

## BIO 553 Advanced Topics in Immunology

(Spring, 2025)

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<https://wuhivlab.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 246 / Online hybrid**

(Important dates: Spring break: **March 11**; Reading days: **May 6**; Exam: **May 13**)

Jan. 21:

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

Jan. 28 :

- Basics of Flow-cytometry
- I. Introduction to Immunology:
  - 1). General properties of Immune response
  - 2). Cells and tissues of the immune system

Feb. 4:

- I. Recognition of Antigens:
  - 1). Antibodies and Antigens
  - 2). The major histocompatibility complex

Feb. 11:

- II. Recognition of Antigens:
  - 3). Antigen presentation
  - 4). Antigen receptors and accessory molecules

Feb. 18:

- III. Maturation, activation of regulation of lymphocytes
  - 1). Lymphocytes maturation

Feb. 25

- III. Maturation, activation and regulation of lymphocytes
  - 1). T cell activation

March 4:

- III. Maturation, activation of regulation of lymphocytes
  - 2). B cell activation

**March 11h: (No Class, Spring Break)**

March 18:

- III. Maturation, activation of regulation of lymphocytes
  - 3). Immunologic Tolerance

March 25:

- IV. Effector Mechanism of Immune Response

- 1). Cytokines
- 2). Innate Immunity

April 1:

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

April 8:

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

April 15:

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

April 22:

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

April 29:

**Class Review (In person)**

May 6

**Reading Day (no class)**

**May 13**

**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