

# BIO 4743 - Immunology

## Summer Semester 2007, M/T/W/R/F 9:15 – 10:45 AM.

**Instructor:** Dr. Hans W. Heidner

**Phone:** 458-5767      **e-mail:** Hans.Heidner@utsa.edu

**Office Hours:** By appointment.

**Suggested Prerequisite Courses:** Biochemistry (BIO 3513) and Genetics (BIO 2313).

**Recommended Text:** The Immune System. 2<sup>nd</sup> Edition. P. Parham. Garland Publishing.

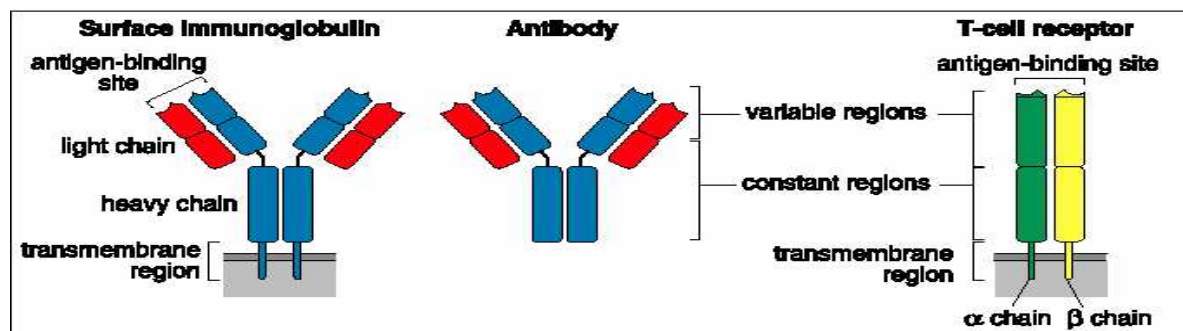
Purchase of the book is strongly recommended, as it is an excellent text and will provide the main source of lecture material. The text should be very helpful to students who wish to familiarize themselves with the material prior to lecture, and for supplementing and clarifying the material presented in lectures. All lecture notes will be posted on the course WebCT page prior to lecture. Please print a copy of the lecture notes and bring them to class.

**Course Content:** BIO 4743 will be taught as an introductory course on the subject of immunology. Although the course will focus specifically on the many aspects of immunology, by the very nature of this discipline, the broader principles of biology, biochemistry, genetics, and cell biology will also be featured prominently in the teaching material. This course will cover the cellular, genetic, and molecular principles of innate and acquired immunity. We will focus heavily on the principles of humoral and cellular immunity, and on the roles that these two arms of the immune system play in the protective immune response to foreign agents such as viruses and bacteria, and in the discrimination between self/non-self. We will also discuss the immune mechanisms that underlie allergic reactions, autoimmunity, and transplantation biology. Finally, we will introduce methods for manipulating the immune response through the use of vaccines.

**Attendance Policy:** As per university policy, students are expected to regularly attend and participate in all meetings of courses for which they are registered. Attendance of all lectures is strongly recommended. Student attendance of lectures will not be monitored or taken into consideration for grading purposes.

**Exams and Grading:** Grading for the course will be based on the combined scores earned on 3 exams. Each exam will be worth 1/3 of the final course grade. The three exams will constitute the only source of credit for this course; no "extra credit" projects will be assigned or accepted. The date of each exam is indicated in the course outline on the following page. All students are expected to take each exam at the scheduled time. Make up exams will be at the discretion of the instructor, and a score of 0 will be given for exams that are missed. Students are guaranteed the minimum grade as determined by the 70%=C, 80%=B, 90%=A rule; however, the instructor reserves the right to assign final grades based on a curve as deemed reasonable based on the distribution of exam scores. Implementation of a curve can only benefit students and will never result in a grade lower than that determined by the % rule described above.

Figure 1.16



## Course Outline

<b><u>Date:</u></b>	<b><u>Topic:</u></b>	<b><u>Reading:</u></b>
June 4	Cells, tissues and organs of the innate and adaptive immune systems.	Chapter 1
June 5	Cells, tissues and organs of the innate and adaptive immune systems.	Chapter 1
June 6	Immunoglobulin structure and function.	Chapter 2
June 7	Immunoglobulin genes.	Chapter 2
June 8	The major histocompatibility complex (MHC).	Chapter 3
June 11	MHC and antigen processing pathways.	Chapter 3
June 12	Antigen recognition by T cells.	Chapter 3
June 13	<b>Exam #1</b>	
June 14	Development of B lymphocytes.	Chapter 4
June 15	Development of T lymphocytes.	Chapter 5
June 18	T cell mediated immunity.	Chapter 6
June 19	Immunity mediated by B cells and antibodies.	Chapter 7
June 20	Immune responses to infectious agents.	Chapter 7, 8
June 21	Immune responses to infectious agents.	Chapter 7, 8
June 22	Microbial mechanisms for evading immune defenses.	Chapter 9
June 25	<b>Exam #2 (Last day to drop course with W)</b>	
June 26	HIV/AIDS	Chapter 9
June 27	Hypersensitivity reactions.	Chapter 10
June 28	Hypersensitivity reactions.	Chapter 10
June 29	Autoimmunity.	Chapter 11
July 2	Transplantation Immunology.	Chapter 12
July 3	<b>Holiday</b>	
July 4	Transplantation Immunology.	Chapter 12
July 5	Vaccines.	Chapter 12
July 6	<b>Exam #3</b> (This exam is not a comprehensive final).	