

# IMMUNOLOGY, PH.D.

## Degree Requirements

Candidates admitted directly into the Ph.D. program or wishing to transfer from the M.Sc. to the Ph.D. program must pass a thesis proposal defence taken within the first 18 or 16 months, respectively, of their admission into the Department. In addition, the candidacy examination required of all students in the Ph.D. program will be in the form of a research proposal.

**Expected Time to Graduate:** 4 - 5 years

### Progression Chart

#### Students Entering With a Master's Degree in Immunology (9 Credit Hours)

| Course                                                            | Title                                       | Hours    |
|-------------------------------------------------------------------|---------------------------------------------|----------|
| <b>Year 1</b>                                                     |                                             |          |
| GRAD 7300                                                         | Research Integrity Tutorial                 | 0        |
| GRAD 7500                                                         | Academic Integrity Tutorial                 | 0        |
| <b>Hours</b>                                                      |                                             | <b>0</b> |
| <b>Year 2</b>                                                     |                                             |          |
| 6 credit hours of Immunology courses selected from the following: |                                             | 6        |
| IMMU 7030                                                         | Seminars in Immunology                      |          |
| IMMU 7090                                                         | Selected Topics in Immunology               |          |
| IMED 7190                                                         | Medical Immunology                          |          |
| Approved coursework designated 7000 level                         |                                             | 3        |
| Thesis Proposal <sup>1</sup>                                      |                                             |          |
| <b>Hours</b>                                                      |                                             | <b>9</b> |
| <b>Year 3</b>                                                     |                                             |          |
| GRAD 8010                                                         | Doctoral Candidacy Examination <sup>2</sup> | 0        |
| <b>Hours</b>                                                      |                                             | <b>0</b> |
| <b>Year 4</b>                                                     |                                             |          |
| GRAD 8000                                                         | Doctoral Thesis                             | 0        |
| <b>Hours</b>                                                      |                                             | <b>0</b> |
| <b>Total Hours</b>                                                |                                             | <b>9</b> |

<sup>1</sup> The thesis proposal is normally initiated within 18 months of beginning graduate studies in the Department, and must be completed within two years of starting the program.

<sup>2</sup> The Ph.D. candidacy exam is usually initiated within 3 years of beginning Ph.D. studies. The Ph.D. candidacy exam should be completed at least one year prior to expected graduation. The written component of the exam is in the form of a grant proposal to a major funding agency.

#### Notes:

- Course requirements represent minima, and higher requirements may be set by the Department or a student's advisory committee depending on the student's academic background, prior exposure to immunology and the specific course of study undertaken by the student.
- All students are required to attend the weekly Immunology Research Seminar and weekly Immunology Journal Club for the duration of their program (2 hours per week Sept-May), and do a presentation

once per year in each program. A minimum 80% attendance is required.

- Within the first 3 months of the program, advisory committee members should be presented with an outline of the proposed research.

#### Students Entering With a Master's Degree and Without Adequate Background in Immunology (15 Credit Hours)

| Course                                             | Title                                       | Hours     |
|----------------------------------------------------|---------------------------------------------|-----------|
| <b>Year 1</b>                                      |                                             |           |
| GRAD 7300                                          | Research Integrity Tutorial                 | 0         |
| GRAD 7500                                          | Academic Integrity Tutorial                 | 0         |
| IMMU 7070                                          | Introductory Immunology                     | 3         |
| IMMU 7100                                          | Advanced Topics in Immunology               | 3         |
| <b>Hours</b>                                       |                                             | <b>6</b>  |
| <b>Year 2</b>                                      |                                             |           |
| Select at least 3 credit hours from the following: |                                             | 3         |
| IMMU 7040                                          | Immunological Methodology                   |           |
| IMMU 7090                                          | Selected Topics in Immunology               |           |
| IMED 7190                                          | Medical Immunology                          |           |
| Approved coursework designated 7000 level          |                                             | 6         |
| Thesis Proposal <sup>1</sup>                       |                                             |           |
| <b>Hours</b>                                       |                                             | <b>9</b>  |
| <b>Year 3</b>                                      |                                             |           |
| GRAD 8010                                          | Doctoral Candidacy Examination <sup>2</sup> | 0         |
| <b>Hours</b>                                       |                                             | <b>0</b>  |
| <b>Year 4</b>                                      |                                             |           |
| GRAD 8000                                          | Doctoral Thesis                             | 0         |
| <b>Hours</b>                                       |                                             | <b>0</b>  |
| <b>Total Hours</b>                                 |                                             | <b>15</b> |

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<sup>2</sup> The Ph.D. candidacy exam is usually initiated within 3 years of beginning Ph.D. studies. The Ph.D. candidacy exam should be completed at least one year prior to expected graduation. The written component of the exam is in the form of a grant proposal to a major funding agency.

#### Notes:

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- All students are required to attend the weekly Immunology Research Seminar and weekly Immunology Journal Club for the duration of their program (2 hours per week Sept-May), and do a presentation once per year in each program. A minimum 80% attendance is required.
- Within the first 3 months of the program, advisory committee members should be presented with an outline of the proposed research.

### Students Entering Directly From an Honours Bachelor Degree (18 credit hours)

| Course                                             | Title                                       | Hours     |
|----------------------------------------------------|---------------------------------------------|-----------|
| <b>Year 1</b>                                      |                                             |           |
| GRAD 7300                                          | Research Integrity Tutorial                 | 0         |
| GRAD 7500                                          | Academic Integrity Tutorial                 | 0         |
| IMMU 7070                                          | Introductory Immunology                     | 3         |
| IMMU 7100                                          | Advanced Topics in Immunology               | 3         |
| Select at least 3 credit hours from the following: |                                             | 3         |
| IMMU 7040                                          | Immunological Methodology                   |           |
| IMMU 7090                                          | Selected Topics in Immunology               |           |
| IMED 7190                                          | Medical Immunology                          |           |
| <b>Hours</b>                                       |                                             | <b>9</b>  |
| <b>Year 2</b>                                      |                                             |           |
| Approved coursework designated 7000 level          |                                             | 9         |
| Thesis Proposal <sup>1</sup>                       |                                             |           |
| <b>Hours</b>                                       |                                             | <b>9</b>  |
| <b>Year 3</b>                                      |                                             |           |
| GRAD 8010                                          | Doctoral Candidacy Examination <sup>2</sup> | 0         |
| <b>Hours</b>                                       |                                             | <b>0</b>  |
| <b>Year 4</b>                                      |                                             |           |
| GRAD 8000                                          | Doctoral Thesis                             | 0         |
| <b>Hours</b>                                       |                                             | <b>0</b>  |
| <b>Total Hours</b>                                 |                                             | <b>18</b> |

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#### Notes:

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### Transfer from the Immunology Master's Program to the Ph.D. Program

#### Students Who Hold a B.Sc. at Initial Admission to the Immunology Master's Program

| Course        | Title                       | Hours |
|---------------|-----------------------------|-------|
| <b>Year 1</b> |                             |       |
| GRAD 7300     | Research Integrity Tutorial | 0     |

|                                                                                |                                             |           |
|--------------------------------------------------------------------------------|---------------------------------------------|-----------|
| GRAD 7500                                                                      | Academic Integrity Tutorial                 | 0         |
| Students must complete a total of 18 credit hours of courses at the 7000 level |                                             | 18        |
| <b>Hours</b>                                                                   |                                             | <b>18</b> |
| <b>Year 2</b>                                                                  |                                             |           |
| Thesis Proposal <sup>1</sup>                                                   |                                             |           |
| <b>Hours</b>                                                                   |                                             | <b>0</b>  |
| <b>Year 3</b>                                                                  |                                             |           |
| GRAD 8010                                                                      | Doctoral Candidacy Examination <sup>2</sup> | 0         |
| <b>Hours</b>                                                                   |                                             | <b>0</b>  |
| <b>Year 4</b>                                                                  |                                             |           |
| GRAD 8000                                                                      | Doctoral Thesis                             | 0         |
| <b>Hours</b>                                                                   |                                             | <b>0</b>  |
| <b>Total Hours</b>                                                             |                                             | <b>18</b> |

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### Students Who Hold a Master's Degree With a Non-Immunology Background at Initial Admission to the Immunology Master's Program

| Course                                                                         | Title                                       | Hours     |
|--------------------------------------------------------------------------------|---------------------------------------------|-----------|
| <b>Year 1</b>                                                                  |                                             |           |
| GRAD 7300                                                                      | Research Integrity Tutorial                 | 0         |
| GRAD 7500                                                                      | Academic Integrity Tutorial                 | 0         |
| Students must complete a total of 15 credit hours of courses at the 7000 level |                                             | 15        |
| <b>Hours</b>                                                                   |                                             | <b>15</b> |
| <b>Year 2</b>                                                                  |                                             |           |
| Thesis Proposal <sup>1</sup>                                                   |                                             |           |
| <b>Hours</b>                                                                   |                                             | <b>0</b>  |
| <b>Year 3</b>                                                                  |                                             |           |
| GRAD 8010                                                                      | Doctoral Candidacy Examination <sup>2</sup> | 0         |
| <b>Hours</b>                                                                   |                                             | <b>0</b>  |

**Year 4**

|                    |                 |           |
|--------------------|-----------------|-----------|
| GRAD 8000          | Doctoral Thesis | 0         |
| <b>Hours</b>       |                 | <b>0</b>  |
| <b>Total Hours</b> |                 | <b>15</b> |

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<sup>2</sup> The Ph.D. candidacy exam is usually initiated within 3 years of beginning Ph.D. studies. The Ph.D. candidacy exam should be completed at least one year prior to expected graduation. The written component of the exam is in the form of a grant proposal to a major funding agency.

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- Within the first 3 months of the program, advisory committee members should be presented with an outline of the proposed research.