

LIFS4060

Time: Mon.: 13:30 – 14:50 PM

Fri.: 9 – 10:20 AM

Venus: Room 2502 (Lift 25)

Instructor: Zilong WEN

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Course Description:

The **Immunobiology LIFS4060** is a course designed for advanced undergraduate students and graduate students. It aims to introduce to students the fundamental knowledge and mechanisms of Immunology. The key topics include the effectors of innate and adaptive immunity, principles of innate and adaptive immune response, development and activation of B and T lymphocytes, immune diversity, immune tolerance, autoimmunity, infectious diseases, and organ transplantation, etc.

Course Objectives:

On successful completion of this course, students are expected to be able to:

1. Explain the basic concepts of the immune system.
2. Recall and design experiments demonstrating the basic concepts and principles of immune cell development, immune diversity and immune response.
3. Critically evaluate the relevance of the immune system to social and daily life.
4. Appraise the relevance of biomedical science in preparing for advanced study in life sciences.

Course Schedule:

Date	Topic	Book (Kuby) Chapter
2 Feb	Overview and Cells and Organs of the Immune System I	1
6 Feb	Cells and Organs of the Immune System II	2
9 Feb	Innate Immunity: Complement System and Phagocytosis I	5
12 Feb	Innate Immunity: Complement System and Phagocytosis II	5
23 Feb	Antigen and Antibody Structure	13, 20
26 Feb	Antigen and Antibody Structure	13, 20
2 Mar	Immune Diversity: Organization and Expression of	3, 7, 10
5 Mar	Immune Diversity: Organization and Expression of	3, 7, 10
9 Mar	Generation, Activation, and Differentiation of B Cells I	10, 12
12 Mar	Generation, Activation, and Differentiation of B Cells II	10, 12
16 Mar	Tutorial	
19 Mar	Mid-term Exam: 13:30-15:00PM; Room 2502	
23 Mar	Major Histocompatibility Complex and Antigen	8
26 Mar	Major Histocompatibility Complex and Antigen	8
6 Apr	T Cell Receptors	3, 7
9 Apr	T Cell Maturation and Tolerance I	7, 9
13 Apr	T Cell Maturation and Tolerance II	7, 9
16 Apr	T Cell Differentiation and Activation	11
20 Apr	Cytokine, Leukocyte Activation and Migration I	4, 14
23 Apr	Cytokine, Leukocyte Activation and Migration II	4, 14
27 Apr	Allergy, Hypersensitivities, and Chronic Inflammation	15
30 Apr	Tolerance, Autoimmunity, and Transplantation	16
4 May	Infectious Diseases and Immunodeficiency Disorders	17, 18
	Final Exam: to be confirmed	

Course Assessment

- a. Quiz: open-book exam, 8%
- b. Midterm Exam: closed-book exam, 42-44%
- c. Final Exam: closed-book exam, 48-50%

Text Books

1. Kuby Immunology 7th Edition by Owen, Punt & Stranford, Macmillan Education
2. Kuby Immunology 6th Edition by Kindt, Goldsby, and Osborne, Macmillan Education