



UNIVERSITY OF SOUTHERN MAINE

BIO 345-0001 PATHOPHYSIOLOGY SPRING, 2022

On-Campus, In-person, Web-Enhanced Course

Tuesday/Thursday 2:00–3:15 PM

Credit Hours: 3

Contact Hours: 4.5

Tracy Anne Filler, VMD MS

Best form of Contact is Email: Tracy.Filler@Maine.edu

Virtual Office hours: Available upon Request.

Mandatory Text and Materials

***Textbook: Porth's Essentials of Pathophysiology,
Concepts of Altered States, 5th edition***

By: Tommie L. Norris

*Students will have required readings from the text to complete
quizzes and tests.*

Access to **BRIGHTSPACE** is required for this class. You must have constant, reliable access to a properly configured, up-to-date computer with a dependable Internet connection to complete this course.

Access to the most recent edition of **POWERPOINT** (Audio capabilities). Many lectures will have audio embedded into the PowerPoint slides. You can download this program for free (OFFICE 365) from the USM portal.

A **MASK** that covers the nose and mouth is required during class as per USM policy for in person meetings. At this time USM is requiring students either be vaccinated for COVID-19 or they be tested on a weekly basis. If you have any questions, please refer to the MyUSM or contact the Dean of Students.

Access to **ZOOM** (Video and/or Audio capabilities) **may be** required in the future. Due to the on-going pandemic, there is a possibility USM will alter the status of our course to synchronous, on-line.

Please regularly check your **USM email account** and **Brightspace for announcements**. I will be updating this site during the semester. Please use your USM email account for all correspondences.

It is the student's responsibility to keep informed of ALL changes and assignments via email, announcements, and Brightspace posts.

Course Description: Pathophysiology is the study of the genetic, physiological, biochemical, and anatomical pathways of disease processes. We will focus on the etiology, pathogenesis, and clinical relevance of non-infectious diseases in a variety of organ systems. This synchronous, online class will consist of biweekly lecture sessions and assignments in Brightspace.

Prerequisites: Bio 109 or Bio 113 or Bio 223. These are the prerequisites as established by the university. This is a higher-level science course; it is recommended that you have completed two semesters of Anatomy & Physiology.

Course Objectives & Learning Outcomes: Pathophysiology is the study of how normal body function is altered by disease. Most of the people in this class have had a recent (or not so recent) course in Anatomy & Physiology. This should provide an excellent background in the basic form and function of the normal body. I highly suggest, however, you review your anatomy and physiology notes for each organ system when discussed. There are also chapters in our required textbook that review normal anatomy and physiology that will help in understanding this material. Chapters that focus on normal anatomy are recommended but optional reading for our course.

In this course we will explore normal physiology in greater detail and go on to discuss abnormalities in function caused by disease. We will begin by discussing some general concepts and terminology in the

study of pathophysiology. Then we will then focus on genetic diseases, cancer, immune disturbances, cardiovascular disease, respiratory disease, GI disease, renal disease, hepatobiliary disease, endocrine disease (including diabetes) and neuromuscular conditions.

By the end of this course, you should be able to:

- 1) Expand your understanding of normal body function, and to use this understating as the basis for gaining an appreciation of the physiological basis for some important diseases.
- 2) Provide a basic understanding of how the body reacts and compensates for diseases based on an organ-system approach.
- 3) Explore the pathophysiological basis for important disease processes utilizing an organized clinical approach involving etiology, pathogenesis, and clinical outcome. The focus will be on non-infectious disorders.
- 4) Be able to communicate said concepts and terminology of pathophysiology and disease utilizing terminology of a clinical professional. This included developing a SOAP (*subjective, objective, assessment, and plan*) for a specific disease.

Student Responsibilities: THE CHALLENGE FOR MOST STUDENTS IS THAT YOU NEED TO BE SELF-MOTIVATED AND PREPARED FOR YOUR WEEKLY ASSIGNMENTS. Plan your time accordingly so that you're able to complete all work by the posted due dates. It is extremely important to stay on track and not fall behind in this course.

- ✓ Keep up with all assignments, Brightspace postings and readings.
- ✓ Stay current with your readings from the textbook. This will be imperative to your success in our course.

- ✓ Make sure to download and (when applicable) listen to the recorded lectures on the PowerPoint slides.
- ✓ I highly suggest you take notes from my slides, your own personal readings, and our lectures.
- ✓ Ask questions to help clarify any assignments or material that is confusing and unclear. Contact the professor if you have any questions. Do not be afraid to ask for help.
- ✓ Turn in all assignments on time. Late assignments will be penalized. Do not get behind on your assignments. Time management is part of our course objectives.
- ✓ Turn in college level work that is respectful. No slang terminology, profanity or abbreviations are accepted.
- ✓ Be respectful to your professor and all your fellow classmates.
 - This includes all person contact, online posting, and emails.
 - Begin all emails with the proper salutations.
- ✓ Yes, you will be working in groups. Please make sure that you work well with others to complete this assignment.
- ✓ ***Do your own work.*** Plagiarism and other forms of cheating are **NEVER** acceptable. They are acts of fraud and academic misconduct and are grounds for failure and/or dismissal.
- ✓ Review the USM honor code. It is imperative to uphold the integrity and decorum of an USM student.
- ✓ Cell phones must be placed away and on silent. Laptops are not recommended during class.
- ✓ And finally ***have fun!!!*** Yes, this can be an intense course, but I assure you if you plan on pursuing a career in science or medicine this class is imperative to your future. You are here to learn, and I will be the guide.

Course Outline of Topics

CHAPTER	TOPIC
1	Concepts of Health & Disease
3	Cell Adaptation, Injury and Death
5	Genetic and Congenital Diseases
6	Neoplasia
8	Fluid, Electrolyte & Acid-Base Balances
9	Inflammation, Tissue Repair and Wound Healing
12	Disorders of Immunity
15	Disorders of Motor Function – Motor Unit
16	Disorders of Brain Disfunction – Seizures
23	Disorders of Red Blood Cells – Anemia
24	White Blood Cells/Bone Marrow Disorders – Neoplasia
26	Disorders of Blood Flow and Blood Pressures
27	Disorders of Cardiac Function, Heart Failure and Shock
31	Disorders of Gas Exchange and Ventilation
33	Disorders of Renal Function
34	Acute Kidney Injury & Chronic Kidney Disease
37	Disorders of GI Function
38	Hepatobiliary Disease & Exocrine Pancreatic Function
41	Endocrine Disorders Including Diabetes Mellitus

Below is how your performance will be assessed in our class.

ASSIGNMENT	% of GRADE	DESCRIPTION
Quiz Assignments per Chapter	25 % 150 points	Questions to review chapter material discussed in class will be available for a window of time on Brightspace.
Examinations- Three exams during the semester.	45 % 300 points (each exam 100 points)	Exams are utilized to measure your understanding of the assigned material from lecture and readings. There will be an exam every five weeks.
Group Project Case Study Presentations	~15 % 100 points	Student groups will present a clinical disease case in the SOAP format. The entire class will then discuss this case on an assigned day.
Discussion Posts	~15 % 100 Points	Students will complete discussion posts about a posted clinical scenario.
TOTAL POINTS AVAILABLE	650 Points	

Grading Scale & Description of Assignments

A	93-100	B	83-86	C	73-76	D	60-66
A-	90-92	B-	80-82	C-	70-72	F	< 60
B+	87-89	C+	77-79	D+	67-69		

Attendance Policy: Students will need to attend all classes. That means that students should **NOT** have other events or engagements scheduled for Tuesdays and Thursdays at 2 PM during the semester. This includes other classes and employment. This policy will also be implemented if our course status changes to synchronous on-line. Each student is expected to log in a minimum twice a week into Brightspace during the semester. I highly suggest you participate in the scheduled lectures sessions. I plan to utilize these periods for summary reviews of the posted audio lectures and question/answer sessions for chapter material.

Attendance will be recorded during noted SOAP presentations and chat discussion sessions. ***Attendance is part of the discussion post grade.*** This is because all classmates participate in round table discussions. 5 points will be deducted from your discussion post if you do not attend the presentation and the group chats. Please note that if you are **15 minutes late** for these lectures, it is considered an absence.

If you are ill or have been exposed to COVID-19 or any other illness please do not come to our class. As adults you should be able to make rational judgements as to the betterment of your health along with

concern for your classmates as well. I ask that you contact me via email before any missed class sessions.

Quizzes and Examination: There will be short chapter quizzes posted online for each chapter after the content is discussed. Each quiz window is approximately 5 days in length. These quizzes will be 5-8 questions about the posted chapter to help students review topics. The questions will be multiple choice and true/false. You will have one chance to complete this assignment.

Examinations will be online approximately every 4-5 weeks. There will be 6-7 chapters on each examination. Questions will be true/false, multiple choice, matching, order and fill in the blank. Students have one attempt at the examination. The purpose of these examinations is to evaluate student's ability to comprehend the discussed material.

Both of these assignments are timed and are open book and open notes. However, no student can have assistance from friends, family, classmates, or the internet while working on these assignments. It is expected that all students will obey the USM's honor code. Since both quizzes and tests are open for approximately a 5-day window there are **no extensions or late work**. If you have an issue with any assignment contact the professor immediately before the assignment opens.

Group Projects-Case Study Presentations: Students will be randomly placed in groups and assigned an organ-system. The group will then create a SOAP (Subjective, Objective, Assessment and Plan) of their chosen disease within that organ-system. The group will also present an extended annotated bibliography from two peer reviewed research articles that have been discussed within the group. On scheduled days then the entire class will participate in a round table discussion of the disease process.

The group will work together and present an outline of their SOAP along with an extended annotated bibliography of first tier, peer reviewed articles. Those materials are due by **NOON** on the day of the group's scheduled session in their Brightspace locker. One grade will be awarded to the entire group effort.

Discussion Posts: After the case study presentations **ALL** students will participate in a round table discussion to review a clinical scenario in class. Then each student will post a discussion thread based on the chat debate. Discussion grades will be based on clarity of your clinical argument, scientific prose, proper grammar, and paragraphs construction. Attendance is required and part of the discussion grade.

Inclement Weather Policy: Since we are in Maine the weather can be unpredictable. As per university policy we will not meet if the USM administration cancels classes for the day. Please make sure that you are signed up to receive emails and text alerts from USM. We will then meet via ZOOM at our normal scheduled time. If I need to cancel class, I will notify all students via their USM email accounts and per Brightspace announcements. As with all notifications for our class it is the student's responsibility to check their USM email for updates.

How to Contact the Professor: The best way to contact me is by USM email. Please note that I have other employment responsibilities so, I may not respond for 48 hours. Please include your name and the course code in the subject line. Please be professional and clear with your questions.

End-of-Course Evaluation: USM is now using an Electronic Course Evaluation (ECE) system and this course is included in the project. During the last week of classes, students will receive an email notice

that asks you to complete your course evaluation online. This email will include a direct link to the course evaluation, and you will log-in by using your Mainstreet ID and password.

Your ratings on the evaluation would be very useful to your instructor if you answer thoughtfully and honestly. The responses you give are confidential and will be collected by the Office of Academic Assessment. After the final grades are posted, your instructor will receive a summary report of the student responses. All student feedback is valued and is being used for course and program improvement purposes. Thanks, in advance, for your participation.

USM Course Policies

Accommodations: If you need course adaptations or accommodations because of a disability, please Contact the Disabilities Services Center, 242 Luther Bonney Hall, Portland campus. You can call them at (207) 780-4706 to arrange an appointment with the Coordinator of DSC. This is in accordance with the ADA.

Title IX statement: The University of Southern Maine is committed to making our campuses safer places for students. Because of this commitment, and our federal obligations, faculty and other employees are considered mandated reporters when it comes to experiences of interpersonal violence (sexual assault, sexual harassment, dating or domestic violence, and stalking). Disclosures of interpersonal violence must be passed along to the University's Deputy Title IX Coordinator who can help provide support and academic remedies for students who have been impacted.

More information can be found by contacting Sarah E. Holmes at sarah.e.holmes1@maine.edu or [207-780-5767](tel:207-780-5767) online at <http://usm.maine.edu/campus-safety-project>. If students want to speak with someone confidentially, the following resources are available on and off campus:

University Counseling Services ([207-780-4050](tel:207-780-4050))

24 Hour Sexual Assault Hotline ([1-800-871-7741](tel:1-800-871-7741))

24 Hour Domestic Violence Hotline ([1-866-834-4357](tel:1-866-834-4357))

Add-Drop & Withdrawal: USM establishes the policy for grading when a student drops a course. A student may receive a grade of “W” if s/he withdraws before 60% of the course is completed. ***Withdrawals do not affect your GPA. They do affect your course completion rate.***

Failure to attend or ceasing to attend class does not constitute withdrawal from the course. If you fail to come to class after the withdrawal period, the grade is “F.” It is important that students understand that this is a University policy. I cannot give grades of “W” to students who leave a class after the set date no matter how much I may wish to. There is no refund associated with withdrawal.

I do, of course, understand that circumstances beyond the control of a student (for example, health or family emergencies) may arise late in the semester and that these circumstances may make it impossible for a student to complete a course. If you are passing this course and an emergency arises that makes it impossible for you to finish, please contact me to discuss a grade of “Incomplete.” I will consider requests for an incomplete when:

- 1) A legitimate emergency exists.

- 2) The student is passing at the time of the request.
- 3) The student has a realistic plan to complete the course work by the end of the following semester.
- 4.) The student has talked to the head of the department and their advisor to confirm the acceptance of an 'Incomplete'.

Plagiarism and other forms of Cheating

Academic honesty is of the utmost importance in all classes because it maintains the integrity of the entire educational process. Everyone associated with USM is expected to adhere to the principles of academic integrity central to the function of the University. Breach of these policies represents a serious offense. Plagiarism, cheating, and falsification of information are violations of academic integrity that will not be tolerated in this class. Adherence to ethical academic standards is obligatory.

Cheating is a serious offense, whether it consists of taking credit for work done by another person or doing work for which another person will receive credit. Taking and using the ideas or writings of another person without clearly and fully crediting the source is plagiarism and violates the academic code as well as the Student Code of Conduct.

This is an on-line course, so all the assignments and examinations are on-line. It is of vital importance that all students adhere to USM's honor code. This means that no one is permitted to have assistance for any exam, have another person take the exam in their place or utilize the internet to search for answers. ***Yes, the use of Google during an examination is cheating and grounds for expulsion from the course.*** Anti-plagiarism software exists to check your exams and work.

Please check the USM Office of Community Standards website for official definitions of these practices. Evidence of a violation of the academic integrity policy will normally result in disciplinary action. A copy of this policy may be obtained from the office of Community Standards and Mediation by calling 207-780-5245 or online at USM.maine.edu.

You can also get a copy of the policy through the Office of Student Judicial Affairs. If you are in doubt concerning the requirements, please consult me before you complete any assignment so that we can discuss what is not acceptable.

If it is suspected that a student in any course in which s/he is enrolled has knowingly committed a violation the instructor has the authority to review the alleged misconduct and determine the grade that the student should receive for the assignment and the course. The instructor may assign a failing grade for the assignment or course and may require the student to complete additional work for the course. The instructor may also consult with the department chair faculty member and/or the College's chief academic officer prior to making such decisions.

The assignments and examinations are on-line and completed outside the classroom. It is of vital importance that all students adhere to USM's honor code. This means that no one is permitted to have assistance for any exam or to have another person take the exam in their place. ***If for any reason during the semester the instructor feels that this policy is being violated, I reserve the right to assign specific times for testing so a proctor (virtual or live) can be present or to begin in class testing.***

ANTI-DISCRIMINATION STATEMENT

The University of Maine USM is an EEO/AA employer, and does not discriminate on the grounds of race, color, religion, sex, sexual orientation, transgender status, gender expression, national origin, citizenship status, age, disability, genetic information or veteran's status in employment, education, and all other programs and activities. The following person has been designated to handle inquiries regarding non-discrimination policies: Director of Equal Opportunity, 101 North Stevens Hall, University of Maine, Orono, ME 04469-5754, 207.581.1226, TTY 711 (Maine Relay System)