

Immunology Syllabus, Biol 330/Biol 535

Fall, 2020

Instructor Information

Instructor

Robert W. O'Donnell, Ph.D.

Email

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Office Location & Hours

ISC 332A, M-F 9:30 to 10:30

General Information

Description

My objective is to convey to each student the complexity, logic and above all the beauty of the immune system. I will use an experimental approach to most areas of immunologic inquiry rather than concentrate on facts alone. I ask each student to be an active participant of each class and to feel free to ask questions both inside and outside of class.

Intended Learning Outcomes

At the end of their course, students will be able to:

1. Demonstrate an appreciation of the historical foundations and biomedical research that led to discovery of immune function using information from class and from the text.
2. Demonstrate an understanding of the overlapping roles of innate and adaptive immunity in response to pathogens.
3. Demonstrate an understanding of both the overlapping and the unique roles of humoral and cell-mediated immunity in response to pathogens.
4. Apply their knowledge of molecular and cellular basis of immunity to understand the role of immunity in transplantation, autoimmune disease and cancer.
5. Actively participate in class by interacting with and listening to classmates, and exploring and responding to questions posed by the instructor.

Required Materials

Text: CELLULAR and MOLECULAR IMMUNOLOGY-W/ACCESS | Edition: 9TH, Publisher: ELSEVIER

Author: Abul K. Abbas, Andrew H. Lichtman & Shiv Pillai

ISBN: 9780323479783 The text is available at the campus bookstore.

Grading

The final exam will be cumulative and will encompass your knowledge of basic principles of immunology as they relate to the topics covered in chapters 15-21 of your text. Each exam will cover lecture notes and appropriate chapters in text. Old exams will also be available in Canvas. The final grade for the course will be computed as follows: 75% of exam grades, 25% of laboratory grades for those enrolled in Biol. 330 and for those enrolled in Biol. 535, graduate credit, the final grade will be computed as 85% of exam grades and 15% for the extra project. For those enrolled in Biol. 535 for undergraduate credit, 100% of your grade will come from exams.

Grades will be assigned according to the following scale:

A 92.5-100%	B+ 86.5-89.49	C+ 76.5-79.49	D 59.5-69.49
A- 89.5- 92.49	B 82.5- 86.49	C 72.5- 76.49	E <59.5
	B- 79.5-82.49	C- 69.5-72.49	

Note: No make-up tests are given unless a written confirmation of a valid excuse is provided. No "extra credit" assignments are available. Your final average will be adjusted if necessary.

Course Schedule

T	1-Sep-20	1	Properties and Overview of Immune Responses
R	3-Sep-20	1, 2	Properties and Overview of Immune Responses, Cells and Tissues of the Immune System
T	8-Sep-20	2	Cells and Tissues of the Immune System
R	10-Sep-20	3	Leukocyte Circulation and Migration into Tissues
T	15-Sep-20	4	Innate Immunity
R	17-Sep-20	5	Antibodies and Antigens
T	22-Sep-20	Appendix III	Appendix III Laboratory Techniques Commonly Used in Immunology /Flow cytometry case study, done in groups
R	24-Sep-20	Exam #1 (25%)	Chapters 1-5, Appendix III
T	29-Sep-20	6	Antigen Presentation to T Lymphocytes and the Functions of MHC Molecules
R	1-Oct-20	6, 7	Antigen Presentation to T Lymphocytes and the Functions of MHC Molecules / Immune Receptors and Signal Transduction
T	6-Oct-20	7, 8	Immune Receptors and Signal Transduction/ Lymphocyte Development and Antigen Receptor Gene Rearrangement
R	8-Oct-20	8	Lymphocyte Development and Antigen Receptor Gene Rearrangement
T	13-Oct-20	9	Activation of T Lymphocytes
R	15-Oct-20	9, 10	Activation of T Lymphocytes/ Differentiation and Functions of CD4+ Effector T Cells
T	20-Oct-20	Exam #2 (25%)	Chapters 6-9
R	22-Oct-20	10	Differentiation and Functions of CD4+ Effector T Cells
T	27-Oct-20	No class	Break
R	29-Oct -20	11	Differentiation and Functions of CD8+ Effector T Cells
T	3-Nov-20	11, 12	Differentiation and Functions of CD8+ Effector T Cells / B Cell Activation Production
R	5-Nov -20	12	B Cell Activation and Antibody Production
T	10-Nov-20	13	Effector Mechanisms of Humoral Immunity
R	12-Nov-20	14	Specialized Immunity at Epithelial Barriers and in Immune Privileged Tissues
T	17-Nov-20	15	Immunologic Tolerance and Autoimmunity
R	19-Nov-20	Exam #3 (25%)	Chapters 10-14
T	24-Nov-20	16	Immunity to Microbes
R	26-Nov-20	No class	Thanksgiving Break
T	1-Dec-20	17	Transplantation Immunology
R	3-Dec-20	19	Immunity to Tumors
T	8-Dec-20	19/20	Hypersensitivity Disorders/Allergy
R	10-Dec-20	21 (475-486)	Congenital and Acquired Immunodeficiencies
?	?-Dec-20	Final Exam, Chapters 15-21, Chapters 1-21, Appendix III (25%)	?

Exam Schedule

Date	Subject
September 24, 2020	Chapters 1-5, Appendix III
October 20, 2020	Chapters 6-9
November 19, 2020	Chapters 10-14
?	Chapters 15-21, Chapters 1-21, Appendix III

Additional Information and Resources

Geneseo Mission and Values

SUNY Geneseo has several core documents that articulate our shared commitments and learning objectives. These include:

- SUNY Geneseo Mission, Vision and Values: <https://www.geneseo.edu/about/mission-vision-and-values>
- Community Commitment to Diversity, Equity, and Inclusion: <https://www.geneseo.edu/diversity/commitment>
- Geneseo Learning Outcomes for Baccalaureate Education: <https://www.geneseo.edu/provost/globe-geneseo-learning-outcomes-baccalaureate-education>

Bias-Related Incidents

"We are here to listen, to learn, to teach, to debate, to change, to grow. We should all be safe to pursue these goals at SUNY Geneseo while being who we are. Together, we commit ourselves to pluralism, cultivating a community that respects difference and promotes a sense of inclusion and belonging."

As this excerpt from our Community Commitment to Diversity, Equity, and Inclusion states, here at SUNY Geneseo, we want to provide a space where everyone feels welcome to learn and grow in their identities as well as in their role as students, faculty, and staff. If in the unfortunate instance you experience an incident of bias, we encourage you to reach out to the Chief Diversity Officer (routenberg@geneseo.edu) and/or our University Police Department. In trying to create an environment that facilitates growth through diverse thoughts and ideas, reporting incidents of bias - including threats, vandalism, and microaggressive behaviors - can help bring a better understanding of our campus climate as well as provide opportunities for learning and restoring harm.

Disability Accommodations

SUNY Geneseo will make reasonable accommodations for persons with documented physical, emotional, or cognitive disabilities. Accommodations will be made for medical conditions related to pregnancy or parenting. Requests for accommodations including letters or review of existing accommodations should be directed to the Office of Accessibility, Erwin Hall 22 or access@geneseo.edu or 585-245-5112. Students with letters of accommodations should submit a letter to each faculty member at the beginning of the semester and discuss specific arrangements. Additional information on the Office of Accessibility is available at <https://www.geneseo.edu/accessibility-office>.

Well-Being

Prioritizing well-being can support the achievement of academic goals and alleviate stress. Eating nutritious foods, getting enough sleep, exercising, avoiding drugs and alcohol, maintaining healthy relationships, and building in time to relax all help promote a healthy lifestyle and general well-being.

Concerns about academic performance, health situations, family health and wellness (including the loss of a loved one), interpersonal relationships and commitments, and other factors can contribute to stress. Students are strongly encouraged to communicate their needs to faculty and staff and seek support if they are experiencing unmanageable stress or are having difficulties with daily functioning. The Dean of Students (585-245-5706) can assist and provide direction to appropriate campus resources. For more information, see www.geneseo.edu/dean_students.

Mental Health

As a student, you may experience a range of challenges that can impact your mental health and thus impact your learning; common examples include increased anxiety, shifts in mood, strained relationships, difficulties related to substance use, trouble concentrating, and lack of motivation, among many others. These experiences may reduce your ability to participate fully in daily activities and affect your academic performance.

SUNY Geneseo offers free, confidential counseling for students at the Lauderdale Center for Student Health and Counseling, and seeking support for your mental health can be key to your success at college. You can learn more about the various mental health services available on campus at health.geneseo.edu.

Academic Support Services

The campus provides a range of support services to help students thrive in their classes. These services include:

- Tutoring, both drop-in and by-appointment, with student tutors in the Writing Learning Center, the Math Learning Center, and a range of department-based tutoring centers
- Online tutoring through the SUNY-wide STAR-NY system (www.starny.org/tutoring_schedule)
- Supplemental Instruction, in which trained student assistants review lecture material from specific classes

Information on times and locations is available through the Center for Academic Excellence website at www.geneseo.edu/library/center-academic-excellence.

Library Research Help

Milne Library has an award-winning staff trained in finding the best information. They have created online research guides, self-help databases, and are available for individual consultation. Research Librarians are available for walk-in consultations and students may request appointments with staff experts in particular fields. Full information on Milne Library research resources, hours, and consultation options is available at www.geneseo.edu/library/ask-us.

Academic Integrity and Plagiarism

Milne Library offers frequent workshops to help students understand how to paraphrase, quote, and cite outside sources properly. These sessions are meant to educate about the importance of using original ideas and language,

and how to incorporate paraphrases and quotes into writing. The complete list of library workshops can be found at www.geneseo.edu/library/library-workshops.

Academic dishonesty includes cheating, knowingly providing false information, plagiarizing, and any other form of academic misrepresentation. College policies and procedures regarding academic dishonesty are available at www.geneseo.edu/handbook/academic-dishonesty-policy.

Computer and Technology Support

For assistance with your computer or mobile device, visit the CIT HelpDesk in Milne Library. CIT provides self help guides on a range of computer issues, including access to the campus network, Canvas, printing, software guides, and other resources. The CIT Self Help Guides at wiki.geneseo.edu/display/cit/CIT+Self+Help can be helpful in finding quick solutions to basic technology issues.

CIT also provides free access to over 7,500 online tutorials for software, digital tools, web development, programming, and design through lynda.com training resources available at wiki.geneseo.edu/display/cit/Lynda.com+Training+Library.

Food Security for SUNY Geneseo Students

SUNY Geneseo students who find themselves in a position of food insecurity and do not have the financial resources to support their food and nutrition needs can access the Geneseo Groveland Food Pantry located at the First Presbyterian Church, 31 Center Street in Geneseo. Students can utilize the pantry once with no referral or contact with the College. At this visit they will be provided items that will address their basic needs for several days. If a student continues to face difficulties providing for their own nutritional needs beyond their first visit to the pantry they should connect with Susan Romano, Director of Financial Aid to receive a brief letter that they will present to the staff at the pantry that verifies their need. If students do not have a FAFSA on file for any reason they should contact Dr. Leonard Sancilio, Dean of Students, to discuss their particular situation and options. The Geneseo Groveland Food Pantry is open on the following days and times:

Tuesday: 10 AM - 2 PM

Wednesday: 4 PM - 6:30 PM

Thursday: 10 AM - 2 PM

If you have any questions please contact Dr. Leonard Sancilio, Dean of Students at: sancilio@geneseo.edu or 585-245-5706.

Library Support (Jonathan Grunert <grunert@geneseo.edu>)

- Students, faculty, and staff will be able to schedule research consultations with librarians via Zoom or another medium, using the same link as in past semesters: geneseo.edu/library/researchconsultations
- In lieu of in-person drop-in hours, the librarians are staffing LibChat, a service that allows for online, chat-based synchronous communication. LibChat is available Mondays–Fridays. Access it by clicking on the green owl icon, which is located throughout the library website.
- While electronic resources will continue to be accessible, Milne's physical collection will have limited access. Faculty, staff, and students are encouraged to use IDS to borrow materials from other libraries.

For information about IDS and library services as a whole, see geneseo.edu/library/library-service-information