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 20, 2017, at 1 p.m. in C-2045.

AGENDA

1. Regrets
2. Adoption of the Minutes of April 19, 2017
3. Business Arising from the Minutes: None
4. Correspondence: None
5. Reports of Standing Committees:
   A. Undergraduate Studies Committee:
      a. Department of Earth Sciences, paper 5.A.a (8 pages)
         i. Change to prerequisites of EASC 2702
      b. Department of Physics and Physical Oceanography, paper 5.A.b (17 pages)
         i. New course proposal Physics 3050, Introduction to Biophysics
         ii. Changes to the Joint Honours Physics and Applied Mathematics program
      c. Department of Chemistry, paper 5.A.c (24 pages)
         i. Change to calendar description of Chemistry 2400 and 2401
         ii. New course proposals Chemistry 4250, Special Topics in Inorganic Chemistry and Chemistry 4450, Special Topics in Organic Chemistry
         iii. Changes to course descriptions of Chemistry 4150 and 4350
   B. Graduate Studies Committee:
      a. Aquaculture program, special topics course AQUA 6202, Ploidy Manipulation in Aquaculture, already approved by the committee and presented to Faculty Council for information only, paper 5.B.a (8 pages)
   C. Nominating Committee:
      a. Approval of Committee matrix, paper 5.C.a (1 page)
   D. Library Committee: None

6. Reports of Teaching Consultant
7. Reports of Delegates from Other Councils
8. Report of the Dean
9. Question Period
10. Adjournment

Mary L. Courage, Ph.D.
Interim Dean of Science
June 28, 2017

TO: All Members, Faculty Council of Science

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

SUBJECT: Calendar Changes and New Course Proposals

At a meeting held on June 23, 2017, the Undergraduate Studies Committee of the Faculty of Science agreed that the following items be forwarded to Faculty Council for approval:

1. Department of Earth Sciences
   - Change to prerequisites for Earth Sciences 2702

2. Department of Physics and Physical Oceanography
   (i) New Course Proposal: Physics 3050-Introduction to Biophysics
   (ii) Changes to the Joint Honours Physics and Applied Mathematics program

3. Department of Chemistry
   (i) Change to the Calendar description of Chemistry 2400 and 2401
   (ii) New Course Proposals: Chemistry 4250-Special Topics in Inorganic Chemistry and Chemistry 4450-Special Topics in Organic Chemistry
   (iii) Changes to course descriptions of Chemistry 4150 and 4350

Joan Burry
Associate Registrar and
Secretary, Committee
on Undergraduate Studies,
Faculty of Science
Proposal
Calendar Change to EASC 2702 Sedimentology and Stratigraphy

Executive Summary

We propose to make EASC 2030 Mineralogy a co-requisite for EASC 2702 Sedimentology and Stratigraphy so that the instructor and teaching assistants can focus on teaching sedimentology in the laboratories and not mineral identification which is taught in mineralogy. Both of these courses are required for our EASC Major and Honours degree and are offered in the same semester every year.

Resource Implications: Instructional Costs

There will be no implications to resources or instructional costs.

Consultations
This proposal was sent to the distribution list for Consultation on Calendar Changes on 12 April 2017.

Library Holdings and/or Other Resources Required

No library holdings or other resources are required due to the proposed changes.

Signature of Unit Head (if appropriate):

______________________________

Date:

______________________________

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

______________________________

Date:

______________________________
Course Number and Title
EASC 2702 Sedimentology and Stratigraphy

Abbreviated Course Title
EASC 2702 Sedimentology & Stratigraphy

Calendar Change(s)

2702 Sedimentology and Stratigraphy is a study of the origin and composition of sediments with a focus on depositional processes and resulting sedimentary structures. Study of environments of deposition and the stratigraphic framework of sedimentary successions. Laboratories involve local field trips, petrographic analysis, and the study of hand samples of sedimentary rocks.

CO: EASC 2030
CR: the former Geology 3070 or the former EASC 3070 or the former EASC 3701
LH: 3
PR: EASC 1002

Secondary Calendar Changes
None.

Calendar Entry After Changes

2702 Sedimentology and Stratigraphy is a study of the origin and composition of sediments with a focus on depositional processes and resulting sedimentary structures. Study of environments of deposition and the stratigraphic framework of sedimentary successions. Laboratories involve local field trips, petrographic analysis, and the study of hand samples of sedimentary rocks.

CO: EASC 2030
CR: the former Geology 3070 or the former EASC 3070 or the former EASC 3701
LH: 3
PR: EASC 1002

Rationale

We propose to make EASC 2030 Mineralogy a co-requisite for EASC 2702 Sedimentology and Stratigraphy so that the instructor and teaching assistants can focus on teaching sedimentology in the laboratories and not mineral identification which is taught in our 2nd year mineralogy class. The majority of our students do take both of these courses at the same time; however, some students choose to take mineralogy later in their degree. It was noted that the students who were not concurrently taking both classes struggled with sedimentology laboratory content with respect to the mineralogical identification. Both of these courses are required for our EASC Major and Honours degree and are offered in the same semester every year.
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Library Report Received: No

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

Name: 

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APPROVAL GRANTED BY SENATE COMMITTEE ON UNDERGRADUATE STUDIES

Chair: 

Secretary: 

Date: 
Responses to Changes to Exist_Course_EASC2702_20170412

On 2017-04-12 15:11, Penny L Morrill wrote:
April 12, 2017

To whom it may concern,

Attached is a course change proposal that the Department of Earth Sciences would like to make in the University Calendar.

We propose to make EASC 2030 Mineralogy a co-requisite for EASC 2702 Sedimentology and Stratigraphy so that the instructor and teaching assistants can focus on teaching sedimentology in the laboratories and not mineral identification which is taught in mineralogy.

Both of these courses are required for our EASC Major and Honours degree and are offered in the same semester every year. At this stage I am sending them to you as part of the consultation process.

Thank you for your time and consideration.

Cheers,
Penny Morrill
Chair of the Undergraduate Matters Committee

Subject: Re: EASC 2702 course change proposal
From: Engineering Consult
To: Penny L Morrill
Cc: Dennis Peters, Jennifer Williams, Theodore Norvell
Date: 2017-05-04 08:37

Dear Dr. Morrill,

Thank you for the opportunity to comment on the proposed addition of EASC 2030 as a co-requisite for EASC 2702.

After consultation with the heads of department in the Faculty of Engineering and Applied Science, we find that this change will have no impact on our programs.

I wish you well in the progress of this change.

Yours sincerely,

Dr. Glyn George, Chair
Committee on Undergraduate Studies
Faculty of Engineering and Applied Science
Memorial University of Newfoundland
St. John's NL A1B 3X5

Subject: RE: EASC 2702 course change proposal
From: ovardy@mun.ca
To: pmorrill@mun.ca
Date: 2017-04-27 08:45
The Faculty of Medicine supports the proposed calendar change.

Regards
Cathy

Cathy Vardy, MD, FRCP(C)
Vice Dean
Faculty of Medicine
Health Sciences Centre, Room M2H319
Memorial University of Newfoundland
St. John's, NL, Canada, A1B 3V6
Tel: 709-864-6417 or Fax: 709-864-6336

Subject: RE: EASC 2702 course change proposal
From: MIUG Consultations
Sender: Dawn King
To: Penny L Morrill
Date: 2017-04-19 08:40

Dr. Morrill,

Thank you for the opportunity to review and comment on the proposed changes to the course EASC 2702 Sedimentology and Stratigraphy.

This change will have no impact on the programs at the Marine Institute. We are happy to support this proposal as presented.

All the best,
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

Subject: Re: EASC 2702 course change proposal
From: Associate Dean of Under Graduate Faculty of Business Administration
To: Penny L Morrill
Date: 2017-04-18 11:55

Hello:

Thank you for the opportunity to comment on this proposal. The Faculty of Business Administration has no concerns with the proposed changes.

—larry

Subject: RE: EASC 2702 course change proposal
From: adeanugradswk
To: Penny L Morrill
Date: 2017-04-17 15:38
Hello Penny,

I have reviewed your proposed calendar changes and I do not have any suggestions or questions.

The changes you propose do not impact the School of Social Work undergraduate programs.

Regards

Heather

Heather J. Hair, PhD
Associate Dean Undergraduate Programs
School of Social Work, Memorial University
St. John's, NL, Canada, A1C 5S7
T: 709-864-2562 or 709-864-7349

Subject: EASC 2702
From: Rohr, Linda
To: pmorrill@mun.ca
Date: 2017-04-17 14:25

Hi Penny,

I have reviewed the documentation for EASC 2702. Although I am supportive of the proposed change, the course description is incomplete. I suspect the description exists in the calendar as presented — but it may be worthwhile to update the current language along with the co-requisite.

Linda

Linda E. Rohr PhD
Associate Professor & Associate Dean Undergraduate Studies
Human Kinetics and Recreation, Memorial University
t: 709.864.6202 f: 709.864.7531 e: lerohr@mun.ca
PE 2025

Subject: FW: EASC 2702 course change proposal
From: Griffiths, Stacey
To: pmorrill@mun.ca
Date: 2017-04-13 10:47

------Original Message------
From: Catto, Norm
Sent: April 13, 2017 8:20 AM
To: Griffiths, Stacey
Subject: RE: EASC 2702 course change proposal

No issues from Geography

Norm Catto
Head, Department of Geography
Memorial University
St. John's NL A1B 3X9
Canada
1-709-864-7463
Fax 1-709-864-3119
Hello Penny,
I have reviewed the proposed changes to the co-requisite for EASC 2702 and confirm that no library evaluation will be needed.
Sincerely,
Alison

Alison Ambi
709 864 7125
Interim Head, Collections

Subject Librarian:
Earth Sciences
Computer Science
Mathematics and Statistics
Physics and Physical Oceanography
Psychology

QEII Library
Memorial University of Newfoundland
www.library.mun.ca
June 28, 2017

TO: All Members, Faculty Council of Science

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

SUBJECT: Calendar Changes and New Course Proposals

At a meeting held on June 23, 2017, the Undergraduate Studies Committee of the Faculty of Science agreed that the following items be forwarded to Faculty Council for approval:

1. Department of Earth Sciences
   - Change to prerequisites for Earth Sciences 2702

2. Department of Physics and Physical Oceanography
   (i) New Course Proposal: Physics 3050-Introduction to Biophysics
   (ii) Changes to the Joint Honours Physics and Applied Mathematics program

3. Department of Chemistry
   (i) Change to the Calendar description of Chemistry 2400 and 2401
   (ii) New Course Proposals: Chemistry 4250-Special Topics in Inorganic Chemistry and Chemistry 4450-Special Topics in Organic Chemistry
   (iii) Changes to course descriptions of Chemistry 4150 and 4350

Joan Burry
Associate Registrar and
Secretary: Committee
on Undergraduate Studies,
Faculty of Science
Proposal
New Course
Introduction to Biophysics

Executive Summary

The department of Physics and Physical Oceanography proposes a new course at the third-year level, Introduction to Biophysics.

Resource Implications: Instructional Costs

No new resources are anticipated. Course instruction will be integrated into the normal teaching load of regular faculty within the department of Physics and Physical Oceanography. If necessary due to resource limitations, this new course can be offered on alternate years. There is no laboratory component planned at this time.

Consultations

From: Martin Plumer [mailto:plumer@mun.ca]
Sent: April-10-17 2:15 PM
To: Biochemistry Head; Marino, Paul; 'Chemistry'; 'Computer Science'; 'Earth Science'; 'Engineering'; 'Grenfell'; 'GrenfellPhysics'; Ambi, Alison; 'Marine Inst'; 'Math'; Fletcher, Garth; Lagowski, Jolanta; 'Psychology'
Subject: Consultation: new course Introduction to Biophysics

The Department of Physics and Physical Oceanography is proposing a new course: Introduction to Biophysics.

Please see the attached.

Feedback is requested by May 29, 2017.

Thank you.
Martin Plumer, Chair, Undergraduate Studies Committee (plumer@mun.ca)
Jolanta Lagowski, Head (jolantal@mun.ca).
April 10, 2017.
Consultations Sought From

- Faculty of Science.
- Grenfell Campus
- Marine Institute
- Faculty of Engineering

Comments Received

1. Grenfell Campus  No
2. Marine Institute  Yes
3. Department of Biochemistry  Yes
4. Department of Biology  Yes
5. Department of Chemistry  No
6. Department of Computer Science  No
7. Department of Earth Sciences  Yes
8. Department of Ocean Sciences  No
9. Department of Psychology  No
10. Department of Mathematics and Statistics  No
11. Engineering  No

Library Holdings and/or Other Resources Required

Signature of Unit Head (if appropriate): ________________________________

Date: ________________________________

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

Date: ________________________________
Sample Course Outline and Method of Evaluation

Based on Rob Phillips' book: Physical Biology of the Cell (see below)

Chapter 1 - 4 (2 weeks)
Biological macromolecules; Basic structures of cells and viruses; Hierarchy of times scales: evolution, gene expression, cell cycle, enzyme kinetics, diffusion.

Chapter 5 Mechanical and Chemical Equilibrium in the Living Cell (2 weeks)
Configurational energy; Hydrophobicity; Free energy minimization as a competition between energy and entropy.

Chapter 6 Entropy Rules! (2 weeks)
First look at ligand-receptor binding; The Boltzmann distribution; Free energy of dilute solutions; law of mass action and equilibrium constants.

Chapter 7 Two-State Systems: From Ion Channels to Cooperative Binding (1.5 weeks)
Ligand-receptor binding revisited; Ion channels as an example of internal state variables; Hemoglobin as a case study in cooperativity.

Chapter 8 Random Walks and the Structure of Macromolecules (1.5 weeks)
Persistence length; Single-molecule mechanics; Force-extension curves; HP model of protein folding.

Chapter 9 Electrostatics for Salty Solutions (1 week)
$pH$ and the Equilibrium Constant; The charge on DNA and proteins; The Poisson-Boltzmann equation.

Chapter 11 Biological Membranes: Life in Two Dimensions (1 week)
The chemistry and shape of lipids; Free energy of membrane deformation; Shapes of cells.

Chapter 14 Life in Crowded and Disordered Environments (1 week)
Crowding and binding; osmotic pressure; depletion forces; diffusion in crowded environments.

Evaluation:

1. Problem sets (every two weeks). Can be taken from the textbook. (30%)
2. Computer assignments (~2): (20%)
   (i) Protein folding (developed)
   (ii) Depletion forces (to be developed)
3. Student presentations (10%). As a way to cover some of the later material in Phillips' book, students will work in groups of 3-4 to give a 45 min presentation on a given topic. The topics could include molecular motors (chapter 16), Hodgkin-Huxley model of action potential (chapter 17), photosynthesis (chapter 18), genetic networks and cell regulation (chapter 19).
4. Final written exam (40%).
Texts (available in the Library)
Suggestion for course textbook:

Two other good books:

Instructors

Qualified instructors include Drs. S. Wallin, M. Morrow, A. Yethiraj, and I. Saika-Voivod.
Course Number and Title: Physics 3050 Introduction to Biophysics

Abbreviated Course Title: Introduction to Biophysics

Calendar Entry

3050 Introduction to Biophysics focuses on theoretical and computational modeling of biological processes using tools and concepts from physics, including the statistical physics of polymers, electrostatics of aqueous solutions, free energy minimization, energy-entropy competition, random walks, diffusion, the Einstein relation and depletion forces. With these tools the course examines the physics of biological processes such as osmotic pressure in cells, folding and cooperativity of macromolecules, ligand-receptor binding, energy balance of the cell, cell membrane shapes, ion channels, and molecular motors.
PR: One of Computer Science 1510 or 1001 or PHYS 2820, and one of PHYS 2053 or Chemistry 2301.

Rationale

The department of Physics and Physical Oceanography does not currently offer a dedicated biophysics course despite student interest and faculty expertise (Valerie Booth, Mike Morrow, Ivan Saika-Voivod, Anand Yethiraj, Stefan Wallin).
The main target is students in our various physics programs, including joint programs, where the course could be taken as an elective in year 3 or 4. The course might also attract students with the appropriate background in other programs, e.g. chemistry and biochemistry.
This course would also be useful to honours students engaged in projects supervised by faculty members in the department whose research areas involve biophysics (Wallin, Morrow, Yethiraj, and Saika-Voivod).

A new course in biophysics is in line with a recent Academic Unit Planning Report, which included a recommendation (Item 2C) that the department “Develop new courses that could reflect and highlight exciting areas of physics, aligned with faculty interests, to attract and retain physics students in upper years.”

Relationship with other courses at MUN:

The new course includes a range of “bio” topics and naturally overlaps somewhat with several courses at the Biochemistry and Biology departments. The main focus of the new course is, however, on the underlying physics of the biological processes rather than their biological implications (although mentioned when appropriate). This is reflected in the prerequisites. The following three courses are perhaps the most closely related to the new course in terms of biology/biochemistry content:

BIOC 3105 Physical Biochemistry. Examines topics such as: types of intermolecular forces in biomolecules; the folding of biomolecules and the role of water; pH, buffers, and ionisation of biomolecules; thermodynamics: equilibria, coupled reactions, transport across membranes and redox reactions; and ligand binding.
BIOL 4607 Models in Biology. Is a study of the design and analysis of statistical and mathematical models for exploring the biology of cells, genes, species, populations, communities and ecosystems. Qualitative, quantitative and graphical techniques are used to analyze models and to compare theoretical predictions with empirical data. Classic models of systems biology, population growth, species competition, predator-prey interactions, ecosystem nutrient cycling, immunology, evolutionary invasion analysis, and species distribution will be covered.

BIOL 4245 Biophysics. Is an examination of the physical properties involved in defining diffusion, membrane properties, electrochemical potentials and the processes of bioenergetics within cells and organelles. Selected topics in biomechanics and the functioning of whole organisms with respect to size, shape, support, orientation, transport and motility.
Comment: Last time offered was W14. Focus was then mainly on biomechanics (animal locomotion).

Consultations Sought From

Library Report Received Yes

[Reminder:

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

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APPROVAL GRANTED BY SENATE COMMITTEE ON UNDERGRADUATE STUDIES
Chair:
Secretary:
Date:
From: Ambi, Alison [aambi@mun.ca]
Sent: April-12-17 7:34 PM
To: Martin Plumer
Subject: RE: Consultation: new course Introduction to Biophysics

Hello Martin,

This is to confirm that the library is adequately resourced to support the proposed new “Introduction to Biophysics” course. The three recommended texts are available in the library, as well as many other books under the Library of Congress subject heading “Biophysics”. It is also noted in the proposal that the content of this course has substantial overlap with other courses already offered at MUN, which are already adequately supported by the current library collection.

Sincerely,
Alison

Alison Ambi
709 864 7125
Interim Head, Collections

Subject Librarian:
Earth Sciences
Computer Science
Mathematics and Statistics
Physics and Physical Oceanography
Psychology

QEII Library
Memorial University of Newfoundland
www.library.mun.ca

From: Penny L Morrill [pmorrill@mun.ca]
Sent: May-04-17 11:56 AM
To: Martin Plumer
Subject: Re: Consultation: new course Introduction to Biophysics

May 4th, 2014

Dear Martin Plumer,

Earth Sciences sees no issues with the newly proposed course in Biophysics.
Cheers,
Penny
Penny Morrill, Ph.D.
Associate Professor
Department of Earth Sciences
Memorial University of Newfoundland
St. John's, NL A1B 3X5
Canada
phone: (709) 864-6729
fax: (709) 864-2589
From: Jody-Lynn Burke [jrotchford@mun.ca]
Sent: April-26-17 3:50 PM
To: plumer@mun.ca
Subject: RE: Consultation: new course Introduction to Biophysics

Dr. Plumber,

The Department of Biology supports the proposed new course, Introduction to Biophysics.

Jody Burke, BSc.(Hons), M.Ed, PGC(QM) – Academic Program Officer
Department of Biology, Memorial University
Office: (709) 864 8021
E-mail: jodyb@mun.ca

From: Marino, Paul [mailto:pmarino@mun.ca]
Sent: April-10-17 2:32 PM
To: jodyb@mun.ca
Subject: FW: Consultation: new course Introduction to Biophysics

This one is definitely one that BUGS needs to review since we have our own biophysics course. The syllabus is totally molecular whereas Biophysics can be at an organismal/ecological level as well (this is how Michele Durand teaches it, I believe). It might be good to have Michele involved in the discussion. However, it is a 3'rd year physics course, so my guess is that it is much more mathematical than anything we would teach.
Paul

Hi Mark,

We have clarified the pre-requisite wording as suggested.

As for BIOC2101, the feedback we received is that it is unlikely any of our students would be taking the pre-requisite organic chemistry so even indicating it as recommended might lead to confusion – at least in the Calendar. However, we do have a separate section of our web page devoted to course descriptions and we could add the recommendation there.

Best,
Martin

From: Biochemistry Head [mailto:biohead@mun.ca]
Sent: May-09-17 8:38 AM
To: Martin Plumer
Subject: RE: Consultation: new course Introduction to Biophysics

Hi Martin

Biochemistry is supportive of this. Just two minor comments from our undergraduate committee:

1) they suggest you may want to consider having bioc2101 as a recommended (but not mandatory)
pre-req
2) They felt that the pre-requisite wording was potentially prone to confusion, is it one of comp 1510, comp 1001 or Phys 2820 plus one of phys 2053 or chem 2301; or is it one of comp 1510, comp 1001, chem 2301 or both of Phys 2820 + phys 2053?

All the best

Mark

Mark D. Berry Ph.D.
Professor and Head
Dept. Biochemistry
Memorial University of Newfoundland
St. John's, NL, Canada
A1B 3X9

From: Dawn King [Dawn.King@mi.mun.ca] on behalf of MIUG Consultations
[MIUGconsultations@mi.mun.ca]
Sent: April-19-17 8:34 AM
To: Martin Plumer
Subject: RE: Consultation: new course Introduction to Biophysics

Martin,

Thank you for the opportunity to review and comment on the proposed new course PHYS 3050 Introduction to Biophysics.

This new course will have no impact on the programs at the Marine Institute. We are happy to support this proposal as presented.

A couple of general comments:
- Since this course is titled Introduction to Biophysics course, would it be reasonable to assume that it would/should become the prerequisite for the course BIOL 4245 Biophysics?
- Is there an opportunity and any benefit to having the course crosslisted as BIOL 3050?

All the best,
Derek

Derek Howse
Chair, Undergraduate Studies Committee
Marine Institute, Memorial University
TEL: 709-778-0586
FAX: 709-778-0394
Derek.Howse@mi.mun.ca
Proposal
Calendar Changes to Applied Mathematics and Physics Joint Honours Program

Executive Summary

Several modifications and additions to course requirements for the Applied Mathematics and Physics Honours program are proposed. A number of minor changes are also proposed. No new courses are involved.

Resource Implications: Instructional Costs

No additional teaching resources.

Consultations

The University Library, Grenfell Campus, the Marine Institute, Faculty of Engineering, and Departments within the Faculty of Science.
From: Martin Plumer [plumer@mun.ca]
Sent: March-09-17 10:03 AM
To: 'BioChem'; 'Biology'; 'Chemistry'; 'Computer Science'; 'Earth Science'; 'Engineering'; 'Grenfell'; 'GrenfellPhysics'; 'Library'; 'Marine Inst'; 'Math'; 'Ocean Sciences'; 'Physics'; 'Psychology'
Subject: Proposed Calendar change: ApplMath_Phys Honours
Attachments: ApplMath_PhysProgramChange.pdf

The Department of Physics and Physical Oceanography is proposing Calendar changes to the Applied Math Physics joint honours program.

Please see the attached.
Feedback is requested by April 17, 2017.

Thank you.
Martin Plumer, Chair, Undergraduate Studies Committee (plumer@mun.ca)
Jolanta Lagowski, Head (jolantal@mun.ca).
March 9, 2017.
Library Holdings and/or Other Resources Required

No additional costs are implicated.

Signature of Unit Head (if appropriate): ________________________________

Date: ________________________________

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

Date: ________________________________
Programs Titles: Applied Mathematics and Physics Joint Honours

Calendar Changes

5.1.2 Applied Mathematics and Physics Joint Honours

The following courses are required:

1. English 1080 and English 1110 (or equivalent).
2. A computing course. Computer Science 1510 or 1001 is recommended.
3. Six credit hours in a science other than Mathematics or Physics (if Computer Science is chosen then Computer Science 1510 or 1001 may be counted as three of these hours).
4. Mathematics 1000, 1001, 2000, 2050, 2051, 2260 (or 3260), 3000, 3001, 3132, 3202, 3210,
5. At least one of Mathematics 2130 or Mathematics 2320.
6. Physics 1050 (or 1020), 1051, 2053, 2055, 2750 (or 2056), 2820, 3220, 3230, 3400, 3500, 3750, and one of 3800 or 3900.
7. Three additional credit hours chosen from courses numbered 3000 or higher that are offered by the Department of Physics and Physical Oceanography.
8. One of Mathematics 3161 or Physics 3820 and one of Mathematics 4160, or Physics 3820 and Physics 4820.
9. Physics 490A/B or Mathematics 419A/B.
10. Twelve additional credit hours chosen from courses numbered 4000 or higher that are offered by the Department of Mathematics and Statistics or the Department of Physics and Physical Oceanography. At least 3 credit hours must be selected in each of Applied Mathematics and Physics.
11. A sufficient number of elective courses to bring the degree to a total of 120 credit hours. Twelve credit hours in applicable elective courses.

The topic for the Honours project or thesis, Mathematics 419A/B or Physics 490A/B must be chosen with the prior approval of both departments.

Secondary Calendar Changes

None.
Calendar Entry After Changes

5.1.2 Applied Mathematics and Physics Joint Honours

The following courses are required:

1. English 1080 and English 1110 (or equivalent).
2. A computing course. Computer Science 1510 or 1001 is recommended.
3. Six credit hours in a science other than Mathematics or Physics (if Computer Science is chosen then Computer Science 1510 or 1001 may be counted as three of these hours).
4. Mathematics 1000, 1001, 2000, 2050, 2051, 2260, 3000, 3001, 3132, 3202, 3210,
5. At least one of Mathematics 2130 or Mathematics 2320.
6. Physics 1050 (or 1020), 1051, 2053, 2055, 2750 (or 2056), 2820, 3220, 3230, 3400, 3500, 3750, and one of 3800 or 3900.
7. One of Mathematics 3161 or Physics 3820 and one of Mathematics 4160 or Physics 4820.
8. Physics 490A/B or Mathematics 419A/B.
9. Twelve additional credit hours chosen from courses numbered 4000 or higher that are offered by the Department of Mathematics and Statistics or the Department of Physics and Physical Oceanography. At least 3 credit hours must be selected in each of Applied Mathematics and Physics.
10. Twelve credit hours in applicable elective courses.

The topic for the Honours project or thesis, Mathematics 419A/B or Physics 490A/B must be chosen with the prior approval of both departments.

Rationale

There are three main items:

1. Including the new COMP 1001 as an alternative to COMP 1510 (Python vs Fortran/C++).

2. Replacing the physics elective (line 8) with the requirement of PHYS 3800 Computational Physics or 3900 Experimental Physics. These courses share a common goal of teaching students to execute major physics projects with detailed reports. There are no final exams, with project write-ups occupying the majority of the grading scheme. The department of Physics and Physical Oceanography views these as essential skills for honours students and will be useful for their future thesis courses.

3. Allowing students more freedom in their choice of the math and physics courses specified in line 8. This is motivated by the fact our math-physics courses PHYS 3820 and PHYS 4820 cover much of the same material as MATH 3161 and 4160.
Consultations Sought From

- Faculty of Science.
- Grenfell Campus
- Marine Institute
- Faculty of Engineering

Comments Received

1. Grenfell Campus
2. Marine Institute
3. Department of Biochemistry
4. Department of Biology
5. Department of Chemistry
6. Department of Computer Science
7. Department of Earth Sciences
8. Department of Ocean Sciences
9. Department of Psychology
10. Department of Mathematics and Statistics
11. Engineering

Yes/No
Yes
Yes/No
Yes/No
Yes/No
Yes/No
Yes/No
Yes/No
Yes
Yes

Library Report Received

Yes

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

Name

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APPROVAL GRANTED BY SENATE COMMITTEE ON UNDERGRADUATE STUDIES

Chair:

Secretary:

Date:
Hi Martin,

At its meeting on March 8th, the Department of Mathematics and Statistics endorsed the proposed changes to the Joint Honours program in Applied Mathematics and Physics.

A small editorial change was suggested: that, for clarity, the words "one of" be inserted before "3800 or 3900" in the list of required Physics courses.

Regards,
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

Hello Martin,

I have reviewed the proposed changes. They will no impact on the Physics department's resource requirements from the library.

Alison Ambi
709 864 7125
Interim Head, Collections

Subject Librarian:
Earth Sciences
Computer Science
Mathematics and Statistics
Physics and Physical Oceanography
Psychology

QEII Library
Memorial University of Newfoundland
www.library.mun.ca
From: Engineering Consult [engroconsult@mun.ca]
Sent: March-15-17 2:08 PM
To: Martin Plumer
Cc: Jolanta Lagowski; Dennis Peters; Jennifer Williams
Subject: Re: Proposed Calendar change: ApplMath_Phys Honours

Dear Dr. Plumer,

Thank you for the opportunity to comment on the proposed changes to the joint honours in Mathematics and Physics.

At this afternoon's meeting, the Committee on Undergraduate Studies of the Faculty of Engineering and Applied Science found that these changes will have no impact on our programs.

I wish you well in the development of these Calendar changes.

Yours sincerely,

Dr. Glyn George, Chair
Committee on Undergraduate Studies
Faculty of Engineering and Applied Science
Memorial University of Newfoundland
St. John's NL A1B 3X5

From: Dawn King [Dawn.King@mi.mun.ca] on behalf of MIUG Consultations [MIUGconsultations@mi.mun.ca]
Sent: March-14-17 9:08 AM
To: Martin Plumer
Subject: RE: Proposed Calendar change: ApplMath_Phys Honours

Martin,

Thank you for the opportunity to review and comment on the proposed Calendar Changes to Applied Mathematics and Physics Joint Honours Program.

These changes will have no impact on the programs at the Marine Institute. We are happy to support these changes as presented.

All the best,

Derek

Derek Howse
Chair, Undergraduate Studies Committee
Marine Institute, Memorial University
TEL: 709-778-0586
FAX: 709-778-0394
Derek.Howse@mi.mun.ca
June 28, 2017

TO: All Members, Faculty Council of Science

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

SUBJECT: Calendar Changes and New Course Proposals

At a meeting held on June 23, 2017, the Undergraduate Studies Committee of the Faculty of Science agreed that the following items be forwarded to Faculty Council for approval:

1. Department of Earth Sciences
   - Change to prerequisites for Earth Sciences 2702

2. Department of Physics and Physical Oceanography
   (i) New Course Proposal: Physics 3050-Introduction to Biophysics
   (ii) Changes to the Joint Honours Physics and Applied Mathematics program

3. Department of Chemistry
   (i) Change to the Calendar description of Chemistry 2400 and 2401
   (ii) New Course Proposals: Chemistry 4250-Special Topics in Inorganic Chemistry and Chemistry 4450-Special Topics in Organic Chemistry
   (iii) Changes to course descriptions of Chemistry 4150 and 4350

Joan Burry
Associate Registrar and
Secretary: Committee
on Undergraduate Studies,
Faculty of Science
Proposal
Addition of Non-Mandatory Tutorial Hours to CHEM 2400 and 2401

Executive Summary

This is a proposal for the formal addition of a weekly 2 hour tutorial to the calendar entry for both CHEM 2400 and 2401.

Resource Implications: Instructional Costs

A weekly 2 hour tutorial has been offered for both 2400 and 2401 for at least the last four years and is staffed by a senior organic chemistry graduate student. This proposal simply seeks to make the tutorial part of the instructional time in the calendar, so it will show on student schedules. As such, there are no added resource implications beyond what is already in place. If the size of 2400 and 2401 increases beyond what is manageable for a tutorial, then the cost of a second graduate student tutorial leader will be covered by existing departmental resources.

Library Holdings and/or Other Resources Required

There are no added library costs associated with the new course.

Signature of Unit Head (if appropriate):

Date:

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

Date:
SUMMARY PAGE FOR SENATE

Approval Form

Edits:

Calendar Entries

Under 10.3 Chemistry

2400 Introductory Organic Chemistry I is a course on bonding involving carbon; conformations and stereochemistry; introduction to functional groups and nomenclature; properties, syntheses and reactions of hydrocarbons, alkyl halides, alcohols, and ethers.
AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.
CR: CHEM 2440
LH: 3
OR: 2 hours of non-mandatory* tutorial weekly
PR: Science 1807; a minimum 60% in CHEM 1051; or CHEM 1010 and 1011 with a grade of at least 80% in each; or CHEM 1011 with a grade of at least 85%; or CHEM 1001 (or the former 1031) with a grade of at least 65%

2401 Introductory Organic Chemistry II is an introduction to the interpretation of mass, infrared, $^1$H and $^{13}$C NMR spectra; properties, syntheses and reactions of simple aromatic and heteroaromatic compounds, ketones, aldehydes, amines, carboxylic acids and their derivatives; aldol and related reactions.
AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.
CR: CHEM 2440
LH: 3
OR: 2 hours of non-mandatory* tutorial weekly
PR: CHEM 2400
Secondary Calendar Changes

There are no secondary calendar changes.

Clean Version

2400 Introductory Organic Chemistry I is a course on bonding involving carbon; conformations and stereochemistry; introduction to functional groups and nomenclature; properties, syntheses and reactions of hydrocarbons, alkyl halides, alcohols, and ethers.
AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.
CR: CHEM 2440
LH: 3
OR: 2 hours of non-mandatory* tutorial weekly
PR: Science 1807; a minimum 60% in CHEM 1051; or CHEM 1010 and 1011 with a grade of at least 80% in each; or CHEM 1011 with a grade of at least 85%; or CHEM 1001 (or the former 1031) with a grade of at least 65%

2401 Introductory Organic Chemistry II is an introduction to the interpretation of mass, infrared, ^1^H and ^13^C NMR spectra; properties, syntheses and reactions of simple aromatic and heteroaromatic compounds, ketones, aldehydes, amines, carboxylic acids and their derivatives; aldol and related reactions.
AR: attendance is required in the laboratory component of this course. Failure to attend may result in a failing grade or deregistration from the course.
CR: CHEM 2440
LH: 3
OR: 2 hours of non-mandatory* tutorial weekly
PR: CHEM 2400

* The words “non-mandatory” were inserted into this proposal in order to pass this through Faculty of Science Undergraduate Studies Committee. The Chemistry Department has stated that these tutorials are non-mandatory throughout the proposal and Chemistry feels that the wording is unnecessary since the same is not stated explicitly for lectures (which are not mandatory). We feel that the words “non-mandatory” minimize the importance of the lectures. It already states in the calendar:

6.6 Attendance

1. Attendance regulations must be approved by the Senate and will be allowed only in cases where the academic unit has demonstrated that attendance is necessary for safety reasons, for teaching practical skills, or for attaining other clearly specified objectives. This may include an attendance regulation that may, by itself, cause a student who contravenes the regulation to fail or be dropped from a course.
2. The course where an attendance regulation is to be enforced must have the statement “attendance required” included in the calendar description.

With attendance not being explicitly required and since there is no precedent, Chemistry moves that this proposal be passed without the words “non-mandatory”.
Rationale

For years non-mandatory tutorials have been offered in conjunction with CHEM 2400 and 2401. The purpose of this proposal is to emphasize the importance of these tutorials for student success. Non-mandatory tutorials have been and will continue to be offered at 5 pm on Wednesday evenings. The Head of the Chemistry Department has personally confirmed that this time slot available for all but 3 students in 2016/17 total for both courses. For each of these three students, there were other options available for their courses. These tutorials are offered to students to help them through the course material. No new material is presented in these tutorials. The format is questions and answer from weekly problem sets provided for students for study purposes. It is beneficial to have these non-mandatory student tutorials on the students’ radar as a part of the course rather than an informal part and so that students are able to attend. These are for the benefit of the students, to give them every possibility to pass the course. It should also be noted that tutorials are part of the second year organic chemistry curriculum at many other institutions and are typically mandatory.
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Library Report Received: yes

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

Name

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APPROVAL GRANTED BY SENATE COMMITTEE ON UNDERGRADUATE STUDIES

Chair: Secretary:

Date:
Consultation email:

-----Original Message-----
From: Chris Flinn [mailto:cgflinn@mun.ca]
Sent: Thursday, February 16, 2017 3:17 PM
To: associatevpooffice@grenfell.mun.ca; MIUG Consultations
   <MIUGconsultations@mi.mun.ca>; mathconsult@mun.ca; Mellor, Judith
   <jmellor@mun.ca>; Biochemistry Head <biochead@mun.ca>; Annie Mercier
   <amercier@mun.ca>; psychology.head@mun.ca; Engineering Consultations
   <engrconsult@mun.ca>; pharinfo@mun.ca; pmarino@mun.ca; Alison Leitch
   <aleitch@mun.ca>; 'Lagowski, Jolanta' <jolantal@mun.ca>; mgamsby@mun.ca
Cc: Head of Chemistry <chemhead@mun.ca>
Subject: consultations requests from chemistry

Hello Everyone,

Please review the attached proposals from chemistry and send me your
comments. I understand that Megan Gamsby is taking place of Erin Alcock at
the library this year for consultations. I look forward to hearing from
Megan.

thanks,

Chris Flinn
Chemistry

Library Report:

Collection Development Division
Queen Elizabeth II Library
St. John's, NL A1B 3Y1

TO: Chris Flinn, Department of Chemistry
FROM: Meghan Gamsby, Head of Information Services,
Temporary Collections Librarian for Chemistry
RE: Proposed addition of tutorial hours to CHEM 2400
and 2401
DATE: March 17, 2017
I have reviewed the proposed edit to the calendar entry for
CHEM 2400 and 2401 to add a weekly tutorial and have
determined that the changes will have no impact on library
resources.

Responses from Other Departments:

Marine Institute:
Tutorials for Chemistry 2400 and 2401

Chris,

Thank you for the opportunity to review and comment on the proposed formalization of the tutorial hours for CHEM 2400 and 2401.

This proposal will have no impact on the programs at the Marine Institute. We are happy to support this change as presented.

All the best,

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

Pharmacy:

Hi Chris,

Thanks for the opportunity to review Chemistry's proposals regarding organic chemistry and some special topics courses.

Re CHEM 2400/01 proposal:
As you are aware Pharmacy will be replacing CHEM2440 with CHEM2400/01 effective Fall 2017 in conjunction with its new Entry-to-Practice Pharm. D program. We would appreciate the opportunity for our 40 pharmacy students to avail of the tutorial session on Wednesday afternoons. Their schedule is pretty tight and they are in class/labs, etc. daily from 8:30am-5:00pm with not a lot of free time in between. I'm not sure if you are planning on offering the tutorials more than once a week, or if the one session on Wednesday is sufficient to accommodate student needs (bearing in mind there will be 40 extra students taking this course)? We do have some flexibility in the schedule to move up their last class on Wednesdays in order to facilitate access to a 5 pm Chemistry tutorial. So this day/time will work for us.

Re Special topics Courses:
Pharmacy has no concerns with this proposal.

Thanks,

Leslie
DR LESLIE PHILLIPS  ASSOCIATE DEAN UNDERGRADUATE STUDIES  PROFESSOR | MUN SCHOOL of PHARMACY  Joint Appointment | FACULTY of MEDICINE/Psychiatry
Clinical Pharmacotherapy Specialist | EASTERN HEALTH

Physics:

Hi Chris,

We had a few comments from our USC on the tutorial proposal for 2400 and 2401:

1. Total time commitments per week would then be: 3 hours classroom + 3 hours lab + 2 hours tutorial = 8 hours?
   This seems excessive for a course. Physics typically uses lab time for tutorials.
   Perhaps 2400 and 2401 are attempting to cover too much material?

2. Might be scheduling issues for the students with so many hours per week.

Cheers,
Martin

-----Original Message-----
From: Lagowski, Jolanta [mailto:jolantal@mun.ca]
Sent: February-16-17 4:32 PM
To: Martin Plumer
Cc: Richard J Goulding
Subject: FW: consultations requests from chemistry

Martin,
For your and USC consideration. I see no problem with these proposals.
Jolanta

Response to Physics from Chemistry Head re Physics concerns:

Hi Martin,

Thanks for your questions.

I have consulted with the organic chemists and we have looked at Dalhousie as an example and it turns out we teach pretty much the same courses, rearranged a bit differently, but they cover the same chapters in the same book as we do in a total of two courses.

Being a synthesis course, the students are required to do labs to put what they learn in the classroom to use. That is the nature of this course so tutorials in place of labs is not an option.

Furthermore, these tutorials are taking place right now and have been for many years, we have decided that we want to formalize it. This should be thought of as us trying to help the students get through the course and offering help to these students. Much like all of our lectures and tutorials, they are not mandatory for students
Tutorials for Chemistry 2400 and 2401

to attend. I know that sounds strange, but that is the University's policy that classes are not mandatory. The number of students is set to explode in 2400 and 2401 since all of the faculty of science who require organic chemistry will be turning to these courses (ie. Biology has already approved dropping 2440 for 2400 and 2401) and this is the best way to help the lower level students get through the course. It is not feasible to teach less material as our graduates would, then, be less prepared than their colleagues from other universities.

Also, I personally went through the schedules of each student in 2400 last term and 2401 this term and there were three or four people who had courses such as Math or English at the same time (and not the same level, ie. not 2XXX). However, there are many slots for Math and English for these few students to get into.

Take care,

Travis

Biology:

Hi Chris,

The Department of Biology supports the addition of the 2 hour weekly tutorial to CHEM 2400 and 2401 and the creation and editing of special topics courses in Chemistry.

Jody Burke, BSc.(Hons), M.Ed, PGC(QM) – Academic Program Officer
Department of Biology, Memorial University
Office: (709) 864 8021
E-mail: jodyb@mun.ca

-----Original Message-----
From: Marino, Paul [mailto:pmarino@mun.ca]
Sent: February-16-17 3:36 PM
To: jodyb@mun.ca
Subject: FW: consultations requests from chemistry

For BUGS Jody.
Paul

Ocean Sciences:

Dear Chris:

Our undergraduate Studies committee has reviewed the proposed calendar changes. We are supportive of formalization of the tutorial hours for CHEM 2400 and 2401, and of the addition of special topics courses for each of the subdisciplines of chemistry.

As we are currently developing similar proposals for special topics courses, we were curious about the very succinct model for this proposal - is it typical?
Cheers,
Annie

Annie Marcher, PhD
Professor and Deputy Head,
Department of Ocean Sciences
Memorial University (Ocean Sciences Centre)
St. John's, NL, Canada, A1C 5S7
Tel: (709) 864-2011
Email: amercier@mun.ca
www.mun.ca/osc/amercier/bio.php

Engineering:
Dear Dr. Flinn,

Thank you for the opportunity to comment on the proposed new special topics courses and on the addition of tutorial hours to CHEM 2400 and 2401.

At this afternoon's meeting, the Committee on Undergraduate Studies of the Faculty of Engineering and Applied Science found that these changes will have no impact on our programs.

I wish you well in the development of these Calendar changes.

Yours sincerely,

Dr. Glyn George, Chair
Committee on Undergraduate Studies
Faculty of Engineering and Applied Science
Memorial University of Newfoundland
St. John's NL A1B 3X5

Education:

Dear Chris:

My apologies for the delay. For the record, we are pleased to support your proposal.

Judith

Judith Mellor
Co-ordinator, Undergraduate Programs
Faculty of Education
Memorial University of Newfoundland
T: 709.864.7554
F: 709.864.2623
Proposal
New Special Topics Courses in Inorganic and Organic Chemistry

Executive Summary

This is a proposal for new general special topics courses in Inorganic and Organic Chemistry at the fourth year level.

Resource Implications: Instructional Costs

These courses are not mandatory courses for any degree and will be taught when necessary and in place of other advanced course. There are no resource implications.

Library Holdings and/or Other Resources Required

There are no added library costs associated with the new course.

Signature of Unit Head (if appropriate):

Date:

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

Date:
Special Topics Courses in Chemistry

SUMMARY PAGE FOR SENATE

Approval Form

New Courses:

Calendar Entries

Under 10.3 Chemistry

4250 Special Topics in Inorganic Chemistry is a course for senior level undergraduate students and covers one or a number of specialized topics of current interest in inorganic chemistry.
PR: CHEM 3210 or 3211

4450 Special Topics in Organic Chemistry is a course for senior level undergraduate students and covers one or a number of specialized topics of current interest in organic chemistry.
PR: CHEM 3411
Special Topics Courses in Chemistry

Secondary Calendar Changes

There are no secondary calendar changes.

Rationale

In the past, special topics courses have been used to design new senior level courses or to deliver a one-off course of interest to faculty and/or students. We would like to have one of these courses in each of the sub-disciplines of chemistry; analytical, inorganic, physical, and organic. This proposal adds a course for the inorganic and organic and a separate proposal modifies the existing courses for physical and analytical.
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Library Report Received: yes/no

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

Name

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APPROVAL GRANTED BY SENATE COMMITTEE ON UNDERGRADUATE STUDIES

Chair:

Secretary:

Date:
Proposal

Some Edits to Existing Special Topics Courses CHEM 4150 and 4350

Executive Summary

This is a proposal for some minor changes to existing special topics Chemistry courses.

Resource Implications: Instructional Costs

These courses are not mandatory courses for any degree and will be taught when necessary and in place of other advanced course. There are no resource implications.

Library Holdings and/or Other Resources Required

There are no added library costs associated with the new course.

Signature of Unit Head (if appropriate): ____________________________

Date: ____________________________

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

_________________________________

Date: __________________________________
Special Topics Courses in Chemistry

SUMMARY PAGE FOR SENATE

Approval Form

Course Changes:

Calendar Changes

4150 Advanced Spectrometric Techniques Special Topics in Analytical Chemistry is a course for senior level undergraduate students and covers one or a number of specialized topics of current interest in analytical chemistry.
PR: CHEM 3110

4350 Special Topics in Physical Chemistry is a course for senior level undergraduate students and covers one or a number of specialized topics of current interest in physical chemistry. Advanced Physical Chemistry III: Selected Topics in Physical Chemistry is discussion of selected topics of current interest in physical chemistry and chemical physics, given in lecture or seminar form. Representative topics are crystal structure and x-ray crystallography, data processing and modelling, microwave spectroscopy, quantum chemical calculations. Arrangements to take this course should be made during the previous academic year.
PR: CHEM 3303
Special Topics Courses in

Secondary Calendar Changes

There are no secondary calendar changes.

Clean Version

4150 Special Topics in Analytical Chemistry is a course for senior level undergraduate students and covers one or a number of specialized topics of current interest in analytical chemistry.
PR: CHEM 3110

4350 Special Topics in Physical Chemistry is a course for senior level undergraduate students and covers one or a number of specialized topics of current interest in physical chemistry.
PR: CHEM 3303

Rationale

In the past, special topics courses have been used to design new senior level courses or to deliver a one-off course of interest to faculty and/or students. This proposal simply modifies the already existing courses for analytical and physical chemistry so that all four special topics courses (separate proposal for 4250 Inorganic, and 4450 Organic) have similar descriptions.
Special Topics Courses in

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Library Report Received: yes

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

Name

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APPROVAL GRANTED BY SENATE COMMITTEE ON UNDERGRADUATE STUDIES

Chair: 

Secretary: 

Date: 

Consultation email:

--- Original Message ----
From: Chris Flinn [mailto:cgflinn@mun.ca]
Sent: Thursday, February 16, 2017 3:17 PM
To: associatevoffice@grenfell.mun.ca; MIUG Consultations <MIUGconsultations@mi.mun.ca>; mathconsult@mun.ca; Mellor, Judith <imellor@mun.ca>; Biochemistry Head <biohead@mun.ca>; Annie Mercier <amercier@mun.ca>; psychology.head@mun.ca; Engineering Consultations <engrcconsult@mun.ca>; pharminfo@mun.ca; pmarino@mun.ca; Alison Leitch <aleitch@mun.ca>; 'Lagowski, Jolanta' <jolantal@mun.ca>; mgamsby@mun.ca
Special Topics Courses in Chemistry

Cc: Head of Chemistry <chemhead@mun.ca>
Subject: consultations requests from chemistry

Hello Everyone,

Please review the attached proposals from chemistry and send me your comments. I understand that Megan Gamsby is taking place of Erin Alcock at the library this year for consultations. I look forward to hearing from Megan.

thanks,

Chris Flinn
Chemistry

Library Report:

Collection Development Division
Queen Elizabeth II Library
St. John’s, NL A1B 3Y1

TO: Chris Flinn, Department of Chemistry
FROM: Meghan Gamsby, Head of Information Services, Temporary Collections Librarian for Chemistry
RE: Proposed New Special Topics Courses in Chemistry and Some Edits to Existing Special Topics Courses
DATE: March 18, 2017

I have reviewed the proposal for new Special Topics and edits to the existing Special Topics courses in Chemistry. A collection evaluation was completed for the two new courses and edits to the two existing courses.

We have access to the major databases and journals in these areas. For any materials not available at Memorial Libraries our Document Delivery Services is there to help obtain such resources in a timely fashion. Our Library Instruction program is available to help instructors teach their students about information literacy, including finding literature using specialized chemistry databases and scholarly communication practices in chemistry.

Dr. Fridgen’s response to criticisms of this proposal at the April 6, 2017 FoSCUGS meeting:

Colleagues,

Please find attached our revised versions of the proposal (now two proposals) for two new special topics courses and the revision of two existing special topics courses.

To clarify, chemistry likes the model that we have proposed which is similar to the model that Psychology uses. Unlike Psychology, we do not plan to offer these courses on a yearly basis. For example, Chemistry 4350 has been taught three times in the past 12 years. We expect to offer 4450 next year, so we decided to have four courses, one in each sub-discipline.

If you have any major concerns, please let me know.
Special Topics Courses in

Dr. Flinn will add the results of the month-long consultations prior to providing it to Joan for your next SUGC meeting.

Thanks and take care,

Travis

Previous Consultation emails from other departments and schools:

Engineering

Dear Dr. Flinn,

Thank you for the opportunity to comment on the proposed new special topics courses and on the addition of tutorial hours to CHEM 2400 and 2401.

At this afternoon's meeting, the Committee on Undergraduate Studies of the Faculty of Engineering and Applied Science found that these changes will have no impact on our programs.

I wish you well in the development of these Calendar changes.

Yours sincerely,

Dr. Glyn George, Chair
Committee on Undergraduate Studies
Faculty of Engineering and Applied Science
Memorial University of Newfoundland
St. John's NL A1B 3X5

Marine Institute:

Chris,

Thank you for the opportunity to review and comment on the proposed new Special Topics courses in Chemistry and edits to existing Special Topics courses.

This proposal will have no impact on the programs at the Marine Institute. We are happy to support this.

One minor comment/question: You have not included the required format of submission for new courses as found on https://www.mun.ca/regoff/home/course_prog_proposal_form.php. Is this due to these being Special Topics courses?

All the best.
Derek

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

Pharmacy:

Hi Chris,

Thanks for the opportunity to review Chemistry’s proposals regarding organic chemistry and some special topics courses.

Re CHEM 2400/01 proposal:
As you are aware Pharmacy will be replacing CHEM2440 with CHEM2400/01 effective Fall 2017 in conjunction with its new Entry-to-Practice Pharm. D program. We would appreciate the opportunity for our 40 pharmacy students to avail of the tutorial session on Wednesday afternoons. Their schedule is pretty tight and they are in class/labs, etc. daily from 8:30am-5:00pm with not a lot of free time in between. I’m not sure if you are planning on offering the tutorials more than once a week, or if the one session on Wednesday is sufficient to accommodate student needs (bearing in mind there will be 40 extra students taking this course)? We do have some flexibility in the schedule to move up their last class on Wednesdays in order to facilitate access to a 5 pm Chemistry tutorial. So this day/time will work for us.

Re Special topics Courses:
Pharmacy has no concerns with this proposal.

Thanks,

Leslie
DR LESLIE PHILLIPS
ASSOCIATE DEAN UNDERGRADUATE STUDIES
PROFESSOR | MUN SCHOOL of PHARMACY
Joint Appointment | FACULTY of MEDICINE/Psychiatry
Clinical Pharmacotherapy Specialist | EASTERN HEALTH

Biology:

Hi Chris,

The Department of Biology supports the addition of the 2 hour weekly tutorial to CHEM 2400 and 2401 and the creation and editing of special topics courses in Chemistry.

Jody Burke, BSc.(Hons), M.Ed, PGC(QM) — Academic Program Officer
Department of Biology, Memorial University
Office: (709) 864 8021
E-mail: jodyb@mun.ca

-----Original Message-----
From: Marino, Paul [mailto:pmarino@mun.ca]
Sent: February-16-17 3:36 PM
To: jodyb@mun.ca
Subject: FW: consultations requests from chemistry
Special Topics Courses in

For BUGS Jody.
Paul

Ocean Sciences:

Dear Chris:

Our undergraduate Studies committee has reviewed the proposed calendar changes. We are supportive of formalization of the tutorial hours for CHEM 2400 and 2401, and of the addition of special topics courses for each of the subdisciplines of chemistry.

As we are currently developing similar proposals for special topics courses, we were curious about the very succinct model for this proposal - is it typical?

Cheers,
Annie

_____________________________________________________________________
Annie Mercier, PhD
Professor and Deputy Head,
Department of Ocean Sciences
Memorial University (Ocean Sciences Centre)
St. John's, NL, Canada, A1C 5S7
Tel: (709) 864-2011
Email: amerrier@mun.ca
www.mun.ca/osc/amerrier/bio.php

Education:

Dear Chris:

My apologies for the delay. For the record, we are pleased to support your proposal.
Judith

Judith Mellor
Co-ordinator, Undergraduate Programs
Faculty of Education
Memorial University of Newfoundland
T: 709.864.7554
F: 709.864.2623
Hi Gail,
the AQUA 6202 special topics course has been approved with 12 votes in favour (Alison, Cyril, Brian, Ron, Yuanzhu, Len, Kurt, Carolyn, Stephanie, Ivan, Bob and myself); none against.
Council can now be informed of this decision.

-j

On 06/02/2017 08:45 AM, Kenny, Gail wrote:
> Hi JC,
> >
> > Have you received a majority yet? Just checking in. Thanks.
> >
> > Gail
> >
> > -----Original Message-----
> > From: JC Loredo-Osti [mailto:jcloreodoosti@mun.ca]
> > Sent: May-25-17 7:40 PM
> > To: JC Loredo-Osti <jcloreodoosti@mun.ca>; Kenny, Gail <gkenny@mun.ca>;
> > Len Zedel <zedel@mun.ca>; amalcom@mu.ca; bestave@mun.ca; Rob Bertolo
> > <rbertolo@mun.ca>; Kur Gamperl <kgamperl@mun.ca>; Stephanie H. Curnoe
> > <curnoe@mun.ca>; Carolyn Walsh <cwalsh@play.psych.mun.ca>;
> > Cyr.Couturier@mi.mun.ca; Ron Haynes <rhaynes@mun.ca>; Minglun Gong
> > <gong@mun.ca>; Ivan Booth <ibooth@mun.ca>; Yuanzhu Chen
> > <yzchen@mun.ca>; Ken Fowler <kenfowler@mun.ca>; Tom Chapman
> > <tomc@mun.ca>
> > Subject: Fwd: AQUA 6202 Special topics course for approval
> >
> > Apologies. Attached is the correct documentation.
> > -j
> >
> > -----Original Message-----
> > From: JC Loredo-Osti [mailto:jcloreodoosti@mun.ca] Sent: May-25-17
> > 12:09 PM
> > To: A. Kurt Gamperl <kgamperl@mun.ca>; JC Loredo-Osti
> > <jcloreodoosti@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
June 2, 2017

TO: Registrar’s Office

FROM: Secretary, Faculty of Science Faculty Council

SUBJECT: Special Topics Course

The special topics course, AQUA 6202, Ploidy Manipulation in Aquaculture, 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.

Gina Jackson
Secretary, Faculty of Science Faculty Council

cc: A. Williams, School of Graduate Studies
    G. Kenny, Dean of Science Office
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 (Bruna Centre for Research and Innovation); St. John’s, NL A1C 5S7 Canada Fax: 709.864.4702 eMail: ses@mun.ca

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

Course No.: AQUA 6202
Course Title: Ploidy Manipulation in Aquaculture

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) 2 term papers @ 35% each

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. Course description (reading list required):
   See attached doc

F. Method of evaluation:

   Written Percentage Oral
   Class tests 0 
   Assignments 30 (6 @ 5% each) 
   Other (specify): 70
   2 term papers @ 35% each
   Final examination: 
   Total 100

* 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

   Recommended for offering in the

   [ ] Fall  [ ] Winter  [ ] Spring  2017

   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]

   Approval of the head of the academic unit

   18 May 2017
   Date

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

   [Signature]

   Secretary, Faculty/School/Council

   June 2017
   Date

Updated March 2017
AQUA 6202: Ploidy Manipulation in Aquaculture

COURSE INSTRUCTOR(S):
Dr. Jillian Westcott, an aquaculture instructor/researcher with the Fisheries and Marine Institute with 4 years of experience teaching master level courses online, will prepare the course for online delivery and co-instruct.

Dr. Matthew Risa, a professor with the Department of Ocean Sciences and a leading expert in the application of functional genomics approaches in aquaculture research (e.g. related to fish growth and immune responses), will co-instruct.

COURSE DESCRIPTION:
This course will provide a comprehensive overview of ploidy manipulation in aquaculture. It will foster the development of skills required for the critical review of scientific literature and communication of scientific research findings.

METHOD OF DELIVERY:
This course will be offered as a reading course. It will be delivered fully online using Desire2Learn (D2L). A variety of journals, key texts, and technical reports will be assigned for reading in relation to the outlined modules. All resources are available within the Memorial Library systems.

PREREQUISITES: None.

TENTATIVE SYLLABUS:

Module 1 (Weeks 1 and 2): Introduction to Ploidy Manipulation in Aquaculture
1.1 Why Alter Ploidy? (Weeks 1 and 2)

Module 2 (Weeks 3 and 4): Production of Polyploids in Aquaculture
2.1 Methods of Inducing Polyploidy (Week 3)
2.2 Methods of Confirming Polyploidy (Week 4)

Module 3 (Weeks 5 and 6): Effects of Triploidy on Growth, Development and Reproduction
3.1 Impact of Triploidy on Reproduction and Developmental (Week 5)
3.2 Triploidy and Nutrition (Week 6)

Module 4 (Weeks 7 and 8): The Generation of Monosex Populations
4.1 Application of Uniparental Inheritance (Gynogenesis and Androgenesis) in Aquaculture (Week 7)
4.2 Application of Endocrine Manipulations of Sex Ratio in Aquaculture (Week 8)
Module 5 (Weeks 9 and 10): Effects of Triploidy on Defense Responses
5.1 Effects of Triploidy on Response to Environmental Stressors (Week 9)
5.2 Effects of Triploidy on Immune Response (Week 10)

Module 6 (Weeks 11 and 12): Environmental and Ethical Considerations of Ploidy Manipulation in Aquaculture
6.1 Environmental Considerations of Ploidy Manipulation of Aquaculture (Week 11)
6.2 The Ethics of Ploidy Manipulation in Aquaculture (Week 12)

LITERATURE:

E-JOURNALS (available through Memorial’s online library access portal):
- Animal Genetics
- Aquaculture
- Aquaculture and Aquatic Resources Management
- Aquaculture and Fisheries Management
- Aquaculture Economics and Management
- Aquaculture International
- Aquaculture Research
- Aquatic Living Resources
- BMC Genetics
- BMC Genomics
- Canadian Journal of Fisheries and Aquatic Sciences
- Canadian Journal of Zoology
- Comparative Biochemistry and Physiology
- Developmental and Comparative Immunology
- Fish and Shellfish Immunology
- Fish Physiology and Biochemistry
- Journal of Applied Aquaculture
- Journal of Applied Genetics
- Journal of Fish Biology
- Journal of Fish Diseases
- Journal of Fisheries and Aquatic Science
- Journal of Shellfish Research
- Marine Biotechnology
- Marine Ecology – Progress Series
- Nature
- North American Journal of Aquaculture
- PLoS One (open access journal) http://www.plosone.org
- Proceedings of the National Academy of Sciences of the United States of America
- Reviews in Aquaculture
- Science
WEBSITES:

- Aquaculture Association of Canada
  www.aquacultureassociation.ca
- Aquaculture Association of Nova Scotia
  www.aansonline.ca
- Atlantic Canada Fish Farmers Association
  www.atlanticfishfarmers.com
- BC Salmon Farmers Association
  www.salmonfarmers.org
- Canadian Aquaculture Industry Alliance
  www.aquaculture.ca
- Canadian Food Inspection Agency
  www.inspection.gc.ca
- Fisheries and Oceans Canada (aquaculture)
  http://www.dfo-mpo.gc.ca/aquaculture/aquaculture-eng.htm
- Food and Agriculture Organization of the United Nations
- Global Aquaculture Alliance
  www.gaaalliance.org
- World Aquaculture Society
  www.was.org
- World Organisation for Animal Health
  www.ole.int

TRADE PUBLICATIONS & ONLINE MATERIALS:

- Aquaculture Association of Canada, Bulletin
  http://www.aquacultureassociation.ca/publications
- Aquaculture Association of Canada, Special Publications
  http://www.aquacultureassociation.ca/publications/special
- Canadian Aquaculture R & D Review
  http://www.aquacultureassociation.ca/publication/canadian-aquaculture-r-d-review
- Cold Harvester Magazine
  http://naja.ca/In-the-news/cold-harvester/
- Global Aquaculture Advocate (free trade publication)
  http://www.gaaalliance.org/mag/
- Global Aquaculture Alliance
  http://www.gaaalliance.org
- Intrafish (via subscription, facilitator can provide ID and password access)
  www.intrafish.com
- Salmon Aquaculture Database
- United Nations, Food and Agriculture Organization (FAO), Aquaculture publications
• World Wildlife Fund - Aquaculture Dialogues
  http://www.worldwildlife.org/what/globalmarkets/aquaculture/aquaculturedialogs.html

TEXTBOOKS:

EVALUATION:
• Assignments: 30% (6 @ 5% each). The student will be required to prepare a biweekly scientific article summary and critique related to each module of the course (two single-spaced typed pages per article).
• Term Papers: 70% (2 @ 35% each). Term paper topics: (1) Triploidy in salmonids, (2) Polyploidy in shellfish.
### Committees

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Christina Bottaro (C), Alison Malcolm, Craig Purchase, Len Zedel

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- Carmen Fang, Mariel Fitzgerald, Laura Hillier

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**SCHOOL OF NURSING**

- (No names listed)