

Attachment 1A – continuation of Section 7.0

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)

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

(Attachment 1A – p1)

Complementary Courses (27 credits)

U1 Complementary Courses

6 credits chosen for U1 complementary courses in the following manner.

3 credits selected from:

BIOL 373	Biometry	(3)
MATH 203	Principles of Statistics 1	(3)
PSYC 204	Introduction to Psychological Statistics	(3)

plus 3 credits selected from the following:

* Students take CHEM 287 and CHEM 297.

** Students take either PHYG 209 or MIMM 211.

*** Students take either CHEM 203 or CHEM 204.

ANAT 214	Systemic Human Anatomy	(3)
ANAT 262	Introductory Molecular and Cell Biology	(3)
BIOL 202	Basic Genetics	(3)
BIOL 205	Biology of Organisms	(3)
BIOL 304	Evolution	(3)
CHEM 203***	Survey of Physical Chemistry	(3)
CHEM 204***	Physical Chemistry/Biological Sciences 1	(3)
CHEM 287*	Introductory Analytical Chemistry	(2)
CHEM 297*	Introductory Analytical Chemistry Laboratory	(1)
COMP 202	Foundations of Programming	(3)
COMP 250	Introduction to Computer Science	(3)
MATH 204	Principles of Statistics 2	(3)
MIMM 211**	Introductory Microbiology	(3)
MIMM 212	Laboratory in Microbiology	(3)
PHYG 209**	Mammalian Physiology 1	(3)
PHYG 210	Mammalian Physiology 2	(3)

U2 Complementary Courses

12 credits chosen as follows:

6 credits selected from:

Students may select

* BIOC 300D1 and BIOC 300D2 or

** PHYG 212 and PHYG 213 and BIOL 301

BIOC 300D1*	Laboratory in Biochemistry	(3)
BIOC 300D2*	Laboratory in Biochemistry	(3)
BIOL 301**	Cell and Molecular Laboratory	(4)
MIMM 384	Molecular Microbiology Laboratory	(3)
MIMM 385	Laboratory in Immunology	(3)
PHYG 212**	Introductory Physiology Laboratory 1	(1)
PHYG 213**	Introductory Physiology Laboratory 2	(1)

(continued on Attachment 1A – p2)

(Attachment 1A – p1)

Complementary Courses (27 credits)

U1 Complementary Courses

6 credits chosen for U1 complementary courses in the following manner.

3 credits selected from:

BIOL 373	Biometry	(3)
MATH 203	Principles of Statistics 1	(3)
PSYC 204	Introduction to Psychological Statistics	(3)

plus 3 credits selected from the following:

* Students take CHEM 287 and CHEM 297.

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ANAT 262	Introductory Molecular and Cell Biology	(3)
BIOL 202	Basic Genetics	(3)
BIOL 205	Biology of Organisms	(3)
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CHEM 203***	Survey of Physical Chemistry	(3)
CHEM 204***	Physical Chemistry/Biological Sciences 1	(3)
CHEM 287*	Introductory Analytical Chemistry	(2)
CHEM 297*	Introductory Analytical Chemistry Laboratory	(1)
COMP 202	Foundations of Programming	(3)
COMP 250	Introduction to Computer Science	(3)
MATH 204	Principles of Statistics 2	(3)
MIMM 211**	Introductory Microbiology	(3)
MIMM 212	Laboratory in Microbiology	(3)
PHYG 209**	Mammalian Physiology 1	(3)
PHYG 210	Mammalian Physiology 2	(3)

U2 Complementary Courses

12 credits chosen as follows:

6 credits selected from:

Students may select

* BIOC 300D1 and BIOC 300D2, or

** MIMM 384 and MIMM 385, or

***PHYG 212 and PHYG 213 and BIOL 301

BIOC 300D1*	Laboratory in Biochemistry	(3)
BIOC 300D2*	Laboratory in Biochemistry	(3)
BIOL 301***	Cell and Molecular Laboratory	(4)
MIMM 384**	Molecular Microbiology Laboratory	(3)
MIMM 385**	Laboratory in Immunology	(3)
PHYG 212***	Introductory Physiology Laboratory 1	(1)
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(Attachment 1A – p2)

plus 6 credits, selected from:

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

ANAT 365	Cellular Trafficking	(3)
BIOL 300	Molecular Biology of the Gene	(3)
BIOL 309*	Mathematical Models in Biology	(3)
BIOL 314	Molecular Biology of Oncogenes	(3)
CHEM 302	Introductory Organic Chemistry 3	(3)
MATH 222	Calculus 3	(3)
MATH 315*	Ordinary Differential Equations	(3)
MIMM 323	Microbial Physiology	(3)
MIMM 324	Fundamental Virology	(3)
PATH 300	Human Disease	(3)
PHAR 300	Drug Action	(3)
PHAR 301	Drugs and Disease	(3)
PHAR 303	Principles of Toxicology	(3)
PHGY 311	Channels, Synapses & Hormones	(3)
PHGY 312	Respiratory, Renal, & Cardiovascular Physiology	(3)
PHGY 313	Blood, Gastrointestinal, & Immune Systems Physiology	(3)
PHGY 314	Integrative Neuroscience	(3)

U3 Complementary Courses

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

3 credits selected from:

BIOC 503	Immunochemistry	(3)
MIMM 509	Inflammatory Processes	(3)
PHGY 531	Topics in Applied Immunology	(3)

plus 6 credits selected from:

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

ANAT 458*	Membranes and Cellular Signaling	(3)
BIOC 404	Biophysical Chemistry	(3)
BIOC 450	Protein Structure and Function	(3)
BIOC 454	Nucleic Acids	(3)
BIOC 458*	Membranes and Cellular Signaling	(3)
BIOC 503	Immunochemistry	(3)
BIOL 520	Gene Activity in Development	(3)
MIMM 413	Parasitology	(3)
MIMM 465	Bacterial Pathogenesis	(3)
MIMM 466	Viral Pathogenesis	(3)
MIMM 509	Inflammatory Processes	(3)
PHAR 503	Drug Discovery and Development 1	(3)
PHAR 504	Drug Discovery and Development 2	(3)
PHGY 531	Topics in Applied Immunology	(3)
PHGY 552	Cellular and Molecular Physiology	(3)

(Attachment 1A – p2)

plus 6 credits, selected from:

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

ANAT 365	Cellular Trafficking	(3)
BIOL 300	Molecular Biology of the Gene	(3)
BIOL 309*	Mathematical Models in Biology	(3)
BIOL 314	Molecular Biology of Oncogenes	(3)
CHEM 302	Introductory Organic Chemistry 3	(3)
MATH 222	Calculus 3	(3)
MATH 315*	Ordinary Differential Equations	(3)
MIMM 323	Microbial Physiology	(3)
MIMM 324	Fundamental Virology	(3)
PATH 300	Human Disease	(3)
PHAR 300	Drug Action	(3)
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PHGY 312	Respiratory, Renal, & Cardiovascular Physiology	(3)
PHGY 313	Blood, Gastrointestinal, & Immune Systems Physiology	(3)
PHGY 314	Integrative Neuroscience	(3)

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MIMM 509	Inflammatory Processes	(3)
PHGY 531	Topics in Applied Immunology	(3)

plus 6 credits selected from:

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ANAT 458*	Membranes and Cellular Signaling	(3)
BIOC 404	Biophysical Chemistry	(3)
BIOC 450	Protein Structure and Function	(3)
BIOC 454	Nucleic Acids	(3)
BIOC 458*	Membranes and Cellular Signaling	(3)
BIOC 503	Immunochemistry	(3)
BIOL 520	Gene Activity in Development	(3)
MIMM 413	Parasitology	(3)
MIMM 465	Bacterial Pathogenesis	(3)
MIMM 466	Viral Pathogenesis	(3)
MIMM 509	Inflammatory Processes	(3)
PHGY 488	Stem Cell Biology	(3)
PHAR 503	Drug Discovery and Development 1	(3)
PHAR 504	Drug Discovery and Development 2	(3)
PHGY 531	Topics in Applied Immunology	(3)
PHGY 552	Cellular and Molecular Physiology	(3)



1.0 Degree Title Specify the two degrees for concurrent degree programs BSc.	2.0 Administering Faculty/Unit Faculty of Science, Medicine / MIMM																
1.1 Major (Legacy= Subject) (30-char. max.) Honours Immunology (Interdept)	Offering Faculty/Department Science, Medicine – Biochem, MIMM, Physiology,																
1.2 Concentration (Legacy = Concentration/Option) If applicable (30 char. max.)	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: 201509																
1.3 Minor (with Concentration, if applicable) (30 char. max.)	4.0 Existing Credit Weight Proposed Credit Weight 75 75																
1.4 Category <table border="0"> <tr> <td>Faculty Program (FP)</td> <td>X Honours (HON)</td> </tr> <tr> <td>Major</td> <td>Joint Honours</td> </tr> <tr> <td>Joint Major</td> <td>Component (HC)</td> </tr> <tr> <td>Major Concentration (CON)</td> <td>Internship/Co-op</td> </tr> <tr> <td>Minor</td> <td>Thesis (T)</td> </tr> <tr> <td>Minor Concentration (CON)</td> <td>Non-Thesis (N)</td> </tr> <tr> <td></td> <td>Other</td> </tr> <tr> <td></td> <td>Please specify</td> </tr> </table>	Faculty Program (FP)	X 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	5.0 Rationale for revised program By adding "PHGY 488 - Stem Cell Biology - 3 credits" to the list of U3 Complementary Courses, students who take the course will gain a stronger foundation in an area of cell and molecular biology that is playing an increasingly important role in Immunology. The course is being given for the first time in Fall 2014. Also, in order to conform with current practices, the program requirements have been completely reworded. However, the actual requirements remain unchanged. Some minor corrections have also been made.
Faculty Program (FP)	X 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																
1.5 Complete Program Title BSc; Honours Immunology (Interdept)																	
6.0 Revised Program Description (Maximum 150 words) N/A																	

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)

Program Requirements

Students must obtain a U1 GPA or a U2 CGPA of 3.30 for admission to this enrolment-limited program. U1 students should inform one of the program coordinators of their intent to enter the Honours Immunology (Interdepartmental) program during their U1 Winter term and confirm their intention in writing by April 1. U2 or U3 students can apply for admission at any time.

For graduation in the Honours program, the student must complete a minimum of 90 credits, and achieve a CGPA of not less than 3.30. The immunology courses (BIOC 503, MIMM 214, MIMM 314, MIMM 414, MIMM 509, PHGY 419D1/D2, PHGY 513, PHGY 531) must all be passed with a grade not less than B.

Required Courses (48 credits)

U1 Required Courses

20 credits selected as follows:

* Students select either BIOC 212 or BIOL 201.

** Students select either PHGY 209 or MIMM 211.

BIOC 212*	Molecular Mechanisms of Cell Function	(3)
BIOL 200	Molecular Biology	(3)
BIOL 201*	Cell Biology and Metabolism	(3)
CHEM 212	Introductory Organic Chemistry 1	(4)
CHEM 222	Introductory Organic Chemistry 2	(4)
MIMM 211**	Introductory Microbiology	(3)
MIMM 214	Introductory Immunology: Elements of Immunity	(3)
PHGY 209**	Mammalian Physiology 1	(3)

U2 Required Courses

13 credits from the following:

ANAT 261	Introduction to Dynamic Histology	(4)
BIOC 311	Metabolic Biochemistry	(3)
BIOC 312	Biochemistry of Macromolecules	(3)
MIMM 314	Intermediate Immunology	(3)

U3 Required Courses

15 credits from the following:

MIMM 414	Advanced Immunology	(3)
PHGY 419D1	Immunology Research Project	(4.5)
PHGY 419D2	Immunology Research Project	(4.5)
PHGY 513	Cellular Immunology	(3)

(Continued on Attachment 1A – p1)

Attach extra page(s) as needed

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

Program Requirements

The Honours Immunology (Interdept) program, commonly known as IHI (Interdepartmental Honours Immunology), is an interdisciplinary program under the direction of the Department of Microbiology and Immunology and also involves the Departments of Biochemistry and Physiology. It is designed for students interested in laboratory-based research and in acquiring a strong foundation in immunology. The program includes an independent research project course and at least 5 additional immunology courses. It is intended to prepare students for graduate studies in immunology and related biological and biomedical fields. It can also be chosen by students interested in entering medical school or in seeking employment in a research environment.

The application deadline for U1 students is April 1st. Students may apply only after all their Fall grades are known.

To be admitted to the program, students must have completed all U1 Required Courses, obtained a grade of B or higher in MIMM 214, taken at least 27 U1 credits, and obtained a cGPA of at least 3.30. Since enrolment is limited, meeting the minimum eligibility requirements does not guarantee admission.

To graduate from the program students must achieve a cGPA of not less than 3.30. The REQUIRED Immunology courses: MIMM 214, MIMM 314, MIMM 414, PHGY 419D1,2 and PHGY 513 must all be passed with a grade not less than B. One of the following COMPLEMENTARY Immunology courses: BIOC 503, MIMM 509, and PHGY 531 must also be passed with a grade not less than B.

Required Courses (48 credits)

U1 Required Courses

20 credits selected as follows:

* Students select either BIOC 212 or BIOL 201.

** Students select either PHGY 209 or MIMM 211.

BIOC 212*	Molecular Mechanisms of Cell Function	(3)
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13 credits from the following:

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15 credits from the following:

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PHGY 419D1	Immunology Research Project	(4.5)
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PHGY 513	Cellular Immunology	(3)

(Continued on Attachment 1A – p1)

8.0 Consultation with
Related Units

Yes No

Financial Consult Yes No

Attach list of consultations

9. Approvals

Routing Sequence

Name

Signature

Date

Department

JOAQUIN MADREMS

Joaquin

Mar 4/2015

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