

University of Colorado Anschutz Medical Campus  
School of Medicine  
Department of Immunology & Microbiology  
**IMMU 7630: Overview of Immunology  
Syllabus**

Term: **Fall 2017**

Course dates/times: **Tuesdays 1-3 PM, 29 August – 28 November**

Course location: **Ed2 North Room 2301**

Office Hours: **By appointment, call or (better) email**

Professor/Course Director: **J. John Cohen, MDCM, PhD**

Office location: **Barbara Davis Center, Room 4603B**

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## **Purpose**

**Catalogue Description:** An overview course in immunology for non-Immunology-program graduate students. The focus is human relevance and the practical use of immunology in a variety of fields. Students gain experience applying immunological knowledge to their own area of interest.

**Instructor Description:** This is an immunology course providing two semester-hours of credit in the Graduate School. It is lecture-based, with time allowed for discussion of interesting topics. The intention is to provide an overview of basic and clinical immunology as it applies to humans. We begin by considering the innate immune system and then see how that can lead to the activation of adaptive immunity. That is the immunity of T and B cells, which we consider in some detail, although our approach is to discuss principles rather than memorize details. Once we have a basis for it, we consider immunization and resistance to infection, and then those conditions in which there is a failure of immunity: immunopathology, including allergy, autoimmunity, immune complex disease, and immunodeficiency. Immunomodulators and tumor immunobiology are hot current areas of translational development. The course is the central theme that organizes much of human biology in health and disease. It has close ties to pathology and microbiology, and also rheumatology and clinical immunology.

**Course Goals:** Successful students will be able to:

1. Describe the function of the major components of the immune system in health and disease.
2. Articulate the reasons for immunization.
3. Explain common immune diseases in terms of the underlying basic principles.
4. Locate reliable information on immunology for the rest of their careers.

## **Requirements**

**Required Texts:** No required text. The course notes are comprehensive for our purposes. They are available online at <http://immuno4ever.org>

**If you're interested in a text:** Recommended texts are described in a PDF you can link to from the course web site.

**Websites:**

▶ Course notes, schedules, announcements and most other material are available at <http://immuno4ever.org> They're on an outside site so they can be available to everyone, not just registered students, at all times, even when the course is over.

▶ We also have an official site on Instructure's Canvas, the campus's Learning Management System. That's where we will have our Discussion Forums, and where your grades will be posted if you're registered. It's at <https://ucdenver.instructure.com/courses/376840>

**Evaluation:** Two tests, one midterm and one final. Each lasts 2 hours, and consists of multiple choice questions. Because these questions are carefully constructed and tested for validity, all exam copies must be turned in to the instructor at the end of the exam, and although the tests will be discussed and explained, they will not be returned and possession of a copy outside of an exam period is a violation of the honor code. Practice midterm and final tests will be available on the course website. All test items will be related to, and only to, the learning objectives.

If at any stage of the course you are concerned that you do not understand the material satisfactorily or have other issues that interfere with learning, please contact the instructor for help, which he is very willing to provide in confidence.

**Grades:** The Graduate School requires the full **letter grade** (A-F) scoring system. We do not grade on the curve. After each test the performance of each item is evaluated; items that do not discriminate reliably are discarded and the remaining items re-graded. Because of the nature of immunology, the final exam will be cumulative, but the focus will be on the second half of the course. The sum of the midterm and final scores, expressed as a percent, will determine the student's grade according to the arbitrary list provided by the Registrar. Midterm and final will be equally weighted at 50% of the grade. **You can earn up to 10 extra credit points** if, on the Canvas site Discussion Forums, you post really interesting comments, ask really good questions, or answer questions really well (even if I think the answer is wrong!). If you are quoting or paraphrasing a publication, include the source. This is a significant amount of credit, and it could be the difference between a B and an A for you (or, let's hope it's not necessary, between a B- and a B.) **This credit stops being available at midnight on 21 November 2017** (so you can spend the last week reviewing before the final test).

**Course Policies:** Class attendance is optional, although rational persons will not miss a class if they can help it. The learning objectives may be modified at any time, with due notice. If you cannot take a test for any reason, it is imperative that you (or a friend) inform the instructor **before** the test takes place.

We rarely use PowerPoint for teaching. The Learning Objectives are the essence of what you should be able to do at the end of each session. Most but not all the material will be in the course notes. We do not allow video recording of lectures except in the case of a justified accommodation request. Audio recording is permitted for your own use, or to help out a fellow student who has to miss a class.

**Learning philosophy:** ► **The instructor expects *everyone* to read through the day’s lecture notes *before class*.** They will not be read or repeated to you, but class time will be used to expand on, explain, and illustrate the topics in the notes and learning objectives. If you have only one study hour for each lecture, spend that hour before class, not afterwards. This is HIGHLY valid behavior from a learning standpoint, well supported in the cognitive psychology literature. Read through the notes and then try to respond to the Learning Objectives. Mark any area you did not fully understand or might want to hear more about in class.

An important objective of this course is to communicate freely, like colleagues. Please let JJC know if there are topics you’d like to discuss, or if you have suggestions for improving the course, or you just want to talk. JJC is trained in medicine, but spent most of his career in basic science (immunology), and is now very involved in learning theory. I especially focus on study skills and preparation for exams, so you might want to take advantage of that.

**Access, Disability, Communication:** “The University of Colorado Denver, as mandated by Section 504 of the Rehabilitation Act of 1973 and the American’s with Disabilities Act of 1990, is responsible for providing equal access to an education for qualified students with disabilities. This university-wide responsibility is shared by the faculty, staff and students and includes the implementation of accommodations in the classroom.”

<http://www.ucdenver.edu/student-services/resources/disability-resources-services/accommodations/Pages/accessing-accommodations.aspx>

**Class schedule is on the course main page at:**

<http://immuno4ever.org>

as well as on the next page of this Syllabus.

## IMMU 7630 Schedule Fall 2017

Week	Date	Unit	Topic
1	29 Aug	1	Introduction to Course & Immunology
		2	Innate to Adaptive Immunity
2	5 Sept	3	Anatomy & Physiology of the Immune System
		4	Antibody Structure
3	12 Sept	5	Antibody Genes
		6	Antibody Function
4	19 Sept	7	Monoclonal Antibodies and Antibody Techniques
		8	Ontogeny of the Immune System
5	26 Sept	9	T Cells
		10	T Cells
6	3 Oct	11	Immunogenetics & Transplantation
		12	Resistance, Immunity & Vaccines
7	10 Oct	13	<b>MIDTERM TEST</b>
		14	
8	17 Oct	15	Immunodeficiencies
		16	Immunology of AIDS
9	24 Oct	17	Immunopathology Type III: Immune Complex Disease
		18	Immunopathology Type II: Autoimmunity
10	31 Oct	19	Immunopathology Type I: Allergy/Parasite Immunity
		20	Immunopathology Type IV: T Cell Mediated
11	07 Nov	21	Chronic Frustrated Immune Responses & Regulation
		22	Immunohematology
12	14 Nov	23	Tumor Immunology
		24	Immunomodulators and Biological Response Modifiers
13	21 Nov	25	Lymphoid Malignancies & New Ideas
		26	Overview & Review
14	28 Nov	27	<b>FINAL TEST</b>
		28	