



Course Syllabus: Immunology
College of Science, Mathematics, and Engineering
BIOL 4023
Spring 2025

Contact Information

Instructor: Dr. Bob Brennan Office: Pierce Hall, Room 100 Office hours: Monday and Friday, 9:00-11:00 or by appointment Office Phone: (940) 397-4198 E-mail: robert.brennan@msutexas.edu

Course Description

This course presents fundamentals of cellular and molecular immunology. The course material examines structure, function and genetics of the immune system; regulation of humoral and cell-mediated responses; and the role of the immune system in human disease

Textbook & Instructional Materials

Cellular and Molecular Immunology, 9th Ed. Abbas, Lichtman, and Pillai (Recommended)

Student Learning Objectives:

Upon successful completion of Immunology, students should be able to:

- Discuss basic immunology principles
- Describe the interactions between host and pathogens
- Describe and discuss the various organs and cells of the immune system
- Compare and contrast innate and adaptive immune mechanisms
- Discuss various immune system abnormalities
- Discuss genetic disorders that predispose some people to a given immunodeficiency
- Recognize and explain the role that vaccines have played in increasing the average lifespan of humans.
- Analyze infectious disease agents and propose plausible vaccine development strategies.

Student Handbook

Refer to: [Student Handbook](#)

Academic Misconduct Policy & Procedures

Academic Dishonesty: Cheating, collusion, and plagiarism (the act of using source material of other persons, either published or unpublished, without following the accepted techniques of crediting, or the submission for credit of work, not the individual to whom credit is given). Additional guidelines on procedures in these matters may be found in the Office of Student Conduct. [Office of Student Conduct](#)

Moffett Library

Moffett Library provides resources and services to support student's studies and assignments, including books, peer-reviewed journals, databases, and multimedia materials accessible both on campus and remotely. The library offers media equipment checkout, reservable study rooms, and research assistance from librarians to help students effectively find, evaluate, and use information. Get started on this [Moffett Library webpage](#) to explore these resources and learn how to best utilize the library.

Grading

Achievement in this course will be based on an absolute grading system, which will be determined by dividing the total number of points earned during the semester by the total number of points possible during the semester.

Table 1: Points allocated to each assignment

| Assignments | Points |
|---------------------------------------|--------|
| 4 Lecture Exams (100 pts each) | 400 |
| 10 Homework Assignments (10 pts each) | 100 |
| Final Exam (Optional) | 100 |
| Total Points | 500 |

Table 2: Total points for final grade.

| Grade | Points |
|-------|---------------|
| A | 450 |
| B | 400 to 449 |
| C | 350 to 399 |
| D | 300 to 349 |
| F | Less than 300 |

Exams

Lecture exams may consist of multiple choice, true/false, matching, fill-in-the-blank, short answer, and/or essay. **Missing an Exam:** There will be no early exams or make-up exams given. Students are expected to take exams on the published administration dates. **If you miss an exam for any reason,** your score for the comprehensive final exam will be used to replace the zero earned on the missed exam. This is a generous policy that allows students to recover

from a missed exam for any unexpected personal or university sponsored absences.

Final Exam

IS CUMULATIVE AND OPTIONAL. THERE ARE NO MAKEUP EXAMS FOR THE FINAL. Using the Final Exam to Improve Your Grade:

In all cases, when it helps a student, the score for the comprehensive final exam will be substituted for a lowest exam score, even if the student took all the exams. This rewards improvement and mastery of comprehensive material.

Extra Credit

There will be opportunities to earn up to 10 extra credit points during the semester. They will come in the form a question at the beginning of random class periods. These questions will relate to the concepts covered in the previous one to two class periods.

Late Work

10 percentage points will be deducted for every day homework assignments are late.

Important Dates

Last day for term schedule changes: Change of schedule and late registration January 24. Deadline to file for graduation: February 17 Last Day to drop with a grade of "W:" April 30

Desire-to-Learn (D2L)

Use of the MSU D2L program is a part of this course. Each student is expected to be familiar with this program as it provides a primary source of communication regarding assignments, examination materials, and general course information. You can log into [D2L](#) through the MSU Homepage. If you experience difficulties, please contact the technicians listed for the program or contact your instructor.

Attendance

Students are expected to attend all meetings of the classes in which they are enrolled. Although students are graded on intellectual effort and performance rather than attendance, chronic absenteeism has historically negatively impacted achievement in this course. A student with excessive absences may be dropped from a course by the instructor. Prior notice will be given to the student if this situation should arise.

Instructor Class Policies

Students are expected to participate actively in class activities. Students will show respect for the instructor and each other. The use of profanity and/or derogatory language will not be tolerated. Profane or derogatory language will result in the student being asked to leave the room. Cell phones must be turned off or set to vibrate during class.

Change of Schedule

A student dropping a course (but not withdrawing from the University) within the first 12 class days of a regular semester or the first four class days of a summer semester is eligible for a 100% refund of applicable tuition and fees. Dates are published in the Schedule of Classes each semester.

Refund and Repayment Policy

A student who withdraws or is administratively withdrawn from Midwestern State University (MSU) may be eligible to receive a refund for all or a portion of the tuition, fees, and room/board charges that were paid to MSU for the semester. However, if the student received financial aid (federal/state/institutional grants, loans, and/or scholarships), all or a portion of the refund may be returned to the financial aid programs. As described below, two formulas (federal and state) exist in determining the amount of the refund. (Examples of each refund calculation will be made available upon request).

Services for Students with Disabilities

In accordance with Section 504 of the Federal Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, Midwestern State University endeavors to make reasonable accommodations to ensure equal opportunity for qualified persons with disabilities to participate in all educational, social, and recreational programs and activities. After notification of acceptance, students requiring accommodations should make an application for such assistance through Disability Support Services, located in the **Clark Student Center, Room 168, (940) 397-4140**. Current documentation of a disability will be required in order to provide appropriate services, and each request will be individually reviewed. For more details, please go to [Disability Support Services](#).

Weather Closures

In the event that campus is closed due to weather on a date when an exam is scheduled or a homework assignment is due, the exam date or homework assignment due date will shift to the next class period when campus is back open for classes.

AI policy

This policy specifically addresses the unauthorized use of artificial intelligence (AI) tools or technologies to gain an unfair advantage in academic activities. The unauthorized use of AI refers to employing AI tools and technologies without proper authorization with the intention to gain an unfair advantage in academic activities. This includes, but is not limited to, the following actions:

a) Using AI to generate or complete assignments, projects, or assessments without disclosing the use of AI or without instructor permission. b) Utilizing AI chatbots or virtual assistants to seek answers or assistance during exams, tests, quizzes, or other assignments where that has not been explicitly allowed. c) Manipulating AI systems or algorithms to bypass security measures, access unauthorized information, or compromise the integrity of academic assessments.

d) Sharing or distributing AI-generated content as one's own work without proper acknowledgement or attribution.

College Policies

Campus Carry Rules/Policies

Refer to: [Campus Carry Rules and Policies](#)

Smoking/Tobacco Policy

College policy strictly prohibits the use of tobacco products in any building owned or operated by WATC. Adult students may smoke only in the outside designated smoking areas at each location.

Alcohol and Drug Policy

To comply with the Drug-Free Schools and Communities Act of 1989 and subsequent amendments, students and employees of Midwestern State are informed that strictly enforced policies are in place which prohibit the unlawful possession, use, or distribution of any illicit drugs, including alcohol, on university property or as part of any university-sponsored activity. Students and employees are also subject to all applicable legal sanctions under local, state, and federal law for any offenses involving illicit drugs on University property or at University-sponsored activities.

Campus Carry

Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. The new Constitutional Carry law does not change this process. Concealed carry still requires a License-to-carry permit, and openly carrying handguns is not allowed on college campuses. For more information, visit [Campus Carry](#).

Active Shooter

The safety and security of our campus is the responsibility of everyone in our community. Each of us has an obligation to be prepared to appropriately respond to threats to our campus, such as an active aggressor. Please review the information provided by the MSU Police Department regarding the options and strategies we can all use to stay safe during difficult situations. For more information, visit [MSUReady – Active Shooter](#). Students are encouraged to watch the video entitled “*Run. Hide. Fight.*” which may be electronically accessed via the University police department’s webpage: [“Run. Hide. Fight.”](#)

Grade Appeal Process

Update as needed. Students who wish to appeal a grade should consult the Midwestern State University [MSU Catalog](#)

Course Schedule:

***Notice:** Changes in the course syllabus, procedure, assignments, and schedule may be made at the discretion of the instructor.

| Week or Module | Activities/Assignments/Exams | Due Date |
|-----------------------------|--|--|
| Week 1 Jan. 22 | Overview of the Immune System (Chapters 1-3) | |
| Week 2 Jan. 27 & 29 | Overview of the Immune System (Chapters 1-3) | Worksheet #1 due; Wednesday, Jan. 29 |
| Week 3 Feb. 3 & 5 | Principles of Innate and Adaptive Immunity (Chapters 1 & 4) | Worksheet #2 due; Wednesday, Feb. 5 |
| Week 4 Feb. 10 & 12 | Principles of Innate and Adaptive Immunity (Chapters 1 & 4) | Exam #1, Wednesday, Feb. 12 |
| Week 5 Feb. 17 & 19 | Antigens and Antibodies (Chapter 5) | |
| Week 6 Feb. 24 & 26 | Antigen processing and presentation (Chapter 6) | Worksheet #3 due; Monday, Feb. 24 |
| Week 7 Mar. 3 & 5 | B and T-cell development and activation (Chapters 8-12) | Worksheet #4 due; Monday Mar. 5 |
| Mar. 10 & 12 | Spring break – No class | |
| Week 8 Mar. 17 & 19 | B and T-cell development and activation (Chapters 8-12) | Exam #2, Wednesday, Mar. 19; Worksheet #5 due; Monday Mar. 17 |
| Week 9 Mar. 24 & 26 | Immunity to microbes (Chapter 16) | |
| Week 10 Mar. 31 & Apr. 2 | Vaccines (Chapter 16) | Worksheet #6 due; Monday Mar. 31 |
| Week 11 Apr. 7 & 9 | Tumor immunology (Chapter 18) | Worksheet #7 due; Monday Apr. 7 |
| Week 12 Apr. 14 & 16 | Hypersensitivity disorders (Chapters 19 & 20) | Exam #3, Monday, Apr. 14 |
| Week 13 Apr. 21 & 23 | Hypersensitivity disorders (Chapt 19 & 20) Autoimmunity (Chapter 15) | Worksheet #8 due; Monday, April 21 |
| Week 14 Apr. 28 & 30 | Autoimmunity (Chapter 15) Immunodeficiencies (Chapter 21) | Worksheet #9 due; Monday, Apr. 28 |
| Week 15 May 5 & 7 | Immunodeficiencies (Chapter 21) | Exam #4, Wednesday May 7; Worksheet #10 due; Monday, May 5 |
| Week 16 May 14 | Final Exam | Wednesday May 14 5:45 |