



Lakehead University
Faculty of Science and Environmental Studies

REQUEST REPORT

Request Tracking Number: 2013-SCI-2997
Request Title: New Courses Specialization Chem

[DeAcTerm[EffectiveDate]] [DeAc[RequestEffectiveDate]]
Request Status: In Workflow
Request can't be split

Request Contents

Type	Title
1. New Course	Genes and Genomics
2. New Course	Principles of Medicinal Chemistry
3. New Course	Protein Biochemistry
4. New Course	Molecular Imaging
5. New Course	Carbohydrate Chemistry

Request History

Workflow Step	Workflow Action	User	Change Made	Comments	Date
Initiator	Approved	Christine Gottardo	No	Submitted to workflow	12/31/2013
Dean and Faculty Council Review Stage	Approved	Christina Maenpaa	Yes	Approved by the SES Faculty Council on January 9th. Approved by Andrew P. Dean.	01/20/2014

Supporting Documents

File Name	Uploaded By	Upload Date	Size
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Supporting Documents Audit Trail

File Name	User	Date	Action
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Notes

Date	User	Note
12/31/2013	Christine Gottardo	These are all proposed new courses for the Specialization in Medical Science

1.	New Course	Chemistry 3aaa - Genes and Genomics
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Justification

New course to support proposed Specialization in Medical Science

Course Details

Chemistry 3aaa - Genes and Genomics

Start Term: Fall 2014

End Term: No Specified End Date

Course Details

Code

Chemistry 3aaa

Title

Genes and Genomics

Description

Topics covered include: genomics technologies; locating genes within a genome sequence and determining their function; transcriptomes and proteomes; eukaryotic nuclear genomes; the human genome; epigenomics; pharmacogenomics and personalized medicine; behavioral and nutritional genomics; ethical and social Implications of genomics.

End Term

No Specified End Date

Institution

Lakehead University

Faculty

Faculty of Science and Environmental Studies

CreditWeight

0.5

Rationale

This new course is being added to support a new specialization offered by the Department of Chemistry: Medical Science

Requiredor Elective

Required

Cross List

Offering

0-0; 3-0

Prerequisites

Chemistry 3251/Biology 3252

Corequisites
Notes
SpecialTopicDropdown
GradeSchemePF
EffectonEnrolmentINIT 10-15 in specialization
EffectonEnrolmentOTHER 10 from Biology and/or APBI
AdditionalTeachingSpace Audio-visual with internet access
EffectonTeachingLoads This course will increase teaching loads in the department
EffectonServices This course requires no additional resources from teaching support services.
DirectinkindSupport This course requires no additional outside support.

2.	New Course	Chemistry 4aaa - Principles of Medicinal Chemistry
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Justification
 New course to support proposed Specialization in Medical Science

Course Details

Chemistry 4aaa - Principles of Medicinal Chemistry
Start Term: Fall 2014
End Term: No Specified End Date

<u>Course Details</u>
Code Chemistry 4aaa
Title Principles of Medicinal Chemistry
Description Fundamental aspects and current methodologies in drug discovery including: development process, basic principles of drug action and pharmacology, and current experimental and computational methodologies used in drug discovery.
End Term No Specified End Date
Institution Lakehead University
Faculty Faculty of Science and Environmental Studies
CreditWeight 0.5
Rationale This course has been offered for a number of years as a special topics course and is being converted to a permanent course to support the new specialization: Medical Science
Requiredor Elective Required
Cross List
Offering 3-3; 0-0
Prerequisites Chemistry 3251/Biology 3252

Corequisites
Notes
SpecialTopicDropdown
GradeSchemePF
EffectonEnrolmentINIT 10-15 in specialization
EffectonEnrolmentOTHER 10 from biology and /or APBI
AdditionalTeachingSpace Audio-visual with internet access; computer lab - These resources are already in place
EffectonTeachingLoads No change to teaching load as this has been offered as a special topics
EffectonServices No teaching support services required
DirectinkindSupport No outside support required.

3.	New Course	Chemistry 4bbb - Protein Biochemistry
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Justification
 New course to support proposed Specialization in Medical Science

Course Details

Chemistry 4bbb - Protein Biochemistry
Start Term: Fall 2014
End Term: No Specified End Date

<u>Course Details</u>
Code Chemistry 4bbb
Title Protein Biochemistry
Description Fundamental concepts and molecular mechanisms of protein function including enzyme catalysis, receptor activation and transport proteins. Additional topics will include regulatory mechanisms, bioconjugation chemistry and molecular recognition with a focus on drug design, aberrant protein activity in disease and medical diagnostics.
End Term No Specified End Date
Institution Lakehead University
Faculty Faculty of Science and Environmental Studies
CreditWeight 0.5
Rationale This course is being created to support the new specialization in Medical Science in the Department of Chemistry
Requiredor Elective Required
Cross List
Offering 3-0; or 3-0
Prerequisites Chemistry 3271/Biology 3272

Corequisites
Notes
SpecialTopicDropdown
GradeSchemePF
EffectonEnrolmentINIT 10-15 students
EffectonEnrolmentOTHER N/A
AdditionalTeachingSpace No new resources other than teaching load increases are anticipated
EffectonTeachingLoads This course is new and will have implications for teaching loads
EffectonServices No teaching support services are anticipated.
DirectkindSupport There will be no requests fro outside support

4.	New Course	Chemistry 4ccc - Molecular Imaging
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Justification

New course to support proposed Specialization in Medical Science

Course Details

Chemistry 4ccc - Molecular Imaging

Start Term: Fall 2014

End Term: No Specified End Date

Course Details

Code

Chemistry 4ccc

Title

Molecular Imaging

Description

This course will explore the trend towards personalized medicine using molecular imaging techniques including optical, SPECT, PET and MRI. Discussions on the chemical and biochemical principles underlying the design, synthesis and evaluation of novel imaging probes in both the preclinical and clinical settings as well as its future role in guiding and evaluating targeted therapeutics.

End Term

No Specified End Date

Institution

Lakehead University

Faculty

Faculty of Science and Environmental Studies

CreditWeight

0.5

Rationale

This new course is being introduced to support the new specialization being proposed by the Department of Chemistry: Medical Science.

Requiredor Elective

Required

Cross List

Offering

3-0; or 3-0

Prerequisites

Chemistry 3271/Biology 3272

Corequisites
Notes
SpecialTopicDropdown
GradeSchemePF
EffectonEnrolmentINIT 10-15 students
EffectonEnrolmentOTHER N/A
AdditionalTeachingSpace No additional resources other than teaching loads are requested
EffectonTeachingLoads This is a new course and will need to be supported with additional teaching resources
EffectonServices No requests to teaching support services are anticipated.
DirectinkindSupport No outside support is anticipated.

5.	New Course	Chemistry 4ddd - Carbohydrate Chemistry
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Justification

New course to support proposed Specialization in Medical Science

Course Details

Chemistry 4ddd - Carbohydrate Chemistry

Start Term: Fall 2014

End Term: No Specified End Date

Course Details

Code

Chemistry 4ddd

Title

Carbohydrate Chemistry

Description

Carbohydrate structure, characterization, synthesis, biosynthesis, and biological functions. Key topics include saccharide structures and fundamental chemistry, classical and instrumental methods for carbohydrate analysis, protecting group strategy, glycoside synthesis, survey of glycoconjugate structure and biosynthesis, carbohydrate recognition and their biological functions, altered carbohydrate metabolism and diseases, and glycomedicine.

End Term

No Specified End Date

Institution

Lakehead University

Faculty

Faculty of Science and Environmental Studies

CreditWeight

0.5

Rationale

This new course will support the new specialization being proposed by the Department of Chemistry

Requiredor Elective

Required

Cross List

Offering

3-0; 0-0

Prerequisites

Chemistry 3271/Biology 3272

Corequisites
Notes
SpecialTopicDropdown
GradeSchemePF
EffectonEnrolmentINIT 10-15 students
EffectonEnrolmentOTHER N/A
AdditionalTeachingSpace No additional resources are being requested
EffectonTeachingLoads This course will increase teaching loads in the Department
EffectonServices No additional teaching support services are required.
DirectinKindSupport No outside support is being requested.