

Middlesex Community College

Course: HIM*203 Pathophysiology/ HMED*9953 Pathophysiology

CRN: 2089/2124, Summer 2018

Instructor: Dr. Frank Stellabotte, Ph.D., pronounced /stella-bōt-té/

Office: 209 Wheaton Hall Phone: (860) 343-5747

Office Hours: By appointment only using the following link:
<https://frankstellabotte.youcanbook.me/>

Email Address: fstellabotte@mxcc.edu

refer to section on "Communication" below

Class Hours: Online

Course Learning Goals:

- Describe and discuss the epidemiology, etiology, symptomatology, and pathophysiology of specific disease processes and relate these to clinical and laboratory manifestations of that disease.
 - Analyze the common diseases and disorders associated with each body system including the study of causes, diagnosis and treatment.
 - Describe the general physiological processes used by the body to maintain homeostasis.
 - Read, understand, and critically evaluate medical journals, health articles, and other forms of data related to pathophysiology.
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Course Description and Prerequisites:

This course provides an introduction to the study of functional changes that accompany human diseases. The purpose of this course is to supply students with basic understanding which will prepare them for the healthcare setting. This course places emphasis on the disease processes affecting the human body through an integrated approach to specific disease entities, including the study of causes, diagnosis and treatment of disease. The most common conditions along with new and emerging diseases will be included.

Prerequisites: BIO*115 Human Biology or BIO*212 Anatomy and Physiology II

Required Course Materials:

1. **Computer with Internet Access:** This course depends on you having access to a computer in good working order and access to the internet. This can be in your home, at the library or on campus. You are expected to have all of this worked out prior to the start of class, and should make sure you can access Blackboard Learn. Please also have a "Plan B" if something should go wrong (your network is down, your computer malfunctions). You should always save copies of your work, even after submission; it's best to back-up your work on external memory or a cloud drive. Remember that most public libraries have public computers, and that there are computer labs on campus. Please note that Blackboard Learn is NOT optimized for tablet or mobile devices. The Blackboard Learn mobile application may miss function without warning.
 2. **Microsoft PowerPoint (recommended):** You will be creating a final project for which PowerPoint templates will be provided. Most students prefer to use Microsoft PowerPoint to create their projects. It is available for free to all students enrolled at MxCC. Refer to the following link: <http://mxcc.edu/office-365-students/>
 3. **There is a required textbook for this course:**
 - Intro to Human Disease (the online accompaniment is not required)
 - Authors: Reisner and Reisner
 - Edition: 10th
 - ISBN: 9781284050233
 - Copyright Year: 2017
 - Publisher: Jones & Bartlett Learning
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Communication:

The preferred method of communication is via college email NOT Blackboard messaging. The following are important points to consider when writing emails to any of the faculty with which you interact.

- **Method:** I prefer to receive messages via my campus email.
- **Etiquette:** A polite email consists of:
 1. A salutation (e.g. Dear Dr. S. or Professor Stellabotte,)
 2. The content of your message, written in grammatically correct English.
 3. A sign off and your name (e.g. Thanks, Jane Student)
- **Response time:** I will usually respond to messages quite rapidly, I am not always able to do so. Messages received during the week will be responded to within 24 hours. Email messages received on the weekends will be responded to within 48 hours. When in doubt, please check this syllabus, it probably has the answer to your questions.

Course Outline (this is subject to change):

Week Beginning:	Discussion Board Posts:	Assignments:
05/29/18	<p align="center">Concepts of Human Disease</p>	<ol style="list-style-type: none"> Define the common terms used to describe disease, such as lesions, symptomatic and asymptomatic, etiology, and pathogenesis. List the major categories of human disease. Describe the various types of diagnostic tests and procedures that can help the practitioner in making a diagnosis and deciding on proper treatment.
	<p align="center">Cellular Biology and Histology</p>	<ol style="list-style-type: none"> Be familiar with the general structure of a eukaryotic cell and identify each of the organelles. Explain how cells are organized into tissues and be able to describe the structure and function of major tissue types. Write a general description of the three embryonic germ layers and their derivatives.
	<ol style="list-style-type: none"> Introductory Post Select a topic from the list of final project topics and explain why you selected that topic. 	<p>Required Readings: Chapter 1, Pages:1-24 Chapter 2, Pages:25-46 Exam 1 Due</p>
06/05/18	<p align="center">The Immune System and Autoimmune Diseases</p>	<ol style="list-style-type: none"> List the basic features of cell-mediated and humoral immunity. Explain the role of lymphocytes (natural killer cells, T-cells and B-cells) in the immune response. List the five classes of antibodies and explain how they differ from one another, especially with respect to complications during pregnancy. Summarize the theories concerning pathogenesis of autoimmune disease.
	<p align="center">Pathogens</p>	<ol style="list-style-type: none"> Explain the characteristics by which bacteria are classified. Describe the mechanism by which antibiotics inhibit the growth of bacteria. Explain the mode of action of virus infections and describe how the body's response to viral infections leads to recovery. Discuss the benefits and the controversies surrounding the use of vaccines. Understand the pathogenesis of human immunodeficiency virus infections. Discuss the spectrum of infections caused by fungi.
	<p align="center">Neoplastic Disease</p>	<ol style="list-style-type: none"> Compare the general characteristics of benign and malignant tumors. Explain how tumors are named. Summarize the features of principal types of lymphoma. Differentiate between infiltrating and <i>in situ</i> carcinoma. Explain how leukemias are classified and differentiate leukemias from myeloma.
	<ol style="list-style-type: none"> Discussion Board Post 3 	<p>Required Readings: Chapter 6, Pages:107-144 Chapter 8, Pages: 179-208 Chapter 7, Pages:145-178 Exam 2 Due</p>

06/12/18	Cardiovascular Disease & Circulatory Disturbances	<ol style="list-style-type: none"> 1. Describe the basic anatomy and physiology of the heart. 2. Describe the common causes of valvular heart disease and outline methods of treatment. 3. Explain the general principles applied to the diagnosis and treatment of coronary heart disease and myocardial infarction. 4. Describe the adverse effects of hypertension on the cardiovascular system. 5. Describe the causes and effects of arterial thrombosis. 6. List the common diseases affecting veins.
	Hemostasis	<ol style="list-style-type: none"> 1. Describe the functions of blood vessels and platelets in controlling bleeding. 2. Describe the laboratory tests used to evaluate hemostasis.
	Endocrine	<ol style="list-style-type: none"> 1. Describe the major organs of the endocrine system. 2. Name the common endocrine disturbances and the methods for treating each. 3. Explain the effects of stress on the endocrine system.
	Respiratory System	<ol style="list-style-type: none"> 1. Explain the basic anatomic principles of ventilation and gas exchange. 2. Explain the causes and effects of pneumothorax, atelectasis, tuberculous infection, bronchitis, bronchiectasis, asthma, and pulmonary fibrosis.
	4. Discussion Board Post 4	<p>Required Readings: Chapter 11, Pages: 249-292 Chapter 12, Pages: 293-330 Chapter 13, Pages: 331-370 Chapter 24, Pages: 645-678 Chapter 15, Pages: 385-418</p> <p>Exam 3 Due</p>
06/19/18	Nervous System	<ol style="list-style-type: none"> 1. Describe the structure of the brain and the process of neurulation. 2. Explain the pathogenesis of closure defects caused during neurulation. 3. Describe the different types of strokes and their treatment. 4. Explain the major clinical manifestations of Huntington's Disease, Parkinson's Disease, multiple sclerosis, and Alzheimer's Disease
	Musculoskeletal System	<ol style="list-style-type: none"> 1. Name the common congenital abnormalities of the skeletal system. 2. List the three types of arthritis. 3. Describe the causes and effects of osteoporosis. 4. Describe the structure of intervertebral discs and the clinical manifestation of a herniated disc. 5. Compare the pathogenesis of muscular atrophy and muscular dystrophy. 6. Describe the manifestations of scoliosis.
	The Breast	<ol style="list-style-type: none"> 1. Describe the normal structure and physiology of the breast. 2. Explain the application and limitations of mammography. 3. List the breast diseases that present as a lump in the breast.
	5. Discussion Board Post 5	<p>Required Readings: Chapter 25, Pages: 679-720 Chapter 26, Pages: 721-761 Chapter 16, Pages: 419-438</p> <p>Exam 4 Due</p>

06/26/18	Female Reproductive System	<ol style="list-style-type: none"> 1. Describe the common infections of the genital tract. 2. Describe the common diseases of the cervix, endometrium, myometrium, and vulva. 3. List the common cysts and tumors of the ovary.
	Male Reproductive System	<ol style="list-style-type: none"> 1. Describe anatomical structures of the male reproductive system. 2. Differentiated between benign prostatic hyperplasia and prostatic carcinoma. 3. List the common types of testicular cancer.
	Urinary System	<ol style="list-style-type: none"> 1. Describe the normal structures of the kidneys and their functions. 2. Describe the clinical manifestations of urinary tract infections. 3. Describe the mechanism for the formation of urinary tract calculi. 4. Describe the causes of renal failure. 5. Describe the principles and techniques of hemodialysis.
	The Liver and the Biliary System	<ol style="list-style-type: none"> 1. Describe the normal structure of the liver; and explain the functions of the liver as they relate to the major diseases of the liver. 2. List the major causes of liver injury, and describe their effects on hepatic function. 3. Compare the three majortypes of viral hepatitis in terms of their pathogenesis and frequency of carriers. 4. Explain the adverse effects of excess alcohol consumption. 5. Explain how gallstones are formed. 6. Compare the types of jaundice.
	6. Discussion Board Post 5	<p>Required Readings: Chapter 17, Pages: 439-464 Chapter 20, Pages: 537-554 Chapter 19, Pages: 497-536 Chapter 21, Pages: 555-586 Exam 5 Due</p>

Final Project Due July 1, 2018 at Midnight E.S.T.

CLASS POLICIES

Pre-Tests:

Occasionally, a pre-test will be provided to introduce you to exam questions. These are typically graded, but do not count toward your final grade and serve as a practice exercise.

Exams:

There will be 5 exams which will take the form of multiple choice or short essay questions. They will be submitted electronically and cannot be submitted past the due date. All assignments are due by 11:59 PM EST on the due date. Exams are timed for 150 minutes each, so make sure to allow for sufficient time to complete the exam. There is no, final cumulative exam.

Discussion Board Posts:

Students will be directed to make a post of their own, and to comment on other students' posts. Directions will be contained in the content area "Discussions" which will vary from week to week. Posts are expected to be grammatically correct and should generally be a short paragraph that is "information rich". That is, you are not using words to restate the question or make general comments (e.g. "hypertension is really interesting"). Your comments on other students' posts can be shorter, but should also be meaningful (stay away from "good post, well written!"). Since students have 2+ days to make a post, there will be no time extensions granted unless there are documented extenuating circumstances and the instructor is notified immediately.

"Disease Pamphlet" Final Project:

You will prepare a brochure, or pamphlet as a final project. A rubric will be provided. Late projects will not receive any credit. Pamphlets will be printed and displayed in Wheaton Hall, please notify me if you would prefer that your pamphlet not be displayed. Submission of the project should be done by Sunday, July 1st, 11:59 PM EST.

Withdrawal Policy:

You may withdraw from this class any time before the end of the work day Thursday, June 21st 2018 at 4:30PM. Either written permission from me via email (preferably) or a completed and signed withdrawal form must be on file in the Records Office in order to receive a "W" on your transcript. If you fail to complete this process on time, you will receive a letter grade at the end of the semester, which will include zeroes for any work not submitted. Course withdrawals may affect financial aid and veteran's benefits. Please make this decision carefully and with the help of your advisor. See the Academic Calendar and the College Catalog for specific dates and procedures regarding the withdrawal process.

Please Note:

This is a condensed format, five-week course! Missed or late assignments are not acceptable. Please intend on spending at least 10 to 15 hours a week on preparing for this course. You are EXPECTED to check Blackboard Learn at least every 2 to 3 days in order to complete exams and assignments appropriately.

Grading Policy:

Exam 1	100	Discussion Board Posts:	250	
Exam 2	100			
Exam 3	100	Final Project:	250	
Exam 4	100			
Exam 5	100			
Total:	500		500	1000

In the case where a particular assignment or exam is not given a letter grade, the following table shows the conversion from a numerical grade to a letter grade.

A = 92.5-100%	B = 82.5-86.4%	C = 72.5-76.4%	D = 62.5-66.4%
A- = 89.5-92.4%	B- = 79.5-82.4%	C- = 69.5-72.4%	D- = 59.5-62.4%
B+ = 86.5-89.4%	C+ = 76.5-79.4%	D+ = 66.5-69.4%	F = 0-59.4%

Plagiarism & Academic Honesty:

At MXCC, we expect the highest standards of academic honesty. Academic dishonesty is prohibited in accordance with the Board of Trustees' Policy on Student Conduct in Section 5.2.1 of the Board of Trustees' Policy Manual. This policy prohibits cheating on examination, unauthorized collaboration on assignments, unauthorized access to examinations or course materials, plagiarism, and other proscribed activities. Plagiarism is defined as the use of another's idea(s) or phrase(s) and representing that/those idea(s) as your own, either intentionally or unintentionally. **Cheating of any kind will not be tolerated and will result in a grade of "F" for the course and immediate referral to the Academic Dean for further disciplinary action.**

COLLEGE POLICIES**IMPORTANT COLLEGE POLICIES!! PLEASE READ CAREFULLY!**

For information about the college's policies and procedures regarding academic honesty, accessibility/disability services, attendance, audio-recording in the classroom, grade appeals, plagiarism, religious accommodations, weather and emergency closings, and more, please go to the following website:

www.mxcc.edu/catalog/syllabus-policies/ or scan the QR code with your smart phone. Also, please become familiar with the policies regarding nondiscrimination, sexual misconduct, and general student conduct at the following website: www.mxcc.edu/nondiscrimination/.
