



Kenneth L Mattox School of Mathematics and Sciences

BIOL3411 Pathophysiology Syllabus Spring 2 2027

WAYLAND MISSION STATEMENT

Wayland Baptist University exists to educate students in an academically challenging, learning-focused and distinctively Christian environment for professional success, lifelong learning and service to God and humankind.

Course Title:

Biology 3411 – Pathophysiology

INSTRUCTOR:

Instructor: Adam Reinhart, Ph.D., Dean of the School of Mathematics and Sciences | Professor of Biology and Chemistry.

Office: Rm# 203 Science Building, WBU Plainview Campus.

Phone: 291-1124

Email: reinhart@wbu.edu Email is the best way to reliably contact me.

Office hours: posted on my door and by appointment.

Meeting Time: online – anytime before 9 PM I will look at email.

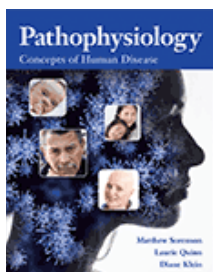
CATALOG DESCRIPTION:

Application of knowledge of normal anatomy and physiology to promote a clear understanding of disease processes. Introduces the student to common body responses and manifestations of disease that result from imbalances in homeostasis of the body.

PREREQUISITES:

BIOL 2408, BIOL 2409, and BIOL 3410 - **you must have completed 2 semesters of A&P.** This is required knowledge for the course.

TEXT:



Pathophysiology: Concepts of Human Disease, 1st Edition
Matthew Sorenson / Lauretta Quinn / Diane Klein. Pearson

NOTE: eTextbook included at registration. The ebook has inset definitions, images, key words on the exams, practice questions, and other resources. If you want to buy a hard copy that is fine, but you must OPT-OUT of ALL of your the eTextbooks, or be charged. Be aware opting out of one book might opt you out of ALL textbooks.

BLACKBOARD:

All materials and interactions will be done on Blackboard. It is REQUIRED that each student activate their student email accounts – this is the official means of communication between faculty and students. (Wayland email). If you email me using an alternate email address (yahoo, google, etc.) it goes to my junk Wayland email, and I put out quite a few announcements. Information is in the classroom under "Start Here". If you require assistance in getting this done, please contact the IT department at itsupport@wbu.edu. Also, Chrome seems to be the browser of choice with Blackboard. If an assignment does not work try clearing the cache in your browser as a first step.

COURSE OUTCOME COMPETENCIES:

At the conclusion of this course, the student will be able to:

1. Analyze cellular and molecular biology as a prerequisite to understanding disease.
2. Examine the cooperation of various systems of the body resulting in fluid, electrolyte and acid- base balance.
3. Analyze how environment and lifestyle affect pathophysiological processes.
4. Evaluate the body's inflammatory response to tissue injury and the organs may and may not respond. So **USE** your WAYLAND email. Announcements come to your and systems adaptations to inflammation.
5. Differentiate between a functioning and nonfunctioning immune system.
6. Compare and contrast normal physiologic and abnormal pathophysiologic adaptation of various organs and systems across the lifespan.
7. Analyze symptoms, laboratory data, other measures of function, and knowledge of pathophysiological processes to formulate diagnostic hypotheses for clients across the lifespan

ATTENDANCE REQUIREMENTS:

For the online class attendance is reported by submission of weekly assignments on time for that week. You may have noticed that there are a lot of assignments in this course. I don't think any of it is "busy work" - everything is essential. This is a complicated, involved course that will take a lot of organization and effort to get all assignments turned in.

PARTICIPATION POLICY:

Important - Your attendance is based on discussions, case studies, quizzes, and two major exams.

Your classmates will depend on you to help construct an understanding of the material in the discussion board wikis. It is essential that you be in the classroom several times a week to truly participate. **Failure to meet posted deadlines may result in a grade of zero. Any assignments that are accepted by the instructor after the due date will lose 10% of the grade per day (24hr period)** unless previously arranged (deployment, documented illness) and then the agreed upon due date will apply. Submissions are time- stamped in Blackboard (discussion or assignments).

Exams and quizzes will not be reopened!!! Be sure to watch due dates and participation times and not miss deadlines.

All times and due dates will be US Central Time (CDT) as observed in the Great State of Texas 😊

Case Studies constitute the 'lab' portion of our course. These are based on the case studies in the textbook but are much more involved than what is in the book.

Statement on Generative AI for this course:

Generative AI tools permitted in specific context and with proper citations.

- i. Students are allowed to use, reference, or incorporate generative AI tools into specific assignments for this course. When used, students must **properly** cite the generative AI tool in their submitted work.
- ii. While there is no true substitute for direct help and instruction for your instructor, students may be allowed to use generative AI tools to provide further explanations of course content, readings, and other assignments. Any use of generative AI tools to help further explain or translate content must be properly referenced and cited.
- iii. Specific parameters for generative AI usage are provided by the instructor.
- iv. Any use of generative AI tools **outside of the approved instructor parameters** will be considered a form of plagiarism and academic dishonesty.

*** There is at least 1 assignment that will require interactions with AI patient***

Disability Statement:

In compliance with the Americans with Disabilities Act of 1990 (ADA), it is the policy of Wayland Baptist University that no otherwise qualified person with a disability be excluded from participation in, be denied the benefits of, or be subject to discrimination under any educational program or activity in the university. The Disability Services Coordinator and Academic Coach serves as the coordinator of students with disabilities and must be contacted concerning accommodation requests (office (806) 291-1057. Documentation of a disability must accompany any request for accommodations. *Any accommodations received will not be retroactive and will start on the date of a completed and approved accommodation form.

ELEMENTS OF SUCCESS:

Pathophysiology is a course which builds on previous knowledge from Anatomy and Physiology, and Microbiology. It is really a synthesis course – you know a lot of “stuff” from A&P and Microbiology, this course is a chance to use that knowledge to understand and diagnose disease states when body systems don’t work quite right! You must have a solid foundation in prerequisite knowledge to be able to move quickly through the large amount of material covered in 8 weeks in this course. Taking an on-line pathophysiology course will require a firm commitment to learning and personal discipline in scheduling study and participation times. Although you will not be required to attend traditional lecture or laboratory sessions, you will be expected to understand through personal study the same concepts and terms required of students in the traditional lecture class. The advantage of an on-line course is the greater scheduling flexibility it affords the student, but if you are not attentive to course assignments this will probably be reflected in a lower grade for the course. So, given the nature of on-line learning and the demands of the course, it would be wise to heed the following advice!

1. TIME COMMITMENT -

This course has an extensive time commitment. I have set up a schedule by day/week to help you follow along and determine if you are on schedule. In this short 8-week session you must remain on top of the course work as “catching up” is difficult, and many times not possible. While WBU-online students have the benefit of some flexibility in scheduling when they will review lecture and project materials, the content of this course is NOT reduced from the traditional format and will require AT LEAST the same level of effort as the in-class (16 week) version of the course!

Therefore – to succeed in this course, students should be prepared to invest a MINIMUM of 8 hours per week, with additional effort required to study for case study assignments, quizzes and exams.

2. READ AND STUDY ASSIGNED BOOK CHAPTERS AND UTILIZE OTHER RESOURCES AS NEEDED.

Everyone learns in a little different manner. Some like audio, some text, some video, some write notes. I try to include a variety of resources in the classroom so you can choose what works best for you. You do not have to use every piece of content I place in the classroom. If powerpoints do nothing for you...skip those. Even though the on-line format precludes traditional lecture presentation of course material, this new textbook has some awesome embedded videos for understanding, and quick interactive questions. We are covering about 70 pages per week. May not sound like a lot, but the content is dense...makes you think, includes processes, and applied cases. Do the readings first and early. DO NOT try to read and do assignments on a weekend only, or 2 times a week basis. There is just too much to assimilate for understanding. It is much better to read on Sunday and Monday at the start of the week, and then do a little studying, discussion, reading, and concept mapping each day of the week. Most weeks have an intro assignment called Weekly Challenge to get you thinking about the material that week that is due on Tuesday.

Another reality we should probably think about is that this book has around 1300 pages and 53 chapters! It is the best book I have found though! We will cover a lot of the book, but I have selected what I think (after consultation with nursing educators) the chapters we need most. For example, there are many chapters on some body systems, and I have chosen the one that is most appropriate, given scenarios you will see most often as a healthcare professional.

3. PARTICIPATE IN ALL CLASS Discussion

There will be many wiki questions posted on Blackboard in the discussion area for each chapter we study. These are designed to help you focus on major concepts and topics and to engage you in the learning process by sharing your discoveries and observations with your classmates and your professor. In order to effectively participate in the wikis, you will need to keep up with reading assignments. Your participation/discussion grade will be assigned based on the quality of your participation in posted wikis. You need to claim a question, respond with the answer, and cite references for full credit. Also, READ other student's posts as well. You learn great info – it is supposed to be a sharing environment. This also lets you get a picture of how good YOUR posts are compared to the rest of the class. You will have the opportunity to see really good well-developed answers and some students that have barely answered the questions.

4. QUIZZES –

Quizzes appear in the weekly folder and **generally** close on Sunday night at 11:59pm. There are 8 questions per quiz based on information in the book chapters. These questions are pulled randomly from larger sets of questions. You can take the quizzes over and over to get the best score, AND the more times you take the quiz, the more different questions you will see, which is a REALLY good idea. The highest score is taken – so there is no penalty for opening, retaking, and looking at questions once you attain the score you want. There is a quiz for each chapter (so usually 2 per week) and once closed (generally Sunday night, but this changes in holiday weeks and for the last week of the term) you will not be able to go back and retake the quizzes.

5. CASE STUDIES –

Case studies will begin in week 2. Case studies are more developed versions of cases in the textbook. The case studies are actually done really well in Pearson. They are very thought-provoking and require a lot of thought on your part. They are fairly involved and take some time to complete.

6. COLLABORATING –

I am available for office hours, reviewing materials with groups or individuals at fairly flexible times. You will need to plan ahead so we can set up a zoom if needed.

7. DO NOT MISS DEADLINES FOR QUIZZES or PROCTORED EXAM –

There will be two major proctored exams given during the course. A Midterm in Week 4, and a final on the last days of week 8. There will be multiple guess questions, true/false, and I MAY add a few essays.

The Midterm and the Final will be given in a proctored environment.

To set up a proctor on site at a WBU campus testing center (or if you are in Plainview, I will serve as your proctor 😊). You will need to set up an appointment at the proctoring center at your WBU campus, if you are associated with one, generally on a weekday during office hours well in advance of the exam. Tests can be proctored 24/7 for \$8-10 on your home computer if you have a proper web camera and microphone (like as used for zoom/collaborate) with our Honorlock system. Do not wait until the last day of the exam to try to set this up and make sure it is all working properly. If you have problems with honorlock working call the honorlock help line – they are good, and the ones to talk to.

NOTE that because of the nature of an on-line course, MAKE UP EXAMS WILL BE GIVEN ONLY UNDER THE MOST EXTENUATING CIRCUMSTANCES.

No resources may be used during either midterm or final exams. That means it is not open book, and you can't use the Internet. We all know when you are working a job, it might be OK to use your phone to check normals for lab values or check a fact – but when sitting with a patient you need to KNOW things to diagnose a problem. You don't just peruse your phone. So, the test has basic info on all pathology you should have in memory or be able to solve problems from your knowledge.

8. EXTRA CREDIT –

There are 2 opportunities for extra credit, and each can add a maximum of 10 points to your midterm and final exams. Don't miss the due dates.

COURSE EVALUATION AND GRADING:

The final grade in the course will be derived as follows:

Quizzes	10%
Proctored Midterm and Final exams	50%
Dynamic Learning Modules	10%
Case Studies	15%
Wiki / Discussion Boards/ Talk with AI patient	15%

University grading system

A 90-100
B 80-89
C 70-79
D 60-69
F below 60 I incomplete
W withdrawal

GRADE APPEALS:

Students shall have protection through orderly procedures against prejudices or capricious academic evaluation. A student who believes that he or she has not been held to realistic academic standards, just evaluation procedures, or appropriate grading, may appeal the final grade given in the course by using the student grade appeal process described in the Academic Catalog. Appeals may not be made for advanced placement examinations or course bypass examinations. Appeals are limited to the final course grade, which may be upheld, raised, or lowered at any stage of the appeal process. Any recommendation to lower a course grade must be submitted through the Executive Vice President/Provost to the Faculty Assembly Grade Appeals Committee for review and approval. The Faculty Assembly Grade Appeals Committee may instruct that the course grade be upheld, raised, or lowered to a more proper evaluation.

Basic Schedule Overview

Approximately 2 chapters per week.

Pre-Class - Cellular function and basic A&P and Microbiology has been covered in your prerequisite courses, It is required knowledge and I will assume that you know it.

Week 1 (Chapters 1,13) Intro to pathophysiology, Immune system disorders

Week 2 (Chapter 18, 19) Respiratory disorders

Week 3 (Chapter 23, 24) Cardiovascular I Vascular disorders, Coronary circulation disorders

Week 4 (Chapter 26) Cardiovascular II Heart failure, Midterm Exam

Week 5 (Chapters 29, 32) Emotional regulation / Pain, neuropath and headaches
 Week 6 (Chapters 37, 40) Endocrine & Diabetes + Acute skin disorders
 Week 7 (Chapters 42, 45) Digestive disorders, Kidney and Urinary
 Week 8 (Chapter 50) Trauma, Final Exam.

* For a very detailed schedule refer to the detailed schedule.

[Course Schedule](#) All times are Central time as observed in the Great State of Texas.

Unless I send out an official course announcement, these times and dates will be adhered to.

BIOL 2305 Nutrition 8 week session				
Week	Date	Day	Course Tasks -only quizzes, exams and projects listed	Discussions & other dates
1	12-Oct	Monday	Intro and Immunology Ch 1, 13	Get to know you discussion
CH 1,13	13-Oct	Tuesday		
	14-Oct	Wednesday		
	15-Oct	Thursday		
	16-Oct	Friday	Required first assignment due	
	17-Oct	Saturday		Discussion due
2	18-Oct	Sunday	Quizzes 1 & 13 due; DSM 1 & 13 due	Respiratory Wikki
CH 1,13	19-Oct	Monday	Respiratory CH 18, 19	Pick a disease!
	20-Oct	Tuesday	Weekly challenge Respiratory due	
	21-Oct	Wednesday		
	22-Oct	Thursday		Respiratory Wikki Due-short week
	23-Oct	Friday		
	24-Oct	Saturday		
3	25-Oct	Sunday		Cardiovascular Wikki diseases
	26-Oct	Monday	Cardiovascular A CH 23, 24 starts	Pick one and give us the low down
	27-Oct	Tuesday	Case study due - Pneumonia; Quizzes 18,19 DSM 18 DUE	
	28-Oct	Wednesday	Weekly Challenge Cardio due	
	29-Oct	Thursday	Make sure either Honorlock is working OR schedule exam at WBU test center	
	30-Oct	Friday		
	31-Oct	Saturday		Wikki closes
4	1-Nov	Sunday	Quizzes 23,24; DSM 23 & 24 DUE	No discussion this week
	2-Nov	Monday	Proctored midterm exam opens	Extra time for Midterm
	3-Nov	Tuesday	Cardiovascular B Ch 26	
	4-Nov	Wednesday		
	5-Nov	Thursday		

	6-Nov	Friday		
	7-Nov	Saturday	Case study Due - Cardiac; Quiz 26, DSM 26	
5	8-Nov	Sunday	Proctored Midterm exam closes	Discussion on headaches
	9-Nov	Monday	Neuro Ch 29, 32	This is a long one that takes some
	10-Nov	Tuesday	Weekly challenge neuro due	planning - it is worth more points
	11-Nov	Wednesday	EXTRA CREDIT PAPER 1 is due	
	12-Nov	Thursday		
	13-Nov	Friday		Last day for a W grade
	14-Nov	Saturday	Case study Due - Panic Disorder	discussion closes
6	15-Nov	Sunday	Qizzes 29, 32; DSM 29, 32	Digestive & endocrine Wikki
	16-Nov	Monday	Diabetes / Acute Skin disorders Ch 37, 40	Pick a digestive or endocrine disease
	17-Nov	Tuesday	Weekly challenge Diabetes due	
	18-Nov	Wednesday		
	19-Nov	Thursday		
	20-Nov	Friday		
	21-Nov	Saturday		
7	22-Nov	Sunday	Quizzes 37, 40; DSM 37, 40 due	Discussion with a "patient" with
	23-Nov	Monday	Thanksgiving Break Nothing due	
	24-Nov	Tuesday		
	25-Nov	Wednesday		
	26-Nov	Thursday		
	27-Nov	Friday		
	28-Nov	Saturday		
	29-Nov	Sunday		
	30-Nov	Monday	Gastrointestinal and Renal Ch 42, 45	CKD about beginning hemodialysis
	1-Dec	Tuesday	Weekly challenge GI due	
	2-Dec	Wednesday		
	3-Dec	Thursday	Make sure either Honorlock is working OR schedule exam at WBU test center	
	4-Dec	Friday		Last day for a WP/WF grade
	5-Dec	Saturday	Case study due - Kidney and urinary	Discussion closes
8	6-Dec	Sunday	Quizzes 42, 45; DSM 42, 45 Due	No discussion - Study for your Final
	7-Dec	Monday	Final Proctored Exam opens	
	8-Dec	Tuesday	Trauma Ch 50	
	9-Dec	Wednesday	Last day I'll accept any late wikis and discussions	

	10-Dec	Thursday	EXTRA CREDIT PAPER 2 due	
	11-Dec	Friday	Quiz 50; DSM 50 due - notice due date is not Sunday!	
	12-Dec	Saturday	Final Proctored Exam Closes	Last day of the term!