



## BSC 520.01W -Advanced Immunology

Spring 2024  
Texas A&M University at Commerce  
Online Course

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Please e-mail me if you have a question. I will try to respond within 24 hours, except for weekends and holidays.

**Office Hours:** Wednesdays 3:30-4:30 PM, Thursdays 11:30-12:30 PM or by appointment. I enjoy teaching and talking with you. If you have questions, drop by my office or join the Zoom session (link below) during office hours. If the time does not work for you, feel free to email me, and we can set up a time that does.

**Office Hour Zoom link:**

<https://tamuc.zoom.us/j/7032367457?pwd=RkFQZmtkcm90emNnUGNDL0E0Sjg0UT09>

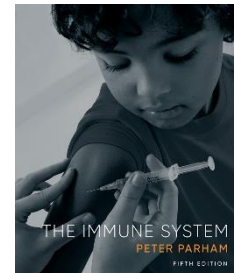
Meeting ID: 703 236 7457

Passcode: OH

### Course Summary

**Textbook(s) Required:** *The Immune System* 5<sup>th</sup> Edition, Peter Parham, ISBN-13: 978-0393533354, eBook- 978-0393533347

This book is available for purchase or rental at the TAMUC bookstore and can be bought or rented from various local and online retailers.



**Course Description:**

This course is designed for graduate students with a thorough background in biology and cell biology. Therefore, this course provides students with a review of basic immunological principles and the generation of immune responses. Emphasis will be placed on human physiology and the cooperative interplay between innate and acquired immunity. An in-depth

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view of the immune system will be sought in the context of immune effector mechanisms as well as the immune system in health and disease. Principles and applications of antibody-antigen interactions will also be discussed. Students are expected to learn the principles and concepts of immunology both at the molecular and cellular levels, to learn to reason scientifically, and to understand and describe the function of immune systems in the human body. Prerequisites: An undergraduate degree in Biology or related discipline or permission from instructor.

### **Course Student Learning Objectives (SLO):**

Upon completion of this course, you should be able to:

1. Explain how the innate and adaptive immune responses coordinate to fight invading pathogens.
2. Compare and contrast humoral versus cell-mediated immune responses.
3. Understand the role of cytokines in immunity and immune cell activation; and be able to identify and characterize cytokines of particular immune importance
4. Identify immunomodulatory strategies, either to strengthen it against diseases or to reduce its activity in cases such as allergic reactions, organ transplants, or autoimmune conditions.
5. Articulate the ramifications of immunodeficiency with particular emphasis on acquired immunodeficiency.

### **Course Requirements**

#### **Minimal Technical Skills Needed:**

Standard skills necessary to use web browsers to access course materials are required. Students should also be able to submit their work as required. Students should be able to use Microsoft Word and PowerPoint.

#### **Instructional Methods:**

This is a fully online course. All course materials will be posted in D2L. I will post announcements on the course's home page or send email notifications.

#### **Student Responsibilities or Tips for Success in the Course**

- ✓ **Checking both D2L and emails for course-related announcements.**
- ✓ Dedicated time to learn course materials.  
Lecture videos will be uploaded each week. It is important to watch the videos and complete the assigned reading each week.
- ✓ Have the required technology (a computer, a secure and reliable internet connection, and other requirements detailed in this syllabus – please read the “Technology Requirements” section.
- ✓ **Take exams within the specified time.**
- ✓ **Submitting the assignment before deadlines.**

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- ✓ If special accommodation needs to be made, notify the instructor in advance.

### Assessments:

There will be 4 types of assessments that will contribute to the grade. These are:

- ✓ Quiz 1~4: 20 % (5% each)
- ✓ Exam 1~3: 45 % (15% each)
- ✓ Final Exam: 20 % Cumulative
- ✓ Assignment: 15 %

Exams and Quizzes consist of multiple-choice and short-answer questions. Questions are drawn from the same test pool. Therefore, some questions may be repeated. Students are expected to ensure they have the necessary device and a reliable connection.

Final grades in this course will be based on the following scale:

A = 90%-100%

B = 80%-89%

C = 70%-79%

D = 60%-69%

F = 59% or Below

### Important information:

- 1. It is the student's responsibility to check emails and D2L for exam dates and, homework/ assignment postings & deadlines.**
2. There will not be additional points or extra credits. A student's grade will come from the points they earn in the listed assessments.
3. Exams and Quizzes: open-book and open notes
  - (a) You will have one to two minutes to answer each question.
  - (b) Please read the instructions, if any, carefully before beginning the exam.
  - (c) Exams and Quizzes are usually held on Fridays and Saturdays. Students can take the tests online during this 48-hour time window. The schedule is subject to change.
  - (d) No requests to open the exams earlier will be accepted.
  - (e) Make-up exam requests must accompany supporting documents (e.g., a doctor's note). The reasons for not taking an exam within the designated time should be acceptable, as outlined in your student handbook.
  - (f) Failure to take the exams within the designated time will result in ZERO credit.
4. The assignment should be submitted before the deadline. The assignment will be checked for plagiarism.

Assessment	Time/Due dates	Percentage of the final grade
Quiz 1	Feb 9-10	5 %
Exam 1	Feb 23-24	15 %

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Quiz 2	Mar 8-9	5 %
Quiz 3	Mar 29-30	5 %
Exam 2	Apr 5-6	15 %
Quiz 4	Apr 19-20	5 %
Exam 3	Apr 26-27	15 % (final exam may replace the lowest grade)
Assignment	Due May 6	15 %
Final Exam	May 10-11	20 % (cumulative)

### COURSE OUTLINE / CALENDAR

Week	Lectures	Textbook
1 1/10	Intro to Immunology	Chapter 1
2 1/15	Immune System	Chapter 1
3 1/22	Innate Immunity	Chapter 2, 3
4 1/29	Adaptive Immunity	Chapter 4
5 2/5	Antibody <b>Quiz 1 (2/9-2/10)</b> Chapter 1~4	Chapter 4
6 2/12	T-cell Receptor/MHC	Chapter 5
7 2/19	B-cell maturation <b>Exam 1 (2/23-2/24)</b> Chapters 1~5	Chapter 6
8 2/26	T-cell maturation T-cell immune response	Chapter 7, 8
9 3/4	B-cell immune response <b>Quiz 2 (3/8-3/9)</b> Chapters 6~8	Chapter 9
10 3/11	<b>Spring Break!</b>	
11 3/18	Mucosal defense Immune-system dysregulation by allergens	Chapter 10 Chapter 14
12 3/25	Autoimmunity <b>Quiz 3 (3/29-3/30)</b> Chapters 9, 10, 14	Chapter 16
13 4/1	Vaccination and vaccines <b>Exam 2 (4/5-4/6)</b> Chapters 6~10, 14, 16	Chapter 11
14 4/8	Transplantation immunology	Chapter 15
15 4/15	Immunodeficiency <b>Quiz 4 (4/19-4/20)</b> Chapters 11, 15	Chapter 13
16	Immunotherapy/Immunoassay	Chapter 17

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4/22	<b>Exam 3 (4/26-27) Chapters 11, 15, 13</b>	
17 4/29	<b>Assignment due May 6</b>	
	<b>FINAL EXAM (5/10-5/11) Cumulative: Include all the content covered in this semester</b>	

## TECHNOLOGY REQUIREMENTS

### LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

[https://documentation.brightspace.com/EN/brightspace/requirements/all/browser\\_support.htm](https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm)

Zoom Video Conferencing Tool

[https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom\\_Account.aspx?source=universalmenu](https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom_Account.aspx?source=universalmenu)

## ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or [helpdesk@tamuc.edu](mailto:helpdesk@tamuc.edu).

**Note:** Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

## COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your Instructor.

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## **Technical Support**

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

## **COURSE AND UNIVERSITY PROCEDURES/POLICIES**

### **Syllabus Change Policy**

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

### **University Specific Procedures**

#### **Student Conduct**

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the [Student Guidebook](#).

<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: <https://www.britannica.com/topic/netiquette>

#### **TAMUC Attendance**

For more information about the attendance policy please visit the [Attendance Procedures 13.99.99.R0.01](#)

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

#### **Academic Integrity**

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

[Undergraduate Academic Dishonesty 13.99.99.R0.03](#)

[Undergraduate Student Academic Dishonesty Form](#)

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<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/documents/13.99.99.R0.03UndergraduateStudentAcademicDishonestyForm.pdf>

[Graduate Student Academic Dishonesty Form](#)

<http://www.tamuc.edu/academics/graduateschool/faculty/GraduateStudentAcademicDishonestyFormold.pdf>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

### **Students with Disabilities-- ADA Statement**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

#### **Office of Student Disability Resources and Services**

Texas A&M University-Commerce

Velma K. Waters Library Rm 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: [studentdisabilityservices@tamuc.edu](mailto:studentdisabilityservices@tamuc.edu)

Website: [Office of Student Disability Resources and Services](#)

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

### **Nondiscrimination Notice**

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

### **Campus Concealed Carry Statement**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-

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Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

### **A&M-Commerce Supports Students' Mental Health**

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit [www.tamuc.edu/counsel](http://www.tamuc.edu/counsel)

### **AI use policy [Draft 2, May 25, 2023]**

Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

13.99.99.R0.03 Undergraduate Academic Dishonesty

13.99.99.R0.10 Graduate Student Academic Dishonesty

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