

# LIFS4060

Time: Mon.: 13:30 – 14:50 PM

Fri.: 9:00 – 10:20 AM

Venue: Online via Zoom

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
5 Feb	Cells and Organs of the Immune System I	1
8 Feb	Cells and Organs of the Immune System II	2
19 Feb	Innate Immunity: Complement System & Phagocytosis I	5
22 Feb	Innate Immunity: Complement System & Phagocytosis II	5
26 Feb	Antigen and Antibody Structure	13, 20
1 Mar	Antigen and Antibody Structure	13, 20
5 Mar	Immune Diversity: Organization & Expression of Antibody I	3, 7, 10
8 Mar	Immune Diversity: Organization & Expression of Antibody II	3, 7, 10
12 Mar	Generation, Activation, & Differentiation of B Cells I	10, 12
15 Mar	Generation, Activation, and Differentiation of B Cells II	10, 12
19 Mar	Tutorial	
22 Mar	<b>Mid-term Exam: 13:30-15:00PM</b>	
26 Mar	Major Histocompatibility Complex & Antigen Presentation I	8
29 Mar	Major Histocompatibility Complex & Antigen Presentation II	8
9 Apr	T Cell Receptors	3, 7
12 Apr	T Cell Maturation & Tolerance I	7, 9
16 Apr	T Cell Maturation & Tolerance II	7, 9
19 Apr	T Cell Differentiation & Activation	11
23 Apr	Cytokine, Leukocyte Activation & Migration I	4, 14
26 Apr	Cytokine, Leukocyte Activation & Migration II	4, 14
30 Apr	Allergy, Hypersensitivities, & Chronic Inflammation	15
3 May	Tolerance, Autoimmunity, & Transplantation	16
7 May	Infectious Diseases & Immunodeficiency Disorders	17, 18
	<b>Final Exam: to be announced</b>	

## **Course Assessment**

- a. Midterm exam: closed-book exam, 44%
- b. Final exam: closed-book exam, 56%

## **Text Books**

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