Pathophysiology
11:067:490, 3 Credit Hours
Monday, Thursday 10:20 – 11:40 AM Academic Building 1150

Please note this course will be offered in-person with a large active learning component to best serve student learning – attendance during lectures allows student success

Instructor: Dr. Anna Hausmann (DVM) [she/her/hers]
Office: 213D Bartlett Hall
Office Hours: Thursdays 12:30 – 2:30 PM in-person or by appointment
Office Phone: 848-932-9240
E-mail: anna.hausmann@rutgers.edu ; Please e-mail for appointments. Responses are generally within 24 business hours.

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Prerequisites:
Integrative Physiology (11:067:300) or Systems Physiology (01:146:356)
Junior or senior level students

Supplemental Textbook:
The course textbook is **NOT** required for you to purchase. If you like to have a written resource for a course or like to have readings that correspond to the lecture material, you may purchase the course textbook **OR** go to the Chang Library in Foran Hall where the course textbook is on hold. Examinations will be composed of material only from class. The supplemental textbook is as follows:

Capriotti, T., & Frizzell, J.P. (2016). *Pathophysiology: Introductory concepts and clinical perspectives*. Philadelphia: F.A. Davis Company.

Course Description:
Pathophysiology 490 focuses on the molecular origins of disease and how that relates to disease processes. This course allows you to understand why, and how, diseases present at a macroscopic level due to what is occurring at the microscopic level. Multiple species of animals will be used as models to connect the molecular origin of disease to what is visualized at the organismal level. This is an intensive course that will cover all the mammalian body systems and how each of these systems interact with one another to try to maintain a homeostatic balance.

Course Purpose:
The purpose of this course is to introduce you to the molecular basis of disease and relate that information to the organism as a whole. This course will teach you critical thinking skills and give you the ability to solve any problem you may face. This course is a great foundation if you wish to further your education in medicine and/or research after studying at Rutgers University.

Learning Goals:

Content-Based Learning Goals:

A. At the end of each of the three units, you will be able to apply the pathophysiologic concepts covered in class to new case scenarios on the exams. (PLG 2)
   Assessment: Case-based exams, flipped class learning activities, team-based learning activities
B. By the end of the Team-Based Learning (TBL) portion of the course, you will be able to work as a team to "work up" a sick patient through applying the pathophysiologic concepts to their case reports. (PLG 3 and 6)
   Assessment: Case-based exams and team-based learning activities
C. By the end of the course, you will be able to describe the pathophysiologic relationships between ALL the major organ systems and apply this information to the cumulative case-based final examination. (PLG 2 and 3)
   Assessment: Case-based exams, flipped class learning activities, team-based learning activities

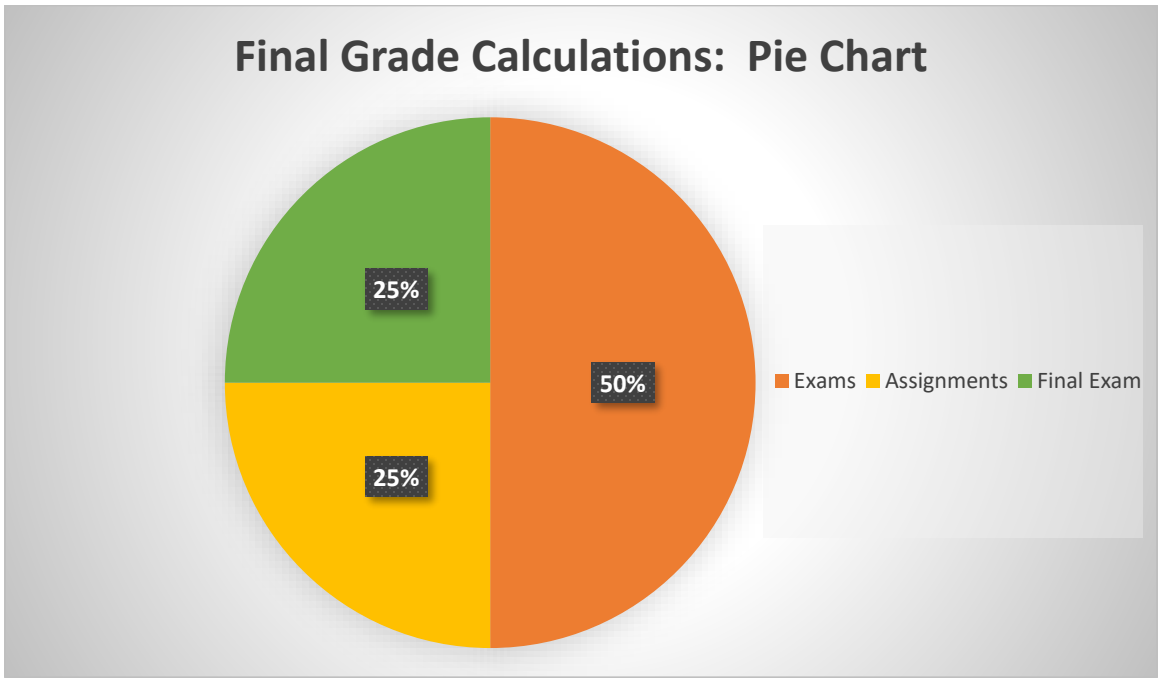
Skills-Based Learning Goals:

D. By the end of the course, you will be prepared to interpret and analyze data critically to use systems level thinking to solve never before encountered problems.
   Assessment: Case-based exams, flipped class learning activities, team-based learning activities

Absence Policy:
Given the active nature of the course, your attendance is vital for understanding pathophysiologic concepts and relating this information to real world diseases countless humans and veterinary species suffer. If you have an emergency, religious holiday, or other approved absence, please reach out to the **Dean of Students** (deanofstudents@echo.rutgers.edu) to confirm the absence **AND** reach out to Dr. H to discuss options for missing the material. Please note, your timely attendance allows both yourself and your colleagues in class to get the most out of lecture. When you are late it affects not only your learning but the learning of your classmates. As such, if you arrive more than 5 minutes late to class you will not be able to receive credit for the class session assignments.

Recommended Study Habits:
This course is designed to cover a large amount of in-depth information in a one semester timeframe to give you the background needed to understand any disease that may befall a human or veterinary specie. I highly recommended that you keep up with the coursework and study the

material *continuously* as the semester progresses. This course builds from previous lectures and themes making it instrumental that you review the course materials consistently. When you actively review the materials prior to class, you will be set up to better understand and retain the information. *Previous successful students enjoy applying the information from class to their everyday activities to help remember the course material (other classes, places of work, internships, news articles, etc.)*!



Final Grade Calculations (Written Out):

Exams: 50%
- Exam 1: 100 points (17%) **February 20th** at normal lecture time
- Exam 2: 100 points (17%) **March 30th** at normal lecture time
- Exam 3: 100 points (17%) **April 27th** at normal lecture time

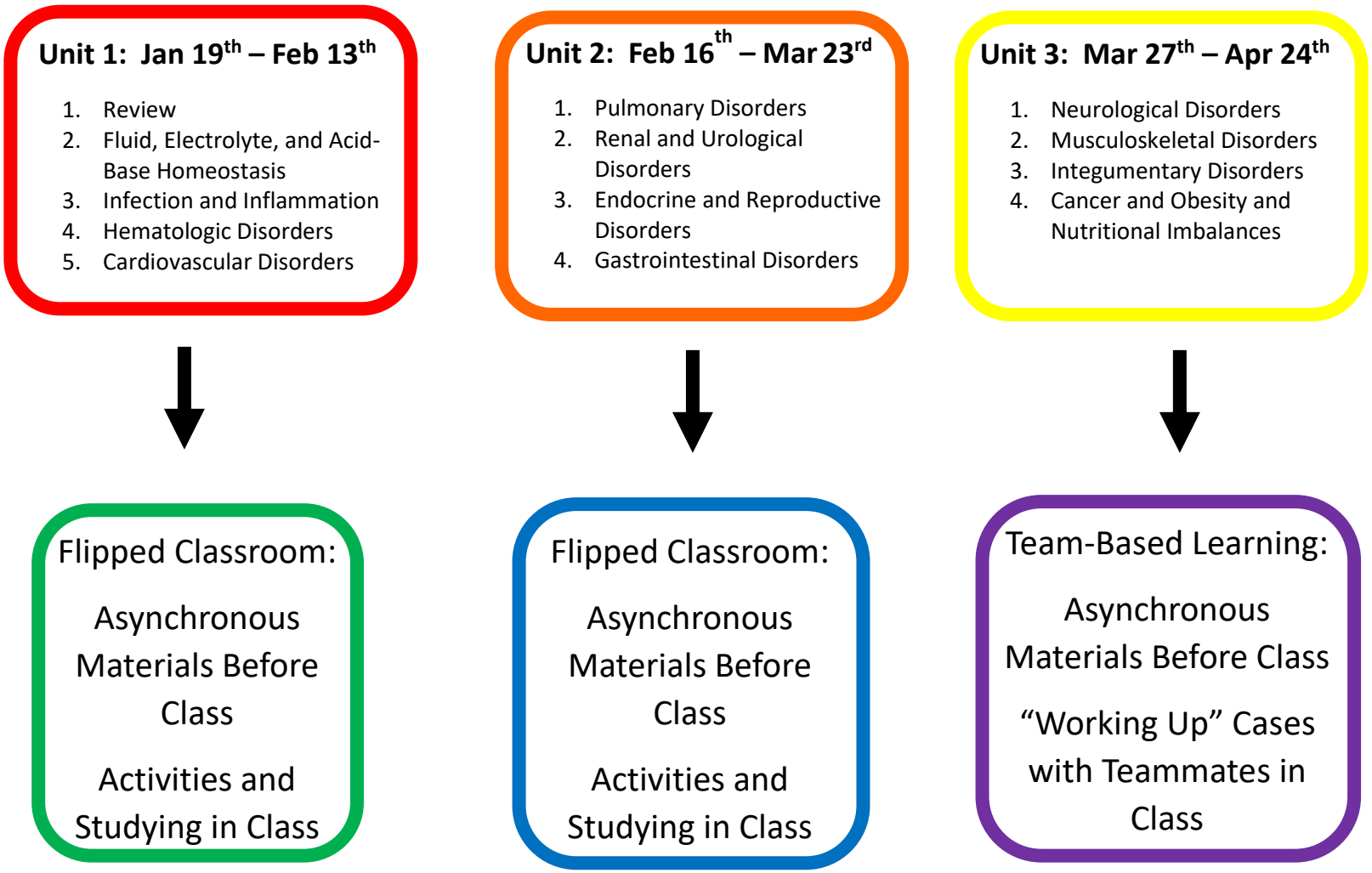
Assignments: 25%
- Flipped Classroom Learning: **January 23rd – March 23rd** at normal lecture time
- Team-Based Learning: **March 27th – April 24th** at normal lecture time
- Pathophysiology Poetry Assignment: **May 1st** at normal lecture time

Final Examination: 150 points (25%) ; **TBA** during finals week per Rutgers final exam schedule

Grades will be calculated as follows:
A = 90% or above, B+= 88% - 89%, B = 80% - 87%, C+= 78% - 79%, C = 70% - 77%, D = 60% - 69%, F = less than 60%

Class Structure:
Pathophysiology will be offered **in-person** this Spring 2023 semester. In order to succeed, you should plan on attending all class periods that are scheduled on **Mondays and Thursdays 10:20-11:40 PM in Academic Building 1150 (College Avenue Campus)**. This course is split into three midterm exams that are referred to as units in the graphic below. During each unit, in-class activities will allow you to better learn, understand, and apply the concepts covered in the course thus class attendance is necessary for success.

Course Map: Graphical View



Flipped Classroom Learning Assignments:
The first and second unit of material will be taught in a Flipped Classroom Learning format to allow you to have in-class time to understand the material, practice using the material, and prepare for the two exams. The Flipped Classroom Learning format will be utilized for lectures 1-16, January 23rd – March 23rd. This format gives you the opportunity to prepare for the exams and more importantly understand the application of Pathophysiology to your daily life. Your presence in class is necessary for the successful completion of this portion of the course and if you arrive more than 5 minutes late you will not be able to receive credit for the day's activities.

Team-Based Learning Assignments:
The last unit of material will be taught in a Team-Based Learning format allowing you to fully immerse yourself into Pathophysiology. The Team-Based Learning format will be utilized for lectures 17-24, March 27th – April 24th. This format is becoming common in post-undergraduate programs (including human medical and veterinary medical) teaching due to research demonstrating this learning method is suited for optimal student learning and retention. Your presence in class is necessary for the successful completion of this portion of the course and if you arrive more than 5 minutes late you will not be able to receive credit for the day's activities.

Pathophysiology Poetry Assignment:
This assignment is an opportunity for you to use your creativity and showcase your "non-academic" talents. The goal of this assignment is for you to artistically depict an aspect of pathophysiology in an exciting way. You may create a song, write a poem, choregraph an interpretive dance, make a short film, draw, paint, knit, or use any other creative outlet to portray a concept from class. You may work alone or in groups of any size for the project. By **March 9th** you will e-mail me the size of your group (one to any size) and a general idea of your plan for the showcase on **May 1st**, the last day of class. Please e-mail your group size and general plan for the project by **March 9th** to make sure that there will be enough time and resources for each person to present their work on the last day of class. Failing to turn in this information by the due date will result in the loss of **5 points** from your final assignment grade. This assignment is meant to be a fun way to end the semester while recapping the material covered throughout the course.

You must take all four exams and attend 80% of class periods to earn a passing grade in the course

Disability Services
(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 https://ods.rutgers.edu/

Rutgers University welcomes students with disabilities into all the University's educational programs. To receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation:

https://ods.rutgers.edu/students/documentation-guidelines. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with me and discuss the accommodations *as early in this course as possible*. To begin this process, please complete the Registration form on the ODS web site at: https://ods.rutgers.edu/students/registration-form.

ACADEMIC INTEGRITY
The university's policy on Academic Integrity is available at:
http://academicintegrity.rutgers.edu/academic-integrity-at-rutgers/.

The principles of academic integrity require that a student:

- properly acknowledge and cite all use of the ideas, results, or words of others.
- properly acknowledge all contributors to a given piece of work.
- make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of impermissible materials or impermissible collaboration.
- obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with his or her interpretation or conclusions.
- treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.
- uphold the canons of the ethical or professional code of the profession for which he or she is preparing.

Adherence to these principles is necessary in order to ensure that

- everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments.
- all student work is fairly evaluated and no student has an inappropriate advantage over others.
- the academic and ethical development of all students is fostered.
- the reputation of the University for integrity in its teaching, research, and scholarship is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students. Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld.

STUDENT WELLNESS SERVICES
Just In Case Web App http://codu.co/cee05e
Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

Counseling, ADAP & Psychiatric Services (CAPS)
(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/ www.rhscaps.rutgers.edu/
CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health

services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

Violence Prevention & Victim Assistance (VPVA)
(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / www.vpva.rutgers.edu/
The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff, and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-9321181.

Scarlet Listeners
(732) 247-5555 / http://www.scarletlisteners.com/
Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.

Keep Going, The Next Page Has The Schedule 😊

Course Schedule* Fall Term 2022 M/Th 10:20 -11:40 AM ; Academic Building 1150

Date:	Lecture:	Topic:	Before Class Videos:
Jan. 19	1	Introduction, Flipped Course Introduction, and Review	
Jan. 23	2	Fluid, Electrolyte, and Acid-Base Homeostasis - FLIPPED	Fluid, Electrolyte, and Acid-Base Homeostasis Videos
Jan. 26	3	Infection and Inflammation - FLIPPED	Infection and Inflammation Videos
Jan. 30	4	Infection and Inflammation - FLIPPED	
Feb. 2	5	Hematologic Disorders - FLIPPED	Hematological Videos
Feb. 6	6	Hematologic Disorders - FLIPPED	
Feb. 9	7	Cardiovascular Disorders – FLIPPED	Cardiovascular Videos
Feb. 13	8	Cardiovascular Disorders – FLIPPED	
Feb. 16	9	Pulmonary Disorders – FLIPPED	Pulmonary Videos
Feb. 20	**EXAM 1**	Covering lectures 1-8	
Feb. 23	10	Pulmonary Disorders – FLIPPED	
Feb. 27	11	Renal and Urological Disorders – FLIPPED	Renal Videos
Mar. 2	12	Renal and Urological Disorders – FLIPPED	
Mar. 6	13	Endocrine and Reproductive Disorders – FLIPPED	Endocrine Videos
Mar. 9	14	**Assignment Details Due** Endocrine and Reproductive Disorders – FLIPPED	
Mar. 21	15	Gastrointestinal Disorders – FLIPPED	Gastrointestinal Videos
Mar. 23	16	Gastrointestinal Disorders – FLIPPED	
Mar. 27	17	Neurological Disorders – TEAM-BASED LEARNING	Neurological Videos
Mar. 30	**EXAM 2**	Covering lectures 9-16	
Apr. 3	18	Neurological Disorders – TEAM-BASED LEARNING	
Apr. 6	19	Musculoskeletal Disorders – TEAM-BASED LEARNING	Musculoskeletal Videos
Apr. 10	20	Musculoskeletal Disorders – TEAM-BASED LEARNING	
Apr. 13	21	Integumentary Disorders – TEAM-BASED LEARNING	Integumentary Videos
Apr. 17	22	Integumentary Disorders – TEAM-BASED LEARNING	
Apr. 20	23	Cancer and Obesity and Nutritional Imbalances – TEAM-BASED LEARNING	Cancer and Obesity and Nutritional Imbalances Videos
Apr. 24	24	Cancer and Obesity and Nutritional Imbalances – TEAM-BASED LEARNING	
Apr. 27	**EXAM 3**	Covering lectures 17-24	
May 1	25	Pathophysiology Poetry Project Showcase	

Schedule subject to change

Oral, recorded, cumulative final exam date TBA (during finals week) covering lectures 1-24