Syllabus for
BIO 457 - Principles of Immunology Lecture
3.0 Credit Hours
Spring 2019

I. COURSE DESCRIPTION

A study of the basic biological concepts of immunology, which are fundamental to the participation in modern medicine, whether it be as a nurse, medical technologist, or physician. Presents immunology, a biological science, from the viewpoints of developmental biology, molecular biology, genetics, biochemistry, microbiology, anatomy, and medicine.
Prerequisites: BIO 310 lecture and lab and CHE 211 with a grade of "C" or better; BIO 370; (Biochemistry, Molecular Cell Biology or Genetics courses are recommended.)
Corequisite: BIO 457 Lab.

II. COURSE GOALS

The study of immunology will enable the student to gain a broad foundation base and build upon that base for understanding the defense mechanisms of the human body. Such foundation will be germane both for advanced courses for the student entering medical school or graduate school or for any student actively involved in the medical healing arts.

III. STUDENT LEARNING OUTCOMES FOR THIS COURSE

As a result of successfully completing this course, the student will be able to do the following:

A. Demonstrate a comprehensive and practical understanding of basic immunological principles involved in research and clinical/applied science.

B. Differentiate between innate and adaptive immunity.

C. Explain the mechanisms and differences between primary and secondary responses and their relevance to immunizations.

D. Identify the role of antigen presenting cells, lymphocytes, and phagocytic cells in immune responses.

E. Differentiate between humoral and cell mediated immunity.

F. Discuss current immunology news and issues.

IV. TEXTBOOKS AND OTHER LEARNING RESOURCES

A. Required Textbooks:
Judith Owen., Jenni Punt., Sharon Stranford and Patricia Jones. Kuby Immunology, Seventh Ed, WH Freeman and Company, New York. ISBN13:978-1-4292-1919-8

Rosen F. A. and Geha R. S. Case Studies in Immunology: A Clinical Companion, 7th ed. New York: Garland Publishing. ISBN-13: 978-0815345121

V. POLICIES AND PROCEDURES

A. University Policies and Procedures

1. Students taking a late exam because of an unauthorized absence are charged a late exam fee.
2. Students and faculty at Oral Roberts University must adhere to all laws addressing the ethical use of others' materials, whether it is in the form of print, electronic, video, multimedia, or computer software. Plagiarism and other forms of cheating involve both lying and stealing and are violations of ORU's Honor Code: "I will not cheat or plagiarize; I will do my own academic work and will not inappropriately collaborate with other students on assignments." Plagiarism is usually defined as copying someone else's ideas, words, or sentence structure and submitting them as one's own. Other forms of academic dishonesty include (but are not limited to) the following:
    a. Submitting another's work as one's own or colluding with someone else and submitting that work as though it were his or hers;
    b. Failing to meet group assignment or project requirements while claiming to have done so;
    c. Failing to cite sources used in a paper;
    d. Creating results for experiments, observations, interviews, or projects that were not done;
    e. Receiving or giving unauthorized help on assignments.

    By submitting an assignment in any form, the student gives permission for the assignment to be checked for plagiarism, either by submitting the work for electronic verification or by other means. Penalties for any of the above infractions may result in disciplinary action including failing the assignment or failing the course or expulsion from the University, as determined by department and University guidelines.
3. Final exams cannot be given before their scheduled times. Students need to check the final exam schedule before planning return flights or other events at the end of the semester.
4. Students are to be in compliance with University, school, and departmental policies regarding the Whole Person Assessment requirements. Students should consult the Whole Person Assessment handbooks for requirements regarding general education and the students' majors.
    a. The penalty for not submitting electronically or for incorrectly submitting an artifact is a zero for that assignment.
    b. By submitting an assignment, the student gives permission for the assignment to be assessed electronically.

B. Course Policies and Procedures

1. Evaluation Procedures

a. Grading

Item	Points
Exams (3 x 50)	150
Case study presentation	50
Article/Video Summary	25
D2l assignments	50
Final Exam	100
Total	455

b. Grading Scale

A	90 - 100%
B	80 - 89%
C	70 - 79%
D	60 - 69%
F	59% and below

2. The student may be excused for scheduled department events and/or university academic events. All requests must be submitted in writing and have either a chairman's or dean's signature.

3. The student is allowed three absences for illness, emergencies, or for personal reasons. Thereafter, each absence will result in a 10 point reduction in the total semester points.

4. **All assignments require individualized effort unless indicated otherwise. Any evidence of plagiarism or cheating on assignments will result in a zero for that assignment. Any cheating on a quiz or exam or a repeat plagiarism offence on an assignment will result in an automatically earned "F" for the semester.**

5. Whole Person Assessment Requirements
None

VI. COURSE CALENDAR

Week	**Topic**	**Abbas text**
1	Introduction to the Immune System	Chapter 1
2	Innate Immunity	Chapter 2
3	Antigen Capture and Presentation **EXAM 1 – Chapters 1-3, Case studies**	Chapter 3
4	Antigen Recognition	Chapter 4
5	Cell-Mediated Immune Responses	Chapter 5
6	Effector Mechanisms of Cell-Mediated Immunity **EXAM 2- Chapters 4, 5, and 6, Case studies**	Chapter 6
7	Humoral Immune Responses	Chapter 7

Week	Topic	Abbas text
8	Effector Mechanisms of Humoral Immunity	Chapter 8
9	Immune Responses to Microbial Infection	Handouts
10	Immunologic Tolerance and Autoimmunity	Chapter 9
	EXAM 3 – Chapters 7, 8, and 9, Case studies	
11	**SPRING BREAK**	
12	Immune Responses Against Tumors and Transplants	Chapter 10
13	Hypersensitivity Diseases	Chapter 11
14	Congenital and Acquired Immunodeficiencies	Chapter 12
15	Current Topics **FINAL EXAM (Comprehensive, case studies)**	

Course Inventory for ORU's Student Learning Outcomes

Principles of Immunology Lecture – BIO 457
Spring 2019

This course contributes to the ORU student learning outcomes as indicated below:
Significant Contribution – Addresses the outcome directly and includes targeted assessment.
Moderate Contribution – Addresses the outcome directly or indirectly and includes some assessment.
Minimal Contribution – Addresses the outcome indirectly and includes little or no assessment.
No Contribution – Does not address the outcome.

The Student Learning Glossary at http://ir.oru.edu/doc/glossary.pdf defines each outcome and each of the proficiencies/capacities.

OUTCOMES & Proficiencies/Capacities	Significant Contribution	Moderate Contribution	Minimal Contribution	No Contribution
1 **Outcome #1 – Spiritually Alive** Proficiencies/Capacities				
1A Biblical literacy			X	
1B Spiritual Formation				X
2 **Outcome #2 – Intellectually Alert** Proficiencies/Capacities				
2A Critical thinking, creativity, and aesthetics	X			
2B Global & historical perspectives		X		
2C Information literacy	X			
2D Knowledge of the physical and natural world	X			
3 **Outcome #3 – Physically Disciplined** Proficiencies/Capacities				
3A Healthy lifestyle			X	
3B Physically disciplined lifestyle			X	
4 **Outcome #4 – Socially Adept** Proficiencies/Capacities				
4A Ethical reasoning and behavior				X
4B Intercultural knowledge and engagement				**X**
4C Written and Oral Communication		X		
4D Leadership capacity				X

(Revised 8/1/17)