



SYLLABUS

MLSC 320 Fundamentals of Immunology
BIOL 405 Immunology
Summer 2024

MLSC 320 Fundamentals of Immunology

BIOL 405 Immunology

Department of Medical Laboratory Sciences

Interactive Online Format

This course follows a condensed, accelerated, interactive online format with multiple weekly deadlines. You are expected to log in regularly during the course to participate in the online discussions. Please plan accordingly. You are completing the work from a regular semester in half the time.

Also, please keep in mind that this online class is not self-paced; it is asynchronous, with deadlines for discussion posts, assignments, and exams. You can arrange your schedule flexibly each week, but you **MUST** participate each week. You are expected to “show up” to class by interacting in the graded discussion forums each week. Additionally, you will have written assignments, presentations, and papers due regularly each week.

Adequate Internet access and setting aside enough time each week to complete discussions and assignments during the duration of the course are critical. To be successful, plan to spend time daily on the course.

Please review the Dates & Deadlines widget on the right side of your course in LearningHub for the last day to withdraw for a full refund.

Instructor Contact

Instructor: Noemi Gonzalez, MS, MT (ASCP)

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Phone: 423.236.2930

Other Assistance

Username and password assistance	helpdesk@andrews.edu	(269) 471-6016
Enrollment and withdrawal questions	sderegister@andrews.edu	(269) 471-6323
Technical assistance with online courses	dlit@andrews.edu	(269) 471-3960
Exam requests and online proctoring	sdeexams@andrews.edu	(269) 471-6566
Distance Student Services - any other questions	sdestudents@andrews.edu	(269) 471-6566

Part 1: Course Information

Course Descriptions

MLSC 320 Fundamentals of Immunology

Innate and acquired immune systems of the human organism; immunoglobulin production, structure, function, and diversity; antigen characteristics, variety, and specific red cell groups; tolerance and memory; complement structure and function; cell mediated immunity function and regulation; autoimmune disorders; transplantation and tumor immunology;

immunodeficiency disorders; principles and procedures of techniques used in modern immunology lab.

BIOL 405 Immunology

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Prerequisites

BIOL 165 or BIOL 221

Required Text/Material

Punt, J., Stranford, S., Jones, P. & Owen, J. (2023). *Kuby Immunology* [Covid-19 & Digital Update] (8th ed.). New York, NY: W.H. Freeman and Company.

Additional handouts and other supplemental reading may be required as part of the course reading material.

Note to Berrien Springs campus students: This course is part of the campus' course material delivery program, [First Day Complete](#), and it is already paid for in your bill unless you opt-out. The bookstore will provide each student with a convenient package for physical books and any digital materials for this course that have been integrated into LearningHub.

Note to online and guest students: Textbooks for online courses may be purchased from any supplier. For financial aid in payment, contact your financial advisor at the university where you are completing your degree. Andrews University degree students who have confirmed that funds are available will then purchase the books themselves and send receipts to their financial advisor for reimbursement.

Credit Hour and Commitment

This course is offered for 3 semester credit; therefore, you are expected to spend 135 total hours on this course. Note that this course is the equivalent of a semester course offered in 8 weeks. Therefore, you must budget approximately 3.5 hours per weekday. You should spend this time reading, accessing instructional materials, reviewing concepts, and taking tests.

A recommended weekly schedule to divide your time is provided:

Readings and Reviewing material: 10-12 hours

Videos, Quizzes and Forums: 2-3 hours

Weekly Zoom review: 1 hour

Taking Exams: 1 hour

Student Learning Outcomes

Upon completion of this course, the student is expected to demonstrate achievement of at least 70% in written and practical examinations on the following:

- Describe the concepts involved in adaptive and innate immunity.
- Discuss the various cells and their involvement in the immune response.
- Explain the lymphoid system's role in the immune response.
- Diagram the structures of various immunoglobulins.
- Describe the functions of the various immunoglobulins.
- Discuss the theories of antibody formation and the production of antibodies.
- Discuss the interaction of the various cells involved in the immune response.
- Discuss the cell-mediated immune response.
- Describe the various factors involved in the regulation of the immune response.
- Discuss the genetic control of immunity.
- Explain the concept of immunological tolerance.
- Discuss the activation, biological effects, and effects of deficiencies in the complement system.
- Differentiate between mechanisms of immunity to bacteria, viruses, fungi, and parasites.
- Discuss tumor immunity.
- Discuss the mechanism, cells, and reactions involved in the various hypersensitivities.
- Describe the genetics and mechanisms involved in transplantation and rejection.
- Discuss diagnostic testing in immunology, including laboratory safety, quality assurance, and the various techniques employed in the modern immunology laboratory.
- Critically analyze laboratory data and correlate it with a given disease state.

Program-Level Learning Outcomes

This course provides the foundations for the Clinical Year Immunology course and serves as the theoretical framework for several other clinical year courses.

Mental Health Support

Andrews University seeks to foster belonging and care. It is not uncommon for students to face challenges that hinder academic progress, like academic stress, sleep disturbances, managing multiple responsibilities, relationship issues, anxiety, or feelings of despair or depression. If you or someone you know is grappling with any of these concerns, we urge you to seek assistance. The university offers valuable, free resources that can help address these problems effectively.

- If you are struggling with this class, please get in touch with the course instructor as soon as possible.
- Contact your academic advisor if you are struggling in multiple classes, unsure whether you are making the most of your time, or uncertain what academic/educational resources are available at Andrews University
- Students in the U.S. may access [Andrews Telehealth](#) for new medical, counseling therapy, psychiatry, and diet & nutrition support to [schedule a consultation](#).
- **If you are experiencing a mental health crisis, contact Academic Live Care 24/7 remote crisis services at 1-866-349-5575.**
- **Contact 911 for life-threatening emergencies.**

Additional information and resources are on the [School of Distance Education Student Wellbeing webpage](#).

Part 2: Course Methods and Delivery

Methods of Instruction

Methods of instruction include assigned readings from the textbook and the course material. Students are expected to study and be prepared to take six (6) unit examinations based on the materials/chapters assigned. Additional resources, such as Zoom meetings, videos, and other material, will be provided to highlight subject material and help the student prepare for exams. The textbook is required, and assigned readings are an integral part of success in this course. Review and regular participation in the course is essential to good performance.

Technical Requirements

- Computer: PC (Win 7 or newer) or MAC (10.6 or better)
- A webcam with microphone and speakers (or plug-in headset)
- Internet: 2.4 Mbps or faster DSL, cable or Wi-Fi connection
- Browser: Current version of Chrome or Firefox
- Software: MS Office 2013 or newer ([Office 365 available here](#))

LearningHub Access

This course is delivered online through LearningHub at <http://learninghub.andrews.edu>.

Your username and password are your Andrews username and password. You need to activate your username and password to access LearningHub. To activate your username and password, visit <https://vault.andrews.edu/vault/pages/activation/information.jsp>. If you need assistance, call or email us at (296) 471-6016 or email.

If you need technical assistance at any time during the course or to report a problem with LearningHub, please email dlit@andrews.edu or call (269) 471-3960.

Part 3: Course Requirements

Important Note: This online class is **not** self-paced. You can arrange your schedule flexibly during each week, but you **MUST** participate each week. Commit to the weekly learning tasks and deadlines, which include reading assignments, reviewing PP slides, completing review quizzes, participating in forum discussions, and completing unit exams. A weekly Zoom meeting will be held on Tuesdays at 6:00 pm (EST).

Question and Answer Sessions: Question and Answer sessions are scheduled so students can interact with the course instructor and seek clarification on difficult items. The instructor reserves the right to leave the classroom after 30 minutes if no student is present.

Tips for Success: To accomplish the objectives of this course, students are encouraged to follow these suggestions:

1. Read the assigned reading assignments in the textbook.
2. Review the PowerPoint for the corresponding chapter.
3. Use the expected learning outcomes to outline (take notes) the most important aspects of each chapter.
4. Take the review quiz (two attempts allowed; the higher score will be recorded in the gradebook).
5. Consult the course instructor if you struggle to understand a particular concept.

Assessments

Review Quizzes

Unit review quizzes are offered through the LearningHub platform. Students must plan adequate time to complete the Reviews. For each review quiz, two attempts are permitted. The higher score will be entered in the gradebook.

Forums

Students are expected to participate in weekly forum discussions, which include an initial forum entry and at least one forum response. Points may be deducted for missing, late, or incomplete forum submissions. Forum discussions are considered late if not posted by the Thursday of the week following the scheduled timeline.

Rubrics

Forum Discussions Rubrics

Criteria	10 Exceptional	8 Proficient	6 Satisfactory	4 Emerging	0 Unsatisfactory
Content & Organization	Forum discussion makes relevant connections and shares excellent, insightful ideas.	Forum discussion is relevant to competency, well organized, and scholarly.	Forum discussion is generally relevant to competency. It is logically arranged and organized to express the desired concept.	The forum discussion is somewhat relevant and poorly focused and organized.	Forum discussion is not relevant to competency; it lacks focus and organization.
Knowledge Base	The forum discussion shows evidence of carefully evaluated knowledge and a synthesis of multiple theoretical perspectives.	The forum discussion shows evidence of an expanding knowledge base and includes an analysis of theoretical perspectives.	The forum discussion shows evidence of analysis of a well-documented knowledge base and an understanding of core theories.	The forum discussion shows evidence of comprehension of a narrow knowledge base.	The forum discussion shows little or no evidence of a knowledge base.
Mechanics	The forum discussion is free of mechanical errors; smooth flow and effective transitions enhance strong scholarly communication.	The forum discussion has few mechanical errors, improved flow, and strong transitions to increase comprehensibility.	The forum discussion follows mechanical conventions but with minor errors and appropriate transitions.	The forum discussion has frequent mechanical errors, ineffective transitions, and flows from point to point.	The forum discussion has numerous mechanical errors, making comprehension almost impossible.

Important: A satisfactory score will not be sufficient to achieve a passing score for the discussions portion of the course. Students must achieve a minimum of “proficient” scores in all discussion forums.

Exams

There will be six (6) closed-book unit exams corresponding to the reading assignments and PowerPoint presentations.

All exams must be taken with a proctor in a setting with no course material in sight, including the textbook, notes, or electronic material relating to the course.

All exams in this course require proctoring. Follow the prompts in the course space to set up your exam session. In each module that contains an exam, you will find what to review and what materials are allowed (if any) during the exam.

Please read the important information about taking exams and how online proctoring works at www.andrews.edu/distance/students/exams.html. Follow the instructions on the exam request form that apply to your situation to set up your exam session.

Please note that an exam code is never released to the student. All students must present photo identification before each exam session. Exams can only be proctored after a deadline with approval directly from the instructor to the Testing Center (sdeexams@andrews.edu or 269-471-6566). No exam is returned to the student for review. Contact the course instructor for detailed feedback on exams and help in studying for future exams.

Schedule:All times in the schedule are for the **U.S. Eastern Time Zone.**

Week	Lessons	Readings	Assignments
Intro	These items MUST be completed before you can access the rest of the course.	Orientation Course Overview Introductions Academic Integrity	Student Introductions Academic Integrity Quiz Academic Integrity Statement
Week 1 June 10 – 13	UNIT 1: Fundamental Concepts in Immunology	Kuby Chapters 1 - 3 (refer to ELOs for specific areas of focus) Chapters 1 - 3 PowerPoints	Unit 1: Discussion Forum: Initial Post Due Tuesday, June 11, 11:59 p.m. Review Meeting Tuesday, June 11, 6:00 p.m. Unit 1: Review Quiz Unit 1: Discussion Forum: Responses PROCTORED Unit 1 Exam Due Thursday, June 13, 11:59 p.m.
Week 2 June 14 – 20	UNIT 2: Modes of Immune Response	Kuby Chapters 4 & 5 (refer to ELOs for specific areas of focus) Chapters 4 & 5 PowerPoints	Unit 2: Discussion Forum: Initial Post Due Monday, June 17, 11:59 p.m. Review Meeting Tuesday, June 18, 6:00 p.m. Unit 2: Review Quiz <i>Optional Extra Credit: Paper on Nobel Prize for Immunologic Research</i> Unit 2: Discussion Forum: Responses PROCTORED Unit 2 Exam Due Thursday, June 20, 11:59 p.m.
Week 3 June 21 – 27	UNIT 3: Gene Expressions & Antigen Presentation	Kuby Chapters 6 & 7 (Refer to ELOs for specific areas of focus) Chapters 6 & 7 PowerPoints	Unit 3: Discussion Forum 1: Initial Post Due Monday, June 24, 11:59 p.m. Review Meeting Tuesday, June 25, 6:00 p.m. <i>Optional Extra Credit: Unit 3: Discussion Forum 2</i> Unit 3: Review Quiz Unit 3: Discussion Forum 1: Responses PROCTORED Unit 3 Exam Due Thursday, June 27, 11:59 p.m.
Week 4 June 28- July 4	UNIT 4: Cellular Development, Activation, Differentiation and Memory (Part 1)	Kuby Chapters 8 & 10 (Refer to ELOs for specific areas of focus) Chapters 8 & 10 PowerPoints	Unit 4: Discussion Forum 1: Initial Post Due Monday, July 1, 11:59 p.m. Review Meeting Tuesday, July 2, 6:00 p.m. Unit 4 pt 1: Review Quiz Unit 4: Discussion Forum 1: Responses Due Thursday, July 4, 11:59 p.m.
Week 5 July 5 - 11	UNIT 4: Cellular Development, Activation, Differentiation and Memory (Part 2)	Kuby Chapters 9 & 11 (Refer to ELOs for specific areas of focus) Chapters 9 & 11 PowerPoints	Unit 4: Discussion Forum 2: Initial Post Due Monday, July 8, 11:59 p.m. Review Meeting Tuesday, July 9, 6:00 p.m. Unit 4 pt 2: Review Quiz Unit 4: Discussion Forum 2: Responses PROCTORED Unit 4 Exam Due Thursday, July 11, 11:59 p.m.

Week	Lessons	Readings	Assignments
Week 6 July 12 - 18	UNIT 5: Immune Responses (Part 1)	Kuby Chapters 12 & 14 (Refer to ELOs for specific areas of focus) Chapters 12 & 14 PowerPoints	Unit 5: Discussion Forum 1: Initial Post Due Monday, July 15, 11:59 p.m. Review Meeting Tuesday, July 16, 6:00 p.m. Unit 5 pt 1: Review Quiz Unit 5: Discussion Forum 1: Responses Due Thursday, July 18, 11:59 p.m.
Week 7 July 19 - 25	UNIT 5: Immune Responses (Part 2)	Kuby Chapters 15 & 16 (Refer to ELOs for specific areas of focus) Chapters 15 & 16 PowerPoints	Unit 5: Discussion Forum 2: Initial Post Due Monday, July 22, 11:59 p.m. Review Meeting Tuesday, July 23, 6:00 p.m. Unit 5 pt 2: Review Quiz <i>Optional Extra Credit: Unit 5 Hypersensitivity Assignment</i> Unit 5: Discussion Forum 2: Responses PROCTORED Unit 5 Exam Due Thursday, July 25, 11:59 p.m.
Week 8 July 26- August 2	UNIT 6: Vaccines, Immunodeficiency Disorders, Tumor Immunology & Laboratory Methods	Kuby Chapters 17 - 20 (Refer to ELOs for specific areas of focus) Chapters 17 - 20 PowerPoints	Unit 6: Discussion Forum: Initial Post Due Monday, July 29, 11:59 p.m. Review Meeting Tuesday, July 30, 6:00 p.m. Unit 6: Review Quiz <i>Optional Extra Credit: Chapter 13 Extra Credit Quiz</i> Unit 6: Discussion Forum PROCTORED Unit 6 Exam Due Thursday, August 1, 11:59 p.m.

Completing Assignments

All assignments for this course will be submitted electronically through LearningHub unless otherwise instructed.

Part 4: Grading Policy

Graded Course Activities

Percent %	Description	Points (Approximately)
15	Discussion Forum Participation: (6) Initial Forum Entry Responses entry	40 pts. total 30 pts. each 10 pts. each
15	Review Quizzes (8)	10 pts. each
70	Lecture Exams (6)	50-100 pts. each
100	Total Percent Possible	
2% Extra credit through assignments marked as optional in the schedule and course space.		

Viewing Grades in LearningHub

- Click into the course.
- Click This Course in the top menu.
- Select Grades in the drop-down.

Letter Grade Assignment

Letter Grade	Percentage
A	93-100%
A-	90-92%
B+	88-89%
B	83-87%
B-	80-82%
C+	78-79%
C	73-77%
C-	70-72%
D	60-69%
F	0-59%

Part 5: Course Policies

Withdrawal and Incomplete Policies

The current withdrawal policy can be found online at <https://www.andrews.edu/distance/students/gradplus/withdrawal.html>. The incomplete policy is found online at <http://www.andrews.edu/webmlsc/moodle/public/incompletes.html>.

Late Work

Due dates are listed in the LearningHub course space and the course syllabus. Late work will have 10% of the earned points deducted.

Maintaining a Professional Conduct in the Classroom

The classroom is a professional setting designed for the academic exchange of ideas and learning. Your instructor is committed to creating a safe space where you can learn by exploring concepts and exchanging ideas. In turn, you're expected to respect your fellow students' thoughts, perspectives, and ideas. Every student has the right to learn without facing harassment or disruption. It's vital to foster an environment where everyone feels valued and free to engage in constructive discussions.

Netiquette

In this course, you will primarily communicate with your classmates and instructor by writing through the discussion forum and e-mail.

"Online manners" are generally known as "netiquette." Generally, you should adhere to the same classroom conduct that you would "offline" in a face-to-face course. Some examples of proper netiquette are:

1. Avoid writing messages in all capital letters. THIS IS GENERALLY UNDERSTOOD AS SHOUTING.
2. Be careful what you put in writing. Even if you are writing an e-mail message to one person, assume that anyone could read it. Though you may send an e-mail to a single person, it is very easy to forward your message to hundreds or thousands of people.
3. Grammar and spelling matter. Online courses demand the same standard of academic communication and use of grammar as face-to-face courses.
4. Never use profanity in any area of an online course. Online course discussion forums, e-mail, and chat session transcripts are savable.
5. When responding to messages, only use "Reply to All" when you really intend to reply to all.
6. Avoid unkindly public criticism of others. Publicly criticizing others in an inappropriate way is known as "flaming." Consider this course a practice forum for selecting your verbiage thoughtfully and professionally.
7. Use sarcasm cautiously. In the absence of nonverbal cues such as facial expressions and voice inflections, the context for your sarcasm may be lost, and your message may thus be misinterpreted.
8. In a face-to-face setting, our tone of voice and facial expressions may convey as much of our meaning as the words we use. In a written message, the subtext of your meaning may be confused or misinterpreted. Write clearly. Use active verbs.

[Source: University of Maryland, Communications Department]

Academic Accommodations

Students who require accommodations may request an academic adjustment as follows:

1. Read the Andrews University Disability Accommodation information at <https://www.andrews.edu/services/sscenter/about/accessibility-accommodations.html>
2. Download the form at <https://www.andrews.edu/services/sscenter/disability/accommodationsreqform.pdf>. Email the completed form and disability documentation (if any) to disabilities@andrews.edu.
3. Work with the Disability Office to learn what support is available online and be ready to show your disability contract for the current semester to the exam proctor at the start of any exam session if extra time is allowed.

Commitment to Integrity

As a student in this course and at the university, you are expected to maintain high degrees of professionalism, commitment to active learning, participation in this course, and integrity in your behavior in and out of this online classroom.

Commitment to Excellence

You deserve a standing ovation based on your decision to enroll in and effectively complete this course. Along with your pledge of “commitment to Integrity,” you are expected to adhere to a “commitment to excellence.” Andrews University has established high academic standards that will genuinely enhance your writing and communication skills across the disciplines and in a diverse milieu with many discourse communities in the workplace.

Honesty

Using another student's work or allowing work to be used by another student jeopardizes the teacher-student relationship and the student's academic standing. Lessons may be discussed with other students; tutors may help guide a student's work, and textbooks, encyclopedias, and other resource materials may be used for additional assistance, but the actual response must be the student's own work. A student who gives information to another student to be used dishonestly is equally guilty of dishonesty.

Any violation of this policy will be taken before the Higher Education Academic and Curriculum Committee for appropriate punitive action.

AI-Generated Work

Student work may be submitted to AI or plagiarism detection tools to ensure that student work product is human-created. The submission of AI-generated work constitutes plagiarism and violates the Andrews University academic integrity standards for students.