

PRINCIPLES OF IMMUNOLOGY
Biological Sciences, BISC 450L,
Lecture Syllabus, Fall 2017-13450R
Raffaella Ghittoni, Ph.D.
May 19th

Principles of Immunology (BISC 450L) is a 4 units course consisting of 3 hours of lecture and 3 hours of laboratory per week.

Prerequisites for the course. BISC 220, or BISC 221.

Course description: Description of selected immune system pathologies and dysfunctions as well as novel therapeutic approaches will be presented during lectures and laboratory to better understand basic immunological mechanisms.

During the lab sessions practical experiments will be conducted in order to apply concepts discussed during lectures, and to become familiar with methodologies and techniques currently in use in clinical and research laboratories.

Learning Objectives:

- Students will acquire knowledge of the components of the human immune system.
- Students will understand basic concepts of the human immune system functioning.
- Students will become familiar with most common immune system dysfunctions and pathologies.
- Students will be able to acquire basic knowledge of novel therapeutic approaches related to innate or acquired immune system dysfunctions.
- Students will conduct experiments using laboratory techniques and methods to apply concepts presented in lectures.
- Students will develop the ability to analyze, present and critically discuss results of their experiments both in individual and teamwork activities

Course topics:

- Overview of the Immune System
- Cells, Organs, and Microenvironments of the Immune System
- Receptors and Signaling: B and T-Cell Receptors
- Receptors and Signaling: Cytokines and Chemokines
- Innate Immunity
- The Complement System
- The Organization and Expression of Lymphocyte Receptor Genes
- The Major Histocompatibility Complex and Antigen Presentation
- T-Cell Development
- B-Cell Development
- T-Cell Activation, Differentiation and Memory
- B-Cell Activation, Differentiation and Memory Generation
- Effector Responses: Cell- and Antibody-Mediated Immunity

Lecture hours: Tuesday/Thursday 12:30pm - 1:50pm - Room VKC 201

Lecture instructor:

Raffaella Ghittoni, Ph.D. Room ZHS 256 - Phone 213-740-8352 - rghitton@usc.edu

Office Hrs: Tuesday 2:00 pm-4:00pm Wednesday 11:00 am -1:00 pm

Teaching assistant:

TBD

Course Textbook.

Lecture: ***Immunology. Kuby, Seventh Edition.***

Online Course Materials: Supplemental course materials and announcements will be posted on the Blackboard website.

Your USC e-mail username and password will allow you to access the secure site: <https://blackboard.usc.edu> (if you have trouble with Blackboard, please contact blackboard@usc.edu)

Students are responsible for checking additional postings and announcements on Blackboard website **on a weekly basis.**

Please see separate additionally Laboratory syllabus and schedule posted on Blackboard.

Syllabi may slightly change during the semester.

Midterms and final exam dates are **firm.**

E-mails: Course E-mails will be sent only to your official USC email address

Course points distribution

Lab section	25% (max100 points)
Midterm I	25% (max100 points)
Midterm II	25% (max100 points)
Final exam	25% (max100 points)

The point system will total 400 points.

Grade determination and final examination details

Tests and final exams are marked on a numerical basis (max total 400 points) and then converted to letter grades.

All scores (lecture and lab) are posted in your GRADEBOOK unless noted. If you notice a mistake or missing score(s) in the gradebook, it is the student's responsibility to notify the TA or course instructor as soon as possible.

Course Policies:

- 1) Exam dates are firm. There are no makeup exams in the course. Performance on the final may be prorated to substitute for a missing midterm exam, if an excuse considered valid by faculty is presented in a timely fashion. An acceptable written excuse or documentation must be provided to the faculty. The final exam will be administered only on the date and time set by the University.
- 2). Midterm exams will be returned to students by the professor during lectures. The TA will return lab tests to students during lab section. The final examination will not be returned but will be retained for one semester by the faculty.
- 3) Regrades: If you think an answer you have provided was graded incorrectly or if there is an arithmetic error, you may seek a regrade. You must provide a written explanation of why you think your answer was graded incorrectly. Regrade requests are to be submitted to your TA. If a regrade is agreed upon, then the ENTIRE EXAMINATION may be subject to a regrade. Your grade may therefore go up, go down, or remain the same. Regrade requests must be received within one week of when the exam key is posted for midterms, or by the second week of classes the following semester for the final exam.
- 4) No special assignments for extra credit are permitted.
- 5) Academic integrity policies of the University will be strictly followed. Infractions can result in severe penalties. There may be assigned seating for exams. No student may be admitted to an exam after the first student has left the exam.

Statement on academic integrity: USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. Scampus, the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: <http://www.usc.edu/dept/publications/SCAMPUS/gov/>. Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: <http://www.usc.edu/student-affairs/SJACS/>.

- 6) Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to the professor as early in the semester as possible. DSP is located in STU 301 and is open 8:30 AM – 5:00 PM, Monday thru Friday, Phone number: 213-740-0776.
- 7) It may be necessary to make adjustments to the syllabus during the semester. Check

the course website or class announcements on Blackboard for updates. **Exam dates will not be changed.**

8) Any questions or concerns regarding these policies should be addressed to the faculty.

BISC 450L - Lectures and Exams Schedule - Fall 2016

Weeks	Date	Topics Covered	Reading assignment
Week 1	22-Aug	Course Introduction - Overview of the Immune System	Chapter 1
	24-Aug	Cells, Organs, and Microenvironments of the Immune System (part I)	Chapter 2
Week 2	29-Aug	Cells, Organs, and Microenvironments of the Immune System (part II)	Chapter 2
	31-Aug	Receptors and Signaling: B and T cell receptors (part I)	Chapter 3
Week 3	5-Sep	Receptors and Signaling: B and T cell receptors (part II)	Chapter 3
	7-Sep	Receptors and Signaling: Cytokines and Chemokines (part I)	Chapter 4
Week 4	12-Sep	Receptors and Signaling: Cytokines and Chemokines (part II)	Chapter 4
	14-Sep	Innate Immunity (part I)	Chapter 5
Week 5	19-Sep	Innate Immunity (part II)	Chapter 5
	21-Sep	The Complement System (part I)/ Guest Lecture	Chapter 6
Week 6	26-Sep	The Complement System (part II)	Chapter 6
	28-Sep	Review session	Ch. 1-6
Week 7	3-Oct	Midterm I	Ch. 1-6
	5-Oct	The Organization and Expression of Lymphocytes Receptor Genes (part I)	Chapter 7
Week 8	10-Oct	The Organization and Expression of Lymphocytes Receptor Genes (part II)	Chapter 7
	12-Oct	The Organization and Expression of Lymphocytes Receptor Genes (part III)	Chapter 7
Week 9	17-Oct	The Major Histocompatibility Complex and Antigen Presentation (part I)	Chapter 8
	19-Oct	The Major Histocompatibility Complex and Antigen Presentation (part II)	Chapter 8
Week 10	24-Oct	T-Cell Development (part I)	Chapter 9
	26-Oct	T-Cell Development (part II)	Chapter 9
Week 11	31-Oct	B-Cell Development (part I)	Chapter 10
	2-Nov	B-Cell Development (part II)	Chapter 10
Week 12	7-Nov	Midterm II	Ch. 7-10
	9-Nov	T-Cell Activation, Differentiation, and Memory (part I)	Chapter 11
Week 13	14-Nov	T-Cell Activation, Differentiation, and Memory (part II)	Chapter 11
	16-Nov	B-Cell Activation, Differentiation, and Memory Generation (part I)	Chapter 12
Week 14	21-Nov	B-Cell Activation, Differentiation, and Memory Generation (part II)	Chapter 12
	23-Nov	Thanksgiving recess	
Week 15	28-Nov	Effector Responses: Cell and Antibody mediated Immunity (part I)	Chapter 13
	30-Nov	Effector Responses: Cell and Antibody mediated Immunity (part II)	Chapter 13
FINAL	12-Dec Tuesday	Final Examination – VKC 201 – from 11:00 a.m. to 1:00 pm	Ch. 11-13