

## BIO 553 Advanced Topics in Immunology

(Spring, 2026)

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<https://wuhiblab.wixsite.com/wulab>

*Text book: **Cellular and Molecular Immunology**  
By Abul K. Abbas and Andrew H. Lichtman, 6 or 7<sup>th</sup> edition*

**Tuesday, 1:30 pm – 4:10 pm. K. Johnson Hall 256 / Online hybrid**

*(Important dates: Spring break: **March 10**; Reading days: **May 5**; Exam: **May 12**)*

**Jan. 20:**

- **Introduction to Dr. Wu has his research in HIV Immunology (In Person).**

**Jan. 27 :**

- **Basics of Flow-cytometry**

**I. Introduction to Immunology:**

- 1). General properties of immune response
- 2). Cells and tissues of the immune system

**Feb. 3:**

**I. Recognition of Antigens:**

1). **Antibodies and Antigens**

2). **The major histocompatibility complex**

**Feb. 10:**

**II. Recognition of Antigens:**

3). **Antigen presentation**

4). **Antigen receptors and accessory molecules**

**Feb. 17:**

**III. Maturation, activation of regulation of lymphocytes**

1). **Lymphocytes maturation**

**Fe.24**

**III. Maturation, activation and regulation of lymphocytes**

1). **T cell activation**

**March 3:**

**III. Maturation, activation of regulation of lymphocytes**

2). **B cell activation**

**March 10: (No Class, Spring Break)**

**March 17:**

**III. Maturation, activation of regulation of lymphocytes**

3). **Immunologic Tolerance**

**March 24:**

**IV. Effector Mechanism of Immune Response**

- 1). Cytokines
- 2). Innate Immunity

March 31:

- IV. Effector Mechanism of Immune Response
- 3). Cell mediated Immunity

April 7:

- IV. Effector Mechanism of Immune Response
- 4). Humoral Immunity

April 14:

- V. Immune system in Disease
- 1) Immunity to Tumors

April 21:

- V. Immune system in Disease
- 2) Hypersensitivity and autoimmunity and transplantation immunology
- 3) Acquired immunodeficiencies

April 28:

Class Review (In person)

May 5

Reading Day (no class)

May 12

Final Exam (In person)

Grading:

Paper Presentation (20%)

\*Class participation (31%)

Final Exam: multiple choice and short questions (49%)

Bonus for class activity: 5%

\*Class participation (7%+ 24% = 31%)

- For each class attendance: 0.5%. Total: 14 classes x 0.5% = 7%

(Grade will be deducted for missing class (0.5% reduction), late (0.1% deduction) and half class (0.25% deduction))

- Activity in class: 2% for each class. Total: 12 classes x 2% = 24%

(excluding the first two class. Each student is required to ask at least 2 questions to the presenter to earn 2%. If good questions are asked, a bonus 0.5% will be awarded)

A+: 96-100%

A : 90-95%

A-: 85-89%

B+: 80-84%

B: 75-79%

B-: 70-74%

C+: 65-69%

C: 60-64%

D-: 50-59%

F: < 50