SUMMARY OF CHANGES for the 2016-2017 CALENDAR

Academic Unit: Anthropology

List new and newly-created programs (and include separate New Program Form for each one):
No new programs

List closed programs (and include separate Program Closure Form for each one):
No deleted programs

If you are deleting one of your own courses from your program(s) and substituting a course from ANOTHER department or program, OR if you are altering the required courses from another department in your program(s), your unit’s representative may be asked to explain this substitution and supply a letter of consent from that other department or program at the Curriculum Committee meeting.

Note other significant program changes (but not minor “housekeeping” changes, such as substituting one of your own courses for another, etc.)
No changed programs

List new course numbers and titles (and enclose separate New Course Form for each one)

<table>
<thead>
<tr>
<th>New Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANT338H1</td>
<td>Molecular Anthropology and Human Evolution</td>
</tr>
</tbody>
</table>

List deleted course numbers and titles. Please note that if you are deleting several more courses than you are adding, your unit’s representative may be asked to discuss this at the Curriculum Committee meeting.

<table>
<thead>
<tr>
<th>Deleted Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
</tr>
</thead>
</table>

Course renumberings and Course reweightings (Y1 to H1 or H1 to Y1)

<table>
<thead>
<tr>
<th>Old number/weight</th>
<th>Proposed number/weight</th>
</tr>
</thead>
</table>

Title Changes

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Old Title</th>
<th>New Title</th>
<th>New ROSI Title (max. 20 characters including spaces)</th>
</tr>
</thead>
</table>
New Course Form: ANT338H1

<table>
<thead>
<tr>
<th>Designator</th>
<th>Number + Y1/H1</th>
<th>Course Title</th>
<th>L / S / P / T</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANT</td>
<td>338H1</td>
<td>Molecular Anthropology and Human Evolution</td>
<td>[24L/12P]</td>
</tr>
</tbody>
</table>

Course description – 50 words maximum (text will be edited if too long). Please use present tense.

Molecular anthropology is an interdisciplinary field combining biology, genetics, evolution and anthropology. In this class, we will explore the use of DNA for the study of past migrations and admixture patterns, the evolution of pathogens, plant and animal domestication and especially the relationships between recent and archaic humans.

Prerequisite:

Corequisite:

Exclusion:

Recommended Preparation:

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
<thead>
<tr>
<th>Competency</th>
<th>Some</th>
<th>Much</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical and Creative Thinking</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information Literacy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quantitative Reasoning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social and Ethical Responsibility</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

<table>
<thead>
<tr>
<th>Research or Other Experiential Learning</th>
<th>Some</th>
<th>Much</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level (None, Notably or Extensively)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Also, if the course includes other experiential learning, please specify the nature of the learning:

- Distinctive Practicals or Laboratories

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category, a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Living Things and Their Environment (4)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):

Molecular Anthropology

Academic Relevance: State the reason for creating the course, and its place in your program(s):

Provides an introduction to molecular anthropology for the Anthropology (Biological) Major and Archaeology (Specialist) programs.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS):

Enrolment: State an estimated number, and limitation if any.

30-40; limit of 50

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean’s Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s):

Prof. Bence Viola

Teaching Assistant(s):

As appropriate according to the formula

Laboratory Equipment:

Computing Resources:

Other:
New Course Form: ANT338H1

<table>
<thead>
<tr>
<th>I will provide these resources from my existing budget.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DATE:</strong></td>
</tr>
<tr>
<td><strong>Approved by CHAIR/PROGRAM DIRECTOR?</strong></td>
</tr>
</tbody>
</table>
SUMMARY OF CHANGES for the 2016-2017 CALENDAR

Academic Unit: Chemistry

List new and newly-created programs (and include separate New Program Form for each one):

No new programs

List closed programs (and include separate Program Closure Form for each one):

No deleted programs

If you are deleting one of your own courses from your program(s) and substituting a course from ANOTHER department or program, OR
if you are altering the required courses from another department in your program(s), your unit's representative may be asked to explain this substitution and supply a letter of consent from that other department or program at the Curriculum Committee meeting.

Note other significant program changes (but not minor "housekeeping" changes, such as substituting one of your own courses for another, etc.)

No changed programs

List new course numbers and titles (and enclose separate New Course Form for each one)

<table>
<thead>
<tr>
<th>New Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
</tr>
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</table>

List deleted course numbers and titles. Please note that if you are deleting several more courses than you are adding, your unit's representative may be asked to discuss this at the Curriculum Committee meeting.

<table>
<thead>
<tr>
<th>Deleted Course Number (e.g., SWE 209Y1)</th>
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</thead>
</table>

Course renumberings and Course reweightings (Y1 to H1 or H1 to Y1)

<table>
<thead>
<tr>
<th>Old number/weight</th>
<th>Proposed number/weight</th>
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<tbody>
<tr>
<td>CHM139H1</td>
<td>CHM135H1</td>
</tr>
<tr>
<td>CHM138H1</td>
<td>CHM136H1</td>
</tr>
<tr>
<td>MSE235H1</td>
<td>MSE335H1</td>
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</table>

Title Changes

<table>
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<tr>
<th>Course Code</th>
<th>Old Title</th>
<th>New Title</th>
<th>New ROSI Title (max. 20 characters including spaces)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM135H1</td>
<td>Chemistry: Physical Principles</td>
<td>Chemistry: Physical Principles (Formerly CHM139H1)</td>
<td></td>
</tr>
<tr>
<td>CHM136H1</td>
<td>Introductory Organic Chemistry I</td>
<td>Introductory Organic Chemistry I (Formerly CHM138H1)</td>
<td></td>
</tr>
</tbody>
</table>
SUMMARY OF CHANGES for the 2016-2017 CALENDAR

Academic Unit: Cell & Systems Biology

List new and newly-created programs (and include separate New Program Form for each one):

No new programs

List closed programs (and include separate Program Closure Form for each one):

No deleted programs

If you are deleting one of your own courses from your program(s) and substituting a course from ANOTHER department or program, OR if you are altering the required courses from another department in your program(s), your unit’s representative may be asked to explain this substitution and supply a letter of consent from that other department or program at the Curriculum Committee meeting.

Note other significant program changes (but not minor “housekeeping” changes, such as substituting one of your own courses for another, etc.)

No changed programs

List new course numbers and titles (and enclose separate New Course Form for each one)

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<thead>
<tr>
<th>New Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
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</thead>
<tbody>
<tr>
<td>CJH332H1</td>
<td>Neurobiology of the Synapse (Formerly CSB332H1)</td>
</tr>
<tr>
<td>CSB329H1</td>
<td>Stem Cell Biology: Developmental Models and Cell-based Therapeutics</td>
</tr>
<tr>
<td>CSB348H1</td>
<td>Laboratory in Comparative Animal Physiology</td>
</tr>
<tr>
<td>CSB427H1</td>
<td>Drosophila as a Model in Cancer Research</td>
</tr>
<tr>
<td>NUS301H0</td>
<td>Life Sciences Course A</td>
</tr>
<tr>
<td>NUS302H0</td>
<td>Life Sciences Course B</td>
</tr>
<tr>
<td>NUS303H0</td>
<td>Life Sciences Course C</td>
</tr>
<tr>
<td>NUS304H0</td>
<td>Life Sciences Course D</td>
</tr>
<tr>
<td>NUS401H0</td>
<td>Life Sciences Course E</td>
</tr>
<tr>
<td>NUS402H0</td>
<td>Life Sciences Course F</td>
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</table>

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<thead>
<tr>
<th>Deleted Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
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</thead>
<tbody>
<tr>
<td>CSB332H1</td>
<td>Neurobiology of the Synapse</td>
</tr>
</tbody>
</table>

Course renumberings and Course reweightings (Y1 to H1 or H1 to Y1)

<table>
<thead>
<tr>
<th>Old number/weight</th>
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</tr>
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</table>

Title Changes

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Old Title</th>
<th>Proposed number/weight</th>
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New Course Form: CJH332H1

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<thead>
<tr>
<th>Designator</th>
<th>Number + Y1/H1</th>
<th>Course Title</th>
<th>L / S / P / T</th>
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</thead>
<tbody>
<tr>
<td>CJH</td>
<td>332H1</td>
<td>Neurobiology of the Synapse (Formerly CSB332H1)</td>
<td>[24L]</td>
</tr>
</tbody>
</table>

Course description—50 words maximum (text will be edited if too long). Please use present tense.

Examination of all aspects of the synapse in both the peripheral and central nervous systems of invertebrates and vertebrates. Topics include: synapse formation, synaptic transmission, synaptic plasticity, learning and memory, and neurological disorders.

Prerequisite: BIO271H1/PSL300H1

Corequisite:
**Exclusion:** CSB332H1

**Recommended Preparation:**

**Competencies:** Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
<thead>
<tr>
<th>Critical and Creative Thinking</th>
<th>Communication</th>
<th>Information Literacy</th>
<th>Quantitative Reasoning</th>
<th>Social and Ethical Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notably</td>
<td>Slightly</td>
<td>Notably</td>
<td>Slightly</td>
<td>None</td>
</tr>
</tbody>
</table>

**Level (None, Notably or Extensively):**

<table>
<thead>
<tr>
<th>Research Other Experiential Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level (None, Notably or Extensively)</td>
</tr>
<tr>
<td>None</td>
</tr>
</tbody>
</table>

**Research or other experiential learning:** Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

<table>
<thead>
<tr>
<th>Research</th>
<th>Other Experiential Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Also, if the course includes other experiential learning, please specify the nature of the learning

**OLD Distribution Requirement Status:** underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

**NEW Breadth Requirement Status:** Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Living Things and Their Environment (4)

**Abbreviated Course Title for ROSI (not more than 20 characters including spaces):**

Synapse Neurobiology

**Academic Relevance:** State the reason for creating the course, and its place in your program(s):

This is not a new course. It is the recoding of CSB332H1 due to an administrative change.

**Overlap:** If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

**Programs of Study:** Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

**Enrolment:** State an estimated number, and limitation if any.

400

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

**Departmental/College resource implications for this new course:** the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

**Instructor(s):** Dr. William Ju

**Teaching Assistant(s):** 2 x 140 hrs

**Laboratory Equipment:**

**Computing Resources:**

**Other:**

I will provide these resources from my existing budget.

**DATE:** Nov 6, 2015

Approved by CHAIR/PROGRAM DIRECTOR? Yes
New Course Form: CSB329H1

<table>
<thead>
<tr>
<th>Designator</th>
<th>Number + Y1/H1</th>
<th>Course Title</th>
<th>L / S / P / T</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSB</td>
<td>329H1</td>
<td>Stem Cell Biology: Developmental Models and Cell-based Therapeutics</td>
<td>[24L]</td>
</tr>
</tbody>
</table>

**Course description** - 50 words maximum (text will be edited if too long). Please use present tense.

Stem cells provide the basis for cellular diversity in multicellular organisms and have enormous therapeutic potential in regenerative medicine. The course will introduce students to the differences and similarities between stem cells from different organisms, their roles throughout development and therapeutic potentials.

**Prerequisite:** BIO230H1

**Corequisite:**

**Exclusion:**

**Recommended Preparation:**

**Competencies:** Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
<thead>
<tr>
<th>Competency</th>
<th>Critical and Creative Thinking</th>
<th>Communication</th>
<th>Information Literacy</th>
<th>Quantitative Reasoning</th>
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<td>Slightly</td>
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**Research or other experiential learning:** Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

Research: Other Experiential Learning

| Level (None, Notably or Extensively) | None | None |

Also, if the course includes other experiential learning, please specify the nature of the learning.

**OLD Distribution Requirement Status:** underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course.

**NEW Breadth Requirement Status:** Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Living Things and Their Environment (4)

**Abbreviated Course Title for ROSI (not more than 20 characters including spaces):**

Stem Cell Biology

**Academic Relevance:** State the reason for creating the course, and its place in your program(s):

Rapid advances in our understanding of the biological properties of stem cells and their differentiation has generated a great deal of excitement about their potential for cell-based therapies. The course will provide the student with an understanding of how stem cells play a critical role in the development of all animal phyla, ranging from cnidarians to vertebrates. Emphasis will be placed on how stem cell research is conducted, the remarkable conservation as well as interesting differences among organisms. In addition to exposing students to cutting-edge technologies, emphasis will also be placed on the obstacles that must be overcome before they can be used to treat diseases, ranging from infertility, chronic age-related diseases as well as resulting from traumatic injuries.

**Overlap:** If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

Although there is a fourth year course in regenerative medicine (PSL404H1), this third year course will place emphasis on the molecular and biological properties of stem cells during the development of diverse multicellular organisms. As a result, the course has a different emphasis than PSL404H1. Moreover, due to enormous interest generated in the media about the therapeutic potential of stem cells, there is an urgent need for a course within our curriculum focused on the fundamentals of stem cell biology.

**Programs of Study:** Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS):

Animal Physiology Cell and Molecular Biology Developmental Biology Biology Genome Biology Human Biology Fundamental Genetics &Its Applications Health &Disease

**Enrolment:** State an estimated number, and limitation if any.

Enrolment: Limit of 200

**“Revived” Courses:** If listed previously, state last session it appeared in the Calendar:

**Instructor:** If not a permanent appointment in the University, his/her name and appointment are required:

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

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New Course Form: CSB348H1

Department/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s): Maurice Ringuette and Jennifer Mitchell
Teaching Assistant(s): 2 x 70 hours
Laboratory Equipment: 
Computing Resources: 
Other: I will provide these resources from my existing budget.

DATE: Nov 6, 2015
Approved by CHAIR/PROGRAM DIRECTOR: Yes

New Course Form: CSB348H1

<table>
<thead>
<tr>
<th>Designator</th>
<th>Number + Y1/H1</th>
<th>Course Title</th>
<th>L / S / P / T</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSB</td>
<td>348H1</td>
<td>Laboratory in Comparative Animal Physiology</td>
<td>[12L/36P]</td>
</tr>
</tbody>
</table>

Course description - 50 words maximum (text will be edited if too long). Please use present tense.

Experimental approaches to understanding the regulation of physiological functions in vertebrates and invertebrates. Emphasis will be directed towards examining the fundamental characteristics humans share with all animal life and also the physiological adaptations that have permitted species to exploit alternative environmental niches.

Prerequisite: BIO270H1, BIO271H1
Corequisite: 
Exclusion: PSL372H1
Recommended Preparation:

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
<thead>
<tr>
<th>Critical and Creative Thinking</th>
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<td>Notably</td>
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<td>Slightly</td>
</tr>
</tbody>
</table>

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

Research: None
Other Experiential Learning: None

Also, if the course includes other experiential learning, please specify the nature of the learning

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.
Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Living Things and Their Environment (4)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):
Lab Comp Animal Phys

Academic Relevance: State the reason for creating the course, and its place in your program(s):
As a result of a recent internal review of the Animal Physiology Major curriculum, we have identified the requirement for an advanced Comparative Animal Physiology laboratory course that emphasizes physiological research techniques and the research process from experimental design to interpretation and presentation of results. This laboratory course will follow on from the foundational courses in the Cell and Systems Biology Animal Physiology program, BIO270H1F and BIO271H1S, and will be specifically designed for students enrolled in the Animal Physiology Major program of study. We will continue to use a comparative approach to examine physiological systems at different levels of biological organization. By adapting a cells-to-systems approach from molecules to organisms, students will investigate the emergent properties that arise when physiological components operate as an integrated whole - properties that cannot be predicted from knowledge of the individual components alone. The comparative approach will provide students with an inclusive appreciation of animal life by examining the fundamental characteristics humans share with all animal life and also the physiological adaptations that have permitted species to exploit alternative environmental niches found on our planet. Topics to be covered include cell membrane transport processes, respiratory and circulatory systems, neurophysiology, and sensory systems. Laboratory exercises will include traditional and guided inquiry approaches to investigate and gain an understanding of the regulation of physiological systems in both vertebrates and invertebrates. Students will experience the nature of physiological investigation while being exposed to a wide range of the current experimental approaches animal physiologists use to design, test, and evaluate hypotheses. In addition, students will continue to develop their writing and presentation skills to communicate effectively within the scientific community. The laboratories are complemented with lectures or seminars to discuss the physiological systems and theoretical approaches to each of the laboratory exercises.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below:

- Physiology: PSL372H1, Mammalian Physiology Laboratory; PSL374H1, Advanced Physiology Laboratory - In progress. Human Biology: HMB314H1, Laboratory in Human Biology; HMB310H1, Laboratory in Neuroscience - In progress.

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS):

Animal Physiology Biology

Enrolment: State an estimated number, and limitation if any. 24

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s):
Prof. C. Garside

Teaching Assistant(s):
2 x 70 hours

Laboratory Equipment:

Computing Resources:

Other:

I will provide these resources from my existing budget.

DATE: Nov 6, 2015

Approved by CHAIR/PROGRAM DIRECTOR? Yes

New Course Form: CSB348H1

Designator Number + Y1/H1 Course Title L / S / P / T
CSB 427H1 Drosophila as a Model in Cancer Research [12L/12T/12S]

Course description:–50 words maximum (text will be edited if too long). Please use present tense.

Use of the genetic model organism Drosophila in biomedical research with specific emphasis on cancer research. Students will read, discuss and present classical papers and current literature in the field to enhance their ability to critically evaluate the primary scientific literature.

Prerequisite: BIO260H1/HMB265H1, two of CSB328H1/CSB331H1/CSB349H1/MGY350H1

Corequisite:

Exclusion:

Recommended Preparation:

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
<thead>
<tr>
<th>Critical and Creative Thinking</th>
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<th>Information Literacy</th>
<th>Quantitative Reasoning</th>
<th>Social and Ethical Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extensively</td>
<td>Extensively</td>
<td>Notably</td>
<td>Slightly</td>
<td>Slightly</td>
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</tbody>
</table>

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.
New Course Form: NUS301H0

Research Other Experiential Learning
Level (None, Notably or Extensively) None None
Also, if the course includes other experiential learning, please specify the nature of the learning.

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.
Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.
Breadth Requirement: Living Things and Their Environment (4)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):
Drosophila & Cancer

Academic Relevance: State the reason for creating the course, and its place in your program(s):
The fruit fly, Drosophila, has been used as a model system in genetic, molecular and cell biological research for over 100 years. Many seminal discoveries have been made using Drosophila as an experimental model including the demonstration that X-rays cause mutations, the identification of many tumor suppressor genes, the identification and analysis of several cancer-relevant signaling pathways (e.g., Hippo or Notch signaling), the characterization of asymmetric stem cell division and its relation to tissue overgrowth, and the role of cancer-suppressing polarity proteins in tissue organization and growth regulation. The purpose of the course is to familiarize students with the powerful experimental tools available in the Drosophila system and how they are applied to uncovering biomedically important molecular and cellular processes with a particular emphasis on cancer research.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.
There is currently no course at UofT that focuses on the use of Drosophila as a model system in biological or biomedical research although UofT has over 15 (and Canada over 100) research groups that use Drosophila as an experimental organism. This course will be conceptually similar but complementary to MGY350H1, Model Organisms to Disease. The latter focuses on the use of yeast, the nematode worm C. elegans and mammalian tissue culture cells in biomedical research. MGY350H1 is a lecture course whereas the present course focuses on the reading and discussion of primary literature. Similarly, LMP408H1, Genetic Modelling of Human Development and Disease, is a lecture course and includes only one lecture on Drosophila (Flies and reproduction).

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).
Cell and Molecular Biology Developmental Biology Genome Biology Biology

Enrolment: State an estimated number, and limitation if any.
20-24, limit of 24

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:
Prof. U. Tepass

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s):
Prof. U. Tepass

Teaching Assistant(s):

Laboratory Equipment:

Computing Resources:

Other:

I will provide these resources from my existing budget.

DATE: Nov 6, 2015

Approved by CHAIR/PROGRAM DIRECTOR? Yes

New Course Form: CSB427H1

© 2015 University of Toronto · Faculty of Arts & Science
A 3000-level Life Sciences (LSM) course offered at the National University of Singapore. For course offerings see: www.lifesciences.nus.edu.sg/lsm.html
Prerequisites and Exclusions: see the EEB website (www.eeb.utoronto.ca/Learning/programs.htm)

<table>
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<th>Prerequisite:</th>
<th>BIO120H1,BIO130H1</th>
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<tr>
<td>Corequisite:</td>
<td></td>
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<tr>
<td>Exclusion:</td>
<td></td>
</tr>
<tr>
<td>Recommended Preparation:</td>
<td></td>
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**Competencies:** Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
<thead>
<tr>
<th>Level (None, Notably or Extensively)</th>
<th>Critical and Creative Thinking</th>
<th>Communication</th>
<th>Information Literacy</th>
<th>Quantitative Reasoning</th>
<th>Social and Ethical Responsibility</th>
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<tr>
<td>Notably</td>
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<td>None</td>
<td>None</td>
<td>Notably</td>
<td>None</td>
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**Research or other experiential learning:** Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

<table>
<thead>
<tr>
<th>Research</th>
<th>Other Experiential Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extensively</td>
<td>Extensively</td>
</tr>
</tbody>
</table>

Also, if the course includes other experiential learning, please specify the nature of the learning.

- International Student Exchange

**OLD Distribution Requirement Status:** underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

**NEW Breadth Requirement Status:** Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Living Things and Their Environment (4)

**Abbreviated Course Title for ROSI (not more than 20 characters including spaces):**

**Life Sciences Course**

**Academic Relevance:** State the reason for creating the course, and its place in your program(s):

It is a unique opportunity to study biology in a different cultural environment.

**Overlap:** If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

N/A

**Programs of Study:** Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

N/A

**Enrolment:** State an estimated number, and limitation if any.

N/A

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

N/A

**Instructor:** If not a permanent appointment in the University, his/her name and appointment are required:

N/A

**NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR**

**Departmental/College resource implications for this new course:** the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

**Instructor(s):**

N/A

**Teaching Assistant(s):**

N/A

**Laboratory Equipment:**

N/A

**Computing Resources:**

N/A

**Other:**

N/A

I will provide these resources from my existing budget.
New Course Form: NUS302H0

**Designator Number + Y1/H1 Course Title L / S / P / T**

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<td>302H0</td>
<td>Life Sciences Course B</td>
<td>[TBA]</td>
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**Course Description** - 50 words maximum (text will be edited if too long). Please use present tense.

A 3000-level Life Sciences (LSM) course offered at the National University of Singapore. For course offerings see: www.lifesciences.nus.edu.sg/lsm.html
Prerequisites and Exclusions; see the EEB website (www.eeb.utoronto.ca/Learning/programs.htm)

**Prerequisite:**
BIO120H1,BIO130H1

**Corequisite:**

**Exclusion:**

**Recommended Preparation:**

**Competencies:** Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
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**Research or Other Experiential Learning:** Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

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<th>Research</th>
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Also, if the course includes other experiential learning, please specify the nature of the learning

- International Student Exchange

**OLD Distribution Requirement Status:** underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

| Distribution Requirement Status: This is a Science course |

**NEW Breadth Requirement Status:** Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

| Breadth Requirement: Living Things and Their Environment (4) |

**Abbreviated Course Title for ROSI (not more than 20 characters including spaces):**

Life Sciences Course

**Academic Relevance:** State the reason for creating the course, and its place in your program(s):

It is a unique opportunity to study biology in a different cultural environment.

**Overlap:** If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

N/A

**Programs of Study:** Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

N/A

**Enrollment:** State an estimated number, and limitation if any.

N/A

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

N/A

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

N/A

**NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR**

**Departmental/College resource implications for this new course:** the Dean’s Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s): N/A
New Course Form: NUS303H0

Teaching Assistant(s): N/A
Laboratory Equipment: N/A
Computing Resources: N/A
Other: N/A

I will provide these resources from my existing budget.

DATE: Nov 6, 2015
Approved by CHAIR/PROGRAM DIRECTOR? Yes

New Course Form: NUS303H0

Designator Number + Y1/H1 Course Title L / S / P / T
NUS 303H0 Life Sciences Course C [TBA]

Course description -50 words maximum (text will be edited if too long). Please use present tense.
A 3000-level Life Sciences (LSM) course offered at the National University of Singapore. For course offerings see: www.lifesciences.nus.edu.sg/lsm.html
Prerequisites and Exclusions; see the EEB website (www.eeb.utoronto.ca/Learning/programs.htm)

Prerequisite: BIO120H1, BIO130H1
Corequisite: 
Exclusion: 

Recommended Preparation:

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
<thead>
<tr>
<th>Competency</th>
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Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

Research Other Experiential Learning

Level (None, Notably or Extensively) Extensively Extensively

Also, if the course includes other experiential learning, please specify the nature of the learning

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.
Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.
Breadth Requirement: Living Things and Their Environment (4)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):
Life Sciences Course

Academic Relevance: State the reason for creating the course, and its place in your program(s):
It is a unique opportunity to study biology in a different cultural environment.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.
N/A

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).
N/A

Enrolment: State an estimated number, and limitation if any. N/A
New Course Form: NUS304H0

"Revived" Courses: If listed previously, state last session it appeared in the Calendar: N/A

Instructor: If not a permanent appointment in the University, his/her name and appointment are required: N/A

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s): N/A

Teaching Assistant(s): N/A

Laboratory Equipment: N/A

Computing Resources: N/A

Other: N/A

I will provide these resources from my existing budget.

DATE: Nov 6, 2015

Approved by CHAIR/PROGRAM DIRECTOR? Yes

---

New Course Form: NUS304H0

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<th>Designator</th>
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<tr>
<td>NUS</td>
<td>304H0</td>
<td>Life Sciences Course D</td>
<td>[TBA]</td>
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</table>

**Course description**—50 words maximum (text will be edited if too long). Please use present tense.

A 3000-level Life Sciences (LSM) course offered at the National University of Singapore. For course offerings see: www.lifesciences.nus.edu.sg/lsm.html

Prerequisites and Exclusions: see the EEB website (www.eeb.utoronto.ca/Learning/programs.htm)

Prerequisite: BIO120H1, BIO130H1

Corequisite:

Exclusion:

**Recommended Preparation:**

**Competencies:** Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be *Some, Much or All.*

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**Research or other experiential learning:** Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

<table>
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<tbody>
<tr>
<td>Extensively</td>
<td>Extensively</td>
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Also, if the course includes other experiential learning, please specify the nature of the learning

- International Student Exchange

**OLD Distribution Requirement Status:** underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

**Distribution Requirement Status:** This is a Science course

**NEW Breadth Requirement Status:** Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Living Things and Their Environment (4)

**Abbreviated Course Title for ROSI (not more than 20 characters including spaces):**

Life Sciences Course

**Academic Relevance:** State the reason for creating the course, and its place in your program(s):
**New Course Form: NUS401H0**

- It is a unique opportunity to study biology in a different cultural environment.
- Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.
  - N/A
- Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).
  - N/A
- Enrolment: State an estimated number, and limitation if any.
  - N/A
- "Revived" Courses: If listed previously, state last session it appeared in the Calendar.
  - N/A
- Instructor: If not a permanent appointment in the University, his/her name and appointment are required.
  - N/A

**NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR**

Departmental/College resource implications for this new course: the Dean’s Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

| Instructor(s): | N/A |
| Teaching Assistant(s): | N/A |
| Laboratory Equipment: | N/A |
| Computing Resources: | N/A |
| Other: | N/A |

I will provide these resources from my existing budget.

| DATE: | Nov 6, 2015 |
| Approved by CHAIR/PROGRAM DIRECTOR? | Yes |

**New Course Form: NUS401H0**

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<td>401H0</td>
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**Course description**: 50 words maximum (text will be edited if too long). Please use present tense.

A 4000-level Life Sciences (LSM) course offered at the National University of Singapore. For course offerings see: www.lifesciences.nus.edu.sg/lsm.html

Prerequisites and Exclusions: see the EEB website (www.eeb.utoronto.ca/Learning/programs.htm)

| Prerequisite: | BIO120H1, BIO130H1 |
| Corequisite: | |
| Exclusion: | |

**Recommended Preparation:**

<table>
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<th>Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.</th>
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<td>Critical and Creative Thinking</td>
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<td>Level (None, Notably or Extensively)</td>
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**Research or other experiential learning**: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

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<td>Level (None, Notably or Extensively)</td>
<td>Extensively</td>
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</table>

Also, if the course includes other experiential learning, please specify the nature of the learning

- International Student Exchange

**OLD Distribution Requirement Status**: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.
**New Course Form: NUS402H0**

**Distribution Requirement Status:** This is a Science course

**NEW Breadth Requirement Status:** Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

**Breadth Requirement:** Living Things and Their Environment (4)

**Abbreviated Course Title for ROSI (not more than 20 characters including spaces):**

Life Sciences Course

**Academic Relevance:** State the reason for creating the course, and its place in your program(s):

It is a unique opportunity to study biology in a different cultural environment.

**Overlap:** If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below:

N/A

**Programs of Study:** Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS):

N/A

**Enrolment:** State an estimated number, and limitation if any.

N/A

**"Revised" Courses:** If listed previously, state last session it appeared in the Calendar:

N/A

**Instructor:** If not a permanent appointment in the University, his/her name and appointment are required:

N/A

**Departmental/College resource implications for this new course:** The Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s): N/A

Teaching Assistant(s): N/A

Laboratory Equipment: N/A

Computing Resources: N/A

Other: N/A

I will provide these resources from my existing budget.

**DATE:** Nov 6, 2015

**Approved by CHAIR/PROGRAM DIRECTOR?** Yes

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**New Course Form: NUS402H0**

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**Course description:** 50 words maximum (text will be edited if too long). Please use present tense.

A 4000-level Life Sciences (LSM) course offered at the National University of Singapore. For course offerings see: www.lifesciences.nus.edu.sg/lsm.html
Prerequisites and Exclusions: see the EEB website (www.eeb.utoronto.ca/Learning/programs.htm)

**Prerequisite:** BIO120H1, BIO130H1

**Corequisite:**

**Exclusion:**

**Recommended Preparation:**

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<td></td>
<td></td>
</tr>
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Level (None, Notably or Extensively) | Notably | None | None | Notably | None
--- | --- | --- | --- | --- | ---
Research | Notably | None | None | Notably | None

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

Research Level (None, Notably or Extensively) | Extensively
Other Experiential Learning Level (None, Notably or Extensively) | Extensively

Also, if the course includes other experiential learning, please specify the nature of the learning.

- International Student Exchange

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Living Things and Their Environment (4)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):

Life Sciences Course

Academic Relevance: State the reason for creating the course, and its place in your program(s):

It is a unique opportunity to study biology in a different environment.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

N/A

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

N/A

Enrolment: State an estimated number, and limitation if any. N/A

“Revived” Courses: If listed previously, state last session it appeared in the Calendar. N/A

Instructor: If not a permanent appointment in the University, his/her name and appointment are required. N/A

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s): N/A

Teaching Assistant(s): N/A

Laboratory Equipment: N/A

Computing Resources: N/A

Other: N/A

I will provide these resources from my existing budget.

DATE: Nov 6, 2015

Approved by CHAIR/PROGRAM DIRECTOR? Yes
## Summary of Changes for the 2016-2017 Calendar

**Academic Unit: Computer Science**

### List new and newly-created programs

No new programs

### List closed programs

No deleted programs

If you are deleting one of your own courses from your program(s) and substituting a course from ANOTHER department or program, OR if you are altering the required courses from another department in your program(s), your unit's representative may be asked to explain this substitution and supply a letter of consent from that other department or program at the Curriculum Committee meeting.

### Note other significant program changes

No changed programs

### List new course numbers and titles

<table>
<thead>
<tr>
<th>New Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC121H1</td>
<td>Computer Science for Statistics</td>
</tr>
<tr>
<td>CSC304H1</td>
<td>Algorithmic Game Theory and Mechanism Design</td>
</tr>
<tr>
<td>CSC385H1</td>
<td>Microprocessor Systems</td>
</tr>
<tr>
<td>CSC473H1</td>
<td>Advanced Algorithm Design</td>
</tr>
</tbody>
</table>

### List deleted course numbers and titles

Please note that if you are deleting several more courses than you are adding, your unit's representative may be asked to discuss this at the Curriculum Committee meeting.

<table>
<thead>
<tr>
<th>Deleted Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC200Y1</td>
<td>Economic and Social Networks: Models and Applications</td>
</tr>
<tr>
<td>CSC372H1</td>
<td>Microprocessor Software</td>
</tr>
<tr>
<td>ECE385H1</td>
<td>Microprocessor Systems</td>
</tr>
</tbody>
</table>

### Course renumberings and Course reweightings

(Y1 to H1 or H1 to Y1)

### Title Changes

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Old Title</th>
<th>New Title</th>
<th>New ROSI Title (max. 20 characters including spaces)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### New Course Form: CSC121H1

**Designator** | **Number + Y1/H1** | **Course Title** | **L / S / P / T** |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC</td>
<td>121H1</td>
<td>Computer Science for Statistics</td>
<td>[24L/12P]</td>
</tr>
</tbody>
</table>

**Course description**—50 words maximum (text will be edited if too long). Please use present tense.

An introduction to computer science for students planning to use computers for statistical analysis and research. Using a statistical programming environment, fundamental programming concepts, and computational topics relevant to statistics, such as issues with numerical calculation, random number generation, and management of data. Practicals consist of supervised work in the computer laboratory to reinforce concepts and develop programming skills. No previous programming experience is necessary. Please consult with the CS Undergraduate office if you intend to continue on to CSC148H1.

**Prerequisite:**

None

**Corequisite:**

None

**Exclusion:**

Any CSC course, with the exception of CSC104H1

**Recommended Preparation:**

None

**Competencies:** Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be **Some**, **Much** or **All**.

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New Course Form: CSC304H1

<table>
<thead>
<tr>
<th>Critical and Creative Thinking</th>
<th>Communication</th>
<th>Information Literacy</th>
<th>Quantitative Reasoning</th>
<th>Social and Ethical Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slightly</td>
<td>None</td>
<td>None</td>
<td>Extensively</td>
<td>None</td>
</tr>
</tbody>
</table>

**Research or other experiential learning:** Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

<table>
<thead>
<tr>
<th>Research</th>
<th>Other Experiential Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Also, if the course includes other experiential learning, please specify the nature of the learning.

**OLD Distribution Requirement Status:** underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

**NEW Breadth Requirement Status:** Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: The Physical and Mathematical Universes (5)

**Abbreviated Course Title for ROSI (not more than 20 characters including spaces):**

Computer Science for

**Academic Relevance:** State the reason for creating the course, and its place in your program(s):

Specialized offering of Intro to Computer Science targeted at students interested in Statistics and Data Science.

**Overlap:** If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

**Programs of Study:** Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS):

Statistics

**Enrolment:** State an estimated number, and limitation if any.

**"Revived" Courses:** If listed previously, state last session it appeared in the Calendar: N/A

**Instructor:** If not a permanent appointment in the University, his/her name and appointment are required:

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

**Instructor(s):** Prof. Radford Neal (cross-appointed CS & Stats)

**Teaching Assistant(s):** 3-4 per section (only 1 section anticipated)

**Laboratory Equipment:**

**Computing Resources:** DCS labs managed at the department level.

**Other:**

I will provide these resources from my existing budget.

**DATE:** Nov 18, 2015

**Approved by CHAIR/PROGRAM DIRECTOR?** Yes

New Course Form: CSC121H1

<table>
<thead>
<tr>
<th>Designator</th>
<th>Number + Y1/H1</th>
<th>Course Title</th>
<th>L / S / P / T</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC</td>
<td>304H1</td>
<td>Algorithmic Game Theory and Mechanism Design</td>
<td>[24L/12P]</td>
</tr>
</tbody>
</table>

**Course description** – 50 words maximum (text will be edited if too long). Please use present tense.

A mathematical and computational introduction to game theory and mechanism design. Topics include games in matrix and extensive form, equilibria and price of anarchy, matching markets, auctions, network externalities, tipping points, voting theory. This course is intended for economics, mathematics, and computer science students.
New Course Form: CSC304H1

<table>
<thead>
<tr>
<th>Prerequisite:</th>
<th>STA247H1/STA255H1/STA257H1/PSY201H1/ECO227Y1, (MAT135H1, MAT136H1)/MAT137Y1/MAT157Y1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corequisite:</td>
<td>None</td>
</tr>
<tr>
<td>Exclusion:</td>
<td>None</td>
</tr>
<tr>
<td>Recommended Preparation:</td>
<td>None</td>
</tr>
<tr>
<td>Competencies:</td>
<td>Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Critical and Creative Thinking</th>
<th>Communication</th>
<th>Information Literacy</th>
<th>Quantitative Reasoning</th>
<th>Social and Ethical Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level (None, Notably or Extensively)</td>
<td>Slightly</td>
<td>None</td>
<td>None</td>
<td>Extensively</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Research or Other Experiential Learning:</th>
<th>Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level (None, Notably or Extensively)</td>
<td>None</td>
</tr>
</tbody>
</table>

Also, if the course includes other experiential learning, please specify the nature of the learning.

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category, a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: The Physical and Mathematical Universes (5)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):

Algorithmic Game The

Academic Relevance: State the reason for creating the course, and its place in your program(s):

This course partially replaces the discontinued course CSC200Y1Y, because of difficulties in eliciting enough interest in the full-year course. This is the first of the 2 half-courses introduced to replace CSC200Y. The other will be introduced in the 2017-18 academic year.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

All Social Science programs, particularly Economics. Also, Cognitive Science.

Enrolment: State an estimated number, and limitation if any.

100

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

N/A

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

Prof. Allan Borodin

Teaching Assistant(s):

3-4 TAs per section (and only one section anticipated)

Laboratory Equipment:

None

Computing Resources:

None

Other:

None

I will provide these resources from my existing budget.

DATE: Nov 18, 2015

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New Course Form: CSC385H1

Designator: CSC
Number + Y1/H1: 385H1
Course Title: Microprocessor Systems
L / S / P / T: [24L/12T/36P]

Course description: 50 words maximum (text will be edited if too long). Please use present tense.

Microprocessor and embedded systems: Software techniques for real-time task creation and management. Connected device characteristics and the hardware and software ramifications. System construction and management. An examination of the issues unique to or particularly important to embedded computing. Laboratory experiments provide "hands on" experience. An open team project is done in the last few laboratory sessions.

Prerequisite: CSC258H1; CSC209H1/proficiency in C
Corequisite: None
Exclusion: CSC372H1, ECE385H1
Recommended Preparation: None

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

- Critical and Creative Thinking: None
- Communication: None
- Information Literacy: None
- Quantitative Reasoning: None
- Social and Ethical Responsibility: None

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

- Research: None
- Other Experiential Learning: None

Also, if the course includes other experiential learning, please specify the nature of the learning.

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: The Physical and Mathematical Universes (5)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces): Microprocessor Syste

Academic Relevance: State the reason for creating the course, and its place in your program(s):

This is not a new course, but a re-coding of an updated version of ECE385H1 which combines topics from the old ECE385 and CSC372 courses (the academic content of both evolved so that they became essentially the same course)

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS):

- Computer Science
- Enrolment: State an estimated number, and limitation if any. 100
- "Revived" Courses: If listed previously, state last session it appeared in the Calendar: N/A
- Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s): Phillip Anderson
Teaching Assistant(s): 3-4 TAs per section

Laboratory Equipment: ECE digilabs (already arranged with ECE for CSC372/ECE385)

Other: I will provide these resources from my existing budget.

DATE: Nov 18, 2015

Approved by CHAIR/PROGRAM DIRECTOR? Yes

New Course Form: CSC473H1

<table>
<thead>
<tr>
<th>Designator</th>
<th>Number + Y1/H1</th>
<th>Course Title</th>
<th>L / S / P / T</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC</td>
<td>473H1</td>
<td>Advanced Algorithm Design</td>
<td>[24L/12P]</td>
</tr>
</tbody>
</table>

Course description: 50 words maximum (text will be edited if too long). Please use present tense.

Advanced algorithm design techniques, with emphasis on the role that geometry, approximation, randomization, and parallelism play in modern algorithms. Examples will be drawn from linear programming and basics of continuous optimization; randomized algorithms for string matching, graph problems, and number theory problems; streaming algorithms and parallel algorithms in the Map-Reduce model.

Prerequisite: CSC373H1, MAT221H1/MAT223H1/MAT240H1

Corequisite: None

Exclusion: None

Recommended Preparation: None

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
<thead>
<tr>
<th>Critical and Creative Thinking</th>
<th>Communication</th>
<th>Information Literacy</th>
<th>Quantitative Reasoning</th>
<th>Social and Ethical Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slightly</td>
<td>None</td>
<td>None</td>
<td>Extensively</td>
<td>None</td>
</tr>
</tbody>
</table>

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

<table>
<thead>
<tr>
<th>Research</th>
<th>Other Experiential Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Also, if the course includes other experiential learning, please specify the nature of the learning.

Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: The Physical and Mathematical Universes (5)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):

Advanced Algorithm Design

Academic Relevance: State the reason for creating the course, and its place in your program(s):

This class fills a long-standing gap in 400-level study of algorithms.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

None

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

Computer Science

Enrolment: State an estimated number, and limitation if any. 100

"Revived" Courses: If listed previously, state last session it appeared in the Calendar: N/A
Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

**NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR**

**Departmental/College resource implications for this new course:** the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

<table>
<thead>
<tr>
<th>Instructor(s):</th>
<th>Nikolov, Aleksandar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Assistant(s):</td>
<td>3-4 per section (only one section anticipated)</td>
</tr>
</tbody>
</table>

**Laboratory Equipment:**

**Computing Resources:**

**Other:**

I will provide these resources from my existing budget.

**DATE:** Nov 18, 2015

**Approved by CHAIR/PROGRAM DIRECTOR?** Yes
SUMMARY OF CHANGES for the 2016-2017 CALENDAR

Academic Unit: Ecology & Evolutionary Biology

List new and newly-created programs (and include separate New Program Form for each one):

No new programs

List closed programs (and include separate Program Closure Form for each one):

No deleted programs

If you are deleting one of your own courses from your program(s) and substituting a course from ANOTHER department or program, OR if you are altering the required courses from another department in your program(s), your unit's representative may be asked to explain this substitution and supply a letter of consent from that other department or program at the Curriculum Committee meeting.

No changed programs

List new course numbers and titles (and enclose separate New Course Form for each one)

<table>
<thead>
<tr>
<th>New Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEB206H1</td>
<td>Studying Behaviour</td>
</tr>
<tr>
<td>EEB492H1</td>
<td>Internship in Ecology and Evolutionary Biology</td>
</tr>
<tr>
<td>EEB492Y1</td>
<td>Internship in Ecology and Evolutionary Biology</td>
</tr>
<tr>
<td>NUS301H0</td>
<td>Life Sciences Course A</td>
</tr>
<tr>
<td>NUS302H0</td>
<td>Life Sciences Course B</td>
</tr>
<tr>
<td>NUS303H0</td>
<td>Life Sciences Course C</td>
</tr>
<tr>
<td>NUS304H0</td>
<td>Life Sciences Course D</td>
</tr>
<tr>
<td>NUS401H0</td>
<td>Life Sciences Course E</td>
</tr>
<tr>
<td>NUS402H0</td>
<td>Life Sciences Course F</td>
</tr>
</tbody>
</table>

List deleted course numbers and titles. Please note that if you are deleting several more courses than you are adding, your unit's representative may be asked to discuss this at the Curriculum Committee meeting.

<table>
<thead>
<tr>
<th>Deleted Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEB445H1</td>
<td>Ethnobotany</td>
</tr>
</tbody>
</table>

Course renumberings and Course reweightings (Y1 to H1 or H1 to Y1)

Old number/weight | Proposed number/weight
|------------------|---------------------|

Title Changes

Course Code | Old Title | New Title | New ROSI Title (max. 20 characters including spaces)
|------------|-----------|-----------|--------------------------------------------------------------|

New Course Form: EEB206H1

<table>
<thead>
<tr>
<th>Designator</th>
<th>Number + Y1/H1</th>
<th>Course Title</th>
<th>L / S / P / T</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEB</td>
<td>206H1</td>
<td>Studying Behaviour</td>
<td>[24L/12T]</td>
</tr>
</tbody>
</table>

Course description - 50 words maximum (text will be edited if too long). Please use present tense.

All organisms display some behaviours. This course explores what is behaviour and how it is quantified and studied. Topics may include: mate choice, aggression and resolution, parent-offspring conflict, manipulating behaviour, and the origins of empathy and self-awareness. For non-science students in all years and disciplines.

Prerequisite:

Corequisite:

Exclusion:

Recommended Preparation:

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**New Course Form: EEB492H1**

**Competencies:** Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
<thead>
<tr>
<th>Competency</th>
<th>Critical and Creative Thinking</th>
<th>Communication</th>
<th>Information Literacy</th>
<th>Quantitative Reasoning</th>
<th>Social and Ethical Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level (None, Notably or Extensively)</td>
<td>Slightly</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

**Research or other experiential learning:** Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

<table>
<thead>
<tr>
<th>Level (None, Notably or Extensively)</th>
<th>Research</th>
<th>Other Experiential Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Also, if the course includes other experiential learning, please specify the nature of the learning.

**OLD Distribution Requirement Status:** underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

**NEW Breadth Requirement Status:** Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Living Things and Their Environment (4)

**Abbreviated Course Title for ROSI (not more than 20 characters including spaces):**

**Academic Relevance:** State the reason for creating the course, and its place in your program(s):

A Life Science breadth course for non-science students.

**Overlap:** If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

No overlap with other courses.

**Programs of Study:** Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

All non-Life Science programs

**Enrolment:** State an estimated number, and limitation if any.

Enrolment: 100

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

"Revived" Courses: N/A

**Instructor:** If not a permanent appointment in the University, his/her name and appointment are required:

Instructor: Prof. Deborah McLennas

**New Course Form: EEB206H1**

**Designator:**

<table>
<thead>
<tr>
<th>Designator</th>
<th>Number + Y1/H1</th>
<th>Course Title</th>
<th>L / S / P / T</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEB</td>
<td>206H1</td>
<td>Internship in Ecology and Evolutionary Biology</td>
<td>[TBA]</td>
</tr>
</tbody>
</table>

**Course description:** 50 words maximum (text will be edited if too long). Please use present tense.
A one-term intensive internship (in summer or fall term, for half or full credit) providing a placement and hands-on experience, in an ecologically or evolutionary context, with an organization such as a zoo, conservation authority, government agency, non-governmental organization, or media outlet. Provides senior students with a unique opportunity to communicate and translate the concepts learned in their ecology, evolutionary biology, or conservation biology courses in a practical way. Note that some placements may require a commitment of two full days each week for the term. Credit is assigned as Pass/Fail.

Prerequisite: At least 2.5 FCEs in EEB at the 300+ series level, and permission of instructor (application in department).

Corequisite: 

Exclusion: 

Recommended Preparation: 

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
<thead>
<tr>
<th>Critical and Creative Thinking</th>
<th>Communication</th>
<th>Information Literacy</th>
<th>Quantitative Reasoning</th>
<th>Social and Ethical Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notably</td>
<td>Notably</td>
<td>None</td>
<td>None</td>
<td>Slightly</td>
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</table>

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

<table>
<thead>
<tr>
<th>Research</th>
<th>Other Experiential Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Extensively</td>
</tr>
</tbody>
</table>

Also, if the course includes other experiential learning, please specify the nature of the learning

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Living Things and Their Environment (4)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):

Internship in EEB

Academic Relevance: State the reason for creating the course, and its place in your program(s):

A one-term intensive internship (in summer or fall term, for half or full credit) providing a placement and hands-on experience, in an ecologically or evolutionary context, with an organization such as a zoo, conservation authority, government agency, non-governmental organization, or media outlet. Provides senior students with a unique opportunity for experiential learning where they apply what they have learned in their courses in a practical placement with a zoo, conservation authority, government agency, non-governmental organization, or media outlet.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

No overlap

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS):


Enrolment: State an estimated number, and limitation if any.

5 to 10

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

N/A

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s): Prof. Helen Rodd

Teaching Assistant(s): 

Laboratory Equipment: 

Computing Resources: 

Other: I will provide these resources from my existing budget.
Date: Nov 18, 2015
Approved by CHAIR/PROGRAM DIRECTOR? Yes

New Course Form: EEB492Y1

<table>
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<th>Designator</th>
<th>Number + Y1/H1</th>
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<th>L / S / P / T</th>
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</thead>
<tbody>
<tr>
<td>EEB</td>
<td>492Y1</td>
<td>Internship in Ecology and Evolutionary Biology</td>
<td>[TBA]</td>
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</tbody>
</table>

Course description -50 words maximum (text will be edited if too long). Please use present tense.

Prerequisite: At least 2.5 FCEs in EEB at the 300+ series level, and permission of instructor (application in department).

Corequisite: Exclusion: Recommended Preparation:

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

Critical and Creative Thinking Communication Information Literacy Quantitative Reasoning Social and Ethical Responsibility

Level (None, Notably or Extensively)
Notably Notably None None Slightly

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

Research Other Experiential Learning
Level (None, Notably or Extensively)
None Extensively

Also, if the course includes other experiential learning, please specify the nature of the learning.

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Living Things and Their Environment (4)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):

Internship in EEB

Academic Relevance: State the reason for creating the course, and its place in your program(s):

A one-term intensive internship (in summer or fall term, for half or full credit) providing a placement and hands-on experience, in an ecologically or evolutionary context, with an organization such as a zoo, conservation authority, government agency, non-governmental organization, or media outlet. Provides senior students with a unique opportunity for experiential learning where they apply what they have learned in their courses in a practical placement with a zoo, conservation authority, government agency, non-governmental organization, or media outlet.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

No overlap with other courses.

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).


Enrolment: State an estimated number, and limitation if any.

5 to 10

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

N/A

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean’s Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s):

Prof. Helen Rodd
New Course Form: NUS301H0

Designator: NUS
Number + Y1/H1: 301H0
Course Title: Life Sciences Course A
L / S / P / T: [TBA]

Course description: A 3000-level Life Sciences (LSM) course offered at the National University of Singapore. For course offerings see: www.lifesciences.nus.edu.sg/lsm.html. Prerequisites and Exclusions: see the EEB website (www.eeb.utoronto.ca/Learning/programs.htm)

Prerequisite: BIO120H1, BIO130H1
Corequisite: 
Exclusion: 
Recommended Preparation: 

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

Level (None, Notably or Extensively):
Critical and Creative Thinking: Notably
Communication: None
Information Literacy: None
Quantitative Reasoning: Notably
Social and Ethical Responsibility: None

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

Level (None, Notably or Extensively):
Research: Extensively
Other Experiential Learning: Extensively

Also, if the course includes other experiential learning, please specify the nature of the learning

• International Student Exchange

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artssci.utoronto.ca.

Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Living Things and Their Environment (4)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):
Life Sciences Course

Academic Relevance: State the reason for creating the course, and its place in your program(s):
It is a unique opportunity to study biology in a different cultural environment.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below:
N/A

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).
N/A

Enrolment: State an estimated number, and limitation if any.
N/A

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:
N/A

© 2015 University of Toronto · Faculty of Arts & Science
Instructor: If not a permanent appointment in the University, his/her name and appointment are required: N/A

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean’s Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s): N/A
Teaching Assistant(s): N/A
Laboratory Equipment: N/A
Computing Resources: N/A
Other: N/A

I will provide these resources from my existing budget.

DATE: Nov 18, 2015
Approved by CHAIR/PROGRAM DIRECTOR? Yes

New Course Form: NUS302H0

Designator Number + Y1/H1 Course Title L / S / P / T
NUS 302H0 Life Sciences Course B [TBA]

Course description—50 words maximum (text will be edited if too long). Please use present tense. A 3000-level Life Sciences (LSM) course offered at the National University of Singapore. For course offerings see: www.lifesciences.nus.edu.sg/lsm.html

Prerequisites and Exclusions: see the EEB website (www.eeb.utoronto.ca/Learning/programs.htm)

Prerequisite: BIO120H1,BIO130H1
Corequisite: 
Exclusion: 

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
<thead>
<tr>
<th>Critical and Creative Thinking</th>
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<th>Information Literacy</th>
<th>Quantitative Reasoning</th>
<th>Social and Ethical Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notably</td>
<td>None</td>
<td>None</td>
<td>Notably</td>
<td>None</td>
</tr>
</tbody>
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Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

<table>
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<tr>
<th>Research</th>
<th>Other Experiential Learning</th>
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</thead>
<tbody>
<tr>
<td>Extensively</td>
<td>Extensively</td>
</tr>
</tbody>
</table>

Also, if the course includes other experiential learning, please specify the nature of the learning

• International Student Exchange

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Living Things and Their Environment (4)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):
Life Sciences Course

Academic Relevance: State the reason for creating the course, and its place in your program(s):
It is a unique opportunity to study biology in a different cultural environment.
New Course Form: NUS303H0

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

N/A

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

N/A

Enrolment: State an estimated number, and limitation if any.

N/A

"Revived" Courses: If listed previously, state last session it appeared in the Calendar.

N/A

Instructor: If not a permanent appointment in the University, his/her name and appointment are required.

N/A

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s):

N/A

Teaching Assistant(s):

N/A

Laboratory Equipment:

N/A

Computing Resources:

N/A

Other:

N/A

I will provide these resources from my existing budget.

DATE: Nov 18, 2015

Approved by CHAIR/PROGRAM DIRECTOR? Yes

New Course Form: NUS303H0

Designator: NUS

Number + Y1/H1: 303H0

Course Title: Life Sciences Course C

L / S / P / T: [TBA]

Course description: 50 words maximum (text will be edited if too long). Please use present tense.

A 3000-level Life Sciences (LSM) course offered at the National University of Singapore. For course offerings see: www.lifesciences.nus.edu.sg/lsm.html

Prerequisites and Exclusions: see the EEB website (www.eeb.utoronto.ca/Learning/programs.htm)

Prerequisite:

BIO120H1, BIO130H1

Corequisite:

Exclusion:

Recommended Preparation:

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

Level (None, Notably or Extensively)

Critical and Creative Thinking

Notably

Communication

None

Information Literacy

None

Quantitative Reasoning

Notably

Social and Ethical Responsibility

None

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

Research

Extensively

Other Experiential Learning

Extensively

Also, if the course includes other experiential learning, please specify the nature of the learning

- International Student Exchange

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course
**NEW Breadth Requirement Status:** Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Living Things and Their Environment (4)

**Abbreviated Course Title for ROSI (not more than 20 characters including spaces):**

Life Sciences Course

**Academic Relevance:** State the reason for creating the course, and its place in your program(s):

It is a unique opportunity to study biology in a different cultural environment.

**Overlap:** If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

N/A

**Programs of Study:** Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

N/A

**Enrolment:** State an estimated number, and limitation if any.

N/A

**“Revived” Courses: If listed previously, state last session it appeared in the Calendar:**

N/A

**Instructor:** If not a permanent appointment in the University, his/her name and appointment are required:

N/A

**NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR**

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

<table>
<thead>
<tr>
<th>Instructor(s):</th>
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<td>Teaching Assistant(s):</td>
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<tr>
<td>Laboratory Equipment:</td>
<td>N/A</td>
</tr>
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<td>Computing Resources:</td>
<td>N/A</td>
</tr>
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<td>Other:</td>
<td>N/A</td>
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I will provide these resources from my existing budget.

**DATE:** Nov 18, 2015

**Approved by CHAIR/PROGRAM DIRECTOR?** Yes

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**New Course Form: NUS304H0**

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<tr>
<td>NUS</td>
<td>304H0</td>
<td>Life Sciences Course D</td>
<td>[TBA]</td>
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**Course description:** 50 words maximum (text will be edited if too long). Please use present tense.

A 3000-level Life Sciences (LSM) course offered at the National University of Singapore. For course offerings see: www.lifesciences.nus.edu.sg/lsm.html

Prerequisites and Exclusions: see the EEB website (www.eeb.utoronto.ca/Learning/programs.htm)

**Prerequisite:** BIO120H1, BIO130H1

**Corequisite:**

**Exclusion:**

**Recommended Preparation:**

**Competencies:** Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
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<tr>
<th>Competency</th>
<th>Critical and Creative Thinking</th>
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<th>Information Literacy</th>
<th>Quantitative Reasoning</th>
<th>Social and Ethical Responsibility</th>
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</thead>
<tbody>
<tr>
<td>Level (None, Notably or Extensively)</td>
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<td>None</td>
<td>None</td>
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<tr>
<td>Research or other experiential learning:</td>
<td>Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.</td>
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</tr>
<tr>
<td>Level (None, Notably or Extensively)</td>
<td>Research Other Experiential Learning</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Extensively</td>
<td>Extensively</td>
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<td></td>
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</table>

Also, if the course includes other experiential learning, please specify the nature of the learning

- International Student Exchange

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category, a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Living Things and Their Environment (4)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):

- Life Sciences Course

Academic Relevance: State the reason for creating the course, and its place in your program(s):

It is a unique opportunity to study biology in a different cultural environment.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below:

N/A

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

N/A

Enrolment: State an estimated number, and limitation if any.

N/A

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

N/A

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

N/A

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s):

N/A

Teaching Assistant(s):

N/A

Laboratory Equipment:

N/A

Computing Resources:

N/A

Other:

N/A

I will provide these resources from my existing budget.

DATE: Nov 18, 2015

Approved by CHAIR/PROGRAM DIRECTOR? Yes

### New Course Form: NUS401H0

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<tbody>
<tr>
<td>NUS</td>
<td>401H0</td>
<td>Life Sciences Course E</td>
<td>[TBA]</td>
</tr>
</tbody>
</table>

Course description—50 words maximum (text will be edited if too long). Please use present tense.

A 4000-level Life Sciences (LSM) course offered at the National University of Singapore. For course offerings see: www.lifesciences.nus.edu.sg/lsm.html

Prerequisites and Exclusions: see the EEB website (www.eeb.utoronto.ca/Learning/programs.htm)

Prerequisite: BIO120H1,BIO130H1
New Course Form: NUS401H0

Corequisite:  
Exclusion:  
Recommended Preparation:  

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All:

<table>
<thead>
<tr>
<th>Critical and Creative Thinking</th>
<th>Communication</th>
<th>Information Literacy</th>
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<td>Notably</td>
<td>None</td>
<td>None</td>
<td>Notably</td>
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</tbody>
</table>

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

Level (None, Notably or Extensively): Extensively

Research or Other Experiential Learning: Extensively

Also, if the course includes other experiential learning, please specify the nature of the learning:

- International Student Exchange

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Living Things and Their Environment (4)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):

Life Sciences Course

Academic Relevance: State the reason for creating the course, and its place in your program(s):

It is a unique opportunity to study biology in a different cultural environment.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below:

N/A

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS):

N/A

Enrolment: State an estimated number, and limitation if any.

N/A

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

N/A

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

N/A

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below:

Instructor(s): N/A

Teaching Assistant(s): N/A

Laboratory Equipment: N/A

Computing Resources: N/A

Other: N/A

I will provide these resources from my existing budget.

DATE: Nov 18, 2015

Approved by CHAIR/PROGRAM DIRECTOR? Yes
New Course Form: NUS402H0

<table>
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<tbody>
<tr>
<td>NUS</td>
<td>402H0</td>
<td>Life Sciences Course F</td>
<td>[TBA]</td>
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</table>

Course description: -50 words maximum (text will be edited if too long). Please use present tense.
A 4000-level Life Sciences (LSM) course offered at the National University of Singapore. For course offerings see: www.lifesciences.nus.edu.sg/lsm.html
Prerequisites and Exclusions: see the EEB website (www.eeb.utoronto.ca/Learning/programs.htm)

Prerequisite: BIO120H1, BIO130H1

Recommended Preparation:

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<th>Competencies</th>
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Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

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<td>Level (None, Notably or Extensively)</td>
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Also, if the course includes other experiential learning, please specify the nature of the learning.

• International Student Exchange

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course.

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Living Things and Their Environment (4)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):

Life Sciences Course

Academic Relevance: State the reason for creating the course, and its place in your program(s):

It is a unique opportunity to study biology in a different environment.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

N/A

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS):

N/A

Enrolment: State an estimated number, and limitation if any.

N/A

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

N/A

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

N/A

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s): N/A

Teaching Assistant(s): N/A

Laboratory Equipment: N/A

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### New Course Form: NUS402H0

<table>
<thead>
<tr>
<th>Computing Resources:</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

I will provide these resources from my existing budget.

<table>
<thead>
<tr>
<th>DATE:</th>
<th>Nov 18, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved by CHAIR/PROGRAM DIRECTOR?</td>
<td>Yes</td>
</tr>
</tbody>
</table>
SUMMARY OF CHANGES for the 2016-2017 CALENDAR

Academic Unit: Geography

<table>
<thead>
<tr>
<th>New Course Form: GGR414H1</th>
</tr>
</thead>
</table>

- **Course Title**: Advanced Remote Sensing

<table>
<thead>
<tr>
<th>Designator</th>
<th>Number + Y1/H1</th>
<th>Course Title</th>
<th>L / S / P / T</th>
</tr>
</thead>
<tbody>
<tr>
<td>GGR</td>
<td>414H1</td>
<td>Advanced Remote Sensing</td>
<td>[18L/8T/4P/2S]</td>
</tr>
</tbody>
</table>

**Course Description**: Building on GGR337H1 Environmental Remote Sensing with advanced theories and techniques for land cover mapping, vegetation biophysical and biochemical parameter retrievals, optical and thermal remote sensing of urban environment, and application of satellite remote sensing to terrestrial water and carbon cycle estimation. Basic radiative transfer theories as applied to vegetation will be given in some detail as the basis for various remote sensing applications. Optical instruments for measuring vegetation structural parameters will be demonstrated in the field.

| Prerequisite: | 10 FCEs including GGR337H1 |
| Corequisite:  |                             |
| Exclusion:    |                             |
| **Recommended Preparation**: | GGR272H1, GGR273H1, GGR373H1 |

**Competencies**: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be *Some*, *Much* or *All*.

<table>
<thead>
<tr>
<th>Critical and Creative Thinking</th>
<th>Communication</th>
<th>Information Literacy</th>
<th>Quantitative Reasoning</th>
<th>Social and Ethical Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notably</td>
<td>None</td>
<td>None</td>
<td>Notably</td>
<td>None</td>
</tr>
</tbody>
</table>

**Research or Other Experiential Learning**: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether *Some*, *Much* or *All.*

<table>
<thead>
<tr>
<th>Research</th>
<th>Other Experiential Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**New Course Form: JEG100H1**

<table>
<thead>
<tr>
<th>Level (None, Notably or Extensively)</th>
<th>None</th>
<th>None</th>
</tr>
</thead>
</table>

Also, if the course includes other experiential learning, please specify the nature of the learning.

**OLD Distribution Requirement Status:** underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

**NEW Breadth Requirement Status:** Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: The Physical and Mathematical Universes (5)

**Abbreviated Course Title for ROSI (not more than 20 characters including spaces):**

Advanced Remote Sens

Academic Relevance: State the reason for creating the course, and its place in your program(s):

Many students in GGR337H1 Environmental Remote Sensing expressed their desire to have an advanced remote sensing course. This new course will not only consolidate what they learned from GGR337H1, but also allow them to gain high competency in satellite image processing and analysis. As far as I know, there is no course in U of T dealing with radiative transfer theories in plant canopies. The instrument (TRAC) and theories that I have developed are taught in other places. This course should be attractive to students who wish to learn about these techniques and theories first hand. This course would extend the choices available for students in the GIS minor and Physical and Environmental Geography Specialist, Major or Minor.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

**Programs of Study:** Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

Physical and Environmental Geography Specialist, Major or Minor. Geographic Information Systems Minor.

**Enrolment:** State an estimated number, and limitation if any. 30

**“Revived” Courses:** If listed previously, state last session it appeared in the Calendar: Not previously used course code.

**Instructor:** If not a permanent appointment in the University, his/her name and appointment are required:

Professor Jing Chen

**NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR**

**Departmental/College resource implications for this new course:** the Dean’s Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

**Instructor(s):** Professor Jing Chen, can also be taught by Jane Liu

**Teaching Assistant(s):** 30 hours

**Laboratory Equipment:** TRAC, LAI-2000, Field Spectrometer (available from Professor Chen's research program)

**Computing Resources:** GIS lab (SS620)

**Other:** I will provide these resources from my existing budget.

**DATE:** Nov 18, 2015

Approved by CHAIR/PROGRAM DIRECTOR? Yes

---

**New Course Form: GGR414H1**

<table>
<thead>
<tr>
<th>Designator</th>
<th>Number + Y1/H1</th>
<th>Course Title</th>
<th>L / S / P / T</th>
</tr>
</thead>
<tbody>
<tr>
<td>JEG</td>
<td>100H1</td>
<td>Introduction to Physical Geography and Earth Sciences</td>
<td>[24L/12P]</td>
</tr>
</tbody>
</table>

Course description: 50 words maximum (text will be edited if too long). Please use present tense.

This introduction to Physical Geography and Earth Sciences examines the atmosphere, lithosphere, hydrosphere, cryosphere and biosphere, emphasizing processes, flows of energy and materials, and the interconnectedness of these Earth systems. Specific topics include weather and climate, earth materials, geological and geomorphic processes involved in the genesis of landforms, river systems, glaciers, soils, and biomes.

**Prerequisite:**

**Corequisite:**
### New Course Form: JEG100H1

<table>
<thead>
<tr>
<th>Exclusion:</th>
<th>GGR100H1 and ESS102H1</th>
</tr>
</thead>
</table>

**Recommended Preparation:**

**Competencies:** Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
<thead>
<tr>
<th>Competencies</th>
<th>Critical and Creative Thinking</th>
<th>Communication</th>
<th>Information Literacy</th>
<th>Quantitative Reasoning</th>
<th>Social and Ethical Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Notably</td>
<td>None</td>
<td>Notably</td>
<td>Extensively</td>
<td>None</td>
</tr>
</tbody>
</table>

**Level (None, Notably or Extensively):**

<table>
<thead>
<tr>
<th>Level (None, Notably or Extensively)</th>
<th>Research</th>
<th>Other Experiential Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

**Research or other experiential learning:** Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

**OLD Distribution Requirement Status:** underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

**Distribution Requirement Status:** This is a Science course

**NEW Breadth Requirement Status:** Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

**Breadth Requirement:** The Physical and Mathematical Universes (5)

**Abbreviated Course Title for ROSI (not more than 20 characters including spaces):**

**Intro Phy Geog and Earth Sci**

**Academic Relevance:** State the reason for creating the course, and its place in your program(s):

GGR100H1 and ESS102H1 had overlapping material and were targeting similar students and duplicating resources, therefore we feel a combined course is beneficial to students and to the two departments.

**Overlap:** If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

GGR100H1 and ESS102H1

**Programs of Study:** Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

Physical and Environmental Geography Specialist, Major, and Minor. Geology Specialist, Geoscience Major and Minor, Environmental Geosciences Minor.

**Enrolment:** State an estimated number, and limitation if any.

350

**"Revived" Courses:** If listed previously, state last session it appeared in the Calendar:

**Instructor:** If not a permanent appointment in the University, his/her name and appointment are required:

Associate Professor Sarah Finkelstein

**NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR**

**Departmental/College resource implications for this new course:** the Dean’s Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

**Instructor(s):**

Associate Professor Sarah Finkelstein

**Teaching Assistant(s):**

600 TA hours: 500 supplied by Department of Geography and 100 supplied by Department of Earth Sciences.

**Laboratory Equipment:**

**Computing Resources:**

**Other:**

Use of Department of Geography math lab and Department of Earth Sciences laboratory space for practical sections.

I will provide these resources from my existing budget.

**DATE:**

Nov 18, 2015

**Approved by CHAIR/PROGRAM DIRECTOR?**

Yes
SUMMARY OF CHANGES for the 2016-2017 CALENDAR

Academic Unit: Human Biology

List new and newly-created programs (and include separate New Program Form for each one):

No new programs

List closed programs (and include separate Program Closure Form for each one):

No deleted programs

If you are deleting one of your own courses from your program(s) and substituting a course from ANOTHER department or program, OR if you are altering the required courses from another department in your program(s), your unit's representative may be asked to explain this substitution and supply a letter of consent from that other department or program at the Curriculum Committee meeting.

Note other significant program changes (but not minor "housekeeping" changes, such as substituting one of your own courses for another, etc.)

No changed programs

List new course numbers and titles (and enclose separate New Course Form for each one)

<table>
<thead>
<tr>
<th>New Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJH332H1</td>
<td>Neurobiology of the Synapse (Formerly CSB332H1)</td>
</tr>
<tr>
<td>HMB337H1</td>
<td>The Biology of the Human Metallome</td>
</tr>
<tr>
<td>HMB450H1</td>
<td>Neurodevelopmental Disorders and Diseases</td>
</tr>
</tbody>
</table>

List deleted course numbers and titles. Please note that if you are deleting several more courses than you are adding, your unit's representative may be asked to discuss this at the Curriculum Committee meeting.

<table>
<thead>
<tr>
<th>Deleted Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMB205H1</td>
<td>Scientific Controversies (formerly HMB210H1)</td>
</tr>
<tr>
<td>HMB220H1</td>
<td>Introduction to Human Neurobehavioural Biology (formerly HMB204H1)</td>
</tr>
<tr>
<td>HMB304H1</td>
<td>Biomedical Visualization 1</td>
</tr>
<tr>
<td>HMB305H1</td>
<td>Scientific Perspectives</td>
</tr>
<tr>
<td>HMB390H1</td>
<td>Scientific Communication Skills (formerly HMB397H1)</td>
</tr>
<tr>
<td>HMB400Y1</td>
<td>Project in Neuroscience</td>
</tr>
<tr>
<td>HMB404H1</td>
<td>Biomedical Visualization 2</td>
</tr>
<tr>
<td>HMB444H1</td>
<td>Human Biology and Human Destiny: Science, Popular Science, and Science Fiction</td>
</tr>
<tr>
<td>HMB490H1</td>
<td>Scientific Communication 2</td>
</tr>
<tr>
<td>HMB491H1</td>
<td>Literature Research Project</td>
</tr>
<tr>
<td>HMB498Y1</td>
<td>Project in Global Health</td>
</tr>
</tbody>
</table>

Course renumberings and Course reweightings (Y1 to H1 or H1 to Y1)

<table>
<thead>
<tr>
<th>Old number/weight</th>
<th>Proposed number/weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title Changes</td>
<td></td>
</tr>
<tr>
<td>Old Title</td>
<td>New Title</td>
</tr>
<tr>
<td>Epistemological Ethics in Medicine</td>
<td>Ethical Considerations in Emerging Technology</td>
</tr>
</tbody>
</table>

New Course Form: CJH332H1
New Course Form: CJH332H1

<table>
<thead>
<tr>
<th>Designator</th>
<th>Number + Y1/H1</th>
<th>Course Title</th>
<th>L / S / P / T</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJH</td>
<td>332H1</td>
<td>Neurobiology of the Synapse (Formerly CSB332H1)</td>
<td>[24L]</td>
</tr>
</tbody>
</table>

**Course description** – 50 words maximum (text will be edited if too long). Please use present tense.

Examination of all aspects of the synapse in both the peripheral and central nervous systems of invertebrates and vertebrates. Topics include: synapse formation, synaptic transmission, synaptic plasticity, learning and memory, and neurological disorders.

**Prerequisite:**
BIO271H1/PSL300H1

**Corequisite:**

**Exclusion:**
CSB332H1

**Recommended Preparation:**

**Competencies:** Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
<thead>
<tr>
<th>Critical and Creative Thinking</th>
<th>Communication</th>
<th>Information Literacy</th>
<th>Quantitative Reasoning</th>
<th>Social and Ethical Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notably</td>
<td>Slightly</td>
<td>Notably</td>
<td>Slightly</td>
<td>None</td>
</tr>
</tbody>
</table>

**Research or other experiential learning:** Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

**Research** | **Other Experiential Learning**

Level (None, Notably or Extensively) None | None

Also, if the course includes other experiential learning, please specify the nature of the learning.

**OLD Distribution Requirement Status:** underline the appropriate category. If uncertain, please email kelly@artssci.utoronto.ca.

**Distribution Requirement Status:**
This is a Science course

**NEW Breadth Requirement Status:**
Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

**Breadth Requirement:** Living Things and Their Environment (4)

**Abbreviated Course Title for ROSI (not more than 20 characters including spaces):**
Synapse Neurobiology

**Academic Relevance:** State the reason for creating the course, and its place in your program(s):
This is not a new course. It is the recoding of CSB332H1 due to an administrative change.

**Overlap:** If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

**Programs of Study:** Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

**Enrolment:** State an estimated number, and limitation if any.

**"Revived" Courses:** If listed previously, state last session it appeared in the Calendar.

**Instructor:** If not a permanent appointment in the University, his/her name and appointment are required.

**NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR**

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

**Instructor(s):** Dr. William Ju
New Course Form: HMB337H1

Teaching Assistant(s): 2 x 140 hrs

Laboratory Equipment:
Computing Resources:
Other: I will provide these resources from my existing budget.

DATE: Nov 18, 2015
Approved by CHAIR/PROGRAM DIRECTOR? Yes

Designator Number + Y1/H1 Course Title L / S / P / T
HMB 337H1 The Biology of the Human Metallome [24L]

Course description -50 words maximum (text will be edited if too long). Please use present tense.
This course will discuss how heavy metals are integral to organ function through various biological pathways, the importance of metal regulation and control and its relationship with gene transcription. An introduction of metallo-therapeutics will also be featured, ranging from neuro-degenerative therapies to cancer treatment.

Prerequisite: 9 FCE complete, HMB265H1, BIO230H1
Corequisite:
Exclusion:
Recommended Preparation: BCH210H1

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

Critical and Creative Thinking Communication Information Literacy Quantitative Reasoning Social and Ethical Responsibility
Level (None, Notably or Extensively) Notably None Extensively Slightly None

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

Research Other Experiential Learning
Level (None, Notably or Extensively) None None

Also, if the course includes other experiential learning, please specify the nature of the learning

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.
Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Living Things and Their Environment (4)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):
The Human Metallome

Academic Relevance: State the reason for creating the course, and its place in your program(s):
The majority of the study of human biology focuses on the study of macromolecules; micronutrients such as metals are often overlooked or not studied in detail. As the field of metalomics emerges in scientific circles, it is important that the Human Biology Program at the University of Toronto has a course offering that studies the metallome, or biomolecules and their interactions with metals. While the Department of Chemistry has a course offering that studies the metallome, or biomolecules and their interactions with metals. While the Department of Chemistry has a course, CHM437H1 (Bioinorganic Chemistry), that focuses on metals in biology, there is no course that specifically focuses on understanding the biological pathways affected by metals in the human body, especially in its relation to genetics. This course would solely focus on heavy metals including Iron, Zinc, Copper, Cobalt, Chromium, and Manganese. The course will not cover development and only focus on adult physiology. The course would focus on normal physiology of the body in relation to these metals (uptake, absorption, transport, maintenance). Organ-specific functions, such as liver/kidney detoxification proteins, will be discussed. The course will also cover how non-regulated metals can be dangerous, and discusses common metal toxic pathways. This course would provide a useful 300-level depth course to Human Biology students, while also providing a breadth offering to Health and Disease and Fundamental Genetics and its Applications students, especially.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

Consultation has been initiated and completed with the following departments over potential overlap (all units determined there was no significant overlap and approved the course to proceed in Curriculum Committee): Department of Chemistry, Department of Physiology, Department of Biochemistry, Department of Pharmacology and Toxicology, and the Pharmaceutical Chemistry Program. Consultation has been initiated and in progress with: Department of Nutritional Science
New Course Form: HMB450H1

Designator: HMB
Number + Y1/H1: 450H1
Course Title: Neurodevelopmental Disorders and Diseases
L / S / P / T: [24L/12T]

Course description: Proper development of the human brain is essential for human health. This course will examine how neurodevelopment failures contribute to neurological disorders and diseases, including epilepsy and autism. Current research from basic, translational, and clinical perspectives will be examined using case studies. The impact of neurodevelopmental disorders and diseases on the individual and community will be discussed.

Prerequisite: HMB300H1/HMB310H1/ HMB320H1/ CJH332H1 (formerly CSB332H1)
Corequisite:
Exclusion:
Recommended Preparation:
Competencies: Critical and Creative Thinking, Communication, Information Literacy, Quantitative Reasoning, Social and Ethical Responsibility

Level (None, Notably or Extensively): Notably, Notably, Notably, None, Notably

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

Research

Level (None, Notably or Extensively): None

Other Experiential Learning

Level (None, Notably or Extensively): None

Also, if the course includes other experiential learning, please specify the nature of the learning.

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.
Distribution Requirement Status: This is a Science course.

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.
Breadth Requirement: Living Things and Their Environment (4)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces): Neurodev Dis & Diseases
Neurodev Disorders

Academic Relevance: State the reason for creating the course, and its place in your program(s):

Neurodevelopment is a central field of neuroscience that seeks to understand how the nervous system develops. Neurological disorders and diseases arise when the dynamic processes that build and shape the brain fail and ultimately impact learning, behaviour and health. In the last decade there have been significant advancements in our understanding of the mechanisms that contribute to neurodevelopmental disorders and diseases, such as autism, epilepsy, and pediatric brain tumours. The Human Biology Program at the University of Toronto does not offer a course that focuses on the neuroscience of the developing human brain, nor on neurodevelopmental disorders and diseases. Based on the importance of these topics in the fields of neuroscience and human biology, we propose to add a course that will build on the previous introduction students have received in other 200- and 300-level courses to fundamental concepts in developmental neuroscience. In addition, this course will examine how alterations in proper neurodevelopment of the human brain result in neurodevelopmental disorders and diseases. By showcasing core neuroscience tenets in a developmental context this course will provide students an opportunity to synthesize information from other neuroscience and human biology courses. Using case studies, this course will provide students with a bench-to-bedside understanding of basic mechanisms underlying normal neural development as well as aberrant processes that underlie neurodevelopmental disorders and diseases. This course will be have equal focuses on neuroscience and disease-states, and thus it is ideally suited for 4th-year students in our Neuroscience Programs (Major and Specialist). In this academic cycle, HMB is proposing the closure of six 400-level courses. The addition of this course will help to fill a void in 400-level course offerings in HMB.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

Consultation has been carried out and completed (with all units approving the course to continue forth) with: Department of Psychology, Department of Cell & Systems Biology, Department of Physiology, and Department of Laboratory Medicine and Pathobiology

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

Neuroscience Major, Neuroscience Specialist

Enrolment: State an estimated number, and limitation if any.

40

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

Dr. Colleen Dockstader

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s):

1

Teaching Assistant(s):

Laboratory Equipment:

Computing Resources:

Other:

I will provide these resources from my existing budget.

DATE: Nov 18, 2015

Approved by CHAIR/PROGRAM DIRECTOR? Yes
SUMMARY OF CHANGES for the 2016-2017 CALENDAR

Academic Unit: Linguistics

List new and newly-created programs (and include separate New Program Form for each one):
No new programs

List closed programs (and include separate Program Closure Form for each one):
No deleted programs

If you are deleting one of your own courses from your program(s) and substituting a course from ANOTHER department or program, OR
if you are altering the required courses from another department in your program(s), your unit’s representative may be asked to explain this substitution and supply a letter of consent from that other department or program at the Curriculum Committee meeting.

Note other significant program changes (but not minor “housekeeping” changes, such as substituting one of your own courses for another, etc.)
No changed programs

List new course numbers and titles (and enclose separate New Course Form for each one)

<table>
<thead>
<tr>
<th>New Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
</tr>
</thead>
</table>

List deleted course numbers and titles. Please note that if you are deleting several more courses than you are adding, your unit’s representative may be asked to discuss this at the Curriculum Committee meeting.

<table>
<thead>
<tr>
<th>Deleted Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
</tr>
</thead>
</table>

Course renumberings and Course reweightings (Y1 to H1 or H1 to Y1)

<table>
<thead>
<tr>
<th>Old number/weight</th>
<th>Proposed number/weight</th>
</tr>
</thead>
</table>

Title Changes

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Old Title</th>
<th>New Title</th>
<th>New ROSI Title (max. 20 characters including spaces)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JLS473H1</td>
<td>Adult Language Disorders</td>
<td>Adult Speech and Language Disorders</td>
<td>Adult Speech Lang Disorders</td>
</tr>
</tbody>
</table>
### SUMMARY OF CHANGES for the 2016-2017 CALENDAR

**Academic Unit: Mathematics**

**List new and newly-created programs** (and include separate New Program Form for each one):

No new programs

**List closed programs** (and include separate Program Closure Form for each one):

No deleted programs

If you are deleting one of your own courses from your program(s) and substituting a course from ANOTHER department or program, OR if you are altering the required courses from another department in your program(s), your unit's representative may be asked to explain this substitution and supply a letter of consent from that other department or program at the Curriculum Committee meeting.

**Note other significant program changes** (but not minor “housekeeping” changes, such as substituting one of your own courses for another, etc.)

No changed programs

**List new course numbers and titles** (and enclose separate New Course Form for each one)

<table>
<thead>
<tr>
<th>New Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT282H1</td>
<td>Topics in Mathematics</td>
</tr>
<tr>
<td>MAT295H1</td>
<td>Independent Reading in Mathematics</td>
</tr>
<tr>
<td>MAT351Y1</td>
<td>Partial Differential Equations</td>
</tr>
<tr>
<td>MAT382H1</td>
<td>Topics in Mathematics</td>
</tr>
<tr>
<td>MAT395H1</td>
<td>Independent Reading in Mathematics</td>
</tr>
<tr>
<td>MAT396H1</td>
<td>Independent Reading in Mathematics</td>
</tr>
<tr>
<td>MAT397Y1</td>
<td>Research Project in Mathematics</td>
</tr>
<tr>
<td>MAT482H1</td>
<td>Topics in Mathematics</td>
</tr>
</tbody>
</table>

**List deleted course numbers and titles.** Please note that if you are deleting several more courses than you are adding, your unit’s representative may be asked to discuss this at the Curriculum Committee meeting.

<table>
<thead>
<tr>
<th>Deleted Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>APM351Y1</td>
<td>Differential Equations of Mathematical Physics</td>
</tr>
<tr>
<td>APM498Y1</td>
<td>Readings in Applied Mathematics</td>
</tr>
<tr>
<td>APM499Y1</td>
<td>Readings in Applied Mathematics</td>
</tr>
<tr>
<td>MAT397H1</td>
<td>Independent Work in Mathematics</td>
</tr>
<tr>
<td>MAT498Y1</td>
<td>Readings in Mathematics</td>
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<td>MAT499Y1</td>
<td>Readings in Mathematics</td>
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</table>

**Course renumberings and Course reweightings** (Y1 to H1 or H1 to Y1)

<table>
<thead>
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<th>Proposed number/weight</th>
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</thead>
<tbody>
<tr>
<td>APM497H1</td>
<td>APM396H1</td>
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<tr>
<td>MAT497H1</td>
<td>MAT296H1</td>
</tr>
<tr>
<td>MAT393Y1</td>
<td>MAT297Y1</td>
</tr>
<tr>
<td>MAT477Y1</td>
<td>MAT477H1</td>
</tr>
<tr>
<td>MAT394Y1</td>
<td>MAT497Y1</td>
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**Title Changes**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Old Title</th>
<th>New Title</th>
<th>New ROSI Title (max. 20 characters including spaces)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designator</td>
<td>Number + Y1/H1</td>
<td>Course Title</td>
<td>L / S / P / T</td>
</tr>
<tr>
<td>------------</td>
<td>----------------</td>
<td>--------------</td>
<td>---------------</td>
</tr>
<tr>
<td>MAT</td>
<td>282H1</td>
<td>Topics in Mathematics</td>
<td>[36L]</td>
</tr>
</tbody>
</table>

**Course description** - 50 words maximum (text will be edited if too long). Please use present tense.

A course in mathematics on a topic outside the current undergraduate offerings. For information on the specific topic to be studied and possible additional prerequisites, go to http://www.math.toronto.edu/cms/current-students-ug/.

**Prerequisite:**

1.0 FCE in 100-level MAT courses. Possible additional topic-specific prerequisites.

**Corequisite:**

**Exclusion:**

**Recommended Preparation:**

**Competencies:** Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be *Some, Much* or *All*.

<table>
<thead>
<tr>
<th>Competency</th>
<th>Level (None, Notably or Extensively)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical and Creative Thinking</td>
<td>Extensively</td>
</tr>
<tr>
<td>Communication</td>
<td>Slightly</td>
</tr>
<tr>
<td>Information Literacy</td>
<td>Slightly</td>
</tr>
<tr>
<td>Quantitative Reasoning</td>
<td>Extensively</td>
</tr>
<tr>
<td>Social and Ethical Responsibility</td>
<td>None</td>
</tr>
</tbody>
</table>

**Research or other experiential learning:** Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

**Research**

**Other Experiential Learning**

Also, if the course includes other experiential learning, please specify the nature of the learning.

**OLD Distribution Requirement Status:** underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

**Distribution Requirement Status:** This is a Science course

**NEW Breadth Requirement Status:** Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

**Breadth Requirement:** The Physical and Mathematical Universes (5)

**Abbreviated Course Title for ROSI (not more than 20 characters including spaces):**

**Topics in Mathematics**

**Academic Relevance:** State the reason for creating the course, and its place in your program(s):

We regularly get inquiries from faculty asking to teach a course in a specific topic which is not part of our regular curriculum. We want to be able to support these requests.

**Overlap:** If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.
New Course Form: MAT282H1

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

MA Mathematics, MI Mathematics, SP Mathematics, SP Mathematics & Philosophy, SP Mathematics & Physics, SP Math & Its Appl (Teaching), SP Math & Its Appl (Physics), SP Math & Its Appl (Prob Stat), SP Math Appl (Econ & Finance), and SP Applied Mathematics.

Enrolment: State an estimated number, and limitation if any. 20-100

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s):
Teaching Assistant(s):
Laboratory Equipment:
Computing Resources:
Other: Our chairman will provide all the resources needed from his existing budget except for TA resources.

I will provide these resources from my existing budget.

DATE: Nov 18, 2015

Approved by CHAIR/PROGRAM DIRECTOR? Yes

New Course Form: MAT295H1

Designator Number + Y1/H1 Course Title L / S / P / T
MAT 295H1 Independent Reading in Mathematics [TBA]

Course description: 50 words maximum (text will be edited if too long). Please use present tense.

Independent study under the direction of a faculty member. Topic must be outside undergraduate offerings. Similar workload to a 36L course. Not eligible for CR/NCR option.

Prerequisite: Minimum GPA of 3.5 in APM and MAT courses. Permission of the Associate Chair for Undergraduate Studies and of the prospective supervisor.

Corequisite:
Exclusion:
Recommended Preparation:

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
<thead>
<tr>
<th>Critical and Creative Thinking</th>
<th>Communication</th>
<th>Information Literacy</th>
<th>Quantitative Reasoning</th>
<th>Social and Ethical Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extensively</td>
<td>Notably</td>
<td>Notably</td>
<td>Notably</td>
<td>None</td>
</tr>
</tbody>
</table>

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All:

Research Other Experiential Learning
Level (None, Notably or Extensively) None None

Also, if the course includes other experiential learning, please specify the nature of the learning

Distribution Requirement Status: Underline the appropriate category. If uncertain, please email kelly@arts.utoronto.ca.

Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: The Physical and Mathematical Universes (5)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):

Academic Relevance: State the reason for creating the course, and its place in your program(s):
New Course Form: MAT351Y1

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

MA Mathematics, MI Mathematics, SP Mathematics, SP Mathematics &Philosophy, SP Mathematics &Physics, SP Math &Its Appl (teaching), SP Math &Its Appl (Physics), Sp Math &Its Appl (Prob Stat), SP Math Appl (Econ &Finance), and SP Applied Mathematics.

Enrolment: State an estimated number, and limitation if any. 1-5

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s):
Teaching Assistant(s):
Laboratory Equipment:
Computing Resources:
Other:

I will provide these resources from my existing budget.

DATE: Nov 18, 2015

Approved by CHAIR/PROGRAM DIRECTOR? Yes

New Course Form: MAT295H1

New Course Form: MAT351Y1

Designator Number + Y1/H1 Course Title L / S / P / T
MAT 351Y1 Partial Differential Equations [72L]

Course description: 50 words maximum (text will be edited if too long). Please use present tense.


Prerequisite: MAT267H1

Corequisite: MAT334H1/MAT354H1

Exclusion:

Recommended Preparation:

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

Critical and Creative Thinking Communication Information Literacy Quantitative Reasoning Social and Ethical Responsibility
Level (None, Notably or Extensively) Extensively Notably Slightly Extensively None

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

Research Other Experiential Learning
Level (None, Notably or Extensively) None None

Also, if the course includes other experiential learning, please specify the nature of the learning.

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artscl.utoronto.ca.

Distribution Requirement Status: This is a Science course.
NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category, a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: The Physical and Mathematical Universes (5)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):
Partial Differential

Academic Relevance: State the reason for creating the course, and its place in your program(s):

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

This is a long-standing course with a new name. It used to be called APM351Y "Differential Equations of Mathematical Physics". We want to rename it MAT351Y "Partial Differential Equations".

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS):

Enrolment: State an estimated number, and limitation if any.

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s):
Teaching Assistant(s):
Laboratory Equipment:
Computing Resources:
Other:

I will provide these resources from my existing budget.

DATE: Nov 18, 2015

Approved by CHAIR/PROGRAM DIRECTOR? Yes

---

New Course Form: MAT382H1

<table>
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<tr>
<th>Designator</th>
<th>Number + Y1/H1</th>
<th>Course Title</th>
<th>L / S / P / T</th>
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</thead>
<tbody>
<tr>
<td>MAT</td>
<td>382H1</td>
<td>Topics in Mathematics</td>
<td>[36L]</td>
</tr>
</tbody>
</table>

Course description: 50 words maximum (text will be edited if too long). Please use present tense.

A course in mathematics on a topic outside the current undergraduate offerings. For information on the specific topic to be studied and possible additional prerequisites, go to http://www.math.toronto.edu/cms/current-students-ug/

Prerequisite: 2.5 FCE in 100-level or 200-level APM or MAT courses. Possible additional topic-specific prerequisites.

Corequisite:

Exclusion:

Recommended Preparation:

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
<thead>
<tr>
<th>Level (None, Notably or Extensively)</th>
<th>Critical and Creative Thinking</th>
<th>Communication</th>
<th>Information Literacy</th>
<th>Quantitative Reasoning</th>
<th>Social and Ethical Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extensively</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Slightly</td>
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<tr>
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<td></td>
<td></td>
<td>Extensively</td>
<td></td>
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<tr>
<td>None</td>
<td></td>
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<td>None</td>
<td></td>
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</table>

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

<table>
<thead>
<tr>
<th>Level (None, Notably or Extensively)</th>
<th>Research</th>
<th>Other Experiential Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

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Also, if the course includes other experiential learning, please specify the nature of the learning.

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: The Physical and Mathematical Universes (5)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):

Topics in Mathematics

Academic Relevance: State the reason for creating the course, and its place in your program(s):

We regularly get inquiries from faculty asking to teach a course in a specific topic which is not part of our regular curriculum. These inquiries are often part of exploring potential new regular course offerings or new pedagogical methods. We want to be able to support these requests.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below:

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS):


Enrolment: State an estimated number, and limitation if any.

20-100

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s):

one

Teaching Assistant(s):
depends on enrolment

Laboratory Equipment:

Computing Resources:

Other:

Our chairman will provide all resources, except for TA resources, from his budget.

I will provide these resources from my existing budget.

DATE: Nov 18, 2015

Approved by CHAIR/PROGRAM DIRECTOR? Yes

New Course Form: MAT395H1

<table>
<thead>
<tr>
<th>Designator</th>
<th>Number + Y1/H1</th>
<th>Course Title</th>
<th>L / S / P / T</th>
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</thead>
<tbody>
<tr>
<td>MAT</td>
<td>395H1</td>
<td>Independent Reading in Mathematics</td>
<td>[TBA]</td>
</tr>
</tbody>
</table>

Course description: 50 words maximum (text will be edited if too long). Please use present tense.

Independent reading under the direction of a faculty member. Topic must be outside current undergraduate offerings. Similar workload to a 36L course. Not eligible for CR/NCR option.

Prerequisite:

Minimum GPA of 3.5 in APM and MAT courses. Permission of the Associate Chair for Undergraduate Studies and of the prospective supervisor

Corequisite:

Exclusion:

Recommended Preparation:

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.
New Course Form: MAT396H1

Critical and Creative Thinking | Communication | Information Literacy | Quantitative Reasoning | Social and Ethical Responsibility
--- | --- | --- | --- | ---
None | None | None | None | None

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

Research | Other Experiential Learning
--- | ---
None | None

Also, if the course includes other experiential learning, please specify the nature of the learning.

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: The Physical and Mathematical Universes (5)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):

Independent Reading

Academic Relevance: State the reason for creating the course, and its place in your program(s):

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

Enrolment: State an estimated number, and limitation if any.

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s):
Teaching Assistant(s):
Laboratory Equipment:
Computing Resources:
Other:

DATE: Nov 18, 2015
Approved by CHAIR/PROGRAM DIRECTOR? No

New Course Form: MAT396H1

Designator | Number + Y1/H1 | Course Title | L / S / P / T
--- | --- | --- | ---
MAT | 396H1 | Independent Reading in Mathematics | [TBA]

Course description: 50 words maximum (text will be edited if too long). Please use present tense.

Independent study under the direction of a faculty member. Topic must be outside undergraduate offerings. Similar workload to a 36L course. Not eligible for CR/NCR option.

Prerequisite: Minimum GPA of 3.5 in APM and MAT courses. Permission of the Associate Chair for Undergraduate Studies and of the prospective supervisor

Corequisite:
Exclusion:

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New Course Form: MAT397Y1

Recommended Preparation:

<table>
<thead>
<tr>
<th>Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical and Creative Thinking</td>
</tr>
<tr>
<td>Level (None, Notably or Extensively)</td>
</tr>
</tbody>
</table>

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

<table>
<thead>
<tr>
<th>Research</th>
<th>Other Experiential Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level (None, Notably or Extensively)</td>
<td>None</td>
</tr>
</tbody>
</table>

Also, if the course includes other experiential learning, please specify the nature of the learning

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category. A Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: The Physical and Mathematical Universes (5)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):

Independent Reading

Academic Relevance: State the reason for creating the course, and its place in your program(s):

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

Enrolment: State an estimated number, and limitation if any.

“Revived” Courses: If listed previously, state last session it appeared in the Calendar:

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s):

Teaching Assistant(s):

Laboratory Equipment:

Computing Resources:

Other:

DATE: Nov 18, 2015

Approved by CHAIR/PROGRAM DIRECTOR? No

New Course Form: MAT397Y1

<table>
<thead>
<tr>
<th>Designator</th>
<th>Number + Y1/H1</th>
<th>Course Title</th>
<th>L / S / P / T</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT</td>
<td>397Y1</td>
<td>Research Project in Mathematics</td>
<td>[TBA]</td>
</tr>
</tbody>
</table>

Course description—50 words maximum (text will be edited if too long). Please use present tense.

Independent research under the direction of a faculty member. Workload similar to a 72L course. Not eligible for CR/NCR option.

Prerequisite: Minimum GPA of 3.5 in APM and MAT courses. Permission of the Associate Chair for Undergraduate Studies and of the prospective supervisor.
New Course Form: MAT482H1

Corequisite: 
Exclusion: 
Recommended Preparation: 

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
<thead>
<tr>
<th>Competency</th>
<th>Extensively</th>
<th>Notably</th>
<th>Notably</th>
<th>Notably</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical and Creative Thinking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<tr>
<td>Information Literacy</td>
<td></td>
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</tr>
<tr>
<td>Quantitative Reasoning</td>
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<tr>
<td>Social and Ethical Responsibility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Level (None, Notably or Extensively): Extensively Notably | Notably | Notably | None |

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

<table>
<thead>
<tr>
<th>Research</th>
<th>Other Experiential Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notably</td>
<td>None</td>
</tr>
</tbody>
</table>

Also, if the course includes other experiential learning, please specify the nature of the learning

- Experiential Study

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: The Physical and Mathematical Universes (5)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):
Research Project in

Academic Relevance: State the reason for creating the course, and its place in your program(s):

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below:

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS)
MA Mathematics, MI Mathematics, SP Mathematics, SP Mathematics &Philosophy, SP Mathematics &Physics, SP Math &Its Appl (Teaching), SP Math &Its Appl (Physics), SP Math &Its Appl (Prob Stat), SP Math Appl (Econ &Finance) and SP Applied Mathematics.

Enrolment: State an estimated number, and limitation if any. 1-5

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s):
Teaching Assistant(s):
Laboratory Equipment:
Computing Resources:
Other:

I will provide these resources from my existing budget.

DATE: Nov 18, 2015

Approved by CHAIR/PROGRAM DIRECTOR?

Yes

New Course Form: MAT397Y1
Course description: A course in mathematics on a topic outside the current undergraduate offerings. For information on the specific topic to be studied and possible additional prerequisites, go to http://www.math.toronto.edu/cms/current-students-ug/

Prerequisite: 6.0 FCE in 100-level, 200-level, and 300-level APM and MAT courses. Possible additional topic-specific prerequisites.

Recommended Preparation:

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

Level (None, Notably or Extensively) | Critical and Creative Thinking | Communication | Information Literacy | Quantitative Reasoning | Social and Ethical Responsibility
--- | --- | --- | --- | --- | ---
Extensively | | | | | Extensively
Slightly | | | | | None
Slightly | Extensively | | | None

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

Level (None, Notably or Extensively): None

Also, if the course includes other experiential learning, please specify the nature of the learning.

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artssci.utoronto.ca.

Distribution Requirement Status: This is a Science course.

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: The Physical and Mathematical Universes (5)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):
Topics in Mathematics

Academic Relevance: State the reason for creating the course, and its place in your program(s):
We regularly get inquiries from faculty asking to teach a course in a specific topic which is not part of our regular curriculum. These inquiries are often part of exploring potential new regular course offerings or new pedagogical methods. We want to be able to support these requests.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS): MA Mathematics, MI Mathematics, SP Mathematics, SP Mathematics &Philosophy, SP Mathematics &Physics, SP Math &Its Appl (Teaching), SP Math &Its Appl (Physics), SP Math &Its Appl (Prob Stat), SP Math Appl (Econ &Finance), and SP Applied Mathematics.

Enrolment: State an estimated number, and limitation if any.
20-100

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s): 1
Teaching Assistant(s): depends on the enrolment.
Laboratory Equipment:
Computing Resources:
Other:  

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Our chairman will provide all resources, except for TA resources, from his budget.</strong></td>
<td></td>
</tr>
<tr>
<td>I will provide these resources from my existing budget.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>DATE:</strong></th>
<th>Nov 18, 2015</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Approved by CHAIR/PROGRAM DIRECTOR?</strong></th>
<th>Yes</th>
</tr>
</thead>
</table>
SUMMARY OF CHANGES for the 2016-2017 CALENDAR

Academic Unit: Nutritional Sciences

List new and newly-created programs (and include separate New Program Form for each one):

No new programs

List closed programs (and include separate Program Closure Form for each one):

No deleted programs

If you are deleting one of your own courses from your program(s) and substituting a course from ANOTHER department or program, OR
if you are altering the required courses from another department in your program(s), your unit's representative may be asked to explain this substitution and supply a letter of consent from that other department or program at the Curriculum Committee meeting.

Note other significant program changes (but not minor "housekeeping" changes, such as substituting one of your own courses for another, etc.)

No changed programs

List new course numbers and titles (and enclose separate New Course Form for each one)

<table>
<thead>
<tr>
<th>New Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
</tr>
</thead>
</table>

List deleted course numbers and titles. Please note that if you are deleting several more courses than you are adding, your unit's representative may be asked to discuss this at the Curriculum Committee meeting.

<table>
<thead>
<tr>
<th>Deleted Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
</tr>
</thead>
</table>

Course renumberings and Course reweightings (Y1 to H1 or H1 to Y1)

<table>
<thead>
<tr>
<th>Old number/weight</th>
<th>Proposed number/weight</th>
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</thead>
</table>

Title Changes

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Old Title</th>
<th>New Title</th>
<th>New ROSI Title (max. 20 characters including spaces)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFS485H1</td>
<td>Nutritional Microbiology</td>
<td>Diet, Microbiome &amp; Health (formerly Nutritional Microbiology)</td>
<td>Diet &amp; Microbiome</td>
</tr>
</tbody>
</table>
### New Course Form: PCL200H1

<table>
<thead>
<tr>
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<th>Number + Y1/H1</th>
<th>Course Title</th>
<th>L / S / P / T</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCL</td>
<td>200H1</td>
<td>Drugs &amp; The Brain</td>
<td>[24L]</td>
</tr>
</tbody>
</table>

**Course description**

Lectures introduce students to prescribed and illicit drugs that affect the brain. Lectures cover drug pharmacology and explain how drugs alter mood, perception, cognition, and arousal by affecting different aspects of brain function. The societal impact of these prescribed and illicit drugs is also discussed.

**Prerequisite:**

None

**Corequisite:**

PSY396H1

**Exclusion:**

PSY396H1

**Recommended Preparation:**

- Critical and Creative Thinking
- Communication
- Information Literacy
- Quantitative Reasoning
- Social and Ethical Responsibility

**Level (None, Notably or Extensively):**

- Slightly
- None
- Notably
- None
- Notably

**Research or other experiential learning:**

Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

**Level (None, Notably or Extensively):**

- None
- None

**Also, if the course includes other experiential learning, please specify the nature of the learning:**

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course
**NEW Breadth Requirement Status:** Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

**Breadth Requirement:** Living Things and Their Environment (4)

**Abbreviated Course Title for ROSI (not more than 20 characters including spaces):**

Drugs & The Brain

**Academic Relevance:** State the reason for creating the course, and its place in your program(s):

Provides a half-year introductory breadth course to introduce concepts of neuropharmacology to interested students. Students will gain an understanding of the drugs that are commonly used to treat mental illness, and whether they can also be used for non-medical purposes. Students will gain an understanding of the risks and benefits that these drugs provide. The course serves as an introduction to improve understanding and appreciation of pharmacology and drugs used in the mental health field.

**Overlap:** If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

There is no overlap with other courses offered by other departments. Undergraduate students in PCL 101H1 (Art of Drug Discovery) have expressed an interest in continuing with an introductory neuropharmacology course and there is not one available at this time. Within our own department, this course will provide an overview and introduction to pharmacological concepts and drugs that are covered in much greater depth with higher-level courses. There is slight overlap with PSY396H1, which is an exclusion.

**Programs of Study:** Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

For non-science students in all years and disciplines.

**Enrolment:** State an estimated number, and limitation if any.

150-400

**"Revived" Courses:** If listed previously, state last session it appeared in the Calendar:

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

Dr A. Ramsey

**NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR**

**Departmental/College resource implications for this new course:** the Dean’s Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

**Instructor(s):**

Dr A. Ramsey

**Teaching Assistant(s):**

**Laboratory Equipment:**

**Computing Resources:**

**Other:**

I will provide these resources from my existing budget.

**DATE:**

Nov 18, 2015

**Approved by CHAIR/PROGRAM DIRECTOR?**

Yes
### New Course Form: PHC432H1

<table>
<thead>
<tr>
<th>Designator</th>
<th>Number + Y1/H1</th>
<th>Course Title</th>
<th>L / S / P / T</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHC</td>
<td>432H1</td>
<td>Nanomedicines in Oncology</td>
<td>[24L]</td>
</tr>
</tbody>
</table>

**Course description** - 50 words maximum (text will be edited if too long). Please use present tense.

This course covers a range of topics that pertain to the development and application of nanomedicines in oncology. Students will gain an understanding of the biological barriers to drug delivery in oncology as well as the tremendous heterogeneity in cancer and the challenge this presents for treatment. The concepts of passive and active targeting of nanomedicines will be covered with critical assessment of the enhanced permeability and retention effect. A detailed overview of the most advanced nanotechnology-platforms for drug delivery (i.e., liposomes, block copolymer micelles and polymer-drug conjugates) will be provided with additional discussion of new emerging platforms. The integration of imaging in drug development and development of theranostics and therapeutic-diagnostic pairs will also be discussed. Special emphasis on critical evaluation of scientific literature and pre-clinical/clinical studies will be made throughout the course.

**Prerequisite:** PHC230H1, PHC330H1 and enrolled as a Year 4 student in the Pharmaceutical Chemistry specialist program.

**Corequisite:**

**Exclusion:**

**Recommended Preparation:**

**Competencies:** Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be **Some**, **Much** or **All**.

<table>
<thead>
<tr>
<th>Critical and Creative Thinking</th>
<th>Communication</th>
<th>Information Literacy</th>
<th>Quantitative Reasoning</th>
<th>Social and Ethical Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
New Course Form: PHC435H1

| Level (None, Notably or Extensively) | None | None | None | None | None |

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

<table>
<thead>
<tr>
<th>Research</th>
<th>Other Experiential Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Also, if the course includes other experiential learning, please specify the nature of the learning.

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Living Things and Their Environment (4)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):

Nanomedicines in Onc

Academic Relevance: State the reason for creating the course, and its place in your program(s):

This course will introduce the pharmaceutical chemistry students to the development of nanomedicines for applications in oncology. There are many cancer drugs relying on formulation in advanced drug delivery systems that have now reached clinical development and several others that have been approved for human use. As a result this knowledge is necessary to the many pharmaceutical chemistry students that pursue careers in the pharmaceutical industry. This course will also introduce students to the wide range of graduate research that is ongoing in this area.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below:

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS):

Pharmaceutical Chemistry specialist program

Enrolment: State an estimated number, and limitation if any.

10

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

Christine Allen, Full Professor (tenured), cj.allen@utoronto.ca

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s):

Teaching Assistant(s):

1 to assist with grading of midterm test & final exam

Laboratory Equipment:

Computing Resources:

Other:

I will provide these resources from my existing budget.

DATE: Nov 18, 2015

Approved by CHAIR/PROGRAM DIRECTOR? Yes

New Course Form: PHC435H1

<table>
<thead>
<tr>
<th>Designator</th>
<th>Number + Y1/H1</th>
<th>Course Title</th>
<th>L / S / P / T</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHC</td>
<td>435H1</td>
<td>Pharmaceutical Data Acquisition &amp; Analysis</td>
<td>[26P]</td>
</tr>
</tbody>
</table>

Course description -- 50 words maximum (text will be edited if too long). Please use present tense.

Application and development of devices for the purpose of collecting and analyzing experimental data in pharmaceutical development and manufacture.
New Course Form: PHC435H1

Prerequisite: BCH210H1, CHM247H1/ CHM249H1, MAT135Y1, PHC340Y1 and enrolled as a Year 4 student in the Pharmaceutical Chemistry specialist program.

Corequisite:

Exclusion:

Recommended Preparation:

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
<thead>
<tr>
<th>Critical and Creative Thinking</th>
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<th>Quantitative Reasoning</th>
<th>Social and Ethical Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
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<td>None</td>
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</tbody>
</table>

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

<table>
<thead>
<tr>
<th>Research</th>
<th>Other Experiential Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Level (None, Notably or Extensively)

Also, if the course includes other experiential learning, please specify the nature of the learning.

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category, a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: The Physical and Mathematical Universes (5)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):

PHC Data & Analysis

Academic Relevance: State the reason for creating the course, and its place in your program(s):

Process and quality control are essential in all aspects of development and manufacture of pharmaceutical products. In this course the students learn to design methods to measure the properties of materials and how to interpret the resulting data.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

Pharmaceutical Chemistry specialist program

Enrolment: State an estimated number, and limitation if any.

15

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

David Dubins

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s):

Teaching Assistant(s):

Laboratory Equipment: The equipment for this course is on hand already

Computing Resources:

Other:

I will provide these resources from my existing budget.

DATE: Nov 18, 2015

Approved by CHAIR/PROGRAM DIRECTOR? Yes
Academic Unit: Physics

**List new and newly-created programs** (and include separate New Program Form for each one):

No new programs

**List closed programs** (and include separate Program Closure Form for each one):

No deleted programs

If you are deleting one of your own courses from your program(s) and substituting a course from ANOTHER department or program, OR if you are altering the required courses from another department in your program(s), your unit's representative may be asked to explain this substitution and supply a letter of consent from that other department or program at the Curriculum Committee meeting.

**Note other significant program changes** (but not minor "housekeeping" changes, such as substituting one of your own courses for another, etc.)

No changed programs

**List new course numbers and titles** (and enclose separate New Course Form for each one)

<table>
<thead>
<tr>
<th>New Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
</tr>
</thead>
</table>

**List deleted course numbers and titles.** Please note that if you are deleting several more courses than you are adding, your unit's representative may be asked to discuss this at the Curriculum Committee meeting.

<table>
<thead>
<tr>
<th>Deleted Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
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<tbody>
<tr>
<td>PHY395H1</td>
<td>Physics of the Earth</td>
</tr>
<tr>
<td>PHY493H1</td>
<td>Seismology</td>
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</table>

**Course renumberings and Course reweightings** (Y1 to H1 or H1 to Y1)

<table>
<thead>
<tr>
<th>Old number/weight</th>
<th>Proposed number/weight</th>
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</table>

**Title Changes**

<table>
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<tr>
<th>Course Code</th>
<th>Old Title</th>
<th>New Title</th>
<th>New ROSI Title (max. 20 characters including spaces)</th>
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<tbody>
<tr>
<td>PHY408H1</td>
<td>Times Series Analysis</td>
<td>Time Series Analysis</td>
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</tr>
</tbody>
</table>
### Academic Unit: Psychology

**List new and newly-created programs** (and include separate New Program Form for each one):

No new programs

**List closed programs** (and include separate Program Closure Form for each one):

No deleted programs

If you are deleting one of your own courses from your program(s) and substituting a course from ANOTHER department or program, OR if you are altering the required courses from another department in your program(s), your unit's representative may be asked to explain this substitution and supply a letter of consent from that other department or program at the Curriculum Committee meeting.

**Note other significant program changes** (but not minor "housekeeping" changes, such as substituting one of your own courses for another, etc.)

No changed programs

**List new course numbers and titles** (and enclose separate New Course Form for each one)

<table>
<thead>
<tr>
<th>New Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
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</thead>
<tbody>
<tr>
<td>PSY395H1</td>
<td>Neuroethics</td>
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<tr>
<td>PSY474H1</td>
<td>Computation in Psychology</td>
</tr>
<tr>
<td>PSY496H1</td>
<td>Cognitive Dysfunction in Neurological Disorders</td>
</tr>
</tbody>
</table>

**List deleted course numbers and titles. Please note that if you are deleting several more courses than you are adding, your unit's representative may be asked to discuss this at the Curriculum Committee meeting.**

<table>
<thead>
<tr>
<th>Deleted Course Number (e.g., SWE 209Y1)</th>
<th>Title (e.g., Swedish Novellas)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Course renumberings and Course reweightings** (Y1 to H1 or H1 to Y1)

<table>
<thead>
<tr>
<th>Old number/weight</th>
<th>Proposed number/weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
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</table>

**Title Changes**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Old Title</th>
<th>New Title</th>
<th>New ROSI Title (max. 20 characters including spaces)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**New Course Form: PSY395H1**

<table>
<thead>
<tr>
<th>Designator</th>
<th>Number + Y1/H1</th>
<th>Course Title</th>
<th>L / S / P / T</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY</td>
<td>395H1</td>
<td>Neuroethics</td>
<td>[36L]</td>
</tr>
</tbody>
</table>

**Course description**: 50 words maximum (text will be edited if too long). Please use present tense.

An examination of how developments in neurology and neuroscience can be used to inform ethical and legal issues related to free will, responsibility, competence, education, morality, empathy in healthy people and in people with confirmed or suspected neurological disorders.

**Prerequisite:**

PSY201H1 (or exclusion), PSY260H1/PSY270H1/PSY280H1/PSY290H1

**Corequisite:**

**Exclusion:**

**Recommended Preparation:**

Review of basic brain functions

**Competencies**: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

<table>
<thead>
<tr>
<th>Critical and Creative Thinking</th>
<th>Communication</th>
<th>Information Literacy</th>
<th>Quantitative Reasoning</th>
<th>Social and Ethical Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level (None, Notably or Extensively)</td>
<td>Extensively</td>
<td>Notably</td>
<td>Extensively</td>
<td>Slightly</td>
</tr>
</tbody>
</table>

**Research or other experiential learning**: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

<table>
<thead>
<tr>
<th>Research</th>
<th>Other Experiential Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level (None, Notably or Extensively)</td>
<td>None</td>
</tr>
</tbody>
</table>

Also, if the course includes other experiential learning, please specify the nature of the learning.
**OLD Distribution Requirement Status:** underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

**NEW Breadth Requirement Status:** Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Thought, Belief and Behaviour (2)

**Abbreviated Course Title for ROSI (not more than 20 characters including spaces):**

Neuroethics

**Academic Relevance:** State the reason for creating the course, and its place in your program(s):

The brain is beginning to play a greater role in societal issues, both in terms of the legal system, medical system, educational system, and social services. Many of these applications involve ethical issues, such as determining whether a person with a head injury or a teenager with under-developed parts of the brain is responsible for his or her actions. Another example is whether knowledge of the brain should inform educational practice or competence in aging. There are no courses in our department that deal with these issues. The course is also meant to demonstrate possibilities other than an academic or clinical career to our students.

**Overlap:** If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

Not aware of any overlap.

**Programs of Study:** Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS)

Psychology Minor, Major, Specialist, Research Specialist Neuroscience Cognitive Science

**Enrolment:** State an estimated number, and limitation if any.

Cap of 50-55

**“Revived” Courses:** If listed previously, state last session it appeared in the Calendar: N/A

**Instructor:** If not a permanent appointment in the University, his/her name and appointment are required:

Dr. Morris Moscovitch

**NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR**

**Department/College resource implications for this new course:** the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s): Dr. Morris Moscovitch

Teaching Assistant(s): For a class size greater than 20, 1.5 hrs of TA time/student enrolled

Laboratory Equipment: N/A

Computing Resources: N/A

Other: N/A

I will provide these resources from my existing budget.

**DATE:** Nov 18, 2015

**Approved by CHAIR/PROGRAM DIRECTOR?** Yes

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**New Course Form: PSY474H1**

<table>
<thead>
<tr>
<th>Designator</th>
<th>Number + Y1/H1</th>
<th>Course Title</th>
<th>L / S / P / T</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY</td>
<td>474H1</td>
<td>Computation in Psychology</td>
<td>[36L]</td>
</tr>
</tbody>
</table>

**Course description** - 50 words maximum (text will be edited if too long). Please use present tense.

This course surveys computational perspectives on the mind and brain and introduces computational tools for connecting psychological and neural data to theory. Topics may include neural networks, probabilistic models, pattern recognition, and other techniques applicable to psychological research and general analysis. Basic familiarity with programming is recommended but not required.

**Prerequisite:** PSY202H1 (or exclusion)

**Corequisite:**

**Exclusion:** PSY471H1 (Fall of 2015)

**Recommended Preparation:**

**Competencies:** Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.
New Course Form: PSY474H1

<table>
<thead>
<tr>
<th>Critical and Creative Thinking</th>
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<tr>
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<td>None</td>
<td>Slightly</td>
<td>Extensively</td>
<td>None</td>
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</table>

**Research or other experiential learning:** Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

<table>
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<tr>
<th>Research</th>
<th>Other Experiential Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Also, if the course includes other experiential learning, please specify the nature of the learning.

**OLD Distribution Requirement Status:** underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

**Distribution Requirement Status:** This is a Science course

**NEW Breadth Requirement Status:** Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

**Breadth Requirement:** The Physical and Mathematical Universes (5)

**Abbreviated Course Title for ROSI** (not more than 20 characters including spaces):

Computation in Psych

**Academic Relevance:** State the reason for creating the course, and its place in your program(s):

Recent developments in computational neuroscience and computational psychology have provided a wealth of new tools for developing computational accounts of human cognition and perception. Our goal is therefore to provide a basic foundation that will enable undergraduates to enter the future generation of psychological scientists. During the course, the undergraduates will gain the ability to understand contemporary research and to analyze data using contemporary methods. This is an upper-level undergraduate course, designed to provide students with (i) an introduction to computational theories of cognition, including symbolic, probabilistic and neural network-based approaches (ii) a survey of computational tools that are useful for analyzing behavioural and neural datasets and (iii) hands-on experience analyzing behavioural and neural data and relating these data to computational theories. Connections to contemporary research will be emphasized, highlighting how computational models may motivate the development of new hypotheses for experiment design in psychology. At the end of this course, the undergraduate students should be able to select and evaluate quantitative models of a given experimental problem and to manipulate and visualize rich psychological datasets. Advanced students will be able to independently generate new psychological models and to tailor standard computational tools to their needs.

**Overlap:** If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

Not aware of any overlap.

**Programs of Study:** Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

Psychology Minor, Major, Specialist, Research Specialist Cognitive Science Computer Science

**Enrolment:** State an estimated number, and limitation if any.

Cap of 30.

**"Revived" Courses:** If listed previously, state last session it appeared in the Calendar:

N/A

**Instructor:** If not a permanent appointment in the University, his/her name and appointment are required:

Dr. Christopher J. Honey Dr. Daphna Buchsbaum Dr. Dirk Bernhardt-Walther

**NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR**

**Departmental/College resource implications for this new course:** the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

**Instructor(s):**

Dr. Christopher J. Honey Dr. Daphna Buchsbaum Dr. Dirk Bernhardt-Walther

**Teaching Assistant(s):**

2.5 hrs of TA time/student enrolled (to allow for weekly tutorials led by TA, and prep).

**Laboratory Equipment:**

N/A

**Computing Resources:**

Time in computer laboratory located on Sidney Smith Ground floor.

**Other:**

N/A

I will provide these resources from my existing budget.

**DATE:**

Nov 18, 2015

**Approved by CHAIR/PROGRAM DIRECTOR?**

Yes
In depth examination of the cognitive dysfunction found in neurological disorders, including Alzheimer's Disease, Parkinson's Disease, and Schizophrenia. The course will focus on how cognitive impairments relate to neuropsychological models of the disease, specifically how these models provide insights into the biological mechanisms underlying the cognitive symptoms and cognition more broadly.

Prerequisite: PSY201H1 (or exclusion), PSY270H1/PSY290H1

Corequisite:

Exclusion: PSY471H1 (Winter of 2015)

Recommended Preparation:

Competencies: Which (one or more) of the five competencies would this course help the students to develop? Please indicate in the relevant box whether it would be Some, Much or All.

Critical and Creative Thinking
Communication
Information Literacy
Quantitative Reasoning
Social and Ethical Responsibility

Level (None, Notably or Extensively)
Extensively
Notably
Extensively
Slightly
None

Research or other experiential learning: Does this course include a research or other experiential learning component? If yes, indicate with R or O, and whether Some, Much or All.

Research
Other Experiential Learning

Level (None, Notably or Extensively)
None
None

Also, if the course includes other experiential learning, please indicate the nature of the learning.

OLD Distribution Requirement Status: underline the appropriate category. If uncertain, please email kelly@artsci.utoronto.ca.

Distribution Requirement Status: This is a Science course

NEW Breadth Requirement Status: Specify in which one or two categories this course would fall. Note: An H course must be designated as 0.5 FCE breadth credit in exactly one category; a Y course can be designated as either 1.0 FCE breadth credit in exactly one category or 0.5 FCE breadth credit in each of exactly two categories. Academic units are expected to categorize all their courses unless there are pedagogical reasons not to do so.

Breadth Requirement: Living Things and Their Environment (4)

Abbreviated Course Title for ROSI (not more than 20 characters including spaces):

Cognitive Disorders

Academic Relevance: State the reason for creating the course, and its place in your program(s):

There is presently no regular course offered in our department that focuses on the cognitive dysfunctions associated with neurological disorders and their treatment. This topic is of the utmost relevance our students, many of whom are interested in pursuing careers in clinical psychology and neurology. Moreover, the course will focus on a limited number of disorders to provide an intensive and critical review of recent research and theoretical models. This approach will provide students with both an appreciation of how basic science informs our understanding of neurological disorders and the tools necessary to become critical consumers of biomedical research.

Overlap: If course content overlaps with current courses offered by other departments/programs, you MUST include a letter from these units agreeing to your proposal. Please indicate departments consulted below.

Not aware of any overlap.

Programs of Study: Name programs for which the course might be suitable. (PLEASE SEND A COPY OF YOUR PROPOSAL TO THESE PROGRAMS).

Psychology Minor, Major, Specialist, Research Specialist Neuroscience Cognitive Science

Enrolment: State an estimated number, and limitation if any.

Cap of 50-55.

"Revived" Courses: If listed previously, state last session it appeared in the Calendar:

N/A

Instructor: If not a permanent appointment in the University, his/her name and appointment are required:

Dr. Katherine Duncan

NEW COURSES MUST BE APPROVED BY CHAIR OR PROGRAM DIRECTOR

Departmental/College resource implications for this new course: the Dean's Office requires a description of the resource requirements for this new course, and an indication whether you can meet these requirements through your existing resources, or have received additional resources from the Dean. Please give details of the resource areas below.

Instructor(s):
Dr. Katherine Duncan

Teaching Assistant(s):
For a class size greater than 20, 1.5 hrs of TA time/student enrolled

Laboratory Equipment: N/A
<table>
<thead>
<tr>
<th>Computing Resources:</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

I will provide these resources from my existing budget.

<table>
<thead>
<tr>
<th>DATE:</th>
<th>Nov 18, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved by CHAIR/PROGRAM DIRECTOR?</td>
<td>Yes</td>
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</table>