



**School of Pharmacy
Required Course Syllabus**

Fall – P1, 2022

PHAR 6203 / Track: Pharmaceutical Foundations

Pathophysiology & Immunology

Course Dates (August 23 – October 11, 2022)

Scheduled Course Time: Tuesday & Thursday: 9:00 am- 10:50 am

Location: Campbell Room 211

Course Coordinator

Yong Qin, Assistant Professor	
Office Room Number: CABL 508 Office Phone: (915) 747-5842 E-mail: yqin@utep.edu	OFFICE HOURS: In-person (room CABL 508) or virtual (MS Teams) 11:30 am – 12:30 pm every Friday

Course Faculty

Faculty Lecturers/Facilitators
Ian Mendez, Assistant Professor Office Room: Campbell 715 Email: iamendez2@utep.edu Phone: (915) 747-8216 Office hours: <i>Upon the appointment with Dr. Mendez</i>
Perla M Martinez, Clinical Instructor Office Room: CABL 601 Email: pmmartinez2@utep.edu Phone: 915 474 8549 Office hours: <i>Upon the appointment with Dr. Martinez</i>
Mariana Grigoruta, Postdoctoral Fellow Office Room: CABL 511 Email: mgrigoruta@utep.edu Phone: Office hours: <i>Upon the appointment with Dr. Grigoruta</i>

Course Teaching Assistant

Name: TBN

Contact Information: TBN

Office Hours Statement:

The Office hours could be in-person or virtual. Students may request an appointment with the coordinator in person or via e-mail. Individual guest faculty should provide office hours during lecture days. All appointments should be made at least 2 business days in advance. The faculty will announce their specific office hours in the class or through Blackboard course email.

Virtual Office Hours will be synchronous through a UTEP-approved platform (e.g., Microsoft Teams, Blackboard, or Zoom) and will be used to discuss problematic exam questions and any course logistic problems. The course coordinator will try to respond as soon as possible (generally within 24-48 hours). When sending an email, send through the Blackboard® course email or place the course number and name (e.g., PHAR 6203 and the issue/topic in the subject line of the email).

Course Description

This foundational course provides a bridge from anatomy and physiology to pathophysiology and immunology. The course will review the relevant normal structure and function of important systems in the human body followed by the pathophysiologic mechanisms contributing to common diseases of each system, including the mechanisms of the innate and adaptive immune response to infection, injury, and various diseases. The students will develop the ability to understand the disease and design rational and effective systems-based pharmacotherapy through the study of pathophysiology.



Pharmacists' Patient Care Process- This course assists students in assessing basic pathophysiological and immunological processes related to human organs' normal functions and related diseases.

Course Learning Objectives

At the conclusion of this course, students shall be expected to:

Course Objectives	CAPE Outcomes 2013	PCOA	NAPLEX 2021	Types of Activities to meet Learning Objectives	Assessment Measures	Level of Assessment (I) Introduce (R) Reinforce (A) Apply
Objective 1. Recall basic anatomy and physiology of common organ systems	1.1	1.1.1		Lectures and Case-Based activities	Quizzes Exams	I
Objective 2. Basic knowledge of pathophysiology and mechanisms for common diseases based on organ systems.	1.1	1.1.1		Lectures and Case-Based activities	Quizzes Exams	I
Objective 3. Describe the basic principles of immunology, associated microbes as well the organs and cells involved in immune responses. Explain the significance and scientific rationale for immunizations.	1.1	1.1.1		Lectures and Case-Based activities	Quizzes Exams	I
Objective 3. Describe the basic principles of immunology, associated microbes as well the organs and cells involved in immune responses. Explain the significance and scientific rationale for immunizations.	1.1	1.1.1		Lectures and Case-Based activities	Quizzes Exams	I

CAPE Educational Outcomes

The Center for the Advancement of Pharmacy Education (CAPE) has defined educational outcomes to guide the PharmD curriculum (see AACP CAPE Outcomes [weblink](#)). The content of this course will cover the following CAPE educational outcomes. **Level of Assessment:** 1 – Introduce, 2 – Reinforce, 3 – Apply

	CAPE Outcomes	Assessment
1.1	Learner (Learner) - Develop, integrate, and apply knowledge from the foundational sciences (i.e., <i>pharmaceutical, social/behavioral/administrative</i> , and <i>clinical sciences</i>) to evaluate the scientific literature, explain drug action, solve therapeutic problems, and advance population health and <i>patient-centered care</i> .	1

PCOA (Pharmacy Curriculum Outcomes Assessment) [Content Areas | Pharmacy Curriculum Outcomes Assessment](#)
[| NABP](#)

	PCOA Outcome	Assessment
1.1.1	Physiology: Function of the major body systems and homeostatic impact at organ and system level	1
1.4.1	Immunology: Innate and adaptive immunity	1
1.4.2	Immunology: Principles of antibody actions	1
1.4.3	Immunology: Hypersensitivity and types of reactions	1

NAPLEX 2021 [Competency Statements | North American Pharmacist Licensure Examination \(nabp.pharmacy\)](#)

	NAPLEX Outcome	Assessment
Area 1 – Obtain, Interpret, or Assess Data, Medical, or Patient Information		
1.5	Signs or symptoms of medical conditions, healthy physiology, etiology of diseases, or pathophysiology	1

Additional / Detailed Course Meetings & Location

Course Dates: August 23 – October 11, 2022

Scheduled Course Time: Tuesday & Thursday: 9:00 am- 10:50 am

Location: Campbell Room 211

If certain activities are held in a different place, the changes will be announced through Course Blackboard prior to the lecture date.

In a major disruption (e.g., Covid-19, H1N1 epidemic, subzero weather), be prepared to maintain course progress via other means (e.g., Internet, our Blackboard course shell, etc.) and check your email (especially your UTEP miners account) regularly.

Methods of Instruction/Learning

Appropriate technology will be incorporated in the course activities to aid the course administration and learning process. The learning outcomes in this course will be achieved via:

In-class Lectures: Lectures will include information from listed textbooks and other sources. Lecture presentations will be posted on-line. These materials are not intended to contain all the information from the lectures, and they are not intended as an after-the-fact substitute for attending the lecture. They are intended to assist students in assimilating and integrating facts and ideas from the lectures as they are presented, and to

spare students from having to spend time during lectures copying down structures and diagrams. Lectures will include in-class activities and cases to guide students in learning and applying.

Exams: There will be three **in-person** exams. Exams 1 and 2 will be evaluated by individual exams on ExamSoft and Group Problem Solving. The final exam will be a comprehensive individual exam for lectures 1-26. All three exams will be weighted in **80%** of the student's final score. **ATTENDANCE AND PARTICIPATION ARE MANDATORY FOR GROUP PROBLEM SOLVING IN THE EXAM 1 AND 2! No make-up exam will be offered for the Group Problem Solving.**

Quizzes/Case Studies: Instructors will provide in-class quizzes/case studies for students. The instructors will determine whether to award points for the quizzes/case studies as Class Activities or Assignments. Some practical quizzes/case studies will not be counted into the grade. NO make-up quizzes/case studies will be offered if the student miss the quizzes.

Assignments: Grading will be based on individual performance. The assignment will be announced through the course blackboard. There will be no credit given to students who miss the assignment. The need for a potential extension to turn in the assignment should be requested at least 24 hours ahead of the deadline and approved by the relevant instructor.

Lecture Videos: Instructors will provide lecture videos related to the course content on Blackboard. The lecture videos could be prerecording or synchronized videos. The instructors will determine the format and contents of records individually. The record is facilitation for learning, which should be considered as a replacement for the attendance of classes.

Required Course Technology/Tools/Needs

Required Textbooks:

Pathophysiology of Disease: An Introduction to Clinical Medicine, 8e. Hammer GD, McPhee SJ. eds.

<https://accesspharmacy-mhmedical-com.utep.idm.oclc.org/content.aspx?bookid=2468§ionid=198219305>

Cellular & Molecular Immunology, 10th or 9th edition, Abul K. Abbas, Andrew H. Lichtman, Shiv Pillai.

<https://ebookcentral.proquest.com/lib/utep/detail.action?docID=5553754&query=Cellular+and+Molecular+Immunology>

Recommended Textbooks (If any, optional):

Human Anatomy & Physiology, 11e. Elaine N Mareb and Katja Hoehn

Laptop:

Students are expected to bring laptop computers to the class each day for participation in on-line exercises or assessments. It is the responsibility of the students to make sure that the laptops are in working condition and meets the University and School of Pharmacy IT requirements (See SOP Student Handbook).

If you have not already, go to <https://app.reef-education.com> to create a FREE iClicker account. Search for UTEP in the institution dropdown, enter your FIRST and LAST name and miners.utep.edu email address. If you already have an iClicker account, you will be able to add this course to your course list. More instructions on how to access the course will be provided to you either on Blackboard and/or the first day of class.

Calculator

Students are expected to bring a non-programmable calculator to class and to all assessment activities. Some exams (e.g., ExamSoft®) may use the software calculator.

Software/Technology must be tested in orientation/first week of courses to ensure functionality.

- ExamSoft® Exam Monitor
- Blackboard® Collaborate: Chrome Browser
- Microsoft® Teams
- iClicker REEF mobile app or website
- Audio (speaker & microphone) and video (camera) MUST be checked to be functional for classes and online exams

Attendance

The attendance policy for the School of Pharmacy is outlined in the Student Handbook. It is expected that students should demonstrate their commitment to the profession and respect for faculty, guest speakers, and colleagues by attending all classes and arriving to class on time prepared for the day's lesson(s).

If a student has an excused absence, they should immediately notify the course coordinator(s) and instructor(s). The student should also immediately contact Director of Student Affairs (**Mrs. Carmen Ramos: crtorres2@utep.edu**) via online form - <https://www.utep.edu/pharmacy/current-students/student-absence-form.html>. To secure approval for an absence related to travel for professional meetings or for events that fall outside of the criteria outlined in the Student Handbook, please refer to the Handbook for more information regarding required documentation for submission to the Office of Student Affairs.

Attendance at lectures is not mandatory in that attendance will not be taken at each lecture. However, attendance and punctuality at lectures are strongly recommended and expected as a sign of professional behavior. If large numbers of students are absent, the course coordinator reserves the right to give unannounced quizzes. Missing class for work is NOT a valid reason for your absence.

The attendance of in-person lectures will be documented by sign-up forms providing in the class. The participation points will be awarded to the students with good attendance rates.

Attendance rate for 26 lectures	Participation (5 Points) Awarded Points
≥ 95%	10
95% > _ ≥ 90%	9
90% > _ ≥ 85%	8
85% > _ ≥ 80%	7
80% > _ ≥ 75%	6
75% > _ ≥ 70%	5
70% > _ ≥ 65%	4
65% > _ ≥ 60%	3
60% > _ ≥ 55%	2
55% > _ ≥ 50%	1

Classroom / Online Etiquette

Students are expected to be professionals and will be treated as such unless circumstances deem otherwise. Any behavior that impairs students' ability to learn will not be tolerated (e.g., side conversation, cell phone use, or electronic device used for activities unrelated to coursework). Laptops/Tablets/Phones may be used during class for taking notes. Using electronic devices for other activities than taking notes, which disrupts the class around you, would not be tolerated.

Expectations of Students During Course

It is the responsibility of the student to monitor his/her progress during the course. Students should keep good class attendance rates and follow the instructors' instructions to participate in the assignment and class activities. Students should seek advice and assistance from the course facilitator as soon as they encounter any difficulty in the course.

Unique Dress Policy for Course

This course has a hybrid component that permits for actual face-to-face interactions with faculty and other students enrolled in this class. We strongly encourage everyone who attends in-person activities wears a face mask at all times while such meetings are taking place, maintain social distance of a minimum of 6 or more feet, and practice proper hygiene practices. As you enter or exit campus, minimize the number of encounters with others to avoid infection by the SARS-CoV-2. Use preventive safety and health measures at all times until informed otherwise by campus officials.

Evaluation and Grading Policy

Course point distribution will be as follows:

Type of Assessment	Total Points	% Course Grade
Assignments, Class Activities, or Quizzes	38	15.83
Participation	10	4.17
Exam 1 (Lectures 1-12; 4 questions/lecture) + Group Problem Solving I	68	28.33
Exam 2 (Lectures 13-22, 4 questions/lecture) + Group Problem Solving II	60	25
Final Exam (Comprehensive: Lectures 1-22, 2 questions/lecture; Lecture 23-26, 6 questions/lecture)	64	26.67
Total Points	240	100

Assignment of grades:

- A = 90 – 100%**
- B = 80 – 89%**
- C = 70 – 79%**
- D = 60-69%**
- F = < 60%**

Class Assignments and Activities:

Faculty may assign pre-class, in-class, or post-class assignments to assist with outside class learning. The assignments will be done utilizing through the class Blackboard shell. Faculty may assess your completion of these assignments (including case studies) and knowledge through quizzes (iClicker quizzes) throughout the class. Active learning, in class exercises using iClicker, and cases will be administered throughout the course. These assignments and activities will contribute to a total of 15.83% of your total course score. The course coordinator and instructors retain the option to drop one or two of the student's lowest-scoring activities at the end of the semester and/or issue bonus points for activities and participation, at their discretion.

Exams:

There will be a total of three exams, including the final exam. The exams will consist of true/false, matching, multiple choice, and multiple answer (e.g., select all that apply) questions. All exams will be administered via ExamSoft® unless noted otherwise. The Group Problem Solving section of Exams 1 and 2 will be conducted as in-person paper exams within the preassigned group.

Questions Related to the Course and Grading/Exams

MATERIAL: In general, questions related to the overall course should be directed to the coordinator. **Content/topic-specific questions** should be directed to the content instructor within **five (5) business days** of the material being presented.

ASSIGNMENTS/EXAMS: Any questions concerning **assignments/exam grades** should be discussed with the **course coordinator within five (5) business days** after the grades have been posted.

REGRADE REQUEST: Regrade requests for assignments or exams should be made within five (5) business days of posting the grades. Requests will not be entertained after this period (unless excused absence due to extenuating circumstances or faculty coordinator).

The in-person review of exams will be provided during office hours after the exam. Taking notes or photos of the exam questions is not allowed. Students' requests for the regrade should provide evidence/rationale to support their requests after the exam review.

EXAM-RELATED Technology and Guidance:

Exam Day Policy

Students must arrive on time for examinations. Students arriving after any student(s) has/have completed the exam and have left the room may not be allowed to sit for the exam and may receive a score of zero. No allowances will be made for an exam being missed, other than documented illness or emergency. The student must contact the course coordinator for confirmation prior to the exam. If permission is granted to delay the exam; it is the student's responsibility to contact the course coordinator to arrange for an alternative exam time. In this event, the nature of the make-up will be at the discretion of the course coordinator (oral, written, increased weighting on the final, etc.). An unexcused absence from an exam may result in a grade of "zero" for that exam.

Student Expectations Prior and During Examination

Due to the pandemic, all the individual exams were planned to be hold via ExamSoft®, unless noted otherwise.

Exams: Electronic exams need to be **downloaded at a minimum 2 hours prior to the examination**.

Students are responsible for having a computer for electronic exams. Computers/Tablets are available to check-out as a loan for exams from the ILC, and students should make early arrangements for securing computers. Students who show up without a computer to take an electronic exam will (1) be provided a paper exam, (2) may receive a grade deduction as stipulated in the course syllabus, and (3) will receive a professionalism referral to the SOP Progression Committee.

Availability of items during exam

By default, faculty will provide scratch paper for examinations, unless faculty determines scratch paper is not necessary in which case students will receive advance notice that scratch paper will not be provided. Only faculty will provide scratch paper, and only scratch paper provided by the School of Pharmacy can be used

during the examination. Any scratch paper utilized during an examination must have the student's name and date on every page and all pages must be turned in at the completion of the examination. Any exemption will be noted accordingly in the syllabus.

- **No backpacks, purses, hats, large coats, and/or other bulky clothing** permitted; these items need to be left outside the examination room or in an area in the exam room designated by the faculty/proctor.
- **No food or drink** allowed during an exam.
- **No electronic devices besides the only laptop or tablet (for example: watches, phones, ear phone, smart calculators, etc.)** are permitted on the student during an examination unless approved by the instructor prior to the examination or inspected upon entry into the exam room for approval. **The usage of smart phone/watch/ear phone during the exam is not allowed, and the violation will lead the result in a grade of "zero" for that exam.** A specific model for calculators may be specified in the course syllabus or provided in advance of the examination to students.
- Disruption of examination time due to an electronic device can result in a grade penalty as stipulated in the syllabus.
- Bathroom break: **No bathroom breaks permitted during examinations unless a prior accommodation is made.** Faculty maintain discretion over the permissibility of bathroom breaks; students should expect that a proctor will accompany them to the restroom and will wait outside the restroom if permission for restroom use is granted. No additional time will be provided for examinations when restroom breaks occur.

Missed Quizzes / Exams / Assignments – Excused/Unexcused Absences

Only students who miss an exam, quiz or an assignment due date as a result of an **excused absence MAY BE** allowed to make-up the missed assignment or assessment. The make-up exam will need to be evaluated case by case and approved by all the instructors that provide the make-up exam. Students should consult the UTEP School of **Student Handbook** for definitions and examples of excused absences.

- The course coordinator **MUST** be notified on the day of the exam for the student to be excused from that exam for an **emergency**.
- In the case of **religious holidays**, the student **MUST** notify the course coordinator **10 business days prior** to the exam. Students should not assume that they can miss an exam for vacation or other personal conflicts.
- Any excused absence from an exam for **health reasons** must be documented with a note from an appropriate health professional.
- Any unexcused absence from an exam will result in a grade of zero for that exam.
- **There are no make-up sections for the Group Problem Solving of Exams 1 and 2.**

The course coordinator will determine the time and date for a make-up exam, which will occur before the final exam period. If the student is unable to attend either the original exam or the make-up exam, the course coordinator is not required to provide additional opportunities for the student make-up exam. The format of the make-up examination is at the discretion of the course coordinator and instructors, and may include any question type including, but not limited to, open-ended questions, an essay examination, or oral examinations.

Remediation Policy

Students must participate fully in the course to be eligible for remediation. Please refer to the Student Handbook for end-of-course remediation policies and timelines (*see Table of Contents for End of Course Remediation*).

Course Evaluation

Participation in Course Evaluations/Surveys is strongly encouraging.

Bonus points will be awarded to the whole class for the good participating rates in the course evaluations/surveys.

Participation rate of the whole class	Bonus Points
≥ 85%	1.5
85% > Rate ≥ 70%	1
70% > Rate ≥ 55%	0.5

General Statement about Course Policy

The syllabus is subject to change to meet course needs, especially if there are unexpected disruptions or changes in class size, resources, etc. The most updated syllabus can be found on the course Blackboard shell. It is the student's responsibility to review the syllabus periodically for updates.

UTEP and SOP Policy for Academic Integrity

Any student who commits an act of academic dishonesty is subject to discipline. The instructor is required to report all suspected academic dishonesty to the UTEP Office of Student Conduct and Conflict Resolution. Please refer to the Student Handbook for SOP guidance on academic integrity (*see Table of Contents for Curriculum and Classroom Policies: Academic Integrity*).

Academic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, and any act designed to give unfair advantage to a student or the attempt to commit such acts.

Proven violations of the detailed regulations, as printed in the Handbook of Operating Procedures (HOP), and available in the Office of the Dean of Students and on the homepage of the Dean of Students at www.utep.edu/dos, may result in sanctions ranging from disciplinary probation, to a failing grade on the work in question, to a failing grade in the course, to suspension or dismissal, among others. For more information, see: <https://www.utep.edu/student-affairs/osccr/student-conduct/academic-integrity.html>

Professionalism and Professional Conduct

While enrolled at the University, a student neither loses the rights nor escapes the responsibilities of citizenship. Thus, UTEP and the SOP value professionalism and expect all students to not only acquire but also maintain the highest standards of professional attitudes and behaviors in their interactions with their fellow classmates, staff, faculty, colleagues and their patients, as described in the UTEP School of Pharmacy Student Handbook and as per UTEP's student conduct policies (see <https://www.utep.edu/student-affairs/osccr/student-conduct/index.html/> for further information). Any student who engages in conduct that is prohibited by the Board of Regents' Rules and Regulations, University or SOP rules or by federal, state, or local law is subject to discipline whether such conduct takes place on or off campus or whether civil or criminal penalties are also imposed for such conduct. Please refer to the Student Handbook for specific expectations regarding professional conduct in the SOP (*see Table of Contents for Academic Progression: Good Standing: Professional*).

Cell Phones

Students should carry cell phones but keep the phone on the vibrate mode in the event students need to be notified by the emergency alert system. Cell phone use disrupting the learning environment of fellow

classmates and faculty is not allowed. The use of a cell phone or the ringing of the phone in class is considered unprofessional behavior. No cellphones can be used during an exam unless specifically as part of that assessment and approved by the faculty member/instructor.

Technical Assistance

Checking computer requirements and ensuring that all software up to date is essential for students to access course content. **Supported browsers include –**

- 1) **For a PC:** FireFox, Internet Explorer (Do NOT use IE7), and Chrome
- 2) **For a Mac:** Safari, Firefox, and Chrome

To enhance browser performance, students should clear the browser cache and allow pop-ups. In addition to testing the web browser, check to ensure that the computer has an updated version of **Java** (go to <http://java.com>, click on “Do I have Java”, click on “Verify Java Version,” update Java if needed). Additional browser plug-ins may also be needed to view some content that your instructor may share on the learning management system. Common plug-ins include: **Adobe Reader, Flash Player, Windows Media Player, QuickTime**. When creating documents, slide presentations, spreadsheets, etc., be sure to use Microsoft Office or a compatible program (see 10 Free MS Word Alternatives). The UTEP Technology Support Services (3rd floor, UTEP Library) can also provide students with any applications, compatibility packs, patches, and updates that may be needed.

Students working off campus may need to set up a **Virtual Private Network (VPN)** on their computer to access UTEP resources for this class (i.e., Library). The link below provides information in setting up a VPN connection depending on the operating system. Students may contact the UTEP Help Desk (915-747-HELP) for assistance or https://www.utep.edu/technologysupport/ServiceCatalog/NET_VPNGlobalProtect.html

If technical problems are experienced with the course, students should contact the **UTEP Help Desk** during: Monday– Friday: 8AM – 5PM. If calling within UTEP: 915.747.4357. If calling from outside UTEP: 915.747.5257. For more information, please visit <http://helpdesk.utep.edu>. For help with **Blackboard**: https://www.utep.edu/technologysupport/ServiceCatalog/BB_Students.html

Students can also visit an on-campus lab such as the ATLAS lab located within the Undergraduate Learning Center (UGLC building) for additional technical assistance. In addition to the various campus computer labs (ATLAS in UGLC or LACIT in Liberal Arts for example), Technology Support Services provides workstations for student use. To learn more, please visit:

https://www.utep.edu/technologysupport/ServiceCatalog/BB_Students.html

UTEP and SOP Policy for Special Accommodations (ADA)

“If you have or suspect a disability and need classroom accommodations, you should contact the Center for Accommodations and Support Services (CASS) at 747-5148.” You can also e-mail the office at cass@utep.edu or go by their office in Union Building East (Room 106). For additional information, visit the CASS website at <http://sa.utep.edu/cass/>.

Students must notify the course coordinator by Wednesday, October 23, 2019 if they will be using their accommodations. This is to allow sufficient time for the course coordinator to accommodate alternate exam-taking locations/times or any other accommodations approved by CASS.

PHAR 6203 (4 Credit Hours): Course Calendar and Topic Outline
Pathophysiology & Immunology
Course Dates (August 23 – October 11, 2022)
In Person Course – Camp. Room 211
Tuesday & Thursday: 9:00 am- 10:50 am

PHAR 6203: Course Calendar and Topic Outline

Week	Date	Lecture Number	Topics	Instructor	Required Reading Activities/Assignments
Module 1: Pathophysiology					
1	Tue Aug 23	Lecture 1	Course overview/Syllabus/Rules Review (20 min) Introduction to Pathophysiology	Qin	<i>Pathophysiology of Disease, Ch1-2</i>
1	Tue Aug 23	Lecture 2	Blood Disorders <ul style="list-style-type: none"> • Normal structure & Function of the Blood System • Coagulation Factors and Coagulation System • Red Cell Disorders • White Cell Disorders • Coagulation Disorders 	Qin	<i>Pathophysiology of Disease, Ch6</i>
1	Thu Aug 25	Lecture 3	Nervous System Pathophysiology <ul style="list-style-type: none"> • Normal structure & Function of the Nervous System • Psychiatric disorders:Neurological disorders • 	Mendez	<i>Pathophysiology of Disease, Ch7</i>
1	Thu Aug 25	Lecture 4	Pulmonary Pathophysiology <ul style="list-style-type: none"> • Normal structure & Function of the Lungs • Obstructive lung diseases (Asthma & Chronic obstructive pulmonary disease (COPD)) • Allergic Rhinitis 	Mendez	<i>Pathophysiology of Disease, Ch9</i>
2	Tue Aug 30	Lecture 5	Gastrointestinal Pathophysiology <ul style="list-style-type: none"> • Normal structure & function of the GI Tract (gallbladder, small intestine, & colon) • Constipation and Diarrhea • Nausea and Vomiting 	Mendez	<i>Pathophysiology of Disease, Ch13</i>
2	Tue Aug 30	Lecture 6	Liver Disease <ul style="list-style-type: none"> • Normal structure & function of the Liver • Chronic hepatitis (Chronic Viral Hepatitis, Alcoholic Chronic Hepatitis, Nonalcoholic Fatty Liver Disease, & Others) • Cirrhosis (Portal Hypertension, Ascites, Hepatorenal Syndrome, et al.) 	Qin	<i>Pathophysiology of Disease, Ch14</i>
2	Thu Sep 01	Lecture 7	Diseases of the Skin <ul style="list-style-type: none"> • Normal structure & Function of the Skin • Atopic dermatitis 	Martinez	<i>Pathophysiology of Disease, Ch8</i>

Week	Date	Lecture Number	Topics	Instructor	Required Reading Activities/Assignments
			<ul style="list-style-type: none"> Spongiotic dermatitis (Allergic Contact Dermatitis) Folliculitis & perifolliculitis (Acne) 		
2	Thu Sep 01	Lecture 8	Renal Disease <ul style="list-style-type: none"> Normal structure & Function of the Kidney Acute kidney injury Chronic kidney disease 	Martinez	<i>Pathophysiology of Disease, Ch16</i>
3	Tue Sep 06	Lecture 9	Cardiovascular Disorders: Heart Disease <ul style="list-style-type: none"> Normal structure & Function of the Heart Arrhythmias (Bradycardia & Tachycardia) Heart failure (Left Ventricular Failure & Right Ventricular Failure) Coronary artery disease 	Martinez	<i>Pathophysiology of Disease, Ch10</i>
3	Tue Sep 06	Lecture 10	Cardiovascular Disorders: Vascular Disease <ul style="list-style-type: none"> Normal vascular structure & function Atherosclerosis Hypertension 	Martinez	<i>Pathophysiology of Disease, Ch11</i>
3	Thu Sep 08	Lecture 11	Endocrine system <ul style="list-style-type: none"> Normal structure & function of the Endocrine system Endocrine Disorders 	Mendez	<i>Pathophysiology of Disease, Ch15, 18, 20</i>
3	Thu Sep 08	Lecture 12	Pancreatic disease Introduction to Pancreas Pancreatic disease <ul style="list-style-type: none"> Exocrine pancreatic disorders Diabetes mellitus (Types I & II) 	Martinez	<i>Pathophysiology of Disease, Ch15, 18, 21</i>
End of material for Exam #1					
4	Tue Sep 13	Exam 1: Lectures 1 – 12 <ul style="list-style-type: none"> ➤ Individual Exam – ExamSoft – (4 questions/lecture) – 1 hour (48 points) ➤ Group Activities – Case analysis – 1 hour (20 points) 			
Module 2: Immunology					
4	Thu Sep 15 – Moved to 9/14 3 pm – 5 pm (room TBN)	Lecture 13	❖ Introduction to Immune system & Immune response ❖ Cells and Tissues of the Immune System	Grigoruta & Qin	<i>Cellular & Molecular Immunology, Ch1-2</i>
4	Thu Sep 15 Moved to 9/14 3 pm – 5 pm (room TBN)	Lecture 14	❖ Leukocyte migration into tissues ❖ Innate Immunity	Grigoruta & Qin	<i>Cellular & Molecular Immunology, Ch3-4</i>
5	Tue Sep 20	Lecture 15	❖ Antibodies and Antigens	Grigoruta & Qin	<i>Cellular & Molecular Immunology, Ch5</i>

Week	Date	Lecture Number	Topics	Instructor	Required Reading Activities/Assignments
5	Tue Sep 20	Lecture 16	❖ Major Histocompatibility Complex Molecules and Antigen Presentation to T Lymphocytes	Grigoruta & Qin	<i>Cellular & Molecular Immunology, Ch6</i>
5	Thu Sep 22	Lecture 17	❖ Immune Receptors and Signal Transduction	Grigoruta & Qin	<i>Cellular & Molecular Immunology, Ch7</i>
5	Thu Sep 22	Lecture 18	❖ Lymphocyte Development and Antigen Receptor Gene Rearrangement	Grigoruta & Qin	<i>Cellular & Molecular Immunology, Ch8</i>
6	Tue Sep 27	Lecture 19	❖ Activation of T lymphocytes	Qin	<i>Cellular & Molecular Immunology, Ch9</i>
6	Tue Sep 27	Lecture 20	❖ Cell-mediated Immunity (CD4+ & CD8+)	Qin	<i>Cellular & Molecular Immunology, Ch10-11</i>
6	Thu Sep 29	Lecture 21	❖ B Cell Activation and Antibody Production	Qin	<i>Cellular & Molecular Immunology, Ch12</i>
6	Thu Sep 29	Lecture 22	❖ Effector Mechanisms of Humoral Immunity	Qin	<i>Cellular & Molecular Immunology, Ch13</i>
End of material for Exam #2					
7	Tue Oct 04	Exam 2: Lectures 13 - 22 ➤ Individual Exam – Examsoft – (4 questions/lecture) – 1 hour (40 points) ➤ Group Activities – Case analysis – 1 hour (20 points)			
Module 2: Immunology & Pathophysiology - Continue					
7	Thu Oct 06	Lecture 23	❖ Infectious Diseases (Pathophysiology) <ul style="list-style-type: none"> ○ virus/bacteria/fungi ○ Pneumonia ○ Infectious diarrhea ❖ Immunity to microbes (Immunology)	Qin	<i>Pathophysiology of Disease, Ch4</i> <i>Cellular & Molecular Immunology, Ch13</i>
7	Thu Oct 06	Lecture 24	❖ Allergy	Qin	<i>Cellular & Molecular Immunology, Ch20</i>
8	Tue Oct 11	Lecture 25	❖ Hypersensitivity Disorders	Qin	<i>Pathophysiology of Disease, Ch19</i>
8	Tue Oct 11	Lecture 26	❖ Inflammatory Rheumatic Diseases (Pathophysiology) <ul style="list-style-type: none"> ○ Rheumatic diseases - Gout ○ Systemic lupus erythematosus ○ Rheumatoid arthritis ❖ Immune evasion of cancer (Immune checkpoints)	Qin	<i>Pathophysiology of Disease, Ch24</i> <i>Cellular & Molecular Immunology, Ch18</i>
End of all the lectures					
8	Friday Oct 14	Final Exam (Lectures 1-26) – 1 – 3:45 pm Individual Exam – Examsoft 2 questions/lecture; Lectures 1-22 6 questions/lecture; Lectures 23-26			