

Course: BIOL 443, Section D3 – Principles of Immunology

Course Information

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Credit Hours: 3 credit hours

Professor: Dr. Preety Panwar

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Office Location: STEM 324

Office Hours:

- In-Person: NOTE: I will not be physically on campus during this semester. contact me via phone or e-mail.
- Virtual: I am available via e-mail on a first come, first serve basis at any time. Please allow a 24 - 48 hour response time, although most of the time I will respond much quicker than that. I am available for consultation M to F from 8:00 AM to 2 PM. Contact me first via e-mail and if we need we can set up a ZOOM appointment for a virtual video chat.

Course Description

General Description: A survey of the basic concepts/principles of nature on acquired resistance of higher animals and humans to infection by infectious agents.

Prerequisites: BIOL 101, 102; 341; CHEM 101, 101L, 102, 102L 301, 301L

Course Level Student Learning Outcomes: Upon completion of the Principles of Immunology course, the students should be able to:

1. Identify and describe the principal components of the human immune system.
2. Differentiate between innate and acquired immunity.
3. Discuss the role of Phagocytes, T cells, B cells, Complement system, MHC, Immune receptors and Immune Signaling compounds in the immune response.
4. Explain the basic immunological concept behind vaccines, allergic reactions, autoimmune responses and Cancer.
5. Apply the concepts learned in the course to the study of the development of Covid-19 infections, treatment and vaccine development.

Course Requirements

Required Text(s) and Materials: **Immunology** by Richard A. Goldsby, Thomas J. Kindt, Barbara A. Osborne, and Janis Kuby (7th ed.) 2013. The class will also follow a series of websites and

PowerPoint and video lectures provided by the professor through the Blackboard course delivery system.

Computer Requirements:

- **Access:** Students will need their own computer/laptop/tablet or easy continuous access to a reliable computer/laptop/tablet. While it is possible to manage the course using a smartphone through the Blackboard App, individual students might find that parts of the course are harder to visualize or complete on such a device. If you plan on using a smartphone as your primary course access device, I recommend that you have access to a computer as a backup. A High Speed Internet connection or a 4G Unlimited Data Plan that will allow for video streaming is also required.
- **Hardware:** No special hardware is required other than your primary course access device.
- **Software:** You will need a web browser and access to Microsoft Office, particularly Word, Excel and Power Point. If you use other programs to complete your work, you will need to submit them in a PDF or Microsoft Office compatible format.

Course Grading Components

Assignment (Examples of Assignments)	Due Date	Number of Points for Assignment	Percent of Final Grade
1. Exams	See Outline	400	40
2. Midterm Exam		100	10
3. Laboratory Reports		100	10
4. Wikki – Covid-19		200	20
5. Participation		100	10
6. Final Exam		100	10

Grading Scale The Grading Scale is consistent with University policy and is as follows:

90-100 = A 80-89 = B 70-79 = C 60-69 = D Below 60 = F

Course Outline

Principles of Immunology Spring 2026 Course Matrix			
Date	Topic	Learning Outcome Alignment	Assessment Note: Unless otherwise specified, all assignments are due Sunday at 11:59 PM
Week 1 Jan 12-18	Introduction and Class Management	Outcomes 1-3	Syllabus quiz – 10 extra credit points. Introduction DB Forum – 10 extra credit points
	Unit 1 – The Big Picture – Overview of the Immune system and the major players in the immune response. Chapters 1-4		Unit 1 quiz – 10 participation points

Week 2 and 3 Jan 19 - Feb 2	Unit 1 continued		Exam for Unit 1 – 100 points (25 points from the Essay portion of the Exam and 75 points from a separate Multiple Choice exam) CBC Activity Report – 20 participation points Course Feedback Survey – 10 extra credit points
Week 4-5 Feb 3 –23	Unit 2 – Innate immunity – Chapters 5-8		Unit 2 quiz – 10 participation points Exam for Unit 2 – 100 points (25 points from the Essay portion of the Exam and 75 points from a separate Multiple Choice exam) Complement Cascade Activity Screen Shot – 20 participation points
Week 6-7 Feb 24 - Mar 9	Unit 3 – Adaptive Immunity – Chapters 9-13		Unit 3 quiz – 10 participation points Exam for Unit 3 – 100 points (25 points from the Essay portion of the Exam and 75 points from a separate Multiple Choice exam) Unit 3 Special Activity – 10 participation points
Week 8 Mar 10 - 16	Midterm		Midterm -100 points TBD in second week of March around Mar 12 Online Lab Reports – 100 points
Week 9 - 10	Unit 4 – Allergies, Autoimmunity and Vaccines	Outcomes 1 and 4	Unit 4 quiz – 10 participation points

Mar 17 - 30			Exam for Unit 4 – 100 points (25 points from the Essay portion of the Exam and 75 points from a separate Multiple Choice exam) Unit 4 Special Activity – 10 Participation Points
Week 11 - 12 Mar 31 – Apr 6	Unit 5 – Covid-19 Journal	Outcomes 1 and 5	Journal for Covid-19 activity – 200 points
Week 13 - 14 Apr 7 - 20	Unit 5 cont.		
Week 15 - 16 Apr 21 - May 1	Final Exam	All Outcomes	Take Home Final Exam – 100 points – Due Jul 13

Course Expectations

Student Expectations

- You will need to use this Blackboard Course Shell to post assignments. If you submit an assignment via e-mail without receiving previous permission from me, the assignment will not be graded.
- Participation/attendance policy - Participation will be assessed based on your promptness in completing assignments and your adherence to the Due Dates in the course. Attendance will be based on your last date of access to the course as recorded by Blackboard.
- Your participation in Discussion Boards, Journals or Assignments must be original work. I am interested in your words and your opinions, not on a write up from the internet. When material from another source is used you will reference it properly using the format indicated with the assignment.
- Late assignment policy - This course will cover a lot of material that relays heavily on class discussions through Discussion Boards. To create those class discussions, it is necessary to keep up with the course deadlines. I will accept late assignments up until the last day of the class, but you will lose 10% of the total point value of the assignment for every week you are late.
- Time commitment - This is a 3 credit course. If the course was face to face you would be expected to meet 3 hours a week, and you would be expected to study about 2 hours at home for each hour you meet in class. That adds up to 9 hours a week. For an equivalent On Line course, you should expect to spend between 9 and 10 hours a week working on the course.

- Civility standards - Students are expected to maintain a civil environment at all times. For more specific instructions on Netiquette and on line behavior, see the guidelines in the Discussion Board Assignments folder.

Professor Expectations

- Students who are unable to access the course for a valid reason can expect the professor to provide reasonable accommodations within the time frame of the course.
- Absent exigent circumstances, I will respond to emails within 24 to 48 hours.
- Since most course deadlines are Sunday at the end of the day, I typically grade Mondays and Tuesdays. You can expect to have all assignments turned on by the due date, to be graded by the next Tuesday before the end of the day.
- I will provide you with performance feedback and grade explanations when requested via e-mail as many times as you need me to do so.

Course Policies

Attendance Policy

- Attendance will be assessed by the last day of access to the course on blackboard. Students are expected to access the course at least once a week.
- In order to receive a reasonable accommodation when absent for the course, the students should communicate with the faculty member within 48 hours of the absence, and be willing to provide evidence of the excuse upon request. Students can be afforded longer notification time with a doctor's note.
- For long-term absences from a class (more than a week), the student needs to address the concerns regarding accessing the course with the Office of Students with Disabilities or with the Office of Academic Affairs, depending on the reason for the absence.

Late/Missed Assignments

- This course will cover a lot of material that relays heavily on class discussions through Discussion Boards. To create those class discussions, it is necessary to keep up with the course deadlines. I will accept late assignments up until the last day of the class, but you will lose 25% of the total point value of the assignment for every week you are late.

Netiquette Guidelines

- **Write in digestible chunks.** Lengthy paragraphs are difficult for readers to digest. Keep your paragraphs short and your writing concise.
- **NO YELLING.** When you write in uppercase letters in online communication, it is usually interpreted as yelling.
- **Add some emotion :-).** Sometimes it helps communicate the tone of your message when you add an emoticon or emoji. However, only do so as necessary, for it can end up being annoying to readers if you have too many, which is probably the opposite of your intention.
- **Use humor carefully.** Sarcasm, in particular, does not translate well in an online environment. It's best to avoid the potential pitfalls of misunderstood messages.
- **Assume the best intentions.** In an online environment, it is easy to misread someone's tone or intended message. Give your peers and instructor the benefit of the doubt, and ask them to clarify their meaning.
- **We are not the same.** Respect differences, and don't make assumptions.
- **Language matters.** Choose your words carefully; avoid using slang, and be kind.