Immunology (Biol 3413.010)  
Fall 2020

Instructor: Dr. Laurel Fohn, MD, PhD  
Email: lfohn1@angelo.edu  
Phone: 325-486-6644  
Office: Cavness 107

Office Hours: Posted on office door and on first day of class. All office hours will be by appointment only and will be held in a socially distanced manner (not in my office)- via telephone, Blackboard Collaborate, outdoors, etc.

Attendance: There will be assigned seating and roll is taken at each class meeting for both in-person and on-line students and factors into your grade as described below.

Course Information

Course Description
The goals of this course are to: [1] provide students with factual knowledge about the field of immunology; to introduce fundamental principles of the field. These represent progress points 1 & 2 on the IDEA course evaluation form to be filled out at the end of the semester.

Prerequisite and Co-requisite Courses
Any 3 of the following courses each with a grade of “C” or better: Biology 1406 (1106+1306), 1407 (1107+1307), 1411, 1413, 3301, 3411, or by special departmental approval.

Prerequisite Skills
Completion of lab safety and chemical safety training courses, proficiency in accessing and utilizing ASU Blackboard platform, internet websites, using ASU Library resources, and proficiency with Microsoft Word and/or PowerPoint are expectations of the course.

Student Learning Outcomes
Upon completion of this course, students should be able to:
  • name the important cells of the immune system and be able to describe and/or
recognize their role in immunity
- distinguish the differences in innate and adaptive immunity
- distinguish between the cell mediated adaptive response and the humoral mediated adaptive response
- distinguish/understand the clinical consequences of a normal and an abnormally functioning immune system
- understand how an immune reaction is initiated, perpetuated and terminated
- understand the similarities & differences in the self/non-self model of immunity as compared to the danger model

Course Delivery- Face to Face with Synchronous Remote Sessions for lecture portion (additional lab information in separate section below).

Classic lecture style utilizing Synchronous Remote Sessions supplemented with transparencies/figures/powerpoints. Students will be assigned textbook readings as well as supplemental reading/viewing material online. The format of the laboratory accompanying the lecture is described in separate section below. This course is designed for upper level science majors particularly those with health professions interests.

To maintain academic quality while accommodating social distancing needs this semester, this course will use a split delivery model that combines face-to-face teaching with remote instruction.

The goal is to provide face-to-face instruction to students who are eligible (no illness, no symptoms of illness, and no contact with COVID19) and want to return to campus, while also allowing students who may need to learn remotely to participate via virtual class sessions for lecture portions of class.

How Does It Work?
When you are not in the physical class, you will attend live remote sessions at the same time as our scheduled course. You will also be expected to complete coursework via Blackboard.¹ The lab portion of the course will require in-person attendance unless otherwise specified.

Please refer to this Health and Safety web page² for updated information about campus guidelines as they relate to the COVID-19 pandemic.
Required Texts and Materials


**Recommended Text:** Contemporary Clinical Immunology and Serology (Pearson Clinical Laboratory Science) 1st Edition. **ISBN-13:** 978-0135104248 or **ISBN-10:** 0135104246

Technology/ Communication Requirements

**Technology:** Students will need to utilize and check their Angelo State University email account when signing up with Kuby Launchpad and for all email communications with the instructor and for course announcements. Additionally, students should maintain the ability to utilize Blackboard to access grades, reading assignments, synchronous lectures via Collaborate, exams, quizzes, assessments and other course material.

To successfully complete this course, students need to have access to a smart phone, reliable internet and a computer (a PC or Mac computer/ laptop or iPad) with webcam capable of utilizing Respondus Lockdown Browser and Respondus Monitor.

Access to exams and quizzes will be through Blackboard and Respondus Lockdown Browser and will be video recorded via Respondus Monitor. Respondus requires a desktop computer or laptop (not a Chromebook) and a webcam. For best results, use an ethernet cable to connect to your Internet source instead of relying on Wifi. Refer to the Blackboard course for Respondus installation instructions.

This class will utilize Blackboard Collaborate (which requires a web cam). Access to Top Hat is required for attendance and as a back-up learning format.

**Communication:** Faculty will respond to email and/or telephone messages within 2 business days (Monday through Friday) during working hours.

All private email communication will be done exclusively through your ASU email address. Check frequently for announcements and policy changes. In your emails to faculty, include the course name and section number in your subject line.

**Virtual communication:** Office hours and/or advising may be done with the assistance of the telephone, Collaborate, Skype, etc.
Assessment/ Grading/Assignment and Activity Descriptions:

Students will be assessed on the above objectives through exams and quizzes as detailed below.

Evaluation and Grades

Students will be assessed on the above objectives through exams and quizzes as detailed below. Course grades will be determined as indicated in the table below.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Percent of Total Grade</th>
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<tbody>
<tr>
<td>Weekly Lab/ Reading Quizzes (150 points) (14 grades worth 12 points each, drop lowest quiz grade- allows 6 bonus points).</td>
<td>33.3</td>
</tr>
<tr>
<td>4 Exams worth 100 points each, drop lowest exam grade (300 points)</td>
<td>66.7</td>
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Grading System

Course grades will be dependent upon completing course requirements and meeting the student learning outcomes.

The following grading scale is in use for this course:

- A = 405 (+) points
- B = 360-404 points
- C = 315-359 points
- D = 270-314 points
- F = fewer than 270 points

Assignment and Activity Descriptions

Laboratory/Quiz component of the course:

Lab activities are varied and may consist of assigned readings, presentations, discussions, videos, and/ or hands on lab activities. You are encouraged to take written notes during the lab programs/ discussions (voice/visual recordings are not permitted). During Thursday’s lecture, following the lab sessions, the instructor will solicit and/or answer questions. A quiz covering the information presented in lab will follow. During the quiz, you can use any handwritten notes taken while viewing the video and/or during the question and answer session. Each quiz is composed of multiple choice and or short-answer questions and is worth a total of 12 pts total.

For "hands-on" lab exercises, handouts will give you the background, the experimental procedures and a set of questions to answer after completing each exercise. Each exercise will require that you report your results and answer the handout questions. The
instructor **will announce the due date for reports**. Each report is worth 12 points (just like a quiz:- with 5 points for complete results and 7 points for quality of answers to handout questions).

As there is a lab quiz or report for each lab session there will be 14 quizzes/ reports worth 12 points each. Only the top 13 grades will be counted, for a total of 156 points. Therefore, if you miss a lab, this will be your lowest/ dropped grade and will replace one missed lab quiz. Missing more than one lab will lead to a zero for that day's exercise. However, there are 6 bonus points calculated in the overall lab quiz total, which can compensate for half of a second missed lab grade. There will be no additional lab/ quiz make-up opportunities. Therefore, attendance and completion of the quizzes at the assigned times is imperative.

**Exams:**

Four (4) exams are scheduled including the final. The low score of these four exams will be dropped. Each regular exam (first 3 exams) is scheduled during lecture time from 11:00-12:15 PM. The regular exams are not comprehensive (but you are expected to know the terminology and apply the information presented earlier in the semester). Regular exams cover lecture material, assigned readings & lab material.

The final exam will be optional for those who have completed and are satisfied with their first 3 exam scores. The final exam is comprehensive and will include questions (but not necessarily the same questions) from the three previous exams & new information covered since exam #3 including relevant hands-on experiments & reading assignments. There will also be 1-2 questions testing your grasp of the student learning objectives. The final exam is worth 100 points.

No make-up exams will be administered. Therefore, attendance is imperative and if an exam is missed, it will become a 0. This should then be the lowest of the 4 exams, and the drop score. Each exam is worth 100 pts. Maximum possible points = 300 (top 3 of 4 exams X 100 points).

On exam days, exams will be proctored either in person or online using Respondus Lockdown Browser and Monitor. No learning materials (notes, books, handouts, etc) or electronic devices (other than the exam device), including calculators, are permitted on desktops/ surrounding exam areas during exams and no assistance from any other being is permitted.

**General Policies Related to This Course**

All students are required to follow the policies and procedures presented in these documents:

- [Angelo State University Student Handbook](#)³
- [Angelo State University Catalog](#)⁴
Academic Integrity
Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

The College of Science and Engineering adheres to the university’s Statement of Academic Integrity.5

Accommodations for Students with Disabilities
ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs, and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student’s responsibility to initiate such a request by contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu. For more information about the application process and requirements, visit the Student Disability Services website.6 All paperwork associated with this request needs to be submitted at least one week prior to accommodation implementation. The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Dallas Swafford
Director of Student Disability Services
Office of Student Affairs
325-942-2047
dallas.swafford@angelo.edu
Houston Harte University Center, Room 112

Incomplete Grade Policy
It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 Grading Procedures7 for more information.
Plagiarism

Plagiarism is a serious topic covered in ASU’s Academic Integrity policy in the Student Handbook. Plagiarism is the action or practice of taking someone else’s work, idea, etc., and passing it off as one’s own. Plagiarism is literary theft.

In your discussions and/or your papers, it is unacceptable to copy word-for-word without quotation marks and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving appropriate credit to the source both in the body of your paper and the reference list.

Papers are subject to be evaluated for originality. Resources to help you understand this policy better are available at the ASU Writing Center.

Student Absence for Observance of Religious Holy Days

A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. See ASU Operating Policy 10.19 Student Absence for Observance of Religious Holy Day for more information.

Title IX at Angelo State University

The University prohibits discrimination based on sex, which includes pregnancy, sexual orientation, gender identity, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination including: sexual assault, sex-based discrimination, sexual exploitation, sexual harassment, public indecency, interpersonal violence (domestic violence and/or dating violence), and stalking. As a faculty member, I am a Responsible Employee meaning that I am obligated by law and ASU policy to report any allegations I am notified of to the Office of Title IX Compliance.

Students are encouraged to report any incidents of sexual misconduct directly to ASU’s Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator at:

Michelle Boone, J.D.
Director of Title IX Compliance/Title IX Coordinator
Mayer Administration Building, Room 210
325-942-2022
michelle.boone@angelo.edu

You may also file a report online 24/7 at www.angelo.edu/incident-form.
If you are wishing to speak to someone about an incident in confidence you may contact the University Health Clinic and Counseling Center at 325-942-2173 or the ASU Crisis Helpline at 325-486-6345.

For more information about Title IX in general you may visit www.angelo.edu/title-ix.¹¹

**Required Use of Masks/Facial Coverings by Students**

As a member of the Texas Tech University System, Angelo State University has adopted the mandatory **Facial Covering Policy**¹² to ensure a safe and healthy classroom experience. Current research on the COVID-19 virus suggests there is a significant reduction in the potential for transmission of the virus from person to person by wearing a mask/facial covering that covers the nose and mouth areas. Therefore, in compliance with the university policy students in this class are required to wear an appropriate mask/facial covering before, during, and after class. Faculty members may also ask you to display your daily screening badge as a prerequisite to enter the classroom. You are also asked to maintain safe distancing practices to the best of your ability. For the safety of everyone, any student not appropriately wearing a mask/facial covering will be asked to leave the classroom immediately and will be subject to a 5 point reduction in their overall course average. The student will be responsible to make up any missed class content or work. Continued non-compliance with the Texas Tech University System Policy may result in disciplinary action through the Office of Student Conduct.

**Additionally, this means no food or drink may be consumed in lecture or in lab.**

**Modifications to the Syllabus**

This syllabus, including grade evaluation and course schedule, is subject to modification. In particular, the COVID-19 pandemic may require significant changes in course delivery and content on potentially short notice.

**Course Schedule**

**Lecture Schedule:**

- **Week 1:** Course introduction; comparison of natural & acquired immunity (humoral vs cell mediated)
- **Week 2:** Characteristics of an antigen (epitopes, immunogenicity, cryptic, sequestered, haptens)
- **Week 3:** MHC (genetics and natural functions)
- **Week 4:** MHC (practical aspects including transplants, role in autoimmunity, tissue typing)
- **Week 5:** **EXAM 1: TUESDAY 9/15**; Immune system cells
Week 6: Cells of the immune system (interactions; TLRs & PAMPs, first and second signal)
Week 7: Cells of the immune system (properties of antigen presenting cells, lymphocytes, NK cells)
Week 8: Tissues of the immune system / Positive and negative selection
Week 9: Tissues of the immune system (continued) -EXAM 2 TUESDAY 10/20
Week 10: Antigen receptors (Abs & TCRS); Complement fixation
Week 11: Primary & secondary immune response; vaccines; monoclonal antibodies
Week 12: Cytokine role in the immune response (tolerance, autoimmunity, Th1 & Th2 responses, sepsis)
Week 13: The immune system: applications in cancer and medicine - EXAM 3 THURS 11/12
Week 14: Hypersensitivities (Type I-4)
Week 15: FINAL EXAM – Saturday 11/21 10:30-12:30

*NOTE: November 10, 2020 is currently listed as the last day to Drop/Withdraw.

Lab Schedule: The lab will correlate with the lecture. Lab quizzes/ reading/homework will be completed/due each Thursday during lecture time (except for the week of Exam 3, when the quiz/homework will be due on Tuesday 11/17).

1 https://blackboard.angelo.edu/
2 https://www.angelo.edu/covid-19/returning-to-campus/health-and-safety.php
3 https://www.angelo.edu/student-handbook/
4 https://www.angelo.edu/catalogs/
5 https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php
6 https://www.angelo.edu/services/disability-services/
7 https://www.angelo.edu/content/files/14197-op-1011-grading-procedures
8 https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php
9 https://www.angelo.edu/dept/writing_center/academic_honesty.php
10 https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of
11 https://www.angelo.edu/services/title-ix/
12 http://www.texastech.edu/downloads/ttus-policy-face-coverings.pdf