

BIO 553 Advanced Topics in Immunology

(Spring, 2022)

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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 7th edition

Tuesday, 1:30 pm – 4:10 pm. K. Johnson Hall 258 / Online hybrid

(Important dates: Spring break: **March 15**; Reading days: **May 10**; Exam: **May 17**)

January 25:

- Introduction to Dr. Wu has his research in HIV Immunology.

February 1st :

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

February 8th:

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

February 15th:

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

February 22th:

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

March 1st:

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

March 8th:

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

March 15th: (No Class, Spring Break)

March 22th:

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

March 29th:

- IV. Effector Mechanism of Immune Response

- 1). Cytokines
- 2). Innate Immunity

April 5th:

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

April 12th:

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

April 19th:

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

April 26th:

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

May 3th:

Class Review

May 10th

Reading Day (no class)

May 17th

Final Exam

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+: 98-100%

A : 94-97%

A-: 90-93%

B+: 87-89%

B: 83-86%

B-: 80-82%

C+ 77-79%

C: 70-76%

D-: 60-69%

F: < 60%