



Faculty of Science

Office of the Dean
St. John's, NL Canada A1B 3X7
Tel: 709 864 8154 Fax: 709 864 3316
deansci@mun.ca www.mun.ca/science

MEETING OF THE FACULTY COUNCIL OF THE FACULTY OF SCIENCE

A regular meeting of the Faculty Council of the Faculty of Science will be held on Wednesday, September 19, 2018 at 1 p.m. in C-2045.

AGENDA

1. **Regrets**
2. **Adoption of the Minutes of May 16, 2018**
3. **Business Arising from the Minutes:** None
4. **Correspondence:** Annual Inventory of Indigenization Activities, Office of the Special Advisor to the President on Aboriginal Affairs
5. **Reports of Standing Committees:**
 - A. **Undergraduate Studies Committee:** None
 - B. **Graduate Studies Committee:**
 - a. Department of Mathematics and Statistics, special topics course, STAT 6506, Applied Event History Analysis, approved by the committee and presented to Faculty Council for information only 5.B.a (pages 14-19)
 - b. Department of Earth Sciences, special topics courses, EASC 6907, Phase Equilibria Modelling in Metamorphic Petrology, and EASC 6954, Geochemical Proxies in Precambrian Sedimentary Systems, approved by the committee and presented to Faculty Council for information only 5.B.b (pages 20-29)
 - c. Department of Earth Sciences, calendar changes to MSc program proposing the addition of a thesis defense in Geology and Geophysics 5.B.c (pages 30-35)
 - d. Department of Earth Sciences, calendar changes to PhD program proposing changes to the comprehensive examination requirements in Geology and Geophysics 5.B.d (pages 36-38)
 - e. Department of Psychology, special topics course, PSYC 6120, Special Topics in Health Psychology, approved by the committee and presented to Faculty Council for information only 5.B.e (pages 39-46)
 - C. **Nominating Committee:**
 - a. Approval of Committee matrix, paper 5.C.a (pages 47-49)
 - D. **Library Committee:** None
6. **Reports of Chair in Teaching & Learning and Teaching Consultant**

7. **Reports of Delegates from Other Councils**
8. **Undergraduate Retention Software**
9. **Report of the Dean**
10. **Question Period**
11. **Adjournment**

A handwritten signature in blue ink, appearing to read "M. Abrahams". The signature is written in a cursive, flowing style.

Mark Abrahams, Ph.D.
Dean of Science



Faculty of Science

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**FACULTY OF SCIENCE
FACULTY COUNCIL OF SCIENCE
MINUTES OF MEETING OF MAY 16, 2018**

A meeting of the Faculty Council of the Faculty of Science was held on Wednesday, May 16 at 1:00 p.m. in room C-2045.

FSC 2601

Present

Biology

Jones, I. Staveley, B.

Computer Science

Chen, P.

Earth Sciences

Hanchar, J. Welford, K.

Mathematics & Statistics

Loredo-Osti, J. Radford, C. Sullivan, S.

Physics & Physical Oceanography

Munroe, J.

Psychology

Thorpe, C.

Dean of Science Office

Foss, K. Foster, A. Jackson, G. MacKenzie, T.
Newhook, R. Zedel, L.

Geography

Catto, N.

Faculty of Business

Clift, T.

Graduate Students

Aina, A.

- FSC 2602 Regrets**
Berry, M. Poduska, K.
- FSC 2603 Adoption of Minutes**
Moved: Minutes of April 18, 2018, meeting be adopted (Sullivan/Jones).
One Abstention. Carried.
- FSC 2604 Business Arising:** None
- FSC 2605 Correspondence:** None
- FSC 2606 Reports of Standing Committees:**
- A. Undergraduate Studies Committee:**
Report presented by Shannon Sullivan, Chair, Undergraduate Studies Committee
- a) i) Moved:** Department of Biology, calendar change to existing programs, Chemistry requirements for the Biology and Statistics Joint Honours (Sullivan/Foster). **One opposed. Carried.**
- b) Moved:** Response from Faculty of Science Undergraduate Studies Committee regarding feedback on General Regulation 6.3 Residence Requirements. (Sullivan/Staveley). **Carried.**
- B. Graduate Studies Committee:**
Report presented by J.C. Loredano-Osti, Chair, Graduate Studies Committee:
- a)** Aquaculture Program, special topics course AQUA 6203, Applications of Transcriptome Analysis in Aquaculture, presented to council for information purposes only.
- b)** Department of Biology, special topics course BIOL 7948, Lichens: Molecular Biology and Culturing, presented to council for information purposes only.
- C. Nominating Committee:** None
- D. Library Committee:** None
- FSC 2607 Report of Teaching Consultant:** None
- FSC 2608 Reports of Delegates from Other Councils:** None
- FSC 2609 Report of the Dean:**
Dr. Courage informed Faculty Council members that the Faculty of Science will be absorbing a larger budget cut than was initially expected. The total funding

shortfall to the Academic Portfolio is \$5.1 million, however, we do not know the amount that may be allocated to Science, but the 2018-19 cut will be more than was anticipated.

As an update for the five departments waiting to advertise approved faculty positions, the Vice-President (Research) has confirmed that some startup funds will be made available but the amount will be less than was received last year. Gina is working to confirm if we have all startup funds needed to proceed with advertising, and the Dean's office will be in touch with the applicable departments once this information is finalised. Hiring will soon be completed for the approved positions from December 2016, plus two conversions and two new appointments were approved.

FSC 2610

Question Period:

There was some discussion regarding starting the faculty recruitment process before having startup confirmed. This had happened in the past and caused problems with recruitment. Dr. Courage confirmed that we will not proceed with hiring until the startup funds are in place.

FSC 2611

Adjournment

The meeting adjourned at 1:15 p.m.



Office of the Special Advisor
to the President on Aboriginal Affairs

Moving Forward with an
Annual Inventory of Indigenization Activities
at Memorial University of Newfoundland

Submission Deadline: October 31, 2018

Memorial University of Newfoundland Annual Inventory of Indigenization Activities

"We recognize the critical importance of indigenization at Memorial and have identified the need for a university-wide strategic indigenization plan. Though indigenization involves the integration of Indigenous ways of knowing, being and doing, the concept of indigenizing the academy is as diverse as the cultures of Indigenous peoples themselves. ... Demonstrating that we are working towards such a goal will derive many benefits for both Indigenous students and Memorial University as a whole. At the core of this initiative is the potential for renewed relationships with Indigenous peoples and the advancement of reconciliation."

Dr. Gary Kachanoski
Dr. Noreen Golfman

Strategic Indigenization Plan - Position Statement

In Winter 2018, Memorial launched an inclusive and consultative process that will guide the development of the university's first indigenization strategy in Fall 2019. The President's Advisory Committee on Aboriginal Affairs is leading the project. This specific request builds on the Strategic Indigenization Plan - Position Statement issued in October 2017 to the university community by President Gary Kachanoski and Provost and Vice-President (Academic) Noreen Golfman (see Appendix).

Through this process and moving forward, Memorial will continue to redefine its role in supporting Indigenization and reconciliation. It involves: documenting and celebrating current activities and engagements; continuously strengthening the integration of Indigenous ways of knowing, being and doing within our academic programs and student services; and exploring new opportunities for innovative collaboration between the University and Indigenous communities.

Over the next four months (July-October 2018), academic and administrative units across all of Memorial's campuses are being asked to complete this inventory of activities as a means of documenting the current landscape of Indigenous activities. The inventory also asks each unit to identify two new initiatives that could be initiated within the next 12 months.

We encourage all academic and administrative units to bring this inventory template to their next faculty council or group meetings to ensure a discussion of Memorial's Position Statement on Strategic Indigenization Plan, to discuss how each unit is already supporting Indigenization and to start the process of mapping out future Indigenization activities.

Some may ask what is Indigenization? Following consultation with the university and Indigenous communities, Memorial University's first Indigenization strategic plan (to be released in Fall 2019) will define what Indigenization means to us. Across the country, there is no single definition used by universities, but they all have a similar core message: infusing Indigenous knowledge, voices and experiences within our programs and activities for the benefit of Indigenous students and communities, as well as building towards reconciliation by supporting non-Indigenous members of Memorial's community gain a better understanding and appreciation of Indigenous peoples, their histories, their cultures and their worldviews.

At the University of Regina, for example, the Aboriginal Advisory Circle to the President defines Indigenization as “the transformation of the existing academy by including Indigenous knowledges, voices, critiques, scholars, students and materials as well as the establishment of physical and epistemic spaces that facilitate the ethical stewardship of a plurality of Indigenous knowledges and practices so thoroughly as to constitute an essential element of the university. It is not limited to Indigenous people, but encompasses all students and faculty, for the benefit of our academic integrity and our social viability.”

The inventory template was designed to be a practical tool that would allow each academic and administrative unit to use the same information for reporting to regional and national organizations and associations. Each unit will also be asked to update the inventory each academic year to ensure a complete and up-to-date portrait of Memorial’s Indigenization efforts.

Once compiled under the stewardship of the Office of the Special Advisor for Aboriginal Affairs with input from academic and administrative units across the University, Memorial University’s Inventory of Indigenous Engagement will summarize and highlight current initiatives, with an annual update thereafter. Those reports will be published on the University’s website.

For additional information about the Inventory of Indigenous Engagement and/or how to submit an entry, please contact Catharyn Andersen.

Submission Deadline: October 31, 2018

Please complete the form in an electronic format. Please provide the report to Catharyn Andersen by email by October 31, 2018.

Name of Faculty/School:
Current Indigenization Activities:
Academic Programs: <i>(list individual academic programs with some or significant Indigenous focus)</i>
Courses: <i>(for courses with some or significant Indigenous content, please list individual courses, with a one-sentence summary of Indigenous content and the overall percentage of Indigenous content)</i>
Faculty/staff members: <i>(with a focus on Indigenous topics)</i>
Professional Accreditation: <i>(list reports, suggestions, directions or requirements being set by professional associations and regulatory bodies regarding Indigenization)</i>
Participation in Designated Seats Program: <i>(list individual programs, with number of designated seats and number of seats filled over the past five years (2013-2014 to 2017-2018) and for 2018-2019 (if data is available))</i>
Student Placements: <i>(list 'real' work experience opportunities available within an Indigenous community or agency that complement and support the student's degree qualification)</i>

<p>Co-curricular activities: <i>(list of Indigenization activities, programs, and learning experiences outside the classroom/lab that complement what students are learning within their academic courses)</i></p>
<p>Partnerships: <i>(list existing partnerships with Indigenous communities, agencies, organizations, etc.)</i></p>
<p>Research Projects: <i>(list research projects taken place with external Indigenous scholars, within Indigenous communities or with the support of Indigenous communities, agencies or organizations)</i></p>
<p>Events or activities: <i>(list of orientation week, speakers, student events, etc. that focus on Indigenization, etc.)</i></p>
<p>Physical space, art and expression: <i>(list ways that your unit provides an Indigenous presence through space, art and expression)</i></p>
<p>President's Advisory Committee on Aboriginal Affairs: <i>(list interested volunteers to serve on this university committee)</i></p>
<p>Future Indigenization Activities</p>
<p>Two Initiatives for 2018-2019 <i>(please list two initiatives for the next academic year, with clear descriptions, process and outcomes)</i></p> <p>1)</p>

2)

Appendix

Strategic Indigenization Plan - Position Statement
Dr. Gary Kachanoski, President and Vice-chancellor
Dr. Noreen Golfman, Provost and Vice-President (Academic)
Memorial University of Newfoundland

October 2017

For the past number of decades, universities have, to varying degrees, examined ways to support Indigenous students and incorporate Indigenous content into their academic programming. The release of the Truth and Reconciliation (TRC) report in 2015 and the subsequent adoption of Universities Canada's Principles on Indigenous Education have compelled us to re-examine our approach to the inclusion of Indigenous peoples in the academy.

The TRC makes it clear that universities have a fundamental role to play in our country's reconciliation efforts. Therefore, it is no longer enough simply to provide supports to Indigenous students so that they can succeed in the mainstream environment, but rather we must look at ways to indigenize the academy for the benefit of all – Indigenous and non-Indigenous – students, employees and others with a stake in the academy.

We recognize the critical importance of indigenization at Memorial and have identified the need for a university-wide strategic indigenization plan. Though indigenization involves the integration of Indigenous ways of knowing, being and doing, the concept of indigenizing the academy is as diverse as the cultures of Indigenous peoples themselves. Given the unique cultures and history of Newfoundland and Labrador and the important role of Memorial University to the province, we consider it necessary that Memorial University develop its own description of indigenization.

Demonstrating that we are working towards such a goal will derive many benefits for both Indigenous students and Memorial University as a whole.

At the core of this initiative is the potential for renewed relationships with Indigenous peoples and the advancement of reconciliation. Additionally, Memorial's capacity to expand upon and advance knowledge about cultures and worldviews will increase, helping to build trust and understanding as well as the capacity to inspire future students and generations.

The President's Advisory Committee on Aboriginal Affairs struck a working group for the strategic indigenization plan and they have identified some key principles and discussion points for the development of such a plan. These are:

- 1) Memorial must engage in consultation and partnership with the Indigenous peoples of Newfoundland and Labrador. A template or "one size fits all" approach is not effective when it comes to indigenization. Some have suggested that indigenization should mean that Indigenous peoples can have access to education that is congruent with their cultural knowledge, history, language, identity, values, worldviews, rights, and embodied experiences (Gaywish, 2017). In this connection, working with the Indigenous peoples of this place is integral. This is where we must begin.

- 2) The process is not starting from scratch. The 2009 Report of the Presidential Task Force on Aboriginal Initiatives has provided strong direction regarding enhancing the recruitment and success of Indigenous students and there has been considerable progress toward its objectives. Significant work continues to happen on our campuses at Memorial University, some of which emanates from the 2015 report Celebrating Aboriginal Culture and Cultivating Inclusion at Memorial University. However, it is recognized that the path on which we are about to embark is fundamentally different from that which has been taken in the past. Indigenization is a much broader approach, one that encompasses student success and also advances the integration of Indigenous ways of knowing, doing and being into the whole University and acknowledges the value of this integration to the institution.
 - 3) Memorial operates in many areas across the province, each with its own relationship to Indigenous groups in those areas. This diversity must be reflected in the approach taken.
-
- 4) Strategic planning processes normally have clearly defined goals with identified target dates. This process will not presume to identify those goals and targets until consultation has taken place. Additionally, it is recognized that a reasonable timeline would consist of 18-24 months. While the plan is in development, the work that is in progress which advances reconciliation and indigenization will continue.
 - 5) Additional human and financial resources to undertake the work involved in this project are needed appropriate to the scale of the project.



Dean of Science Office

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June 26, 2018

TO: Registrar's Office
FROM: Secretary, Faculty of Science Faculty Council
SUBJECT: Special Topics Course

The special topics course, STAT 6506, Applied Event History Analysis, has 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.

A handwritten signature in blue ink that reads "Gina Jackson". The signature is written over a horizontal line.

Gina Jackson
Secretary, Faculty of Science Faculty Council

/gbk

cc: A. Williams, School of Graduate Studies
L. Morrissey, Department of Mathematics and Statistics

Kenny, Gail

From: JC Loredo-Osti <jcloredoosti@mun.ca>
Sent: June-22-18 2:06 PM
To: Kenny, Gail
Subject: Re: STAT 6506

Hi Gail,

this special topics course has been approved with 7 votes in favour (Cyr, Ron, Carolyn, Luke, Ken, Brian, Stephanie and myself), none against.

-j

On 08/06/18 10:29 AM, Kenny, Gail wrote:

> Good morning JC,
>
> Attached is a request for approval of a special topics course, STAT 6506, Applied Event History Analysis.
>
> Gail
>
> Gail Kenny
> Assistant to the Dean
> Faculty of Science Office
> 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

"Alas! all music jars when the soul's out of tune"

--Miguel de Cervantes



Request for Approval of a Graduate Course

School of Graduate Studies

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; HC-2012 (Bruneau 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.: STAT 650-6

Course Title: Applied Event History Analysis

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)

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

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

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

E. Credit hours for this course: 3

F. Course description (reading list required):

This course concerns the statistical analysis of event history data. Important models for point and multistate processes and their extensions incorporating covariates and random effects are considered for modeling event history data. See the attached document for details.

G. Method of evaluation:	Percentage	
	Written	Oral
Class tests	20%	0%
Assignments	20%	0%
Other (specify): Published paper presentation	0%	10%
Final examination:	50%	0%
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:

- | | Instructor's Initials |
|--|-----------------------|
| 1. duplication of thesis work | <u>C.C.</u> |
| 2. double credit | <u>C.C.</u> |
| 3. work that is a faculty research product | <u>C.C.</u> |
| 4. overlap with existing courses | <u>C.C.</u> |

Recommended for offering in the Fall Winter Spring 2019

Length of session if less than a semester: N/A

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

Candace Cigar Juchacz
Course instructor

Apr: 12, 2018
Date

[Signature]
Approval of the head of the academic unit

17 Aug '18
Date

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

[Signature]
Secretary, Faculty/School/Council

June 26/18
Date

Applied Event History Analysis

Rationale/Justification:

Standard survival analysis deals with the occurrence of single events. In real life applications, processes may yield multiple events of different types over time. Methods developed for the survival analysis are not sufficient in such cases, and there is an emerging need for the analysis of complex event histories. Complex event history data arise in many areas including medicine, epidemiology, demography, reliability, industry, biology and economics. This course will be instrumental for our graduate students in analyzing such data sets from various research fields with state of arts statistical methods.

Course Description:

This course concerns the statistical analysis of event history data. Important models for point and multistate processes and their extensions incorporating covariates and random effects are considered for modeling event history data. Inference problems based on nonparametric, semi-parametric and parametric methods are covered with their clear description for estimation, confidence interval and hypothesis testing. Robust procedures are explained. Methods and modeling concepts are illustrated through many examples from medicine, epidemiology and industry. Statistical analysis of data sets is implemented by R software. Data sets of various sizes from medicine, epidemiology and industry are available electronically, and incorporated into the lectures and the assignments.

Resources Implications:

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

Topics include:

1. Introduction to time-to-event and event history analysis;
2. Methods and models based on the rate and mean functions;
3. Analysis of gap times;
4. General intensity function methodology;
5. Multi-type recurrent events;
6. Analysis of multistate data;
7. Dependent censoring and interval censored data.

Library Holdings:

1. Cook, R.J. and Lawless, J.F. "The Statistical Analysis of Recurrent Events." Springer, 2007.
2. Aalen, O.O., Borgan, O. and Gjessing, H.K. "Survival and Event History Analysis." Springer, 2008.

Evaluation:

Class Test (Written): 20%
Assignment (Written): 20%
Published paper presentation (Oral): 10%
Final examination (Written): 50%

References:

1. Cook, R.J. and Lawless, J.F. "The Statistical Analysis of Recurrent Events." Springer, 2007.
2. Aalen, O.O., Borgan, O. and Gjessing, H.K. "Survival and Event History Analysis." Springer, 2008.
3. Kalbfleisch, J.D. and Prentice, R.L. "The Statistical Analysis of Failure Time Data", 2nd Ed., Wiley, 2002.
4. Allison, P.D. "Event history and survival analysis: Regression for longitudinal event data." Sage Publications, 2014.
5. Yamaguchi, K. "Event History Analysis." Sage Publications, 1991.



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June 28, 2018

TO: Registrar's Office
FROM: Secretary, Faculty of Science Faculty Council
SUBJECT: Special Topics Courses

The special topics courses, EASC 6907, Phase equilibria modelling in metamorphic petrology and EASC 6954, Geochemical proxies in Precambrian sedimentary systems, 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.


Gina Jackson
Secretary, Faculty of Science Faculty Council

/gbk

cc: A. Williams, School of Graduate Studies
D. Guzzwell, Department of Earth Sciences



MAY 17 2018

Request for Approval of a
Graduate Course

Received

School of Graduate Studies

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 (Bruneau 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 6954

Course Title: Geochemical proxies in Precambrian sedimentary systems

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) Presentations/discussions

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: 26

F. Course description (reading list required):
 Attached

G. Method of evaluation:	Written	Percentage	Oral
Class tests			
Assignments		60	
Other (specify): Presentations/discussions		40	
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:

Instructor's Initials

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

Recommended for offering in the Fall Winter Spring 20 19

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

M. Babaluk
Course instructor

16 April 2018
Date

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

MAY 15, 18
Date

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

[Signature]
Secretary, Faculty/School/Council

June 29/18
Date

Geochemical proxies in Precambrian sedimentary systems

Description:

The course focuses on directed readings and presentations related to geochemical proxies used to extract paleo-environmental information related to chemical weathering, formation and provenance of clastic sedimentary rocks, and redox indicators in continental and marine environments (from rifts to passive margins). Emphasis is on the key principles and development of inorganic chemical proxies based on their calibration from modern analogue environments. Discussions will be formulated around the application of these proxies to Precambrian rocks to infer global changes in Earth's systems from the Archean to the Neoproterozoic.

Evaluation breakdown:

Assignments [60%]: Final report [40%], reading binder (documentation of readings, paper summaries) [20%]

- Students will create their own reading binder divided by topics and annotate the read and discussed papers. Students will write their own summary version of the paper to attach in the binder.
- Students will create a final report on one sedimentary environment that encompasses the way in which the application of different geochemical proxies has led to an evolution in thinking and interpretation.

Presentations and paper discussion [40%]: Final presentation [20%], topic presentations and participation in paper and presentation discussions [20%]

- Students will deliver a final 30-min presentation related to the final report at the end of the semester.
- Topic presentations will involve students proposing papers for discussion within a theme and guiding initial discussion by summarizing the student's reading of the most important aspects of the paper. The mark will be based on depth of paper evaluations and participation in other discussions throughout the course.

Reading list:

Overview volumes/texts:

Lentz, D.R. (ed.), 2004. *Geochemistry of Sediments and Sedimentary Rocks: Evolutionary Considerations to Mineral Deposit-Forming Environments*. Geological Association of Canada, GeoText 4.

A reading list of new, topical articles and the application of trace element and isotopic proxies will be the focus of the course. New articles (younger than ca. 2000) will be supplemented with relevant classic journal articles or summary texts as needed. Thematic direction will be steered by the interests of the students. Examples (not comprehensive) of thematic reading lists include:

Chemical weathering/paleosols:

Babechuk, M.G., Widdowson, M., Kamber, B.S., 2014. Quantifying chemical weathering intensity and trace element release from two contrasting basalt profiles, Deccan Traps, India. *Chemical Geology* 363: 56-75.

Fedo, C.M., Nesbitt, H.W., Young, G.M., 1995. Unravelling the effects of potassium metasomatism in sedimentary rocks and paleosol, with implications for paleoweathering conditions and provenance. *Geology* 23: 921-924.

Maynard, J.B., Chemistry of modern soils as a guide to interpreting Precambrian paleosols. *The Journal of Geology* 100: 279-289.

Nesbitt, H.W., 1979. Mobility and fractionation of rare earth elements during weathering of a granodiorite. *Nature* 279: 206-210.

Nesbitt, H.W., Young, G.M., 1989. Formation and diagenesis of weathering profiles. *Journal of Geology* 97: 129-147.

Nesbitt, H.W., Wilson, R.E., 1992. Recent chemical weathering of basalts. *American Journal of Science* 292: 740-777.

Nesbitt, H.W., Markovics, G., 1997. Weathering of granodioritic crust, long-term storage of elements in weathering profiles, and petrogenesis of siliciclastic sediments. *Geochimica et Cosmochimica Acta* 61: 1653-1670.

Nesbitt, H.W., Markovics, G., Price, R.C., 1980. Chemical processes affecting alkalis and alkaline earths during continental weathering. *Geochimica et Cosmochimica Acta* 44: 1659-1666.

Rye, R., Holland, H.D., 1998. Paleosols and the evolution of atmospheric oxygen: a critical review. *American Journal of Science* 298: 621-672.

Clastic sediment/sedimentary rocks and the bulk composition of the upper continental crust:

Barth, M.G., McDonough, W.F., Rudnick, R.L., 2000. Tracking the budget of Nb and Ta in the continental crust. *Chemical Geology* 165: 197-213.

Condie, K.C., 1993. Chemical composition and evolution of the upper continental crust: contrasting results from surface samples and shales. *Chemical Geology* 104: 1-37.

Fralick, P.W., Kronberg, B.I., 1997. Geochemical discrimination of clastic sedimentary rock sources. *Sedimentary Geology* 113: 111-124.

Gallet, S., Jahn, B.-M., van Vliet Lanoë, B., Dia, A., Rossello, E., 1998. Loess geochemistry and its implications for particle origin and composition of the upper continental crust. *Earth and Planetary Science Letters* 156: 157-172.

Kamber, B.S., Greig, A., Collerson, K.D., 2005. A new estimate for the composition of weathered young upper continental crust from alluvial sediments, Queensland, Australia. *Geochimica et Cosmochimica Acta* 69: 1041-1058.

McLennan, S.M., 2001. Relationships between the trace element composition of sedimentary rocks and upper continental crust. *Geochemistry Geophysics Geosystems* 2: 2000GC000109.

Plank, T., Langmuir, C.H., 1998. The chemical composition of subducting sediment and its consequences for the crust and mantle. *Chemical Geology* 145: 325-394.

Taylor, S.R., McLennan, S.R., 1985. *The Continental Crust: Its Composition and Evolution*. Blackwell Scientific, Boston, 277 p.

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Trace metal and non-traditional stable isotope paleo-redox proxies

Algeo, T.J., Tribovillard, N., 2009. Environmental analysis of paleoceanographic systems based on molybdenum-uranium covariation. *Chemical Geology* 268: 211-225.

Crusius, J., Calvert, S., Pedersen, T., Sage, D., 1996. Rhenium and molybdenum enrichments in sediments as indicators of oxic, suboxic and sulfidic conditions of deposition. *Earth and Planetary Science Letters* 145: 65-78.

Frei, R., Gaucher, C., Poulton, S.W., Canfield, D.E., 2009. Fluctuations in Precambrian atmospheric oxygenation recorded by chromium isotopes. *Nature* 461: 250-254.

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**MAY 17 2018 Request for Approval of a
Graduate Course**

Received

School of Graduate Studies

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 (Bruneau 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 6907

Course Title: Phase equilibria modeling in metamorphic petrology

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)

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: 24

F. Course description (reading list required):
 see additional page

G. Method of evaluation:	Written	Percentage	Oral
Class tests			
Assignments			
Other (specify): see attached document	85		15
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:

Instructor's initials

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

Recommended for offering in the Fall Winter Spring 2018

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

Ankudite Indares
Course instructor

April 10, 2018
Date

Chmyelle
Approval of the head of the academic unit

May 15, 18
Date

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

G. Jack
Secretary, Faculty/School/Council

June 29/18
Date

Proposed grad course: EASC 6907, Phase equilibria modeling in metamorphic petrology

Course description:

This course aims to familiarize graduate students with phase equilibria modelling techniques that are increasingly used in metamorphic petrology. These techniques allow to link changes in specific rock systems to changes in environmental conditions (ex. pressure and temperature) and have become essential tools for the interpretation of metamorphic rocks.

It is a reading course that also involves and practical applications using a computer software (THERMOCALC).

The course is in 3 parts:

A -overview of relevant concepts of metamorphic petrology: P - T paths, garnet zoning and equilibrium thermodynamics - readings from selected chapters of: Frank S. Spear, *Metamorphic Phase Equilibria And Pressure-Temperature-Time-Paths*; ISBN 0-939950-34-0.

B - calculation of a complete P - T pseudosection for a bulk rock composition provided, based on guidelines and documentation available in the THERMOCALC site:
www.metamorph.geo.uni-mainz.de/thermocalc/

C -literature search, readings and production of a term paper on application of phase equilibria modelling of mafic and quartzofeldspathic rocks at a selected metamorphic facies, with emphasis on advances and current limitations.

Course evaluation:

Assignment based, as follows.

- | | |
|---|-----|
| - A short essay on topics from part A: | 15% |
| - Part B: A P - T pseudosection with 2 pages of explanatory notes | 35% |
| - Part C: term paper | 35% |
| oral presentation and discussion | 15% |

August 28, 2018

TO: Dr. JC Loredano-Osti, Faculty of Science Graduate Studies Committee
FROM: Dr. Luke Beranek, Department of Earth Sciences
SUBJECT: Changes to M.Sc. program requirements (Geology & Geophysics)
CC: Nancy Bishop, Secretary to Associate Deans & Interdisciplinary Programs
Michelle Miskell, Manager of Academic Programs, Earth Sciences

Proposal

M.Sc. program requirements for the Department of Earth Sciences (Geology & Geophysics) do not currently include an oral defence. The department Graduate Matters Committee proposes here that: (1) an oral M.Sc. defence be added to the program requirements; and (2) changes be made the wording of regulation 25.11.1(5). This memo outlines the rationale for such changes and the proposed graduate calendar entry for the consideration of the Faculty of Science Graduate Studies Committee. Attachments include an email message from Dr. Aimée Surprenant, Dean, School of Graduate Studies, regarding an oral M.Sc. defence and descriptions of analogous M.Sc. defences in Canada.

Rationale

An oral M.Sc. defence is favoured for the following reasons: (1) it will give students practice in presenting and defending their research; (2) it allows delivery of research results to the public, university community, and/or stakeholders, including industry and government research partners; (3) it will strengthen the rigour and perception of our program to current and prospective students; (4) many other universities in Canada and elsewhere require an M.Sc. oral defence and we want our students to be seen as similarly well prepared; and (5) to give a conclusion and final celebration for each student. (Note: graduate students were surveyed and supported the proposed changes).

The oral defence will be implemented and administered by the Department of Earth Sciences. There will be no funds or administration required on behalf of SGS. The defence will be a department, not university-wide, regulation and it must therefore occur before the thesis is officially submitted.

To proceed to the oral defence, the student's supervisor must email the Head's Assistant to inform them that the student's thesis is ready for examination and provide suggested names for the defence examination committee. This committee will have three voting members and be comprised of: (i) the supervisory committee; (ii) a third supervisory committee member (if one exists) or one other regular faculty member (who may also be suggested to examine the thesis); and (iii) the chair or delegate (non-voting). The defence presentation will be open to the public, but examiner questions will be held in camera. Possible outcomes of the defence are the same as for the Ph.D. given in section 4.10.4(g) of the calendar. Students who earn a "Pass" or "Pass with Distinction" can proceed to the thesis examination following SGS procedures. Students who earn a "Pass Subject to Conditions" must satisfy those conditions before submitting their thesis for examination. Students who earn a "Re-Examination Required" have six months to complete that re-examination or their program will be terminated. Students who earn a "Fail" will have

their program terminated. Once the defence and any necessary revisions are completed, the supervisory committee will complete the Supervisory Approval Form and the thesis may then proceed to examination following the SGS procedures.

Please contact me at x4588 or lberanek@mun.ca if there are questions about these proposed changes.

Existing entry with proposed changes (new text in italics)

25.11 Earth Sciences

- www.mun.ca/sgs/contacts/sgscontacts.php
- www.mun.ca/science
- www.mun.ca/earthsciences

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

25.11.1 Program of Study

1. Admission into a Master's Degree program in Earth Sciences (Geology) and Earth Sciences (Geophysics) is restricted to candidates holding at least a B.Sc. Degree with second class Honours. When circumstances warrant, this requirement may be waived by the School of Graduate Studies on the recommendation of the Head of the Department.
2. Each candidate will be assigned a multi-member supervisory committee. This committee shall consist of the Supervisor and at least one other member. Within two weeks of the first registration in the M.Sc. Degree program, a candidate will meet with the candidate's supervisory committee. Within six months, the student and the supervisory committee will agree on a written thesis proposal outlining the objectives, methods, timetable and funding for the project, and provide the proposal (signed by the student and supervisory committee) to the Head for inclusion in the student's file.
3. A candidate for the M.Sc. Degree must complete a minimum of 6 credit hours in program courses. The courses must be selected from the overview and general courses below or with the approval of the supervisory committee and Head of the Department, other graduate level courses including those offered by other departments. Depending on background and/or area of specialization, a candidate also may be required to complete additional courses in earth sciences or related subjects.
4. All course requirements should be completed within one year from the date of first registration in the M.Sc. Degree program.
5. ~~A candidate is required to give an oral presentation to the Department on the results of the candidate's research. This presentation must be given during the second year of the program.~~
5. *A candidate is required to give an oral presentation to the Department on the results of their research. This presentation is normally given during the second year of the program and must take place within the Graduate Student Seminar Series.*
- (6) *A candidate is required to give an oral defence of their thesis research. The defence will consist of three voting members and will be comprised of (i) the supervisory committee, (ii) a third supervisory committee member (if one exists), or one other regular faculty member (who may also be suggested to examine the thesis), and (iii) the chair or delegate (non-voting). The defence presentation will be open to the public, but examiner questions will be held in camera. Possible outcomes of the defence are the same as for the Ph.D. given in section 4.10.4(g) of the calendar. Students who earn a "Pass" or "Pass with Distinction" can proceed to the thesis examination following the SGS procedures. Students who earn a "Pass Subject to Conditions" must satisfy those conditions before submitting their thesis for examination. Students who earn a "Re-Examination Required" have six months to complete that re-examination or their program will be terminated. Students who earn a "Fail" will have their program terminated. Once the defence and any necessary revisions are completed, the supervisory committee will complete the Supervisory Approval Form and the thesis may then proceed to examination following the SGS procedures.*
6. The M.Sc. Degree program will conclude with a thesis examination as prescribed in the **Regulations Governing the Degree of Master of Science.**

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

Proposed entry without strikeouts

25.11 Earth Sciences

- www.mun.ca/sgs/contacts/sgscontacts.php
- www.mun.ca/science
- www.mun.ca/earthsciences

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

25.11.1 Program of Study

- Admission into a Master's Degree program in Earth Sciences (Geology) and Earth Sciences (Geophysics) is restricted to candidates holding at least a B.Sc. Degree with second class Honours. When circumstances warrant, this requirement may be waived by the School of Graduate Studies on the recommendation of the Head of the Department.
- Each candidate will be assigned a multi-member supervisory committee. This committee shall consist of the Supervisor and at least one other member. Within two weeks of the first registration in the M.Sc. Degree program, a candidate will meet with the candidate's supervisory committee. Within six months, the student and the supervisory committee will agree on a written thesis proposal outlining the objectives, methods, timetable and funding for the project, and provide the proposal (signed by the student and supervisory committee) to the Head for inclusion in the student's file.
- A candidate for the M.Sc. Degree must complete a minimum of 6 credit hours in program courses. The courses must be selected from the overview and general courses below or with the approval of the supervisory committee and Head of the Department, other graduate level courses including those offered by other departments. Depending on background and/or area of specialization, a candidate also may be required to complete additional courses in earth sciences or related subjects.
- All course requirements should be completed within one year from the date of first registration in the M.Sc. Degree program.
- A candidate is required to give an oral presentation to the Department on the results of their research. This presentation is normally given during the second year of the program and must take place within the Graduate Student Seminar Series.
- A candidate is required to give an oral defence of their thesis research. The defence will consist of three voting members and will be comprised of (i) the supervisory committee, (ii) a third supervisory committee member (if one exists), or one other regular faculty member (who may also be suggested to examine the thesis), and (iii) the chair or delegate (non-voting). The defence presentation will be open to the public, but examiner questions will be held in camera. Possible outcomes of the defence are the same as for the Ph.D. given in section 4.10.4(g) of the calendar. Students who earn a "Pass" or "Pass with Distinction" can proceed to the thesis examination following the SGS procedures. Students who earn a "Pass Subject to Conditions" must satisfy those conditions before submitting their thesis for examination. Students who earn a "Re-Examination Required" have six months to complete that re-examination or their program will be terminated. Students who earn a "Fail" will have their program terminated. Once the defence and any necessary revisions are completed, the supervisory committee will complete the Supervisory Approval Form and the thesis may then proceed to examination following the SGS procedures.
- The M.Sc. Degree program will conclude with a thesis examination as prescribed in the **Regulations Governing the Degree of Master of Science**.
- The Supervisor and the Head of the Department may recommend to the Dean of Graduate Studies that a candidate who is not making satisfactory progress be required to withdraw from the program.

Email message from Dr. Aimée Surprenant regarding MSc oral defence

From: **deansgs** deansgs@mun.ca
Subject: Re: Instituting an MSc defense in Earth Sciences
Date: May 5, 2017 at 4:56 PM
To: Alison Malcolm amalcolm@mun.ca
Cc: Michelle Miskell mmiskell@mun.ca, Kim, Andrew akim@mun.ca



Hi Alison,

No objections from SGS. Thanks for checking.

Aimée

Dr. Aimée Surprenant
Dean, School of Graduate Studies
IIC-2012, Bruneau Centre for Research and Innovation
Memorial University of Newfoundland
230 Elizabeth Avenue
St. John's, Newfoundland, Canada
A1C 5S7
T 709 864 2478
@gradstudies
@deansgs

-----Original Message-----

From: Alison Malcolm
Sent: May-05-17 3:26 PM
To: Graduate Studies <sgs@mun.ca>; Kim, Andrew <akim@mun.ca>
Cc: Michelle Miskell <mmiskell@mun.ca>
Subject: Instituting an MSc defense in Earth Sciences

Hello Andrew and Aimee,

A number of years ago the Earth Science department asked if we could institute an MSc defense. According to department lore, Faye Murrin agreed that we could do this, provided grad studies did not incur any costs. We would like to revive this proposal and incorporate calendar changes to make this part of our MSc program requirements. I have gathered some data on other Canadian institutions and it does seem to be common practice to have an MSc defense; as our students already give a seminar this would not constitute a significant change and I don't see any associated costs. Students have also been consulted and are generally in favour of having an MSc defense.

Do either of you have any objections to us moving forward with this?

Thank you very much,
Alison
ES Grad Chair

Alison Malcolm

NSERC Chevron Industrial Research Chair in Reservoir Characterization Associate Professor of Geophysics Earth Sciences
Department Memorial University St John's, NL, Canada, A1B 3X5

1-709-864-2728

Example M.Sc. oral defence descriptions in Canada

Dalhousie University

M.Sc. thesis defence

Administered by the Department.

Each Master's thesis shall be defended orally. The student shall be present and examined by an Examining Committee during a public defence, following the criteria given below:

1. The defence should only proceed if the thesis supervisory committee agrees that the thesis is ready for defence.
2. The supervisor provides written notice by email to the Department Chair, copying the Graduate Coordinator and Graduate Secretary, that the thesis is defensible and that a defence should be scheduled. Considering that the external examiner may require 1 month to review the thesis, the department requires at least 1.5 months notice. The Graduate Coordinator notifies the FGS for informational purposes.
3. Note that there are several considerations regarding the timing of a thesis defence. (i) They cannot occur on a weekend, holiday, or scheduled study break. They should not occur in the months of June or July when many of our faculty and graduate students are in the field. (ii) The defence should be scheduled before dates set by FGS and the Registrars Office regarding deadlines for convocation or tuition fee requirements for the following semester.
4. The supervisor or principal co-supervisor, in consultation with the student and thesis supervisory committee will propose an external examination committee in writing by email to the Department Chair. At this time, only one external examiner needs to be suggested. A CV and complete address and contact information for the proposed external examiner should be provided. The Department requires that the external examiner has no relationship with the student and (co-)supervisors i.e. a *'beyond arm's length'* involvement with them. For example, external examiners shall not have: (i) published with the supervisor or co-supervisors even on review articles or presentations in the past 10 years; (ii) have not interacted with the student, or the supervisor's or co-supervisor's lab or research group even for fee-for-service activities in the past 10 years; (iii) worked in our department in the past 10 years; or (iv) graduated from our department in the past 5 years. An external examiner shall have successfully supervised or co-supervised two or more students who have graduated from thesis-based graduate programs, or shall have 10-years of research or industry experience and served on at least two thesis committees of students who have graduated from thesis-based graduate programs. The external examiner does not have to be an active university faculty member. The external examiner

Queen's University

d) Thesis Submission and Defence

The student must prepare a satisfactory thesis and successfully defend it. The thesis should demonstrate that the candidate is capable of original and independent work, and it should be concise. It must conform to the standards of form that are acceptable to the Department and the School of Graduate Studies. Before preparing the thesis manuscript, the student should examine the document, *General Form of Theses*, which can be found on the web at http://www.queensu.ca/sgs/forstudents/completion/thesisformatting/SGS-General_Forms_of_Theses_RevisedJune2011.pdf

The student is required to give a brief presentation (~20 minutes) and defend the results of the research before an examining committee following submission of the thesis for examination. The examination is based primarily on the thesis although the student may be asked to demonstrate his or her background knowledge. The student should be:

- fully familiar with all experimental or analytical procedures used in the thesis;
- prepared to discuss and defend all approaches to the problem, the procedure, the results, and the conclusions;
- prepared to discuss and defend the format and preparation of the thesis; and
- prepared to evaluate the significance of the results and to suggest further work.

Membership and Convening of Thesis Examination Committee - Master's students according to the Engineering and Applied Sciences and Science Graduate Council Manuals:

The supervisor, in consultation with the Head of the Department, shall nominate members for the Master's Examining Committee and propose a date, time and place for the examination. The supervisor must obtain commitments to serve as examiners from those he/ she nominates for the committee. The applicable Departmental form is completed and signed by the supervisor and the Head of the Department.

University of Manitoba

9.4 M.Sc. Thesis Oral Defense

The Department of Geological Sciences requires that an oral examination take place as part of the M.Sc. thesis examination.

The oral examination will be chaired by the Graduate Chair or designate, who should not be a member of the examination committee. The Graduate Chair or designate must be informed of the examination date at least two weeks in advance, in order to ensure the event is adequately publicized to the University community. The full examining committee should normally attend the defense, if necessary via teleconferencing. When the absence of an external examination committee member is unavoidable, they will provide questions to the Chair who will ask these questions in the examination.

The oral examination will begin with a 20-30 minute oral presentation by the student summarizing the results of the thesis research. The oral examination is open to all members of the University community. Following the presentation and a 15 minute open question session from the audience, everyone but the student, chair, and examining committee will be asked to leave. This will be followed by two rounds of questions put to the student by each member of the examining committee. Each examiner will be allocated a maximum of 20 minutes for questions. Questioning may be extended if necessary, but only under exceptional circumstances should it be allowed to exceed 60 minutes.

University of Alberta

Thesis and Oral Examination (defence)

A Master's thesis demonstrates scholarly research and knowledge of relevant work published on the subject of the thesis. Two writing formats are allowed: (1) dissertation format; and (2) paper format (see details at FGSR web site). The thesis is submitted to the examining committee at least three weeks before the oral examination.

The master's thesis examination committee must have a minimum of 3 members, the supervisory committee and at least one additional arms-length examiner. The arms-length examiner is typically a faculty member or faculty service officer from the Department of Earth & Atmospheric Sciences or another department at the University of Alberta. Specifics on the eligibility of examiners is provided at: <http://uofa.ualberta.ca/graduate-studies/about/graduate-program-manual/section-8-supervision-oral-examinations-and-program-completion/8-2-the-structure-of-examining-committees>

The master's thesis examination is normally chaired by a faculty member from within the Department who is not a supervisor or co-supervisor of the student. If this is not possible then the Associate Chair can appoint a non-examining chair from the Department.

Persons other than the examiners, such as other graduate students, may attend the oral examination with the permission of the Dean or the chair of the examination committee. Note that:

- Permission must be obtained from the candidate and the chair of the examination.
- The persons may be present only when the candidate is in the room.
- They may not be present when the examination committee's decision is conveyed to the candidate.

August 28, 2018

TO: Dr. JC Loredano-Osti, Faculty of Science Graduate Studies Committee
FROM: Dr. Luke Beranek, Department of Earth Sciences
SUBJECT: Changes to PhD program requirements (Geology & Geophysics)
CC: Nancy Bishop, Secretary to Associate Deans & Interdisciplinary Programs
Michelle Miskell, Manager of Academic Programs, Earth Sciences

Proposal

Ph.D. program requirements for the Department of Earth Sciences (Geology & Geophysics) currently include: (1) a Comprehensive Exam (normally taken no later than the end of the first semester) to determine that the candidate has a mastery of the subdisciplines appropriate to their research area; and (2) a Thesis Proposal Exam (normally taken no later than four semesters following the student's registration in the program) to determine that the candidate has sufficient knowledge and comprehension in the area of the proposed research project. The department Graduate Matters Committee proposes here that the existing Comprehensive and Thesis Proposal Exams be merged into a single exam named the Comprehensive Exam. This proposal therefore calls for the Thesis Proposal Exam to be removed from the Ph.D. program requirements. This memo outlines the rationale for such changes and the proposed graduate calendar entry for the consideration of the Faculty of Science Graduate Studies Committee.

Rationale

The principal objective is to reduce the time-to-completion rates for Ph.D. students in Geology & Geophysics. The average time to completion over our last 15 Ph.D. students was 5.8 years from first registration to submission of graduation paperwork. From 2007-2017, 47% of students completed their Comprehensive Exam on time and 28% have completed their Thesis Proposal Exam on time. Only 25% of Ph.D. students completed both exams on time. Roughly 45% of our Ph.D. students over the last six years are no longer in-program, which means that they are past the expected time to completion.

Faculty members have voiced concerns that do not see the value in the Comprehensive Exam beyond what would be expected from the M.Sc. research of a student. It was also agreed that a merged exam would assess the research potential of a student earlier in the program, encourage students to write and plan out potential publications, and put more of an onus on the student to determine the breadth of their project.

The name Comprehensive Exam is used for the proposed exam because MUN requires that a Ph.D. candidate submit to a comprehensive examination in section 4.8.2.(1) of the graduate calendar. The exam procedure (outlined in the department handbook) will closely match the current description, with the candidate writing a ~7500 word paper on their research topic and completed research. The exam will be required within four semesters of beginning the program. Students for whom English is a second language will be given one extra semester to prepare for the Comprehensive Examination.

Please contact me at x4588 or lberanek@mun.ca if there are questions.

Existing entry with proposed changes (new text in italics)

34.8 Earth Sciences

- www.mun.ca/sgs/contacts/sgscontacts.php
- www.mun.ca/science
- www.mun.ca/earthsciences

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

34.8.1 Program of Study

1. Admission into a Ph.D. program in Earth Sciences (Geology) and Earth Sciences (Geophysics) is normally restricted to candidates holding a Master's Degree or its equivalent. Candidates holding B.Sc. (Honours) degrees who show evidence of exceptional ability may be considered for a direct entry into a Ph.D. program. In exceptional circumstances, a candidate with a B.Sc. (Honours) Degree who has spent not less than 12 months in an M.Sc. Degree program may be recommended for transfer into a Ph.D. program, provided that the candidate can demonstrate, to the satisfaction of the Department of Earth Sciences, the candidate's ability to pursue research at the doctoral level.
2. A candidate for the Ph.D. Degree is normally required to complete 6 credit hours in addition to the credit hours required for the M.Sc. Degree. The courses must be selected from the overview and general courses below or with the approval of the supervisory committee and Head of Department, other graduate level courses including those offered by other departments. Depending on background and/or area of specialization, a candidate also may be required to complete additional courses in earth sciences or related subjects. All course requirements should be completed within 12 months from the date of the first registration in the Ph.D. program.
3. ~~The Ph.D. Comprehensive Examination shall normally be taken in the first semester of registration in the Ph.D. program.~~
Note:
Detailed descriptions of the Ph.D. Comprehensive Examination are available upon request from the General Office of the Department of Earth Sciences.
3. *The Ph.D. Comprehensive Examination shall normally be taken within the first four semesters of registration in the Ph.D. program.*
Note:
A detailed description of the Ph.D. Comprehensive Examination can be found in the Department of Earth Sciences Graduate Student Handbook.
4. ~~The Ph.D. Thesis Proposal Examination shall normally be taken in the second semester of registration in the Ph.D. program.~~
Note:
Detailed descriptions of the Ph.D. Thesis Proposal Examination are available upon request from the General Office of the Department of Earth Sciences.
5. The Ph.D. Degree program will conclude with a thesis examination and an oral defense of thesis as prescribed in the **General Regulations, Theses and Reports**.
6. The Supervisor and the Head of the Department may recommend to the Dean of Graduate Studies that the program of a candidate who is not making satisfactory progress be terminated, in accordance with **General Regulation, Termination of a Graduate Program**.
7. A candidate is required to give an oral presentation to the Department on the results of the candidate's research. The presentation must be given during the second or third year of the program.

Proposed entry without strikeouts

34.8 Earth Sciences

- www.mun.ca/sgs/contacts/sgscontacts.php
- www.mun.ca/science
- www.mun.ca/earthsciences

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

34.8.1 Program of Study

1. Admission into a Ph.D. program in Earth Sciences (Geology) and Earth Sciences (Geophysics) is normally restricted to candidates holding a Master's Degree or its equivalent. Candidates holding B.Sc. (Honours) degrees who show evidence of exceptional ability may be considered for a direct entry into a Ph.D. program. In exceptional circumstances, a candidate with a B.Sc. (Honours) Degree who has spent not less than 12 months in an M.Sc. Degree program may be recommended for transfer into a Ph.D. program, provided that the candidate can demonstrate, to the satisfaction of the Department of Earth Sciences, the candidate's ability to pursue research at the doctoral level.
2. A candidate for the Ph.D. Degree is normally required to complete 6 credit hours in addition to the credit hours required for the M.Sc. Degree. The courses must be selected from the overview and general courses below or with the approval of the supervisory committee and Head of Department, other graduate level courses including those offered by other departments. Depending on background and/or area of specialization, a candidate also may be required to complete additional courses in earth sciences or related subjects. All course requirements should be completed within 12 months from the date of the first registration in the Ph.D. program.
3. *The Ph.D. Comprehensive Examination shall normally be taken within the first four semesters of registration in the Ph.D. program.*

Note:

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

4. The Ph.D. Degree program will conclude with a thesis examination and an oral defense of thesis as prescribed in the **General Regulations, Theses and Reports**.
5. The Supervisor and the Head of the Department may recommend to the Dean of Graduate Studies that the program of a candidate who is not making satisfactory progress be terminated, in accordance with **General Regulation, Termination of a Graduate Program**.
6. A candidate is required to give an oral presentation to the Department on the results of the candidate's research. The presentation must be given during the second or third year of the program.



E-MAILED AUG 02 2018

Dean of Science Office

St. John's, NL Canada A1B 3X7
Tel: 709 864 8153 Fax: 709 864 3316
deansci@mun.ca www.mun.ca/science

July 27, 2018

TO: Registrar's Office
FROM: Secretary, Faculty of Science Faculty Council
SUBJECT: Special Topics Course

The special topics course, PSYC 6120, Special Topics in Health Psychology, has 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.

A handwritten signature in blue ink, appearing to read "Gina Jackson", written over a horizontal line.

Gina Jackson
Secretary, Faculty of Science Faculty Council

/gbk

cc: A. Williams, School of Graduate Studies
J. Benson, Department of Psychology

Kenny, Gail

From: JC Loredo-Osti <jcloredoosti@mun.ca>
Sent: July-18-18 2:10 PM
To: Kenny, Gail
Subject: Re: Special Topics

Hi Nancy,

the special topics course Psy-6120 'Special topics in health psychology' has been approved with eight votes in favour (Cyr, Ivan, Luke, Brian, Carolyn, Ron, Yuanzhu and myself), none against.

Best,
-j

On 2018-07-18 10:02 AM, Kenny, Gail wrote:

> Hi JC:

>

> Could you please advise if this has been passed?

>

> Thanks!

>

> Nancy

>

> -----Original Message-----

> From: JC Loredo-Osti [mailto:jcloredoosti@mun.ca]

> Sent: July-16-18 2:47 PM

> To: JC Loredo-Osti <jcloredoosti@mun.ca>; Kenny, Gail <gkenny@mun.ca>;

> Len Zedel <zedel@mun.ca>; Ron Haynes <rhaynes@mun.ca>; Rob Bertolo

> <rbertolo@mun.ca>; Ivan Booth <ibooth@mun.ca>; Stephanie H. Curnoe

> <curnoe@mun.ca>; Cyr Couturier <Cyr.Couturier@mi.mun.ca>; Carolyn

> Walsh <cwalsh@play.psych.mun.ca>; Tom Chapman <tomc@mun.ca>; Ken

> Fowler <kenfowler@mun.ca>; Yuanzhu Chen <yzchen@mun.ca>; Parrish,

> Chris <cparrish@mun.ca>; Luke Beranek <lberanek@mun.ca>; Evan Edinger

> <eedinger@mun.ca>; Brian E. Staveley <bestave@mun.ca>

> Subject: Fwd: RE: Special Topics

>

> Dear all,

>

> attached is the special topics course Psy-6120 'Special topics in health psychology', from the department of Psychology to be offered the Winter of 2019. Please review it and let me know your opinion at your earliest convenience.

>

> -j

>

>

> On 2018-07-16 09:57 AM, Kenny, Gail wrote:

>> Hi JC,

>>



JUL 13 2018

Request for Approval of a Graduate Course

Received

School of Graduate Studies

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 (Bruneau 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.: 6120

Course Title: Special Topics in Health Psychology

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)

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

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

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

E. Credit hours for this course: 3

F. Course description (reading list required):

This course will provide an overview of selected topics in health psychology including eating disorders, sleep, addiction, and chronic pain.

G. Method of evaluation:	Percentage	
	Written	Oral
Class tests		
Assignments	45	45
Other (specify):	10	
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

SCM
 SCM
 SCM
 SCM
 SCM
 Winter

Recommended for offering in the Fall Winter Spring 2019

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]
Course instructor

June 15/18
Date

[Signature]
Approval of the head of the academic unit

July 18/18
Date

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

[Signature]
Secretary, Faculty/School/Council

July 27/18
Date

New Graduate Course Proposal

PSYC6120 Special Topics in Health Psychology

Executive Summary

This is a proposal for a new graduate course in the Experimental Psychology program. "Special Topics in Health Psychology" will focus on various areas of health psychology and behavioral medicine from a biopsychosocial perspective. Topics may include: the relationship between social support and health; eating disorders and obesity; psychological factors affecting medical conditions; chronic disease management; health behaviour change; chronic pain; substance use and addictive behaviours; sleep and health; psycho-oncology; and health promotion.

Resource Implications: Instructional Costs

Since this course will be taught by existing faculty members in the Department of Psychology, no additional instructional costs are required.

Instructors: This course will be co-taught by Drs. Carter-Major, Garland, Rash and Harris and other faculty in the Department of Psychology.

Sample Course Outline:

Week 1: Introduction to Health Psychology
Week 2: Eating Disorders and Obesity
Week 3: Eating Disorders and Obesity
Week 4: Sleep and health
Week 5: Psycho-oncology
Week 6: Substance use and behavioural addictions
Week 7: Substance use and behavioural addictions
Week 8: Mid-term break
Week 9: Psychological factors affecting medical conditions
Week 10: Chronic Disease management and health behaviour change
Week 11: Student Presentations
Week 12: Student Presentations
Week 13: Student Presentations

Format

One 3-hour seminar class per week.

Lecture and discussion of assigned readings.

Evaluation

Oral presentation = 40%

Term paper = 40%

Class participation = 20%

Rationale

The Department of Psychology recently added a "Health and Wellness" area of concentration in its Experimental Psychology graduate program. However, there are currently no health psychology graduate courses available in the department. This course will meet this need.

PSYC 6120: Special Topics in Health Psychology

Sample Reading List

Eating Disorders and Obesity:

Carter, J.C. & Kelly, A.C. (2015). Autonomous and controlled motivation for eating disorders treatment: baseline predictors and relationship to treatment outcome. *British Journal of Clinical Psychology*, 54(1), 76-90.

Carter, J.C., Kenny, T.* & Davis, C. (2016). Food addiction and binge eating disorder. Chapter in B.A. Johnson (Ed.), *Addiction Medicine: Science and Practice*, 2nd edition. New York: Springer.

Davis, C. (2017). A commentary on the associations among 'food addiction', binge eating disorder, and obesity: overlapping conditions with idiosyncratic features. *Appetite*, 115, 3-8.

Trottler, K. & MacDonald, D. (2018). Chapter 8: Eating Disorders. In D. J. A. Dozois (6th Ed.). *Abnormal Psychology: Perspectives*. Pearson Canada.

Sleep Disorders:

Grandner, MA. Sleep, Health, and Society. *Sleep Medicine Clinics*, Volume 12, Issue 1, March 2017, pp. 1-22

Nunn CL, Samson DR, Krystal AD. Shining evolutionary light on human sleep and sleep disorders. *Evol Med Public Health*. 2016 Aug 3;2016(1):227-43. doi: 10.1093/emph/eow018. Print 2016.

Cheng P, Drake C. Occupational Sleep Medicine. *Sleep Med Clin*. 2016 Mar;11(1):65-79. doi: 10.1016/j.jsmc.2015.10.006. Epub 2016 Jan 11.

Irwin MR. Why sleep is important for health: a psychoneuroimmunology perspective. *Annu Rev Psychol*. 2015 Jan 3;66:143-72. doi: 10.1146/annurev-psych-010213-115205. Epub 2014 Jul 21.

Psycho-Oncology:

Breitbart WS, Alici Y. Psycho-oncology. *Harv Rev Psychiatry*. 2009;17(6):361-76. doi: 10.3109/10673220903465700.

Holland JC. History of psycho-oncology: overcoming attitudinal and conceptual barriers. *Psychosom Med*. 2002 Mar-Apr;64(2):206-21.

Artherholt SB, Fann JR. Psychosocial care in cancer. *Curr Psychiatry Rep*. 2012 Feb;14(1):23-9. doi: 10.1007/s11920-011-0246-7.

Mavrides N, Pao M. Updates in paediatric psycho-oncology. *Int Rev Psychiatry*. 2014 Feb;26(1):63-73. doi: 10.3109/09540261.2013.870537.

Substance Use and Behavioural Addictions:

Anderson, E. L., Steen, E., & Stavropoulos, V. (2017). Internet use and Problematic Internet Use: A systematic review of longitudinal research trends in adolescence and emergent adulthood. *International Journal of Adolescence and Youth*, 22(4), 430-454.

Canadian Centre on Substance Abuse (2015). The Effects of Cannabis Use During Adolescence. Retrieved from www.ccsa.ca

Canadian Centre on Substance Abuse (2014). Childhood and Adolescent Pathways to Substance Use Disorders. Retrieved from www.ccsa.ca

Psychological factors affecting medical conditions and health behaviour change:

DiMatteo, M. R., Haskard-Zolnierok, K. B., & Martin, L. R. (2012). Improving patient adherence: a three-factor model to guide practice. *Health Psychology Review*, 6(1), 74-91.

Lavoie, K. L., Rash, J. A., & Campbell, T. S. (2017). Changing provider behavior in the context of chronic disease management: focus on clinical inertia. *Annual review of pharmacology and toxicology*, 57, 263-283.

Rash, J. A., Prkachin, K. M., Prkachin, G. C. & Campbell, T. S. (2018). Chapter 7: Psychological factors affecting medical conditions. In D. J. A. Dozois (6th Ed.). *Abnormal Psychology: Perspectives*. Pearson Canada.

Sheeran, P., Klein, W. M., & Rothman, A. J. (2017). Health behavior change: moving from observation to intervention. *Annual review of psychology*, 68, 573-600.

Committees

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	Undergraduate Studies	Graduate Studies	Nominating	Library
DOS	Travis Fridgen	Len Zedel		Len Zedel
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BIOLOGY		Brian Staveley		
CHEMISTRY	Chris Flinn	Christina Bottaro		Graham Bodwell
COMP SCI	Sharene Bungay	Yuanzhu Chen		
EARTH SCI		Luke Beranek		
MATH & STATS	Shannon Sullivan	Tom Baird		
OCEAN SCIENCES	Annie Mercier	Chris Parrish		Joe Wroblewski
PHYSICS & PO	Ivan Saika-Voivod	Stephanie Curnoe		Mykhalo Evstigneev
PSYCHOLOGY	Christina Thorpe	Darcy Hallett		
AQUACULTURE		Cyr Couturier		
COGNITIVE & BEHAVIOURAL ECOLOGY		Carolyn Walsh & Ian Fleming		
ENVIRONMENTAL SCIENCE		Joseph Wroblewski		
SCIENTIFIC COMPUTING		Ron Haynes		
THEORETICAL PHYSICS		Ivan Booth		
ECONOMICS	Gubhinder Kundhi			Kam Chu
GEOGRAPHY	Norm Catto	Evan Edinger		
LIBRARY				Alison Ambi

GSU		Aina Adekunle		Leila Ziamajidi
MUNSU				

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Christina Bottaro (C), Alison Malcolm, Craig Purchase, Alwell Oyet,

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OFFICE OF THE REGISTRAR	Tracey Edmunds
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SCHOOL OF MUSIC	
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MUNSU	Amina Ahmed Mahmood, Myra Saeed

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