

# IM - IMMUNOLOGY AND MICROBIOLOGY

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## IM 7010 Fundamentals of Immunology Cr. 2

Basic concepts and current developments in immunology, including cellular and molecular aspects, regulation, and immunopathological mechanisms. Offered Winter.

**Prerequisite:** BMB 7010, with a minimum grade of C

**Restriction(s):** Enrollment is limited to Graduate level students.

## IM 7020 Fundamentals of Microbiology Cr. 2

Basic aspects of bacteriology, genetics and mycology. Offered Fall.

**Prerequisite:** CHM 2260, with a minimum grade of C- ; BIO 2200, with a minimum grade of C-

**Restriction(s):** Enrollment is limited to Graduate level students.

## IM 7030 Molecular Biology of Viruses Cr. 2

Basic principles of virology including virus host interactions and the molecular biology of virus multiplication and genetics. Offered Winter.

**Restriction(s):** Enrollment is limited to Graduate level students.

## IM 7040 Fundamentals of Research Cr. 2

Lecture/discussion of practical aspects of professional scientific research. Offered Fall.

**Restriction(s):** Enrollment is limited to Graduate or Medical level students; enrollment limited to students in the School of Medicine.

## IM 7060 Laboratory Research Cr. 2

Preparation for doing Master's thesis research in a laboratory. Students complete 3-4 week rotations in three different research laboratories prior to choosing a thesis research lab. Offered Fall.

**Prerequisite:** IM 7040, with a minimum grade of C

**Restriction(s):** Enrollment is limited to students with a major in Immunology and Microbiology; enrollment is limited to Graduate or Medical level students; enrollment limited to students in a Master of Science degree; enrollment limited to students in the School of Medicine.

## IM 7410 Cancer Immunology and Immunotherapy Cr. 3

Cancer immunotherapy based on the molecular mechanisms of T cell development, tolerance and activation. Topics include T cell receptor and co-stimulatory signal-mediated regulation of T cell activation, transcriptional regulation of T cell differentiation, T cell effector function and regulatory mechanisms. Each week will consist of a one-hour lecture and a two-hour discussion for 11 weeks. Offered Yearly.

**Prerequisite:** IBS 7090,

**Restriction(s):** Enrollment is limited to Graduate level students.

**Equivalent:** CB 7410

## IM 7450 Current Trends in Immunology, Microbiology and Virology Cr. 1-5

Lectures and discussions on current literature and research problems. Offered Irregularly.

**Restriction(s):** Enrollment is limited to Graduate level students.

## IM 7520 Molecular Mechanisms of Bacterial Pathogenesis Cr. 2

The roles of bacterial virulence factors such as tissue colonization, invasion, and exotoxins in pathogenesis. The genetic regulation of bacterial virulence factors will be discussed. Offered Winter.

**Restriction(s):** Enrollment is limited to Graduate level students.

## IM 7850 Research Conferences in Immunology and Microbiology Cr. 1-5

Seminars and discussions in selected areas. Offered Every Term.

**Restriction(s):** Enrollment is limited to students with a major in Immunology and Microbiology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy or Master of Science degrees.

**Repeatable for 20 Credits**

## IM 7890 Seminar Cr. 1

Offered Every Term.

**Restriction(s):** Enrollment is limited to students with a major in Immunology and Microbiology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy or Master of Science degrees.

## IM 7996 Research Cr. 1-8

Offered Every Term.

**Restriction(s):** Enrollment is limited to students with a major in Immunology and Microbiology; enrollment is limited to Graduate level students.

**Repeatable for 25 Credits**

## IM 8999 Master's Thesis Research and Direction Cr. 1-8

Offered Every Term.

**Restriction(s):** Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

**Repeatable for 8 Credits**

## IM 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

**Restriction(s):** Enrollment is limited to Graduate level students.

**Repeatable for 12 Credits**

## IM 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5

Offered Every Term.

**Restriction(s):** Enrollment is limited to Graduate level students.

## IM 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5

Offered Every Term.

**Prerequisite:** IM 9991, with a minimum grade of S

**Restriction(s):** Enrollment is limited to Graduate level students.

## IM 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5

Offered Every Term.

**Prerequisite:** IM 9992, with a minimum grade of S

**Restriction(s):** Enrollment is limited to Graduate level students.

## IM 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5

Offered Every Term.

**Prerequisite:** IM 9993, with a minimum grade of S

**Restriction(s):** Enrollment is limited to Graduate level students.

## IM 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0

Offered Every Term.

**Restriction(s):** Enrollment is limited to Graduate level students.

**Repeatable for 0 Credits**