



Lakehead University
Faculty of Science and Environmental Studies

REQUEST REPORT

Request Tracking Number: 2015-SCI-5240
Request Title: course - new - GR - Biology - new courses for MIBiotech

[DeAcTerm[EffectiveDate]] [DeAc[RequestEffectiveDate]]
Request Status: In Workflow
Request can be split

Request Contents

Type	Title
1. New Course	Industrial Biotechnology
2. New Course	Integrated Biorefineries
3. New Course	Graduate Seminar in Industrial Biotechnology
4. New Course	Advanced Laboratory QA/QC Practices
5. New Course	Research Project with Report

Request History

Workflow Step	Workflow Action	User	Change Made	Comments	Date
Initiator	Approved	Ladislav Malek	No	Submitted to workflow	10/01/2015
Submission Review (Academic & Curriculum Development Coordinator)	Approved	submission review	Yes	Approved	10/02/2015

Supporting Documents

File Name	Uploaded By	Upload Date	Size
-----------	-------------	-------------	------

Supporting Documents Audit Trail

File Name	User	Date	Action
-----------	------	------	--------

Notes

Printed: 10/29/2015

Date	User	Note
------	------	------

1.	New Course	BIOT 5XXA - Industrial Biotechnology
----	------------	--------------------------------------

Course Details

BIOT 5XXA - Industrial Biotechnology Start Term: 2016-17 End Term: No Specified End Date
--

<u>Course Details</u>
Code BIOT 5XXA
Title Industrial Biotechnology
Description Students will be introduced to the biotechnology fundamentals and the role industrial biotechnology plays in the advancement of product and process technologies of modern bioeconomy. Special emphasis will be given to classical and advanced approaches to screening for new metabolites, strain development, methods for fermentation and product recovery as the key processing steps in product development in Industrial Biotechnology. To help reinforce understanding, students will be exposed to a range of topics from various sectors of Industrial Biotechnology supported by examples and literature reviews.
End Term No Specified End Date
Institution Lakehead University
Faculty Faculty of Science and Environmental Studies
CreditWeight 0.5
Rationale See the attached MIBiotech program proposal brief. Core program component.
Requiredor Elective Required
Cross List BIOT 5XXA
Offering 3 hrs per week
Prerequisites none

Corequisites
none
Notes
SpecialTopicDropdown
GradeSchemePF
Other
EffectonEnrolmentINIT
No
EffectonEnrolmentOTHER
No
AdditionalTeachingSpace
See program proposal brief.
EffectonTeachingLoads
Not at all.
EffectonServices
None, existing resources are sufficient.
DirectinkindSupport
Yes, see program proposal brief.

2.	New Course	BIOT 5XXB - Integrated Biorefineries
----	------------	--------------------------------------

Course Details

BIOT 5XXB - Integrated Biorefineries Start Term: 2016-17 End Term: No Specified End Date
--

<u>Course Details</u>
Code BIOT 5XXB
Title Integrated Biorefineries
Description Students will be introduced to the Integrated Biorefineries as one of the major pillars of the growing Bioeconomy where oil is inevitably replaced by plant biomass, the most abundant and renewable resource on earth. They will learn how biotechnology, science, engineering could maximize the value extracted from lignocellulosic fibers for sustainable production of biofuels and value-added bioproducts. Focus will be given to the major research needs, production and conversion platforms, technological challenges and opportunities of the Biorefineries that can bring about socio-economic and environmental benefits to the biobased industry. To help solidify knowledge and skills, students will examine and discuss practical examples for biomass Biorefining from published literature.
End Term No Specified End Date
Institution Lakehead University
Faculty Faculty of Science and Environmental Studies
CreditWeight 0.5
Rationale Core course in MIBiotech program. See proposal brief for details.
Requiredor Elective Required
Cross List BIOL 5XXB and BIOT 5XXB
Offering 3 hrs per week
Prerequisites BIOL or BIOT 5XXA

Corequisites None
Notes
SpecialTopicDropdown
GradeSchemePF Other
EffectonEnrolmentINIT No
EffectonEnrolmentOTHER No
AdditionalTeachingSpace See budget section of MIBiotech proposal brief
EffectonTeachingLoads Not at all
EffectonServices Minimal, existing resources will suffice. These will be supplemented from program self-generated income. See Budget section of MIBiotech proposal brief.
DirectinkindSupport See Budget section of MIBiotech proposal brief.

3.	New Course	BIOT 5XXC - Graduate Seminar in Industrial Biotechnology
----	------------	--

Course Details

BIOT 5XXC - Graduate Seminar in Industrial Biotechnology Start Term: 2016-17 End Term: 2016-17
--

<u>Course Details</u>
Code BIOT 5XXC
Title Graduate Seminar in Industrial Biotechnology
Description Current topics in Industrial Biotechnology will be covered in research seminars. Scientific content and presentation style will be analyzed and critically evaluated in the form of brief written and graded paragraphs. Written review essays and discussions will follow some seminars.
End Term 2016-17
Institution Lakehead University
Faculty Faculty of Science and Environmental Studies
CreditWeight 0.5
Rationale Core course in the proposed MIBiotech program. To some extent it will be a continuation of the required Biology MSc seminar course offered in the Fall semester. The course will provide a Winter semester seminar continuum in Biology, with the hope of instilling in ALL Biology graduate students a life-long habit of seminar attendance culture.
Requiredor Elective Required
Cross List BIOL 5XXC BIOT 5XXC
Offering 3 hrs per week
Prerequisites None

Corequisites
None
Notes
This course is not open to students outside the MIBiotech program
SpecialTopicDropdown
GradeSchemePF
Other
EffectonEnrolmentINIT
No
EffectonEnrolmentOTHER
No
AdditionalTeachingSpace
Some, see MIBiotech proposal brief.
EffectonTeachingLoads
Not at all
EffectonServices
None, some additional resources will be made available through proposed budget (see MIBiotech program proposal brief).
DirectkindSupport
Yes, see MIBiotech program proposal brief.

4.	New Course	BIOT 5XXD - Advanced Laboratory QA/QC Practices
----	------------	---

Course Details

BIOT 5XXD - Advanced Laboratory QA/QC Practices Start Term: 2016-17 End Term: No Specified End Date

<u>Course Details</u>
Code BIOT 5XXD
Title Advanced Laboratory QA/QC Practices
Description This course discusses the importance of Total Quality Management together with Good Manufacturing Practices (GMPs) and Good Laboratory Practices (GLPs). It demonstrates the development of a quality management system based on various International Organization for Standardization (ISO) series standards, emphasizes the importance of Quality Control and Quality Assurance, and teaches laboratory management practices appropriate for a biotechnology facility.
End Term No Specified End Date
Institution Lakehead University
Faculty Faculty of Science and Environmental Studies
CreditWeight 0.5
Rationale Core course in MIBiotech program, see attached proposal brief.
Requiredor Elective Required
Cross List BIOL 5XXD BIOT 5XXD
Offering 3 hours per week
Prerequisites None

Corequisites
None
Notes
SpecialTopicDropdown
GradeSchemePF
Other
EffectonEnrolmentINIT
No
EffectonEnrolmentOTHER
No
AdditionalTeachingSpace
Yes, as described in MIBiotech proposal brief.
EffectonTeachingLoads
Not at all.
EffectonServices
None, existing facilities are sufficient. additional materials may be acquired as per MIBiotech proposal brief.
DirectinkindSupport
See the budget section of MIBiotech proposal brief.

5.	New Course	BIOT 5XXE - Research Project with Report
----	------------	--

Course Details

BIOT 5XXE - Research Project with Report Start Term: 2016-17 End Term: No Specified End Date
--

<u>Course Details</u>
Code BIOT 5XXE
Title Research Project with Report
Description A supervised practical project in a research area relevant to Industrial Biotechnology, based on independently developed research plan, execution and analysis of results. Final reports will be in the form of a publishable paper and a final oral presentation to program members.
End Term No Specified End Date
Institution Lakehead University
Faculty Faculty of Science and Environmental Studies
CreditWeight 1.0
Rationale Core course in the MIBiotech program, see proposal brief for details.
Requiredor Elective Required
Cross List
Offering 3 hrs per week, plus 35 hrs of independent work
Prerequisites None
Corequisites

None
Notes This course is not available to other graduate students in Biology.
SpecialTopicDropdown
GradeSchemePF Other
EffectonEnrolmentINIT Possibly, if PhD Biotech supervisors agree to accept project students into their labs.
EffectonEnrolmentOTHER Possibly, if PhD Biotech supervisors agree to accept project students into their labs.
AdditionalTeachingSpace Provision is being made for this through proposed MIBiotech budget, see the attached.
EffectonTeachingLoads May increase slightly, only for volunteer project supervisors.
EffectonServices Existing resources will suffice - some additional resources will be made available through proposed MIBiotech budget.
DirectinkindSupport Some additional resources will be made available through proposed MIBiotech budget.