**1.0 Degree Title**
Specify the two degrees for concurrent degree programs

**1.1** B.Sc. Immunology Honours Interdepartmental

**1.2 Concentration (Legacy = Concentration/Option)**
If applicable (30 char. max.)

**1.3 Minor (with Concentration, if applicable)**
(30 char. max.)

**1.4 Category**

- Faculty Program (FP)
- Major
- Joint Major
- Major Concentration (CON)
- Minor
- Minor Concentration (CON)
- Honours (HON)
- Joint Honours
- Component (HC)
- Internship/Co-op
- Thesis (T)
- Non-Thesis (N)
- Other
- Please specify

**1.5** B.Sc. Immunology Honours Interdepartmental

**2.0 Administering Faculty/Unit**

**Science/Microbiology & Immunology**

**Offering Faculty/Department**

**Science/Microbiology, Immunology, Physiology**

**3.0 Effective Term of revision or retirement**
Please give reasons in 5.0 “Rationale” in the case of retirement.
(Ex. Sept. 2004 = 200409) Retirement

**Term:** 201209

**4.0 Existing Credit Weight**
75

**Proposed Credit Weight**
75

**5.0 Rationale for revised program**

A new required U1 course, MMM 214, Introduction to Immunology: Elements of Immunity, has been introduced. The requirement for CHEM 203/204 has been removed, and these courses will be added to the list of U1 Complementary Courses subheaded “plus 3 credits selected from the following.”

**6.0 Revised Program Description (Maximum 150 words)**

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### Proposed program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required Courses, Complementary Courses, Elective Courses)

**Honours Immunology (Interdepartmental) (75 credits)**

**Required Courses (48 credits)**

**U1 Required Courses**

- 20 credits selected as follows:
  - * Students select either BIOC 212 or BIOL 201.
  - ** Students select either CHEM 203 or CHEM 204.
  - *** Students select either PHGY 209 or MIMM 211.
  - BIOC 212* (3) Molecular Mechanisms of Cell Function
  - BIOL 200 (3) Molecular Biology
  - BIOL 201* (3) Cell Biology and Metabolism
  - CHEM 203** (3) Survey of Physical Chemistry
  - CHEM 204** (3) Physical Chemistry/Biological Sciences I
  - CHEM 212 (4) Introductory Organic Chemistry I
  - CHEM 222 (4) Introductory Organic Chemistry 2
  - MIMM 211*** (3) Introductory Microbiology
  - PHGY 209*** (3) Mammalian Physiology I

**U2 Required Courses**

- 13 credits from the following:
  - ANAT 261 (4) Introduction to Dynamic Histology
  - BIOC 311 (3) Metabolic Biochemistry
  - BIOC 312 (3) Biochemistry of Macromolecules
  - MIMM 314 (3) Immunology

**U3 Required Courses**

- 15 credits from the following:
  - MIMM 414 (3) Advanced Immunology
  - PHGY 419D1 (4.5) Immunology Research Project
  - PHGY 419D2 (4.5) Immunology Research Project
  - PHGY 513 (3) Cellular Immunology

**Complementary Courses (27 credits)**

**U1 Complementary Courses**

- 6 credits chosen for U1 complementary courses in the following manner.
- 3 credits selected from:
  - BIOL 373 (3) Biometry
  - MATH 203 (3) Principles of Statistics I
  - PSYC 204 (3) Introduction to Psychological Statistics
  - plus 3 credits selected from the following:
    - * Students take CHEM 287 and CHEM 297.
    - ANAT 214 (3) Systemic Human Anatomy
    - ANAT 262 (3) Introductory Molecular and Cell Biology
    - BIOL 202 (3) Basic Genetics
    - BIOL 203 (3) Biology of Organisms
    - BIOL 304 (3) Evolution
    - CHEM 287* (2) Introductory Analytical Chemistry
    - CHEM 297* (1) Introductory Analytical Chemistry Laboratory
    - COMP 202 (3) Introduction to Computing 1
  - COMP 203 (3) Introduction to Computing 2
  - MATH 204 (3) Principles of Statistics 2
  - MIMM 211 (3) Introductory Microbiology
  - MIMM 212 (2) Laboratory in Microbiology
  - PHGY 209 (3) Mammalian Physiology I
  - PHGY 210 (3) Mammalian Physiology 2

**U2 Complementary Courses**

- 12 credits chosen as follows:
  - Students may select
    - * BIOC 300D1 and BIOC2D2 or
    - ** MIMM 386D1 and MIMM 386D2 or
    - *** PHGY 212 and PHGY 213 and BIOL 301
  - BIOC 300D1* (3) Laboratory in Biochemistry
  - BIOC 300D2* (3) Laboratory in Biochemistry
  - BIOL 301*** (4) Cell and Molecular Laboratory

**See Attachment 1A**

---

### Existing program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required Courses, Complementary Courses, Elective Courses)

**Honours Immunology (Interdepartmental) (75 credits)**

**Required Courses (48 credits)**

**U1 Required Courses**

- 20 credits selected as follows:
  - * Students select either BIOC 212 or BIOL 201.
  - ** Students select either CHEM 203 or CHEM 204.
  - *** Students select either PHGY 209 or MIMM 211.
  - BIOC 212* (3) Molecular Mechanisms of Cell Function
  - BIOL 200 (3) Molecular Biology
  - BIOL 201* (3) Cell Biology and Metabolism
  - CHEM 203** (3) Survey of Physical Chemistry
  - CHEM 204** (3) Physical Chemistry/Biological Sciences 1
  - CHEM 212 (4) Introductory Organic Chemistry 1
  - CHEM 222 (4) Introductory Organic Chemistry 2
  - MIMM 211*** (3) Introductory Microbiology
  - PHGY 209*** (3) Mammalian Physiology 1

**U2 Required Courses**

- 13 credits chosen as follows:
  - ANAT 261 (4) Introduction to Dynamic Histology
  - BIOC 311 (3) Metabolic Biochemistry
  - BIOC 312 (3) Biochemistry of Macromolecules
  - MIMM 314 (3) Immunology

**U3 Required Courses**

- 15 credits chosen as the following:
  - MIMM 414 (3) Advanced Immunology
  - PHGY 419D1 (4.5) Immunology Research Project
  - PHGY 419D2 (4.5) Immunology Research Project
  - PHGY 513 (3) Cellular Immunology

**Complementary Courses (27 credits)**

**U1 Complementary Courses**

- 6 credits chosen for U1 complementary courses in the following manner.
- 3 credits selected from:
  - BIOL 373 (3) Biometry
  - MATH 203 (3) Principles of Statistics I
  - PSYC 204 (3) Introduction to Psychological Statistics
  - plus 3 credits selected from the following:
    - * Students take CHEM 287 and CHEM 297.
    - ANAT 214 (3) Systemic Human Anatomy
    - ANAT 262 (3) Introductory Molecular and Cell Biology
    - BIOL 202 (3) Basic Genetics
    - BIOL 203 (3) Biology of Organisms
    - BIOL 304 (3) Evolution
    - CHEM 287* (2) Introductory Analytical Chemistry
    - CHEM 297* (1) Introductory Analytical Chemistry Laboratory
    - COMP 202 (3) Introduction to Computing 1
  - COMP 203 (3) Introduction to Computing 2
  - MATH 204 (3) Principles of Statistics 2
  - MIMM 211 (3) Introductory Microbiology
  - MIMM 212 (2) Laboratory in Microbiology
  - PHGY 209 (3) Mammalian Physiology I
  - PHGY 210 (3) Mammalian Physiology 2

**U2 Complementary Courses**

- 12 credits chosen as follows:
  - Students may select
    - * BIOC 300D1 and BIOC2D2 or
    - ** MIMM 386D1 and MIMM 386D2 or
    - *** PHGY 212 and PHGY 213 and BIOL 301
  - BIOC 300D1* (3) Laboratory in Biochemistry
  - BIOC 300D2* (3) Laboratory in Biochemistry
  - BIOL 301*** (4) Cell and Molecular Laboratory

**See Attachment 1A**

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*See Attachment 1A*
### U2 Complementary Courses (Continued)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
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<tbody>
<tr>
<td>MIMM 386D1** (3)</td>
<td>Laboratory in Microbiology and Immunology</td>
</tr>
<tr>
<td>MIMM 386D2** (3)</td>
<td>Laboratory in Microbiology and Immunology</td>
</tr>
<tr>
<td>PHGY 212*** (1)</td>
<td>Introductory Physiology Laboratory 1</td>
</tr>
<tr>
<td>PHGY 213*** (1)</td>
<td>Introductory Physiology Laboratory 2</td>
</tr>
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</table>

plus 6 credits, selected from:

* Students take either BIOL 309 or MATH 315, but not both.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ANAT 365 (3)</td>
<td>Cellular Trafficking</td>
</tr>
<tr>
<td>BIOL 300 (3)</td>
<td>Molecular Biology of the Gene</td>
</tr>
<tr>
<td>BIOL 309* (3)</td>
<td>Mathematical Models in Biology</td>
</tr>
<tr>
<td>BIOL 314 (3)</td>
<td>Molecular Biology of Oncogenes</td>
</tr>
<tr>
<td>CHEM 302 (3)</td>
<td>Introductory Organic Chemistry 3</td>
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<tr>
<td>MATH 222 (3)</td>
<td>Calculus 3</td>
</tr>
<tr>
<td>MATH 315* (3)</td>
<td>Ordinary Differential Equations</td>
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<tr>
<td>MIMM 323 (3)</td>
<td>Microbial Physiology</td>
</tr>
<tr>
<td>MIMM 324 (3)</td>
<td>Fundamental Virology</td>
</tr>
<tr>
<td>PHGY 212*** (1)</td>
<td>Introductory Physiology Laboratory 1</td>
</tr>
<tr>
<td>PHGY 213*** (1)</td>
<td>Introductory Physiology Laboratory 2</td>
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### U3 Complementary Courses

9 credits of U3 complementary courses chosen in the following manner:

3 credits selected from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BIOC 503 (3)</td>
<td>Immunochemistry</td>
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<tr>
<td>MIMM 509 (3)</td>
<td>Inflammatory Processes</td>
</tr>
<tr>
<td>PHGY 531 (3)</td>
<td>Topics in Applied Immunology</td>
</tr>
</tbody>
</table>

plus 6 credits selected from:

* Students take either ANAT 458 or BIOC 458, but not both.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>ANAT 458* (3)</td>
<td>Membranes and Cellular Signaling</td>
</tr>
<tr>
<td>BIOC 404 (3)</td>
<td>Biophysical Chemistry</td>
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<td>BIOC 450 (3)</td>
<td>Protein Structure and Function</td>
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<td>BIOC 454 (3)</td>
<td>Nucleic Acids</td>
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<td>BIOC 503 (3)</td>
<td>Immunochemistry</td>
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<td>BIOL 520 (3)</td>
<td>Gene Activity in Development</td>
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<td>MIMM 413 (3)</td>
<td>Parasitology</td>
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<td>MIMM 465 (3)</td>
<td>Bacterial Pathogenesis</td>
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<td>MIMM 466 (3)</td>
<td>Viral Pathogenesis</td>
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<td>MIMM 509 (3)</td>
<td>Inflammatory Processes</td>
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<td>PHAR 503 (3)</td>
<td>Drug Design and Development 1</td>
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<tr>
<td>PHAR 504 (3)</td>
<td>Drug Design and Development 2</td>
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<tr>
<td>PHGY 552 (3)</td>
<td>Cellular and Molecular Physiology</td>
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### U2 Complementary Courses (Continued)

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<td>MIMM 386D1** (3)</td>
<td>Laboratory in Microbiology and Immunology</td>
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<td>MIMM 386D2** (3)</td>
<td>Laboratory in Microbiology and Immunology</td>
</tr>
<tr>
<td>PHGY 212*** (1)</td>
<td>Introductory Physiology Laboratory 1</td>
</tr>
<tr>
<td>PHGY 213*** (1)</td>
<td>Introductory Physiology Laboratory 2</td>
</tr>
</tbody>
</table>

plus 6 credits, selected from:

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<td>PHGY 311 (3)</td>
<td>Channels, Synapses &amp; Hormones</td>
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<td>PHGY 312 (3)</td>
<td>Respiratory, Renal, &amp; Cardiovascular Physiology</td>
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<td>PHGY 552 (3)</td>
<td>Cellular and Molecular Physiology</td>
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8.0 Consultation with Related Units  □ Yes  □ No

Financial Consult  □ Yes  □ No

Attach list of consultations

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<th>9. Approvals</th>
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Submitted by

Name
Phone
Email
Submission Date

To be completed by ARR:

CIP Code