on the theory behind the geophysical methods used, carry out more detailed mapping and analysis of results using inhouse packages such as ArcGIS, Potent and Oasis Montaj, and prepare individual final reports describing both field work and analysis.

Course Evaluation will be based in the following:
Field School in Applied Geophysics

Field performance (participation and field notes) 10
Preliminary field report 5
Intermediate report 10
Final report 50
Quizzes 5
Final exam 20

STUDENT PACKING LIST:

- Field notebook (provided), pencils, pens, drawing pen, ruler, permanent marker (for labelling samples), pencil sharpener, eraser, etc. (Note: ball point pens do not work in the rain).
- Optional items: compass, pocketknife, camera, centimetre scale (for photography), laptop computer.
- Insect repellent, hat, sunscreen, rain gear, sturdy field boots with ankle support, sunglasses
- Small personal first aid kit
- Water canteen or bottle

SAFETY: Field work inherently involves some risk. Before we leave for the field you will be required to fill in some forms with personal information (any allergies, special medical problems, address/telephone number of next of kin etc.) and to acknowledge that you are prepared for the general types of risk associated with field work (a government safety waiver). Once in the field, your instructors will point out particular features on each traverse / at each stop that you should be aware of, but students are encouraged to take charge of their own safety, make their own risk assessments and act accordingly. A reasonable level of fitness is required; the traverses will involve walking several km per day, in places on uneven or boggy terrain, as well as some outcrop scrambling. Now is the time to start getting in shape if you have been waiting for the excuse! No-one will be expected to undertake any activity that they feel is outside their comfort zone with respect to physical safety.
# Committees

**COMMITTEES OF SCIENCE FACULTY COUNCIL**

<table>
<thead>
<tr>
<th>Undergraduate Studies</th>
<th>Graduate Studies</th>
<th>Nominating</th>
<th>Library</th>
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<td>Len Zedel</td>
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<td>Sukhinder Cheema</td>
<td>Len Zedel</td>
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<td>Minglun Gong</td>
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<td>Ian Fleming</td>
<td>Stephanie Curnoe</td>
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<td>Brent Snook</td>
<td>David Wilson</td>
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