



<p>1.0 Degree Title Specify the two degrees for concurrent degree programs</p> <p>1.1 <b>B.Sc. Immunology Honours Interdepartmental</b></p> <p>1.2 Concentration (Legacy = Concentration/Option) If applicable (30 char. max.)</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p>1.3 Minor (with Concentration, if applicable) (30 char. max.)</p> <p>1.4 Category</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">Faculty Program (FP)</td> <td style="width: 50%; border: none;">Honours (HON)</td> </tr> <tr> <td style="border: none;">Major</td> <td style="border: none;">Joint Honours</td> </tr> <tr> <td style="border: none;">Joint Major</td> <td style="border: none;">Component (HC)</td> </tr> <tr> <td style="border: none;">Major Concentration (CON)</td> <td style="border: none;">Internship/Co-op</td> </tr> <tr> <td style="border: none;">Minor</td> <td style="border: none;">Thesis (T)</td> </tr> <tr> <td style="border: none;">Minor Concentration (CON)</td> <td style="border: none;">Non-Thesis (N)</td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;">Other</td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;">Please specify</td> </tr> </table> <div style="border: 1px solid black; width: 100%; height: 20px; margin-top: 5px;"></div> <p>1.5 <b>B.Sc. Immunology Honours Interdepartmental</b></p>	Faculty Program (FP)	Honours (HON)	Major	Joint Honours	Joint Major	Component (HC)	Major Concentration (CON)	Internship/Co-op	Minor	Thesis (T)	Minor Concentration (CON)	Non-Thesis (N)		Other		Please specify	<p>2.0 Administering Faculty/Unit</p> <div style="border: 1px solid black; padding: 2px; text-align: center;"><b>Science/Microbiology &amp; Immunology</b></div> <p>Offering Faculty/Department</p> <div style="border: 1px solid black; padding: 2px; text-align: center;">Medicine/Biochemistry, Microbiology &amp; Immunology, Physiology</div> <p>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</p> <p>Term: <div style="border: 1px solid black; padding: 2px; text-align: center;">201209</div></p> <p>4.0 Existing Credit Weight      Proposed Credit Weight</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 2px; text-align: center;">75</div> <div style="border: 1px solid black; padding: 2px; text-align: center;">75</div> </div> <p>5.0 Rationale for revised program</p> <div style="border: 1px solid black; padding: 10px; min-height: 150px;"> <p><b>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."</b></p> <div style="text-align: right; margin-top: 20px;"><input type="checkbox"/></div> </div>
Faculty Program (FP)	Honours (HON)																
Major	Joint Honours																
Joint Major	Component (HC)																
Major Concentration (CON)	Internship/Co-op																
Minor	Thesis (T)																
Minor Concentration (CON)	Non-Thesis (N)																
	Other																
	Please specify																
<p>6.0 Revised Program Description (Maximum 150 words)</p> <div style="border: 1px solid black; padding: 10px; min-height: 250px;"> <div style="display: flex;"> <div style="width: 20px; border-right: 1px solid black; margin-right: 5px;"> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div> <div style="flex-grow: 1;"></div> </div> </div>																	

## 7.0 List of existing program and proposed program

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 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 1

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 205 (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 1

PHGY 210 (3) Mammalian Physiology 2

##### **U2 Complementary Courses**

12 credits chosen as follows:

6 credits selected from:

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

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 212 (4) Introductory Organic Chemistry 1

CHEM 222 (4) Introductory Organic Chemistry 2

MIMM 211\*\*\* (3) Introductory Microbiology

PHGY 209\*\*\* (3) Mammalian Physiology 1

**MIMM 214 (3) Introduction to Immunology: Elements of Immunity**

##### **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 1

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 205 (3) Biology of Organisms

BIOL 304 (3) Evolution

**CHEM 203\*\* (3) Survey of Physical Chemistry**

**CHEM 204\*\* (3) Physical Chemistry/Biological Sciences I**

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 1

PHGY 210 (3) Mammalian Physiology 2

##### **U2 Complementary Courses**

12 credits chosen as follows:

6 credits selected from:

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

Attach extra page(s) as needed

**Attachment 1A – continuation of Section 7.0**

**U2 Complementary Courses (Continued)**

MIMM 386D1\*\* (3) Laboratory in Microbiology and Immunology  
 MIMM 386D2\*\* (3) Laboratory in Microbiology and Immunology  
 PHGY 212\*\*\* (1) Introductory Physiology Laboratory 1  
 PHGY 213\*\*\* (1) Introductory Physiology Laboratory 2  
 plus 6 credits, selected from:  
 \* Students take either BIOL 309 or MATH 315, but not both.  
 ANAT 365 (3) Cellular Trafficking  
 BIOL 300 (3) Molecular Biology of the Gene  
 BIOL 309\* (3) Mathematical Models in Biology  
 BIOL 314 (3) Molecular Biology of Oncogenes  
 CHEM 302 (3) Introductory Organic Chemistry 3  
 MATH 222 (3) Calculus 3  
 MATH 315\* (3) Ordinary Differential Equations  
 MIMM 323 (3) Microbial Physiology  
 MIMM 324 (3) Fundamental Virology  
 PATH 300 (3) Human Disease  
 PHAR 300 (3) Drug Action  
 PHAR 301 (3) Drugs and Disease  
 PHAR 303 (3) Principles of Toxicology  
 PHGY 311 (3) Channels, Synapses & Hormones  
 PHGY 312 (3) Respiratory, Renal, & Cardiovascular Physiology  
 PHGY 313 (3) Blood, Gastrointestinal, & Immune Systems Physiology  
 PHGY 314 (3) Integrative Neuroscience

**U3 Complementary Courses**

9 credits of U3 complementary courses chosen in the following manner:  
 3 credits selected from:  
 BIOC 503 (3) Immunochemistry  
 MIMM 509 (3) Inflammatory Processes  
 PHGY 531 (3) Topics in Applied Immunology  
 plus 6 credits selected from:  
 \* Students take either ANAT 458 or BIOC 458, but not both.  
 ANAT 458\* (3) Membranes and Cellular Signaling  
 BIOC 404 (3) Biophysical Chemistry  
 BIOC 450 (3) Protein Structure and Function  
 BIOC 454 (3) Nucleic Acids  
 BIOC 458\* (3) Membranes and Cellular Signaling  
 BIOC 503 (3) Immunochemistry  
 BIOL 520 (3) Gene Activity in Development  
 MIMM 413 (3) Parasitology  
 MIMM 465 (3) Bacterial Pathogenesis  
 MIMM 466 (3) Viral Pathogenesis  
 MIMM 509 (3) Inflammatory Processes  
 PHAR 503 (3) Drug Design and Development 1  
 PHAR 504 (3) Drug Design and Development 2  
 PHGY 531 (3) Topics in Applied Immunology  
 PHGY 552 (3) Cellular and Molecular Physiology

**U2 Complementary Courses (Continued)**

MIMM 386D1\*\* (3) Laboratory in Microbiology and Immunology  
 MIMM 386D2\*\* (3) Laboratory in Microbiology and Immunology  
 PHGY 212\*\*\* (1) Introductory Physiology Laboratory 1  
 PHGY 213\*\*\* (1) Introductory Physiology Laboratory 2  
 plus 6 credits, selected from:  
 \* Students take either BIOL 309 or MATH 315, but not both.  
 ANAT 365 (3) Cellular Trafficking  
 BIOL 300 (3) Molecular Biology of the Gene  
 BIOL 309\* (3) Mathematical Models in Biology  
 BIOL 314 (3) Molecular Biology of Oncogenes  
 CHEM 302 (3) Introductory Organic Chemistry 3  
 MATH 222 (3) Calculus 3  
 MATH 315\* (3) Ordinary Differential Equations  
 MIMM 323 (3) Microbial Physiology  
 MIMM 324 (3) Fundamental Virology  
 PATH 300 (3) Human Disease  
 PHAR 300 (3) Drug Action  
 PHAR 301 (3) Drugs and Disease  
 PHAR 303 (3) Principles of Toxicology  
 PHGY 311 (3) Channels, Synapses & Hormones  
 PHGY 312 (3) Respiratory, Renal, & Cardiovascular Physiology  
 PHGY 313 (3) Blood, Gastrointestinal, & Immune Systems Physiology  
 PHGY 314 (3) Integrative Neuroscience

**U3 Complementary Courses**

9 credits of U3 complementary courses chosen in the following manner:  
 3 credits selected from:  
 BIOC 503 (3) Immunochemistry  
 MIMM 509 (3) Inflammatory Processes  
 PHGY 531 (3) Topics in Applied Immunology  
 plus 6 credits selected from:  
 \* Students take either ANAT 458 or BIOC 458, but not both.  
 ANAT 458\* (3) Membranes and Cellular Signaling  
 BIOC 404 (3) Biophysical Chemistry  
 BIOC 450 (3) Protein Structure and Function  
 BIOC 454 (3) Nucleic Acids  
 BIOC 458\* (3) Membranes and Cellular Signaling  
 BIOC 503 (3) Immunochemistry  
 BIOL 520 (3) Gene Activity in Development  
 MIMM 413 (3) Parasitology  
 MIMM 465 (3) Bacterial Pathogenesis  
 MIMM 466 (3) Viral Pathogenesis  
 MIMM 509 (3) Inflammatory Processes  
 PHAR 503 (3) Drug Design and Development 1  
 PHAR 504 (3) Drug Design and Development 2  
 PHGY 531 (3) Topics in Applied Immunology  
 PHGY 552 (3) Cellular and Molecular Physiology

8.0 Consultation with  
Related Units

Yes  No

Financial Consult  Yes  No

Attach list of consultations

9. Approvals

Routing Sequence

Name

Signature

Date

Department

Curric/Acad Committee

Faculty 1

Faculty 2

Faculty 3

SCTP

GS

APPC

Senate

Submitted by

Name

To be completed by ARR:

Phone

CIP Code

Email

Submission Date